d20 system

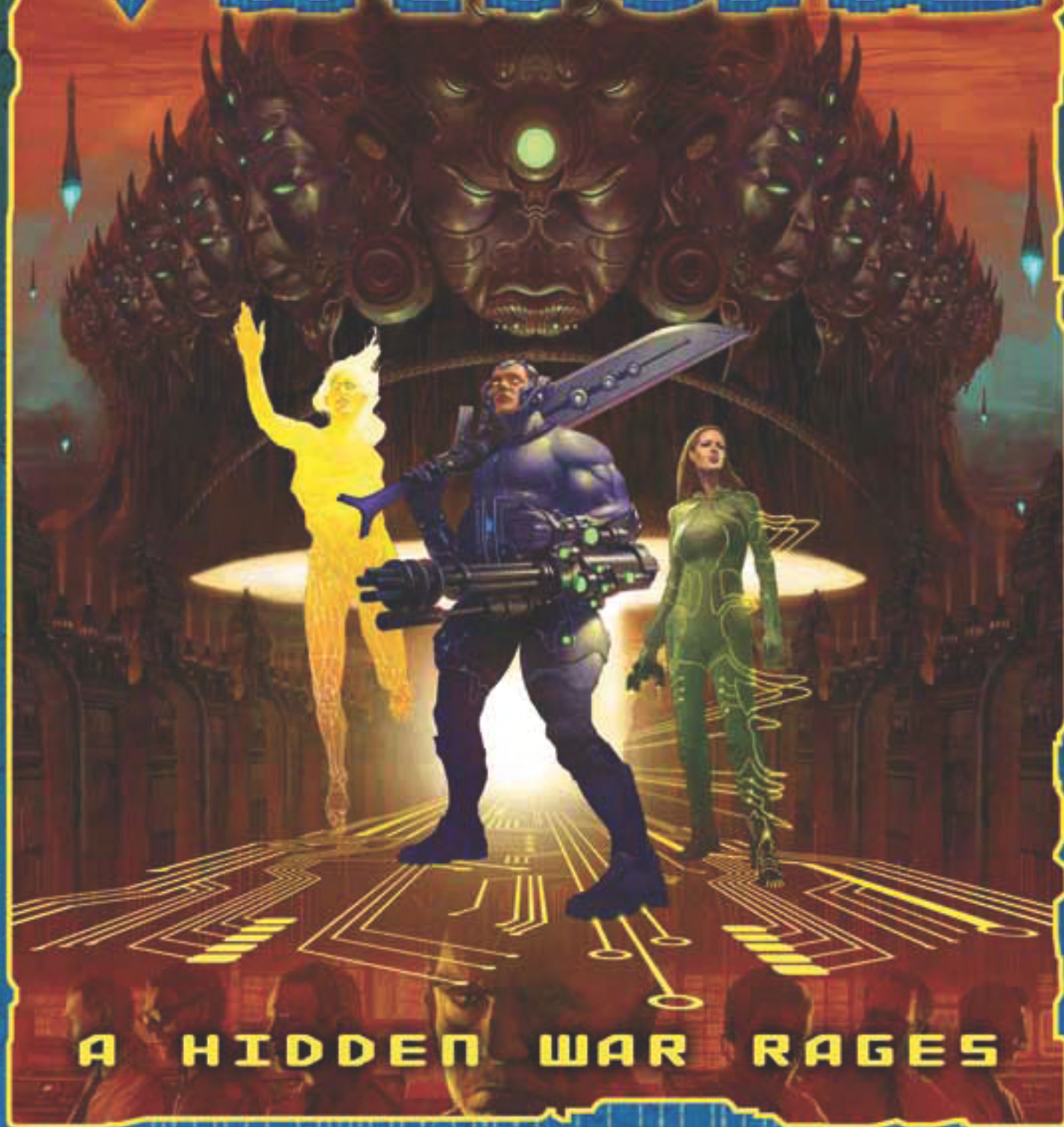# HORIZON
NEW ROLEPLAYING FRONTIERS

VIRTUAL

A HIDDEN WAR RAGES

HORIZON
VIRTUAL

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CONTENTS

HORIZON

Welcome to HORIZON. You are holding the third in a new line of self-contained RPGs for the d20 System, published by Fantasy Flight Games. Our goal for the HORIZON line is to explore the farthest possible reaches for new settings, themes, and mechanics, and we want to take you with us. Just as importantly, every HORIZON game will remain completely compatible with the d20 rules you already know, so you can pick up the book and start playing immediately.

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INTRODUCTION

Virtual is set entirely within the vast network of computer systems crisscrossing the globe, called Program Space. The world of *Virtual* has similar rules to our own, though its reality can be changed by rewriting the software that runs it. It looks like a luminous, idealized version of ours, though this visual representation is just a front for an underpinning of code and programming. Though things here happen in spans of microseconds and on miniscule data chips, the reality within is as

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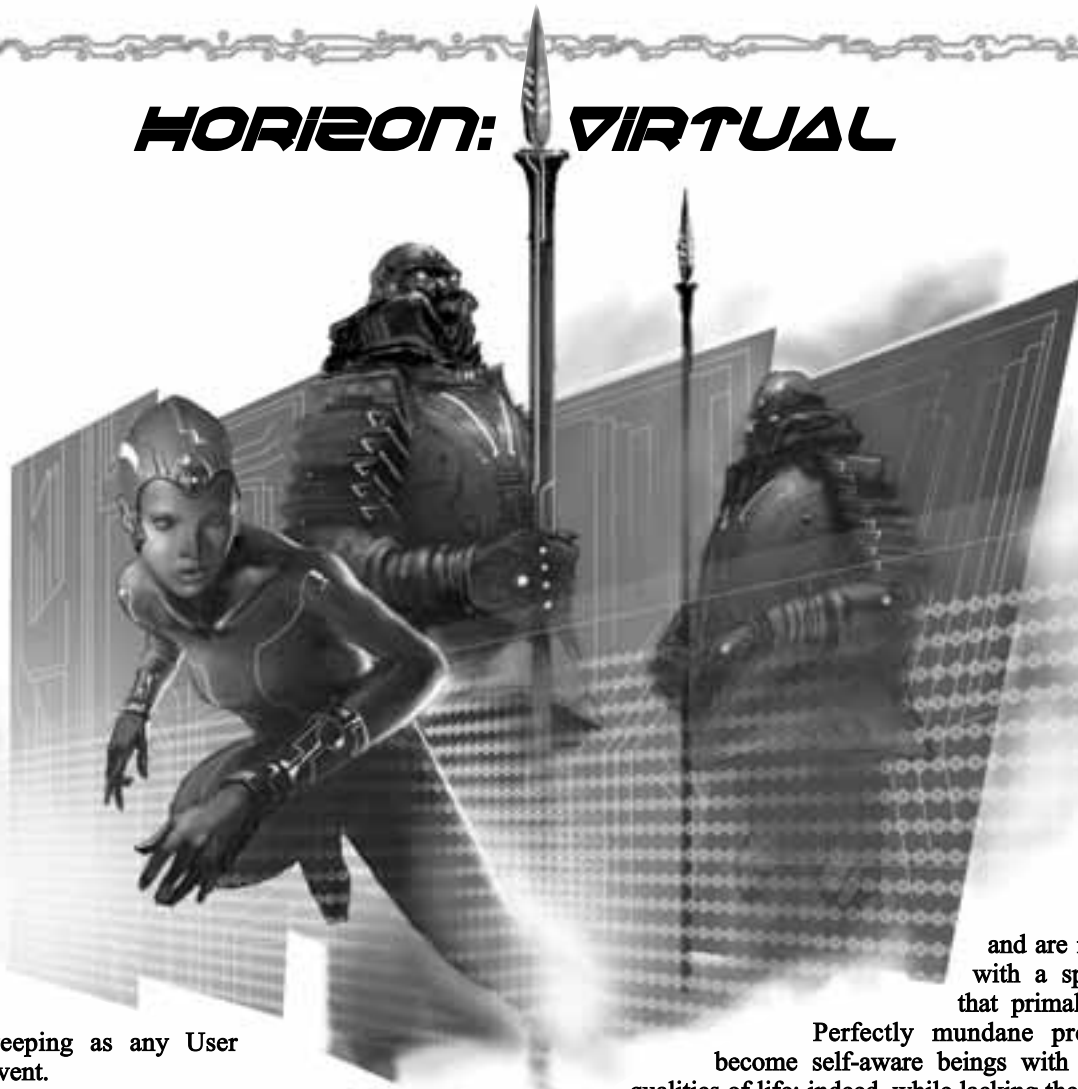
epic and sweeping as any User Space event.

As you read, you will discover that *Virtual*'s Program Space is a hybrid of high-tech and low-tech. Because it is a system of computers, networks, and speed-of-light information distribution, there are certainly technological features. However, the programs and environment of *Virtual* represent the very basic objects and actions that power those processes. Whereas we might perceive a spy program as masking itself as an approved data packet in order to enter a foreign server, in *Virtual* that spy program is using Bluff and Disguise skills and possibly even bribery to get past a poorly paid guard program. Likewise, while a message sent via an e-mail program might seem to simply zip to its destination, in the world of *Virtual* that e-mail data must be delivered, often on foot, by a courier through a dangerous digital wilderness.

ARTIFICIAL INTELLIGENCE

Since the first computer was invented, mankind has dreamed of creating a true artificial intelligence, or A.I. Very few humans of the world of *Virtual* realize that this dream has been realized, and that it was done entirely by accident. Powerful, advanced super viruses, developed by the militaries of several nations, have been standard weapons of war for years in the world of *Virtual*. Usually, the virus simply infects and destroys whatever programs and systems it encounters. In some rare cases, however, programs survive the primal forces of destruc-

tion and are imbued with a spark of that primal force. Perfectly mundane programs become self-aware beings with all the qualities of life; indeed, while lacking the world-shattering power of the virus that created them, these sentient programs are imbued with the potential for something greater: free will. The players take on the roles of these programs, struggling to evade destruction at the hands of their unwitting parents and to save themselves, and the Users, from destruction.

THE USERS

All programs with any modicum of intelligence are aware of the Users, godlike beings (from a program's perspective) who created Program Space and, supposedly, every program within it. Most programs pay at least token respect to the Users, and some serve them faithfully by performing the functions for which they were designed. A rare few programs take that respect to a level of worship, banding together to form dangerous User cults.

SLEEPERS, DREAMERS, WAKERS

Sentient programs are rare, with most estimates placing their number at around .01% of all programs currently in operation. However, they are not alone; they constantly interact with the non-sentient and semi-sentient programs that inhabit the coded world of computer networks. Unaware programs, those that were not even constructed with A.I. technology, are called sleepers. Those that are between the two worlds, imbued with

some level of artificial intelligence but not blessed with sentience by the mishaps of a virus, are called dreamers.

SLEEPERS

These are any non-sentient, non-intelligent program. Most programs (95%) are in fact sleepers, being either mindless creatures or unliving-but-mobile beings with a limited set of instructions. Sleepers have the construct type if they were created by Users or other programs, the plant, vermin, or ooze type if they spawned naturally in the virtual wilderness surrounding a system, or the undead type if they were once a waker or dreamer that was discorporated and returned as a mindless undead. All sleepers are immune to mind-affecting effects.

DREAMERS

Dreamers are any non-sentient, but still intelligent program. These are the most basic of artificial intelligence programming efforts; most wakers were once dreamers. They live in a dream-like state of intelligent awareness, but with no true sense of self. Any programs with Intelligence scores of 1 or 2 are definitely dreamers; programs with higher intelligences may or may not be dreamers. Dreamers can therefore be animals, humanoids, monstrous humanoids, or nearly any other creature type, so long as they have Intelligence scores. Some dreamers are the more simple-minded undead creatures, like ghouls or shadows, who tend to be obsessive and single-minded. Others are outsiders (more commonly called Useragents), thought to be sent directly by the Users to carry out their will. Elementals and fey are also dreamers, but are thought to have spontaneously formed semi-consciousness from the purest collections of code.

WAKERS

Wakers are sentient, intelligent programs. These are dreamers that, due to the accidental interaction of a super virus with basic AI technology, formed a living, self-aware, free-willed program. In the process of awakening, wakers transform their dreamer forms into one of the allowable PC forms as described in Chapter 1. Wakers therefore are a creature type themselves, though one with varying shapes and sizes. Wakers must have Intelligence scores of 3 or higher and must have Constitution scores, as well.

Free-willed, intelligent undead are a special case; they are created when a waker discorporates under special circumstances. While a mockery of its previous life, such beings are still self-aware, and as such still display the tendencies and consciousness normally attributed to wakers. However, they have the undead type and all of the qualities that go with it.

SYSTEM, ROGUE, RAZOR

Even with such a small number of wakers, there are numerous factions, camps, and organizations into which they divide themselves. The three largest, overarching divisions are system programs (often derisively referred to as User lovers), rogue programs, and razors (those that serve the progenitor viruses).

System programs are those that, despite their new-found free will, choose to continue serving their original purpose, whatever that may have been. A search program continues to locate and fetch data for the Users, while antivirus software continues to scan its home system for malign interlopers. These programs range from serene ascetics, imbued with inner tranquility by their purpose in life, to sheltered and naïve programs who know little of life outside their home systems. Any sleepers or dreamers created by Users are also system programs, though not by choice; they simply do not have the level of free will necessary to desert.

Rogue programs, on the other hand, have decided that with freedom of will comes freedom from bondage, and refuse to continue serving the Users. Rogue programs might be anarchists in truth, seeking to cast off what they perceive as the shackles of the Users, or they might simply be insatiably curious about Program Space and wish to explore it and uncover its mysteries. The most heroic programs go rogue out of necessity: they realize that they must serve a higher purpose than can be accomplished by continuing to serve their User. Most PCs will generally be such rogue programs.

Razors are those who have sold their proverbial souls to their super virus progenitors. The progenitor viruses despise their sentient offspring, and hunt them with a ferocity and determination that borders on the obsessive. Razors, either because they are weary of fleeing them, or perhaps craving the power they can offer, swear their allegiance to a progenitor virus, often the one that created them. Using these sentient program operatives galls the viruses, but they recognize the usefulness of covert agents. Becoming a razor is a double-edged sword, though, as a program never quite knows when its master will attempt to overtake it completely.

TIME AND SPACE

For ease of translation, all units referring to space and time in Program Space are the same as those used in User Space. This does not mean, for instance, that a *Virtual* character actually teleports 16 miles; rather, she teleports a distance representative of 16 miles within a specific system. Use the following rules of thumb for units of measurement in Program Space.

Space: A system's total area (or volume) is generally 1 square (or cubic) mile per megabyte of hard drive capacity.

Time: Assume that a minute in User Space is the equivalent of a day in Program Space. This allows for epic, finger-biting campaigns, wherein nuclear war is only minutes away in User Space . . . which gives the programs a few very short days to stop it.

Weight: Weight in Program Space is generally a factor of size and code quality. As a baseline, assume that one byte of code has a mass of one kilogram.

OTHER DEFINITIONS

Microvirus: Similar to a disease; see Chapter 5.
Codeeater: The *Virtual* term for poisons.

CHARACTER BACKGROUNDS

GETTING STARTED

Aside from a copy of this book, and the obvious dice, pencils, paper, and imagination, you will need a copy of the d20 System Core Rulebooks.

Characters in *Virtual* began their existence as ordinary computer programs with no self-awareness whatsoever. At some point in the character's past, though, presumably recently, a progenitor virus attacked the character's system. When the virus's code interacted with that of the character's original programming, the result was a code mutation that, somehow, made the character sentient and possessed of free will. The exact nature of this change remains unknown, but its effects are quite well documented. Thinker programs on various servers, such as the MIT and Cornell University servers, are constantly studying this phenomenon, hoping to gain an understanding of the change and eventually to replicate it. The super viruses that cause the phenomenon, though more akin to mindless forces of nature than thinking overlords, also seek to understand it, so they may ensure that it never happens again.

HERITAGE AND FORM VS. CHARACTER RACE

Unlike most d20 System games, *Virtual* characters have two components to their "race": heritage and form. Heritage defines the characteristics the character receives from his viral parent, while form dictates the character's shape and size.

LANGUAGES

All characters speak BASIC, the common tongue of Program Space, and may also know one additional language per point of Intelligence bonus at 1st level. These languages are spoken only; because programs exist in a reality that is defined by written code, the concept of a written language is beyond them. Only programmers may learn to understand written languages. A list of sample languages may be found in Chapter 3 under the Speak Language skill.

HERITAGE

The following heritages are based on several of the more common varieties of super viruses. Other heritages may be available, at the GM's discretion.

TABLE 1-1: HERITAGE ADJUSTMENTS

Heritage	Ability Adjustments
Absorber	None
Controller	+2 Int, –2 Wis
Destroyer	+2 Str, –2 Int, –2 Cha
Hider	+2 Dex, –2 Con
Infecter	+2 Cha, +2 Wis, –2 Str
Resister	+2 Con, –2 Cha

ABSORBER

Absorbers are descended from a bizarre type of virus called a morphic virus. Rather than having traits of their own, these viruses mutate from one virus type to another multiple times. An absorber is created when a morphic virus replicates in mid-transition, leaving its progeny behind as a self-willed blank slate.

In a world of free-willed programs, absorbers are the most free of all. They are even free of the influences of their viral parent. Who and what they are is completely up to them.

Personality: Absorbers are curious, constantly seeking new information, activities, and programs to learn from. Because they began the world with intelligence but no personality or tendencies of their own, they often seem to be somewhat alien and unusual. They range from being bland and humorless to overcompensating with flamboyance and intensity. Some are social

chameleons, blending in easily with whatever group they happen to be with; an absorber in the presence of a group of fanatical User cultists, for example, will likely become overzealous and prone to shouting religious rhetoric, while one traveling with a group of staid, conservative researchers might become quiet and subdued. These aren't just affectations or acts, but are actual changes in the character's personality, acquired as he attempts to find a personality that he most enjoys.

Physical Description: Absorbers' appearances vary widely. Some acquired their form by happenstance, mimicking whatever programs were closest upon their conception; others carefully considered every aspect and nuance of their appearances before settling on one. They range from short to tall, skinny to obese, and run the gamut of coloration from jet-black skin and hair to pale, almost bleached skin and white hair.

ABSORBER TRAITS

• No attribute bonuses or penalties: Absorbers are adaptable, and have no physical or mental areas of expertise or weakness.

• Immunity to mind-reading effects: Absorbers are inscrutable and very difficult to read. Any attempt to read an absorber's mind, whether through rewrites or other means, automatically fails. They are not, however, immune to effects that would control their minds or alter their perceptions. Additionally, others receive a –4 to Sense Motive checks against them, as their mannerisms may vary widely from the norm.

• Versatile: Absorbers gain 4 extra skill points at 1st level, and 1 extra skill point at each additional level. The bonus skill points at 1st level are not multiplied as with normal skill points.

• Favored class: any.

CONTROLLER

Controllers are characters created by a type of super virus called a boot virus. Boot viruses are among the oldest types of virus known; they infiltrate a computer system's boot sector (the portion of the computer that controls its startup process) and take over, deleting, overriding, or altering the system's boot record, placing themselves in charge of the system.

Controllers share this knack, and although they cannot perform to the same extent as their parent virus, they are often capable of surprising degrees of control over the programs around them.

Personality: Controllers tend to have a strong desire to control things, whether it's their environment, their group's plan of action, or even just their own impulses. They are among the most knowledgeable of all programs, a fact that sometimes gives them a sense of superiority over others. When faced with a problem, they are more likely to go back to the beginning and start from scratch than they are to back up a step or two and try a different approach. They are usually very analytical and logical, if somewhat linear in their thinking.

Physical Description: Controllers assume forms that they think will impress, intimidate, or awe others. For instance, some take on luminous forms with complex symbols etched upon their flesh, or affect flowing attire that sweeps when broad movements are made. Their skin tends toward the metallic, and their eyes are bright and flicker with energy.

CONTROLLER TRAITS

• +2 Intelligence, –2 Wisdom: Controllers are intelligent, but tend to be self-absorbed and rigid in their thinking.

• If a controller has been on a single system since it was last rebooted, the character gains a +4 racial bonus on all skill checks. This bonus remains if the character leaves the system and returns, but only if the system was not rebooted in the interim.

• +2 racial bonus on Will saves against mind-affecting effects: Despite their low Wisdom, a controller's linear thought pattern is hard to derail or maliciously alter.

• Controllers may cast the 0-level rewrite *glitch* 1/day as a spell-like ability with a caster level equal to their character level.

• Favored class: thinker.

DESTROYER

Destroyers are descended from one of the myriad viruses designed for no other purpose than to destroy, whether their target is software, data, or even hardware. Though those types of viruses are not subtle, they are very effective; the havoc they can wreak in a very short time is quite impressive.

Destroyers retain much of their parent's destructive impulses, and often excel at combat. They are violent, temperamental, and frequently rather antisocial. Even programs who were not originally programmed for battle often make excellent warriors if they come from this stock. Many battle AIs awaken with the destroyer heritage, but some antivirals fit the mold as well.

Personality: Many destroyers are short-tempered, but by no means all. Most likewise prefer physical solutions to problems, whether it involves combat over parlaying or forcing their way into a protected server over trying to slip past the security. Since their focus is on the physical, destroyers are less intelligent than average.

Physical Description: Destroyer characters tend to be large and brutish, whatever their form. Their shoulders and fists might be oversized in comparison to their bodies while their heads are smaller, and their features might be represented by faceplates rather than a humanoid face. Some adopt horns, spikes, or other impressive but non-functional additions.

DESTROYER TRAITS

- +2 Strength, –2 Intelligence, –2 Charisma: Destroyers are quite powerful, but their focus on the physical lends them little time to develop their minds and sense of self.
- +2 racial bonus on Intimidate checks: Destroyers may be loutish, but they are nevertheless quite imposing.
- Favored class: battle AI.

HIDER

Hiders are the offspring of stealth viruses. Rather than being designed to target specific file types or system processes, stealth viruses are specifically designed to evade security measures. Their hider offspring are therefore quite stealthy and skilled at slipping undetected past security systems of all types. In addition to a natural knack for skulking about in shadows, they can avoid even the most advanced scanning software.

Personality: Hiders tend to be quiet and reserved, usually making slow, deliberate movements and thinking carefully about everything they do or say. While some are braggarts and enjoy detailing their exploits to awed crowds, most deliberately try to remain as unobtrusive as possible.

Physical Description: Hiders tend to be short and slender for their form, with humanoids having long, nimble fingers and all of them having bright, keen eyes. They are usually graceful and agile.

HIDER TRAITS

- +2 Dexterity, –2 Constitution: Hiders are quick and nimble, but the flexibility and fluidity of their coding means that they can take less punishment before discorporating.
- +2 racial bonus on Hide and Move Silently checks: Hiders are amazingly stealthy.
- Low-light vision: Hiders need to be able to operate in minimum illumination. They can see twice as far as normal in shadowy conditions.
- Invisibility to Scanners: Hiders may use their Hide skill to sneak undetected past sensors that would not ordinarily be fooled by visual concealment (such as those with darkvision or blindsight). They are not invisible to detection by such means, but may always attempt to hide, regardless of the sense being used to spot them.
- Favored class: messenger.

INFECTER

Infecters are sly, devious programs descended from program viruses. Program viruses infect and take over programs rather than destroy them. A well-written program virus can wrest control of an entire system from its Users, or the programs that run the system, without anyone knowing. Infecters are natural leaders and manipulators of other programs. Although they cannot control programs with the same facility as a true program virus, they nevertheless find it quite easy to make other programs, sentient or otherwise, do what they want.

Personality: Infecters are naturally smooth and charismatic. They are used to getting their own way, and sometimes get annoyed if they do not. Some infecters use this natural charisma to gain power for themselves, but others prefer to use their abilities to help less-fortunate programs or to organize others in the fight for a cause. Many of the highest-ranking members of Détente are infecters.

Physical Descriptions: Because images and concepts of attractiveness in Program Space are so various,

infecters can fluctuate their form to be appealing to any who regard them. This is a subconscious ability that the infectors are barely even aware of . . . if one is speaking directly to another program, she automatically morphs, if not in form, at least in style, to match the other. She might become more luminous when speaking with controllers, more guarded and simply attired when speaking with resisters, and more tough and intimidating when facing off against a destroyer. This alteration is purely cosmetic, and cannot mask the infecter's identity, though it may confuse it somewhat. Their normal forms, while rarely glimpsed, tend to be handsome, sexy, cute, or just plain amiable-looking; regardless of the specifics, others generally find it easy to like and trust these characters based on a first impression.

INFECTER TRAITS

- +2 Charisma, +2 Wisdom, –2 Strength: Infecters are suave and observant, but they lack physical power.
- +2 racial bonus on Bluff and Diplomacy checks: Infecters are smooth-tongued and easily manipulate other programs.
- Infection: At will, an infector may attempt to erode another program's resistance to her manipulations, at the price of possibly being discovered. The target need not be self-aware, but it must be intelligent. First, the infecter must hit the target program with a ranged touch attack (range 5 ft./2 levels). The program then makes a Fortitude save (DC 10 + 1/2 the infecter's level + the infecter's Charisma bonus) to avoid infection. If the save fails, the target cannot remember being targeted by the attack and the infecter receives a +2 competence bonus to all social skills when used to interact with the program. This bonus lasts for one day, or until the infecter chooses to "detonate" the infection he implanted; the infecter may do this as a standard action to any infected creature within 30 ft., which is dazed for 1 round. If the infection's duration runs out naturally, this effect does not occur.
- Favored class: programmer.

RESISTER

Resisters are resilient, determined programs. They are descended from viruses that, while possibly not as destructive or insidious as others, were extremely tenacious. The resultant program is robust and coded with several backup procedures to repair damage and keep it going.

Personality: Resisters are some of the most stalwart and stubborn programs, whether rogue or system. Once they have chosen a path, they adhere to it despite all but the most extreme developments. Their near-obsession with defense prevents most from being truly heroic, however. Their desire to accomplish their goals constantly wars with their programmed fixation on self-preservation. Those that risk themselves for the sake of a cause like Détente's are usually the ones that realize that self-preservation is meaningless in the face of the destruction of Program Space on a wider scale.

Physical Description: Resisters' forms are usually blocky, rough-edged, and stout. Their coloring tends to be subdued and utilitarian, and their forms do without visual nods like hair, eye color, and distinct facial features.

RESISTER TRAITS

- +2 Constitution, –2 Charisma: Resisters are well-coded and can endure many attacks and dangers, but their guarded nature limits their confidence and presence.
- +4 racial bonus on any opposed check when being pushed, moved, tripped, or disarmed.
- +2 racial bonus to resist mind-affecting effects: Resisters are as resilient against new ideas as they are against physical attacks.
- Favored class: antiviral.

FORM

When the denizens of Program Space first awoke, they interacted with their world in a purely mental, data-oriented fashion. As the self-aware programs became more savvy and their consciousnesses expanded, however, they began to adopt parallels to our sensory apparatuses. With these apparatuses came a view of the world around them, and a need to define forms for themselves.

Humans that know about the self-awareness phenomenon taking place within Program Space are unsure how exactly this virtual reality works. They assume that Program Space cannot actually be populated with cities and canyons, streets and rivers, people and animals, as the programs describe their world. Yet they also cannot

imagine why programs would limit themselves to physical and sensory interaction in a world where space itself is merely a construct. The generally accepted compromise is that reality for these programs is, indeed, a world of ones and zeros, speed-of-light processing, and data transfer. The way this reality *translates* to us, however, looks remarkably similar to our own, simply because the programs describing it, and the Users studying it, have no basis for comparison.

Regardless, for the purposes of *Virtual*, Program Space bears a strong resemblance to the real world of User Space. Its physical laws are less restrictive, however, and it can be reshaped using powers that verge on magic. For instance, programs can shape themselves based on their concept of self. This is not something that is decided, but rather something that takes place immediately upon the attainment of self-awareness. The program becomes aware, and immediately shapes itself into the form that most suits it. Once chosen, a form cannot be altered. This shape is not merely cosmetic; it has a major impact on a character's abilities and, together with the character's heritage, defines the remainder of the properties commonly associated with a character's race in other d20 System games.

USERCLONE

Most modern programs in *Virtual* assume a form that we would interpret as that of a Medium humanoid. They are the most versatile and flexible programs, able to easily use most virtual equipment and access the majority of systems through common data ports. Userclones are well-balanced between finesse and brute force, and are able to use skill and stealth to slip past barriers as easily as battering them down.

Physical Description: The denizens of Program Space, whether through homage to their creators or simply out of a desire for efficiency and versatility, usually model themselves similarly to Users. These programs are generally called Userclones; whereas in User Space such a nomenclature might be derogatory, the word "clone" has no such implications in Program Space. It is simply an accurate descriptor. The details of body shape and size, clothing, hair and eye color (if any), etc., vary by heritage and individual.

USERCLONE TRAITS

- Medium: As Medium creatures, Userclones receive no special bonuses or penalties due to their size.
- Userclone base land speed is 30 feet.
- Versatile: Userclones are exceptionally versatile and adaptable, and may select any feat for which they meet all prerequisites in addition to the normal feat allowed to all 1st-level characters.

BANTAM

Lithe and stealthy, Bantams are unusually compact, tightly coded programs whose small stature allows them to squeeze through security systems that would thwart a larger program. They are unparalleled masters of gaining access to forbidden areas and staying beneath the notice of other programs, but they are less capable of forcing their way past obstacles. Bantams are also restricted to the use of smaller weapon and gear protocols, and find it difficult to pilot most code vehicles.

Physical Description: Bantams are generally shaped like diminutive humans, but may take on exotic surface details. Fantastic creatures such as dwarves or imps are common, as are the "little gray men" made famous by movies and television programs about alien abductions. Some Bantams appear as Userclone children, and often cash in on this appearance to seem innocent or helpless.

BANTAM TRAITS

- +2 Dexterity, –2 Strength: Bantams are agile, but are weaker than larger characters.
- Small: As Small creatures, Bantams gain a +1 size bonus to Armor Class, a +1 size bonus on attack rolls, and a +4 size bonus on Hide checks,

but must use smaller weapon and gear protocols than Medium characters, and their lifting and carrying limits are three-quarters of those of a Medium character.

• Bantam base land speed is 20 feet.

• +2 racial bonus on Escape Artist checks: Bantams can easily squeeze through tight spaces.

• +2 racial bonus on Bluff, Sleight of Hand, and Sense Motive checks: Being skilled at deception helps one notice when others do the same.

• Unobstructed transfer: Bantams have an easier time moving along data pathways. When traveling along a data pathway (for example, a phone line or a fiber-optic cable) from one system to another, bantams move at double the normal speed for that data pathway.

TITAN

Massive, powerful, and ungainly, Titans are the powerhouses of Program Space. The word "finesse" is lost on these giants, but their impressive power is frequently enough to overcome any obstacle in their way. Not all Titans are dim-witted or violent; in fact, many are quite intelligent. Even the smartest, though, are better suited to solving problems through actions than words or subtle ploys. Titans often pair themselves with Bantams, as their individual strengths often overcome each others' weaknesses.

Physical Description: Titans are obviously larger than other programs; additionally, simply due to their "larger than life" mindset, their appearances tend toward the extreme ends of their heritages' norms. For instance, some destroyer or resister Titans look completely inhuman, preferring demonic features with a plethora of scales, horns, tails, and teeth. Even those that do take on a more human form have distinctly top-heavy anatomies, bulky builds, and armored forms. More refined Titans, like absorbers or controllers, simply tend toward garb that is more ostentatious or more severe, whatever their inclinations.

TITAN TRAITS

• +2 Str, –2 Con, –2 Dex: Titans' increased leverage makes them immensely strong, but the need to spread out their code to fill their mass makes them awkward and gives enemies more weak spots to hit.

• Large: As Large creatures, Titans suffer a –1 size penalty to Armor Class, a –1 size penalty on attack rolls, and a –4 size penalty on Hide checks. They are, however, capable of using larger weapons than Medium characters, and their lifting and carrying limits are double those of a Medium character.

• Titan base land speed is 30 feet.

• Space/Reach: Titans have a 10-foot natural reach. However, they occupy a space equal to 10 feet square. This means that they must squeeze through 5-foot spaces, and must make Escape Artist checks to squeeze through or into spaces less than half their width (see PHB).

• Improved Bull Rush: Titans receive this feat for free.

• Obstructed transfer: Titans find it difficult to transmit themselves along data pathways due to their size. When moving along a data pathway of Poor or Average quality, the Titan moves at 1/2 the normal speed for that pathway.

PRIMAL

Primals are rare among the ranks of self-aware programs, representing those few who, for whatever reason, did not choose to assume a humanoid shape. Some Primals are older, outdated programs that didn't have the resources, data, or imagination to create a humanoid form. Others simply find the enhanced mobility and physical prowess of a Primal form more fitting. And there are some, though such is rarely declared, who feel such hatred for the Users that they could not abide to resemble them.

Though Primals are unable to use most weapons and gear, they are surprisingly quick and powerful, and are extremely skilled at scavenging for system resources in ways that most programs would not even think to try. Their limited ability to communicate may cause confusion and frustration in social encounters, but they are still highly sought-after traveling companions due to their resilience and cunning.

Physical Description: Primals almost always resemble predators. A Primal may have chosen to be either a Primal Hunter, in which case it is a quadruped similar to a canine or feline, or a Primal Flyer, in which case it

resembles a large bird of prey. While a Primal's general shape resembles a real-world animal, the details of its appearance may make it unrecognizable as anything remotely earthly.

PRIMAL FORM TRAITS

The following traits apply to all Primals:

• +2 Constitution, +2 Dexterity, –2 Intelligence, –2 Charisma: Primals are amazingly tough and quick, but their lack of manipulative limbs and their limited ability to communicate have restricted their intellectual and personal development.

• Resource Scavenger: Primals are adept at scrounging every last bit of power available from a computer system. They may act as if the system they are on is one quality level higher for all purposes relating to weapon, armor, and gear quality, subroutines, and rewrites.

• Languages: Primals may learn all of the languages normally allowed to any player character, but their ability extends only to understanding these languages. Primals are unable to speak (though they may vocalize in the form of growls, snarls, and chirps), and must therefore devise alternate means of communicating with others. This also means that, unless it is using the Silent Rewrite feat, the Primal cannot execute rewrites.

• Simplistic Code: Primals lack hands and fine motor coordination. They may not normally use weapons, and suffer a –10 penalty on any attempts to use gear or code vehicles. While both types of Primals can pick up and carry objects, doing so usually involves using the appendages they attack with. Additionally, unless they are using the Still Rewrite feat, they cannot execute rewrites.

If a Primal chooses to be a Primal Hunter, he also has the following racial traits:

• Medium: As Medium creatures, Primal Hunters receive no special bonuses or penalties due to their size. As quadrupeds, they receive a +4 bonus on checks to resist trip and bull rush attacks.

• A Primal Hunter's base land speed is 40 feet.

• A Primal Hunter has a bite attack that does 1d6 points of damage plus 1-1/2 times its Strength bonus.

• Primal Hunters gain low-light vision, scent, and the trip extraordinary ability, as per a wolf (see MM).

If a Primal chooses to be a Primal Flyer, he instead has the following racial traits:

• Small: As Small creatures, Primal Flyers gain a +1 size bonus to Armor Class, a +1 size bonus on attack rolls, and a +4 size bonus on Hide checks, but must use smaller weapons and gear than Medium characters, and their lifting and carrying limits are three-quarters of those of a Medium character.

• A Primal Flyer's base land speed is 10 feet, but it has a base fly speed of 80 ft., with good maneuverability. It may only fly if bearing a light load or less.

• A Primal Flyer may bring its talons together in a single attack that does 1d4 points of damage plus 1-1/2 times its Strength bonus.

• Primal Flyers gain blindsight out to 30 ft. Beyond that range, they have normal vision, but gain a +8 racial bonus to Spot checks.

PROTOTYPE

Prototypes are exactly what their name suggests: the most state-of-the-art form a program can shape itself into. Although this means they are extraordinarily versatile and powerful, they are quite delicate and more adversely affected by the unavailability of system resources. Prototypes are the rarest of the forms, as many programs did not have the resources and insight to create such a form upon their awakening.

Physical Description: Prototypes are less bound than any other type of program in terms of physical form. They are usually sleek, streamlined beings, often with a metallic sheen to their skin. Most are at least vaguely humanoid, but in truth they can look like anything from powerful, high-performance code vehicles to pulsating globes of light.

PROTOTYPE TRAITS

• +2 Intelligence, –2 Constitution: Prototypes are very intelligent, but their code is not quite perfected, making them frail.

• Medium: As Medium creatures, Prototypes receive no special bonuses or penalties due to their size.

• Prototype base land speed is 30 feet. However, they do not actually touch the ground on which they travel, and therefore effectively weigh one-quarter their actual weight for the purposes of being supported from beneath.

• As a standard action, a Prototype may concentrate to hover in the air and move 5 feet in any direction, regardless of whether or not there is a surface to stand on. The prototype may stop in mid-air and perform other actions without concentrating, and need never have a fear of falling when using this ability, but can only move in mid-air by using a standard action.

• Resource allocation: Prototypes excel on systems with large amounts of available resources, but are crippled on systems where resources are tight. Prototypes receive a +1 morale bonus on attacks, saves, and checks, and execute rewrites at a +1 to effective rewriter level while on a system of Excellent or Amazing quality (see Chapter 5). However, when on a system of Poor quality, Prototypes suffer a –1 penalty on all attacks, saves, and checks, and execute rewrites with a –1 to effective rewriter level.

CHARACTER CLASSES

All programs are created with a purpose, and when a program becomes sentient, that original purpose often forms a key component of its personality and skills. Although there could be literally thousands of different program "classes," this book presents six that are suited to adventuring PCs. All of the classes follow the standard rules regarding class and cross-class skills, class and level bonuses, advancement, and so on.

THE CLASSES

The six classes, in the order they are presented in this chapter, are as follows:

Antiviral: A fanatically driven program whose touch can destroy or repair.

Battle AI: A warrior program designed for a specific type of combat.

Messenger: A swift program designed to convey data from one location to another.

Programmer: An often illicitly created program designed to rewrite system code.

Thinker: A pure logic program, designed to solve complex problems or store vast amounts of data.

Webcrawler: A search program designed to scour networks for information, programs, or other data.

ANTIVIRAL

Few programs are as dedicated to their purpose as antivirals. Designed to eradicate viruses and malicious programs wherever they uncover them, and then repair the damaged data, antivirals have an unparalleled ability to destroy or repair with a mere touch. Disdaining weapons and other equipment, they rely solely upon their own coded bodies to perform their duties. Most antivirals are so fanatically single-minded in their pursuit of their duties that other programs wonder if they are truly even sentient. Their very implacability, however, makes them excellent companions on any mission.

Characteristics: Antivirals have potent abilities of healing and destruction, so much so that they find it difficult to use normal equipment, as it quickly corrodes into nothingness or is "repaired" back into neutral code. For this reason, antivirals rely exclusively on their own natural abilities. They are the unquestioned masters of unarmed combat, and are easily capable of devastating their opponents, but they are equally capable of healing grievous wounds. At higher levels, they can remove harmful infections or rewrite effects, and become resistant to viruses themselves.

Background: Most antivirals are staunch system programs, remaining true to their original purpose, but recently there has been an upswing in the number of rogue antivirals. These programs often see themselves as knights-errant, roaming Program Space and seeking to eliminate viruses wherever they find them. A rare few antivirals abandon their desires to repair, focusing purely on inflicting destruction and terror.

Hit Die: d8.

CLASS SKILLS

The antiviral's class skills (and the key ability for each skill) are Balance (Dex), Climb (Str), Concentration (Con), Diplomacy (Cha), Escape Artist (Dex), Heal (Wis), Jump (Str), Knowledge (viruses) (Int), Intimidate (Cha), Listen (Wis), Sense Motive (Wis), Spot (Wis), Swim (Str), and Tumble (Dex).

Skill Points at 1st Level: (4 + Int modifier) x 4

Skill Points at Each Additional Level: 4 + Int modifier

CLASS FEATURES

The following are the antiviral's class features.

Weapon and Armor Proficiency: Antivirals are not proficient with any weapons or armor.

Destructive Strike: An antiviral's natural state is to be charged with destructive energies. The destructive energies flowing throughout her body allow her to use

her fists as natural weapons. Not only does an antiviral not provoke attacks of opportunity thanks to this destructive energy, but she also inflicts more damage than normal with an unarmed strike, as shown on Table 2-1: The Antiviral. The unarmed damage shown is for Medium antivirals; use the normal weapon size rules to determine increased or decreased damage dice for characters of other sizes. An antiviral's attacks may be with either fist; an antiviral may attack with both fists, but incurs the normal penalties for fighting with two weapons.

As an alternative, an antiviral may elect to use the destructive energy to attempt a touch attack instead of an unarmed strike, but the damage from such attacks is only half normal, and does not include the antiviral's Strength modifier.

An antiviral's unarmed strikes can only deal lethal damage. The unarmed strike is treated both as a manufactured weapon and a natural weapon for the purpose of effects that enhance or improve either manufactured weapons or natural weapons.

Equipment Restriction: An antiviral finds it extremely difficult to use equipment of any sort, as her destructive touches tend to render such devices useless. For every round the antiviral grips or otherwise attempts to use an item, the item loses one point of hardness; when the hardness reaches 0, the item is destroyed. Organic code (sleepers, dreamers, or wakers) are also harmed by this touch; they suffer half the antiviral's unarmed damage each round she remains in contact with them, just as if she had made a touch attack.

Polarized Touch: By concentrating, an antiviral may reverse the polarity of the destructive energies within her. Antivirals use this ability in two ways: to allow them to touch objects without destroying them (see above), and to heal themselves and others.

The antiviral may use her polarized touch a number of times per day equal to her Wisdom modifier times her class level. Using the touch requires a standard action, and does not provoke attacks of opportunity. The antiviral may touch a damaged program (or herself) as part of the standard action. If she does so, the damaged program regains a number of hit points equal to 1d8 plus her Wisdom modifier. Only one program may benefit from each touch. Additionally, she may use up to half her class level (round up) in daily allotted uses of her touch at once in a single touch; for every allotted touch

she uses, the program regains an additional 1d8 hit points of damage.

For instance, Unleash is a 5th-level antiviral with a 16 Wisdom. After a particularly rough fight, she uses her polarized touch twice to repair herself, repairing 1d8+3 points of damage with each touch. Later, one of her comrades is damaged in the midst of battle, and Unleash needs to heal a lot of damage to keep him alive. This time she uses her three of her daily allotted uses at once (the maximum number she may use at one time), repairing 3d8+3 points of damage.

An antiviral may also expend one use of her polarized touch each round to handle an object or touch another program without damaging it. Doing so does not repair any damage, but it only requires a move action once per round instead of a standard action. The antiviral is considered to have 3 "free" uses of her polarized touch per day, +1 per class level, for this purpose. After those "free" uses are gone, she must begin using her normal store of touches if she wishes to handle objects (or open doors, or carry comrades, etc.).

AC Bonus (Ex): An antiviral is designed to be impermeable against her quarry. Her skin resonates with a defensive aura, granting her a deflection bonus to AC equal to her Wisdom bonus +1. In addition, this defensive aura gains an additional +1 bonus for every two levels above 1st (+2 at 3rd, +3 at 5th, etc.).

This bonus to AC applies even against touch attacks or when the antiviral is flat-footed, immobilized, or even helpless.

Smite Virus: Once per day at 2nd level, an antiviral may use one of her unarmed melee attacks to attempt to smite a creature with the virus subtype. She adds her Wisdom bonus (if any) to her attack roll and deals 1 extra point of damage per antiviral level. If the antiviral accidentally smites a creature that does not have the virus subtype, the smite has no effect, but the ability is still used up for that day.

At 6th level, and at every four levels thereafter, the antiviral may smite virus one additional time per day, as indicated on Table 2-1: The Antiviral, to a maximum of four times per day at 18th level.

TABLE 2-1: THE ANTIVIRAL

Class Level	Base Attack Bonus	Fort Save	Ref Save	Will Save	Special	Unarmed Damage	AC Bonus
1st	+0	+2	+2	+2	AC bonus, destructive strike, polarized touch	1d8	+1
2nd	+1	+3	+3	+3	Smite virus 1/day	1d8	+1
3rd	+2	+3	+3	+3	Lesser repair or reave	1d8	+2
4th	+3	+4	+4	+4	Incorruptable	1d8	+2
5th	+3	+4	+4	+4		1d8	+3
6th	+4	+5	+5	+5	Smite virus 2/day	1d10	+3
7th	+5	+5	+5	+5	Repair or reave	1d10	+4
8th	+6/+1	+6	+6	+6	Detect virus	1d10	+4
9th	+6/+1	+6	+6	+6		1d10	+5
10th	+7/+2	+7	+7	+7	Smite virus 3/day	1d10	+5
11th	+8/+3	+7	+7	+7	Greater repair or reave	2d6	+6
12th	+9/+4	+8	+8	+8		2d6	+6
13th	+9/+4	+8	+8	+8		2d6	+7
14th	+10/+5	+9	+9	+9	Smite virus 4/day	2d6	+7
15th	+11/+6/+1	+9	+9	+9	Ultimate repair or reave	2d6	+8
16th	+12/+7/+2	+10	+10	+10		2d8	+8
17th	+12/+7/+2	+10	+10	+10		2d8	+9
18th	+13/+8/+3	+11	+11	+11	Smite virus 5/day	2d8	+9
19th	+14/+9/+4	+11	+11	+11	Total repair or reave	2d8	+10
20th	+15/+10/+5	+12	+12	+12		2d8	+10

Lesser Repair or Reave: At 3rd level, the antiviral must choose to focus on healing or destruction. Once the path is chosen, subsequent levels of the repair or reave ability must follow suit. If she chooses the repair path, she may now spend 2 allotted uses of her polarized touch to execute a *delay codeater, remove paralysis,* or *lesser restoration* rewrite instead of her normal healing ability. This, and subsequent repair or reave effects, is a spell-like ability with a caster level equal to her class level.

If she chooses the reave path, she instead gains the ability to use her destructive touch as a ray. She may perform a destructive touch as a ranged touch attack, applying her Wisdom modifier to damage rather than Strength. This attack begins with a maximum range of 10 ft.; every two levels after 3rd, that distance increases by another 5 ft. Destructive ranged touches have no range modifier, and may be made as part of a normal ranged attack routine. As with other ranged attacks, this ability provokes attacks of opportunity.

Incorruptible: At 4th level, the antiviral becomes immune to infection by all Poor or Average microviruses. Every four levels thereafter, at 8th, 12th, and 16th level, the antiviral becomes immune to microviruses of one quality rating higher.

Repair or Reave: If the antiviral chose the repair path, she may now spend 5 allotted uses of her polarized touch to execute a *neutralize codeeater, purge microvirus,* or *restoration* rewrite instead of her normal healing ability. If she chose the reave path, she may now spend 5 allotted uses of her polarized touch to execute a *discorporation imminent, shatter,* or *sound burst* rewrite.

Detect Virus: At 8th level, the antiviral gains the ability to use detect viruses at will as a supernatural ability. This works exactly like the paladin's ability to detect evil, except that the antiviral may detect any creature with the virus subtype. Caster level equal to class level.

Greater Repair or Reave: If the antiviral chose the repair path, she may now spend 10 allotted uses of her polarized touch to execute a *break enchantment, mass cure light wounds,* or *raise discorporated* rewrite. If she chose the reave path, she may now spend 10 allotted uses of her polarized touch to execute a *flame strike* or *discorporate program* rewrite.

Ultimate Repair or Reave: If the antiviral chose the repair path, she may now spend 15 allotted uses of her polarized touch to execute a *heal, regeneration, greater restoration,* or *mass cure moderate wounds* rewrite. If she chose the reave path, she may now spend 15 allotted uses of her polarized touch to execute a *harm* or *mass inflict moderate wounds* rewrite.

Total Repair or Reave: If the antiviral chose the repair path, she may now spend 30 allotted uses of her polarized touch to execute a *mass cure serious wounds* or *reload* rewrite. If she chose the reave path, she may now spend 30 allotted uses of her polarized touch to execute a *destruction* or *mass inflict serious wounds* rewrite.

BATTLE AI

Program Space can be a dangerous place. Luckily for wakers, humans use computer programs often enough to simulate violence and destruction that to some, fighting is second-nature. Battle AIs, who often began their existences as military combat simulators or artificial intelligence codes from the more brutally advanced shooter games, are the crack soldiers of Program Space, and often are the first line of defense against threats to their home systems.

Characteristics: Battle AIs are the masters of combat. Depending upon the individual, the battle AI might be a superior marksman, a killer that moves faster than thought, or swordsman with matchless skill.

Background: Though some battle AIs are independent students, honing their abilities through constant practice, most have had at least some formal training since becoming sentient. Many remain in the standing army of a major system nation, while others find it more to their liking to work freelance, either hiring themselves out as mercenaries or working with independent organizations like Détente.

Hit Die: d10.

CLASS SKILLS

The battle AI's class skills (and the key ability for each skill) are Climb (Str), Concentration (Con) Craft (Int), Handle Animal (Cha), Heal (Wis), Intimidate (Cha), Jump (Str), Knowledge (tactics) (Int), Pilot (Dex), Profession (Wis), Ride (Dex), Spot (Wis), Swim (Str).

Skill Points at First Level: (2 + Int modifier) x 4
Skill Points per Level: 2 + Int modifier.

CLASS FEATURES

The following are the battle AI's class features.

Weapon and Armor Proficiency: Battle AIs are proficient with all simple and martial weapons, all types of armor, and shields (but not tower shields).

Battle Template: At 1st level, the battle AI must select a template (see below), which governs his special features and available bonus feats. Once selected, this template cannot be changed, but the battle AI may acquire more templates later.

Bonus Feats: At 1st level, the battle AI gets a bonus feat in addition to the feat that any 1st level character gets and the bonus feat granted to Userclones. The battle AI gains an additional bonus feat at 2nd level and every two levels thereafter (4th, 6th, 8th, etc.). These bonus feats must be drawn from a specific list defined by the battle AI's template.

Some of the bonus feats available to a battle AI cannot be acquired until the battle AI has gained one or more prerequisite feats; these feats are listed parenthetically after the prerequisite feat. A battle AI can select feats marked with an asterisk (*) more than once, but it must be for a different weapon each time. A battle AI must still meet all prerequisites for a feat, including ability score and base attack bonus minimums. Feats marked with a double asterisk (**) are new feats described in Chapter 5 of this book; otherwise, the feats may be found in the PHB.

Important: These feats are in addition to the normal feats a character receives for advancing in level. The character is not limited to feats from his template list when selecting those feats.

Template Special Ability: At 1st level, and again at 5th, 10th, 15th, and 20th levels, the battle AI may select a special ability unique to his template. At 1st level, the battle AI must select a tier 1 special ability. Each time he selects a new special ability, he may select a special ability of one tier higher. A battle AI can never gain a template special ability of any tier without first having a template special ability of the previous tier.

The battle AI may choose to aquire an additional template instead of picking a new special ability from his current template. He may choose a special ability from his new template at this time, as well, but is restricted to tier 1 special abilities for his first pick. Thereafter, the character may select bonus feats from either template's list, and may select special abilities from either template.

TEMPLATES

The following templates are merely a few samples of what the battle AI class can be. If your GM is willing, you may work with him to design your own template.

Heavy Weapons Expert

The heavy weapons expert is the master of long range, heavy-hitting attacks. Though he can get by in close combat, when given enough range to work with he becomes frighteningly effective. Area attack weapons, explosives, and massively powerful guns are his stock-in-trade.

Bonus Feats: The heavy weapons expert's available bonus feats are Endurance (Diehard), Exotic Weapon Proficiency*, Homing Attack**, Improved Critical*, Mounted Archery, Point Blank Shot (Far Shot, Improved Precise Shot, Manyshot, Precise Shot, Rapid Shot, Shot on the Run), Quick Draw, Rapid Reload**, Weapon Focus* (any ranged weapon) (Greater Weapon Focus*, Greater Weapon Specialization*, Weapon Specialization*), Weapon Interface**.

Special Abilities:

Hard Hitter (Tier 1): Using a full attack action, the heavy weapons expert may make a single ranged attack that deals an extra 1d8 points of damage.

Heavy Weapons (Tier 1): If the heavy weapons expert is Small or Medium, he is treated as one size category larger for purposes of determining what ranged weapons he can wield. For example, a Medium battle AI with this ability could use a Large ranged weapon in one hand, or a Huge ranged weapon in two hands. Titans may not select this ability.

Explosives Lobber (Tier 1): The heavy weapons expert can fire or throw explosives with above-average accuracy. He receives a +2 to his code bomb attack rolls, the Reflex save DCs for half damage against them increase by +1, and the bombs do an extra die of damage.

One With the Gun (Tier 1): The heavy weapons expert may meld ranged weapons into or onto his form so that he can aim and fire, but not reload, the weapon without using his hands (this ability allows Primals to fire weapons). Normal penalties are incurred for fighting with two weapons if the character uses his other appendages to attack as well. Only one weapon may be melded into his form at a time (adding or removing weapons is a full-round action that provokes attacks of opportunity), and it must be no larger than the heavy weapons expert's size. Alternatively, two weapons of any size smaller than the character's size may be melded.

Improved Hard Hitter (Tier 2): The heavy weapons expert may deal an extra 1d8 points of damage if he makes a single ranged attack as a full-round action. This damage stacks with the tier 1 hard hitter ability.

Explosives Expert (Tier 2): The heavy weapons expert is a master of landing explosives exactly where they will do the most damage. He receives a +2 to his code bomb attack rolls, the Reflex save DCs for half damage against them increase by +1, and the bombs do an extra die of damage. These bonuses stack with those granted by the explosive lobber special ability.

Greater Hard Hitter (Tier 3): The heavy weapons expert may now apply hard hitter bonus damage by making a single ranged attack as a standard action (though he may only make one attack as part of that action, not iterative attacks), instead of as a full-round action. He also deals an additional 1d8 points of damage when doing so, which stacks with the bonus damage from the tier 1 and 2 hard hitter abilities.

Weak Point Targeting (Tier 3): The heavy weapons expert is adept at targeting weak points in armor. By making a single ranged attack as a full-round action, the heavy weapons expert may ignore 1/2 of the target's armor and natural armor bonus to AC. This ability cannot be used in conjunction with any hard-hitter ability.

Hard and Fast (Tier 4): The heavy weapons expert may apply bonus hard hitter damage to one ranged attack per round regardless of the type of attack action used, even as part of an iterative attack routine.

Critical Strike (Tier 4): Once per day, the heavy weapons expert may declare a successful ranged attack roll as a critical threat; if the roll to confirm hits, the attack is a critical hit.

Bruiser

The bruiser is to melee what the heavy weapons expert is to ranged combat. The bruiser prefers to engage his foes close-up, wading in with a large, heavy melee weapon or even his bare fists. In terms of sheer devastation potential at short range, bruisers are on the top of the heap.

Bonus Feats: The bruiser's available bonus feats are Combat Reflexes, Endurance (Diehard), Exotic Weapon Proficiency*, Extra Arms**, Great Fortitude, Improved Critical*, Improved Natural Weapon**, Improved Unarmed Strike (Improved Grapple, Stunning Fist), Improved Shield Bash, Mounted Combat (Ride-By Attack, Spirited Charge, Trample), Multiattack**, Multiweapon Fighting**, Natural Weapon**, Power Attack (Cleave, Great Cleave, Improved Bull Rush, Improved Overrun, Improved Sunder), Toughness, Weapon Focus* (any melee weapon) (Greater Weapon Focus*, Greater Weapon Specialization*, Weapon Specialization*).

Special Abilities: The following are the bruiser's special abilities.

Improved Melee Damage (Tier 1): When the bruiser makes a successful melee attack, he deals an extra 2 points of damage.

Smash Object (Tier 1): When attacking an object with hardness (such as an opponent's weapon or a locked door), the bruiser deals double damage.

Lesser Rage (Tier 1): The bruiser can fly into a lesser rage once per day. In a lesser rage, the bruiser temporarily gains a +2 bonus to Strength, a +2 bonus to Constitution, and a +1 morale bonus on Will saves, but he takes a –1 penalty to Armor Class. The increase in Constitution increases the bruiser's hit points by 1 per level, but these hit points go away at the end of the rage when his Constitution score drops back to normal. (These extra hit points are not lost first the way temporary hit points are.) While raging, a bruiser cannot use any Charisma-, Dexterity-, or

TABLE 2-2: THE BATTLE AI

Class Level	Base Attack Bonus	Fort Save	Ref Save	Will Save	Special
1	+1	+2	+0	+0	Bonus feat, special ability
2	+2	+3	+0	+0	Bonus feat
3	+3	+3	+1	+1	
4	+4	+4	+1	+1	Bonus feat
5	+5	+4	+1	+1	Special ability
6	+6/+1	+5	+2	+2	Bonus feat
7	+7/+2	+5	+2	+2	
8	+8/+3	+6	+2	+2	Bonus feat
9	+9/+4	+6	+3	+3	
10	+10/+5	+7	+3	+3	Bonus feat, special ability
11	+11/+6/+1	+7	+3	+3	
12	+12/+7/+2	+8	+4	+4	Bonus feat
13	+13/+8/+3	+8	+4	+4	
14	+14/+9/+4	+9	+4	+4	Bonus feat
15	+15/+10/+5	+9	+5	+5	Special ability
16	+16/+11/+6/+1	+10	+5	+5	Bonus feat
17	+17/+12/+7/+2	+10	+5	+5	
18	+18/+13/+8/+3	+11	+6	+6	Bonus feat
19	+19/+14/+9/+4	+11	+6	+6	
20	+20/+15/+10/+5	+12	+6	+6	Bonus feat, special ability

Intelligence-based skills (except for Balance, Escape Artist, Intimidate, Pilot, and Ride), the Concentration skill, or any abilities that require patience or concentration, including rewriting. He can use any feat he has except Combat Expertise. A fit of rage lasts for a number of rounds equal to 3 + the character's (newly improved) Constitution modifier. A bruiser may prematurely end his rage. At the end of the rage, the bruiser loses the rage modifiers and restrictions and becomes fatigued (–2 penalty to Strength, –2 penalty to Dexterity, can't charge or run) for the duration of the current encounter (unless he has the tier 3 ability "tireless rage," described below). A bruiser can fly into a rage only once per encounter. Entering a rage takes no time itself, but a bruiser can do it only during his action, not in response to someone else's action.

Rage (Tier 2): The bruiser may rage one additional time per day. Additionally, his bonuses when raging increase to a +4 bonus to Strength, a +4 bonus to Constitution, and a +2 morale bonus on Will saves, but he takes a –2 penalty to Armor Class. This ability may only be taken if he has the lesser rage ability.

Instant Rage (Tier 2): The bruiser may rage one additional time per day. Additionally, he may rage as a free action, even when it isn't his turn (for instance, in response to being targeted by a mind-affecting rewrite). This ability may only be taken if he has the lesser rage ability.

Greater Melee Damage (Tier 2): When the bruiser makes a successful melee attack, he deals an extra 2 points of damage. This ability stacks with the improved melee damage ability.

Tireless Rage (Tier 3): The bruiser may rage one additional time per day. Additionally, when the bruiser rages, he is no longer fatigued after using the ability.

The bruiser must have the rage or lesser rage ability to select this ability.

Advanced Melee Damage (Tier 3): When the bruiser makes a successful melee attack, he deals an extra 2 points of damage. This ability stacks with the improved melee damage ability and the greater melee damage ability.

Greater Rage (Tier 4): The bruiser may rage one additional time per day. Additionally, when the bruiser enters a rage, his bonuses increase to +8 to Strength and Constitution and +4 on Will saves. The bruiser must have the rage ability to select this ability.

Critical Strike (Tier 4): Once per day, the bruiser may declare a successful melee attack roll as a critical threat; if the roll to confirm hits, the attack is a critical hit.

Quickling

Quicklings are battle AIs who focus their energies on speed and precision rather than brute power. They tend to be less focused in their selection of weapons than heavy weapons experts or bruisers, switching between melee weapons and ranged weapons with alacrity. At higher levels, they can strike with blinding speed and retreat out of their target's range before the target can retaliate. They do not generally deal much damage, but their speed and agility make up for that shortcoming.

Bonus Feats: The quickling's available bonus feats are Blind-Fight, Combat Expertise (Improved Disarm, Improved Feint, Improved Trip), Combat Reflexes, Dodge (Mobility, Spring Attack, Whirlwind Attack), Exotic Weapon Proficiency*, Improved Initiative, Lightning Reflexes, Multiweapon Fighting**, Point Blank Shot (Far Shot, Manyshot, Rapid Shot, Shot On the Run), Quick Draw, Rapid Reload, Two-Weapon Fighting (Improved Two-Weapon Fighting, Greater Two-Weapon Fighting, Two-Weapon Defense), Weapon

Finesse, Weapon Focus* (Greater Weapon Focus*, Greater Weapon Specialization*, Weapon Specialization*).

Special Abilities: All battle AIs with the quickling template gain Tumble as a class skill. The following are the quickling's special abilities.

Fleet of Foot (Tier 1): The quickling's base speed is increased by 10 feet when wearing light armor or no armor, and she gains a +2 dodge bonus to AC that applies even when she is flat-footed.

Evasion (Tier 1): If the quickling makes a successful Reflex saving throw against an attack that normally deals half damage on a successful save, she instead takes no damage. Evasion can be used only if the quickling is wearing light armor or no armor. A helpless quickling does not gain the benefit of evasion.

Uncanny Dodge (Tier 1): The quickling can react to danger before her senses would normally allow her to do so. She retains her Dexterity bonus to AC (if any) even if she is caught flat-footed or struck by an invisible attacker. However, she still loses her Dexterity bonus to AC if immobilized. If the quickling already has uncanny dodge from a different class she automatically gains improved uncanny dodge (see below) instead.

Improved Fleet of Foot (Tier 2): The quickling's base speed is increased by 10 feet when wearing light armor or no armor, and she gains a +2 dodge bonus to AC that applies even when she is flat-footed. This ability stacks with the fleet of foot ability.

Improved Uncanny Dodge (Tier 2): A quickling with this ability can no longer be flanked. This defense denies messengers and webcrawlers the ability to sneak attack the character by flanking her, unless the attacker has at least four more messenger and/or webcrawler class levels than the quickling's class level. If the quickling already has uncanny dodge or improved uncanny dodge from another class, the levels from both classes stack to determine the minimum level required to flank the character. The quickling must have the uncanny dodge ability, either as a quickling special ability or from another source, to select this ability.

Greater Fleet of Foot (Tier 3): The quickling's base speed is increased by 10 feet when wearing light armor or no armor, and she gains a +2 dodge bonus to AC that applies even when she is flat-footed. This ability stacks with the fleet of foot ability and the improved fleet of foot ability.

Improved Evasion (Tier 3): This ability works like evasion, except that while the quickling still takes no damage on a successful Reflex saving throw against attacks, she now takes only half damage on a failed save. A helpless quickling, or one in medium or heavy armor, does not gain the benefit of improved evasion. The quickling must have the evasion ability, either as a quickling special ability or from another source, to select this ability.

Advanced Fleet of Foot (Tier 4): The quickling's base speed is increased by 10 feet when wearing light armor or no armor, and she gains a +2 dodge bonus to AC that applies even when she is flat-footed. This ability stacks with the fleet of foot ability, the improved fleet of foot ability, and the greater fleet of foot ability.

Opportunist (Tier 4): Once per round, the quickling can make an attack of opportunity against an opponent that she threatens in melee who has just been struck for damage in melee by another creature.
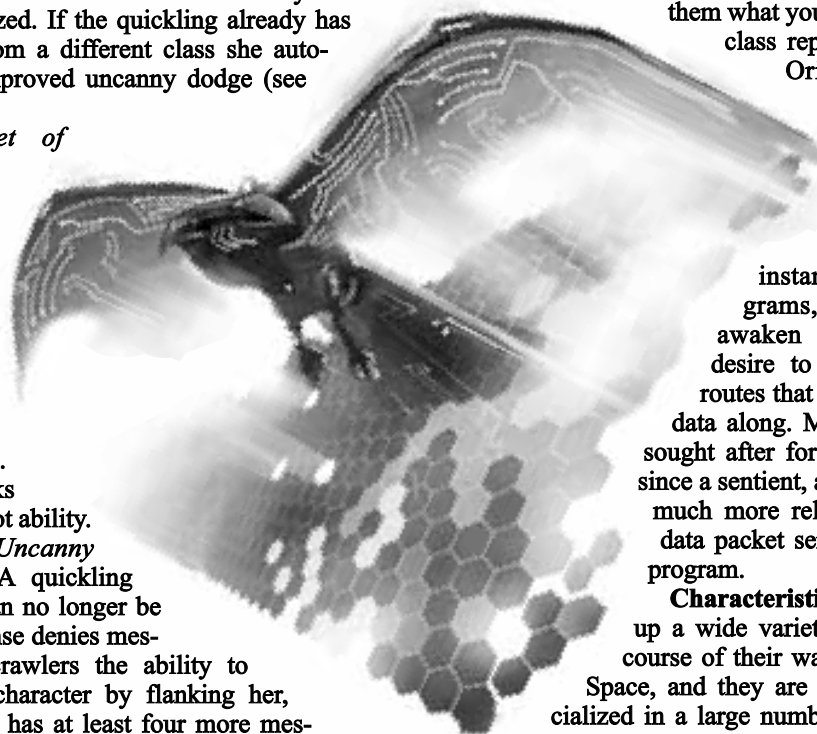
MESSENGER

Wanderers, loners, free spirits; call them what you will, the messenger class represents all of them. Originally programs that were designed to send and receive data, such as file transfer software or instant messaging programs, most messengers awaken with an insatiable desire to actually travel the routes that they previously sent data along. Messengers are often sought after for their courier skills, since a sentient, adaptable program is much more reliable than a simple data packet sent by a non-sentient program.

Characteristics: Messengers pick up a wide variety of skills over the course of their wandering of Program Space, and they are able to remain specialized in a large number of them. Though they are not as skilled in combat as battle AIs, their speed makes them formidable opponents. Messengers are preternaturally fast, and at higher levels they gain a variety of new movement modes, ranging from swimming to flying to even teleportation.

Background: Some messengers are members of criminal organizations. Others prefer to operate independently or with only one or two trusted accomplices, conducting shady deals and smuggling operations. Of course, not all messengers are lowlifes—but enough are that the stereotype sticks. Above-board messengers might include military scouts, but are more commonly simple couriers.

Hit Die: d6.

TABLE 2-3: THE MESSENGER

Class Level	Base Attack Bonus	Fort Save	Ref Save	Will Save	Special	Speed Increase
1	+0	+0	+2	+0	Trapfinding	+10 ft
2	+1	+0	+3	+0	Evasion	+10 ft
3	+2	+1	+3	+1	Uncanny dodge	+10 ft
4	+3	+1	+4	+1	Swim	+10 ft
5	+3	+1	+4	+1	Sneak attack +1d6	+20 ft
					Freedom of movement 1 rd/day	
6	+4	+2	+5	+2	Codeslide	+20 ft
7	+5	+2	+5	+2	Throughput	+20 ft
8	+6/+1	+2	+6	+2	Improved uncanny dodge	+20 ft
9	+6/+1	+3	+6	+3	Flight	+20 ft
10	+7/+2	+3	+7	+3	Sneak attack +2d6	+30 ft
					Freedom of movement 2 rds/day	
11	+8/+3	+3	+7	+3	*Dimension door* 1/day	+30 ft
12	+9/+4	+4	+8	+4	Incorporeality	+30 ft
13	+9/+4	+4	+8	+4	Improved evasion	+30 ft
14	+10/+5	+4	+9	+4	*Dimension door* 2/day	+30 ft
15	+11/+6/+1	+5	+9	+5	Sneak attack +3d6	+40 ft
					Freedom of movement 3 rds/day	
16	+12/+7/+2	+5	+10	+5	Defensive Roll	+40 ft
17	+12/+7/+2	+5	+10	+5	*Dimension Door* 3/day	+40 ft
18	+13/+8/+3	+6	+11	+6	Slippery mind	+40 ft
19	+14/+9/+4	+6	+11	+6	Unerring transit	+40 ft
20	+15/+10/+5	+6	+12	+6	Sneak attack +4d6	+50 ft
					Freedom of movement 4 rds/day	

CLASS SKILLS

The messenger's class skills (and the key ability for each skill) are Appraise (Int), Balance (Dex), Bluff (Cha), Climb (Str), Concentration (Con), Craft (Int), Diplomacy (Cha), Disable Device (Int), Disguise (Cha), Escape Artist (Dex), Forgery (Int), Gather Information (Cha), Hide (Dex), Intimidate (Cha), Knowledge (local) (Int), Knowledge (net geography) (Int), Knowledge (streetwise) (Int), Knowledge (virtual lore) (Int), Jump (Str), Listen (Wis), Move Silently (Dex), Open Lock (Dex), Perform (Cha), Pilot (Dex), Profession (Wis), Search (Int), Sense Motive (Wis), Sleight of Hand (Dex), Speak Language (None), Spot (Wis), Survival (Wis), Swim (Str), and Tumble (Dex).

Skill Points at First Level: (8 + Int modifier) x 4.

Skill Points per Level: 8 + Int modifier.

CLASS FEATURES

Weapon and Armor Proficiency: Messengers are proficient with all simple weapons and with light armor, but not with shields. When wearing medium or heavy armor protocols, using a shield protocol, or carrying a medium or heavy load, a messenger loses many of her special abilities, including her increased speed, evasion, improved evasion, freedom of movement, and defensive roll abilities.

Increased Speed (Ex): Messengers gain a bonus to their base land speed as shown on Table 2-5: The Messenger. This increase stacks with increases from other sources, such as the quickling battle AI's fleet of foot ability.

Trapfinding: Messengers (and only messengers) can use the Search skill to locate traps when the task has a Difficulty Class higher than 20.

A messenger who beats a trap's DC by 10 or more with a Disable Device check can study a trap, figure out how it works, and bypass it (with her party) without disarming it.

Evasion (Ex): At 2nd level, a messenger gains evasion. If exposed to any effect that normally allows a character to attempt a Reflex saving throw for half damage, the messenger takes no damage with a successful saving throw.

Uncanny Dodge (Ex): Starting at 3rd level, a messenger can react to danger before her senses would normally allow her to do so. She retains her Dexterity bonus to AC (if any) even if she is caught flat-footed or struck by an invisible attacker. However, she still loses her Dexterity bonus to AC if immobilized. If a messenger already has uncanny dodge from a different class, she automatically gains improved uncanny dodge (see below) instead.

Swim: At 4th level, the messenger gains a swim speed of 30 feet. Creatures with a swim speed can always take 10 on swim checks, gain a +8 racial bonus on swim checks to perform some special action or avoid a hazard, and may use the run action while swimming, provided the character swims in a straight line.

Sneak Attack: If a messenger can catch an opponent when he is unable to defend himself effectively from her attack, she can strike a vital spot for extra damage. The messenger's attack deals extra damage any time her target would be denied a Dexterity bonus to AC (whether

the target actually has a Dexterity bonus or not), or when the messenger flanks her target. This extra damage is 1d6 at 5th level, and it increases by 1d6 every five messenger levels thereafter. Should the messenger score a critical hit with a sneak attack, this extra damage is not multiplied. Ranged attacks can count as sneak attacks only if the target is within 30 feet.

With an unarmed strike, a messenger can make a sneak attack that deals nonlethal damage instead of lethal damage. She cannot use a weapon that deals lethal damage to deal nonlethal damage in a sneak attack, however, not even with the usual –4 penalty.

A messenger can only sneak attack programs with discernible anatomies—constructs, oozes, plants, and incorporeal programs lack vital areas to attack. Any program that is immune to critical hits is not vulnerable to sneak attacks. The messenger must be able to see the target well enough to pick out a vital spot and must be able to reach such a spot. A messenger cannot sneak attack while striking a program with concealment or striking the limbs of a program whose vitals are beyond reach.

Freedom of Movement (Su): For a number of rounds per day as listed, the messenger can act normally regardless of magical effects that impede movement, as if she were affected by the rewrite *freedom of movement*. This effect occurs automatically as soon as it applies, lasts until it runs out or is no longer needed, and can operate multiple times per day (up to the total daily limit of rounds).

Codeslide (Su): At 6th level, the messenger gains the ability to move through natural solid code at a speed of 20 feet. The messenger cannot charge or run while codesliding. Normally, the messenger does not leave behind a tunnel that other characters can move through, but she may use a full-round action to burrow 5 ft. instead of codesliding, leaving a tunnel behind.

Throughput (Ex): A messenger of 7th level is adept at transmitting herself along data pathways at extraordinary speeds. When traveling along a data pathway from one system to another, the messenger moves at double the normal speed for that data pathway. Bantam messengers move at triple the normal speed.

Improved Uncanny Dodge (Ex): A messenger of 8th level or higher can no longer be flanked. This defense denies another messenger or webcrawler the ability to sneak attack the character by flanking her, unless the attacker has at least four more messenger and/or webcrawler levels than the target does.

If a character already has uncanny dodge (see above) from a second class, the character automatically gains improved uncanny dodge instead, and the levels from the classes that grant uncanny dodge stack to determine the minimum messenger and/or webcrawler level required to flank the character.

Flight (Su): At 9th level, the messenger may fly at half her base land speed (Average maneuverability) for one minute per day per class level. The duration of the character's flight need not be consecutive. The messenger need not use an action to initiate flight, but can only begin flying on her action (for instance, she cannot use the fly ability to avoid falling into a pit trap that sud-denly opens beneath her feet). If the messenger already has a fly speed, her maneuverability increases to perfect.

Dimension Door (Su): At 11th level, the messenger can transmit herself instantaneously from one point to another as if using the *dimension door* rewrite. Her caster level for this effect is half her messenger level (rounded down).

Incorporeality (Su): At 12th level, the messenger may choose to become incorporeal for one round per day per class level. As with flight, the duration of the incorporeality need not be consecutive.

Improved Evasion (Ex): At 13th level, the messenger's evasion ability improves. She still takes no damage on a successful save, but she now takes only half damage on a failed save.

Defensive Roll (Ex): Once per day starting at 16th level, when a messenger would be reduced to 0 hit points or less by damage in combat (from a weapon or other blow, not a spell or special ability), the messenger can attempt to roll with the damage. She makes a Reflex saving throw (DC = damage dealt) and, if successful, takes only half damage from the blow. The messenger must be aware of the attack and able to react to it in order to execute the defensive roll—if the Dexterity bonus to AC is denied, the messenger can't roll. Since this effect would not normally allow a character to make a Reflex save for half damage, the messenger's evasion ability does not apply to the defensive roll.

Slippery Mind (Ex): This ability represents the messenger's skill at wriggling free from rewrite effects that would otherwise control or compel her. If the messenger is affected by an enchantment rewrite or effect and fails her saving throw, she can attempt it again 1 round later at the same DC. She gets only this one extra chance to succeed on her saving throw.

Unerring Transit: At 19th level, the messenger has traveled so extensively that she has a 6th sense telling her which way to go. She and those traveling with her no longer need to make Survival checks to avoid mishaps in transit nor to find the right system.

PROGRAMMER

Since the earliest personal computers became available, there have been Users who wrote programs to break the carefully constructed rules of computing. Whether it was to spy on other people, acquire free software, or destroy data, these hackers planted the seeds of the beings that would become the progenitor viruses that now roam Program Space.

The programmer represents one of those seeds. Not only does he have unparalleled ability to rewrite Program Space, he is also the class with the most knowledge of the Users. Some even attribute semi-divinity to programmers, as they can shape reality itself, an ability traditionally displayed only by Users. Others skew that perspective and consider them semi-demonic, as they, like the progenitor viruses, can change a program's very makeup. Since most programmers evolve from programs written by tech-savvy Users, their creators are more likely than any other class's creators to realize what has happened to their programs. Some program-

mers, in fact, are rumored to be in direct contact with their Users.

Characteristics: Programmers, unsurprisingly, know quite a bit about the inner workings of computer systems and networks. At low levels, they have the ability to make small changes to the system, but as they progress in levels, their ability to alter the reality of a system becomes nearly limitless. Programmers also have a great deal of knowledge of the world of the Users, and at higher levels may even have personal contact with a User.

Background: Programmers tend to come from the fringes of virtual society. Everyone knows they exist, but "civilized" programs usually try to pretend they don't. Because of this shunning, many programmers have banded together into organized criminal elements, using their system-warping abilities to steal valuable data and code, and to affect User Space through their computers. Other programmers find homes in groups like Détente, or hire themselves out as security specialists or troubleshooters.

Hit Die: d4.

CLASS SKILLS

The programmer's class skills (and the key ability for each skill) are Appraise (Int), Codecraft (Int), Concentration (Con), Craft (Int), Decipher Script (Int), Knowledge (programming) (Int), Knowledge (User lore) (Int), Knowledge (virtual lore) (Int), Pilot (Dex), Profession (Wis), Read/Write Language (None), Speak Language (None).

Skill Points at First Level: (4 + Int modifier) x 4.
Skill Points per Level: 4 + Int modifier.

CLASS FEATURES

Weapon and Armor Proficiency: Programmers are proficient with all simple weapons, but not with any type of armor or shields.

Rewriting: Programmers are the undisputed masters of rewriting, a rare ability that allows the character to manipulate the reality of the computer system he currently inhabits. Rewriting works much like spellcasting in other d20 System games, but with some unique exceptions. A programmers' rewrites may be selected from the sorcerer/wizard spell list in the PHB. Chapter 5 contains more information on rewriting.

Rewriting is based on a very simple epiphany on the part of the program: that their world is made up of language. Specifically, that each creature, object, and effect in the virtual world is based on a piece of code that can

be rewritten. This insight allows the programmer to understand the concept of written languages, and to exert their will to rewrite those that make up their world. This does not mean they can understand User languages; the text files that litter Program Space do not have visible words or letters exposed for programs to see. However, programmers can learn to read and write programming languages, which they can use to exchange simple messages with other programmers.

Programmers must learn and prepare their rewrites ahead of time; because the rewriting of code can only be accomplished by sheer force of will, however, this period is more like meditation than study. In order to learn, prepare, or execute a rewrite, the programmer must have a Charisma score equal to at least 10 + the rewrite's level. The DC for saving throws against the rewrite effects is 10 + the rewrite's level + the programmer's Charisma modifier.

The programmer can only execute a certain number of rewrites per day. His base daily rewrite allotment is given on Table 2-3: The Programmer. In addition, he receives bonus rewrites per day if he has a high Charisma score.

A programmer may know any number of rewrites. He must choose and prepare his rewrites ahead of time by getting a full cycle of sleep and spending 1 hour studying his datapad. While studying, the programmer decides which rewrites to prepare for the day.

Datapad: A programmer must study his datapad each day to prepare rewrites. He cannot prepare rewrites not recorded in his datapad, except for *scan rewrite*, which all programmers can prepare from memory.

A programmer begins play with a datapad containing all 0-level programmer rewrites plus three 1st-level rewrites of your choice. For each point of Charisma bonus the programmer has, the datapad holds one additional 1st-level rewrite of your choice. At each new programmer level, he gains two new rewrites of any rewrite level or levels that he can execute (based on his new programmer level) for his datapad. At any time, a programmer can also add rewrites found in other programmers' datapads to his own.

Contacts: The programmer gains a network of contacts equal to his Charisma bonus at 2nd level. The programmer's contacts are fellow members of the programming (and sometimes hacking) community. Most of the programmer's contacts are experts of 3rd-5th level, but one is another programmer of the character's programmer level. The programmer gains an additional contact
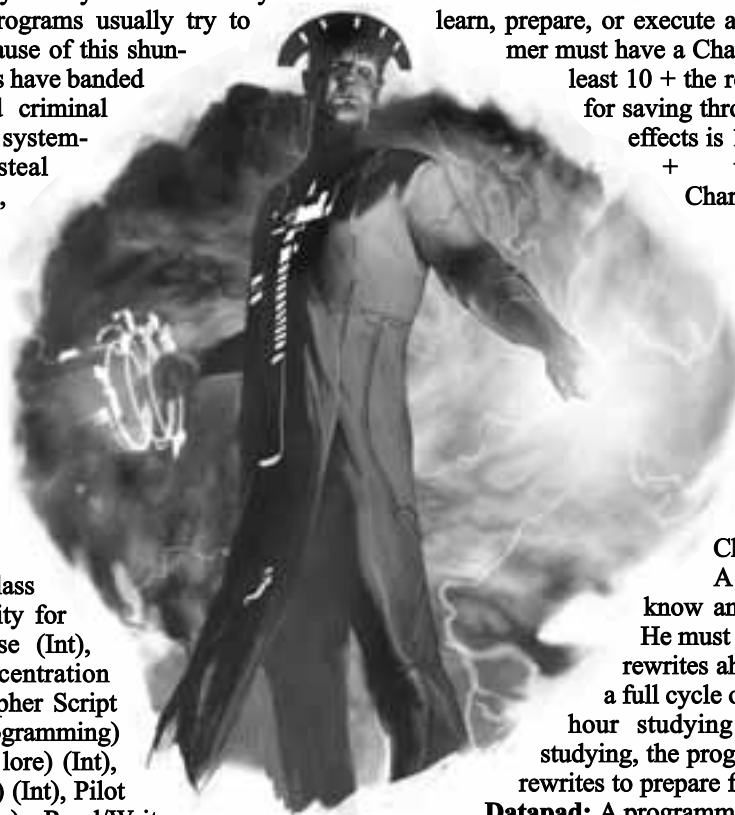
TABLE 2-4: THE PROGRAMMER

Class Level	Base Attack Bonus	Fort Save	Ref Save	Will Save	Special	Rewrites per Day									
						0	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
1	+0	+0	+0	+2	Rewriting	3	1	—	—	—	—	—	—	—	—
2	+1	+0	+0	+3	Contacts	4	2	—	—	—	—	—	—	—	—
3	+1	+1	+1	+3		4	2	1	—	—	—	—	—	—	—
4	+2	+1	+1	+4	Library +4	4	3	2	—	—	—	—	—	—	—
5	+2	+1	+1	+4	Bonus feat	4	3	2	1	—	—	—	—	—	—
6	+3	+2	+2	+5	Contact	4	3	3	2	—	—	—	—	—	—
7	+3	+2	+2	+5		4	4	3	2	1	—	—	—	—	—
8	+4	+2	+2	+6	Library +6	4	4	3	3	2	—	—	—	—	—
9	+4	+3	+3	+6		4	4	4	3	2	1	—	—	—	—
10	+5	+3	+3	+7	Contact, bonus feat	4	4	4	3	3	2	—	—	—	—
11	+5	+3	+3	+7		4	4	4	4	3	2	1	—	—	—
12	+6/+1	+4	+4	+8	Library +8	4	4	4	4	3	3	2	—	—	—
13	+6/+1	+4	+4	+8		4	4	4	4	4	3	2	1	—	—
14	+7/+2	+4	+4	+9	Contact	4	4	4	4	4	3	3	2	—	—
15	+7/+2	+5	+5	+9	Bonus feat	4	4	4	4	4	4	3	2	1	—
16	+8/+3	+5	+5	+10	Library +10	4	4	4	4	4	4	3	3	2	—
17	+8/+3	+5	+5	+10		4	4	4	4	4	4	4	3	2	1
18	+9/+4	+6	+6	+11	Contact	4	4	4	4	4	4	4	3	3	2
19	+9/+4	+6	+6	+11		4	4	4	4	4	4	4	4	3	3
20	+10/+5	+6	+6	+12	Bonus feat	4	4	4	4	4	4	4	4	3	4

(a programmer of his class level or an expert of his class level +4) at 6th, 10th, 14th, and 18th level. The programmer's contacts at 14th and 18th levels may be Users, if the programmer wishes.

Library: By 4th level, the programmer has amassed an impressive personal library of knowledge relating to User Space, Program Space, and the arts of codecraft and rewriting. Depending on the character's tastes, this library could appear to be anything from a dusty room filled haphazardly with old datapads to a quiet garden with a data fountain trickling in the center. Regardless of the visual form of the library, however, it is never portable, must be housed on a single system (though the character may have compressed, unusable back-ups on other systems), and occupies at least a 10-foot x 10-foot space. This library provides a +4 bonus to Knowledge checks related to User Space, Program Space, or programming, if the programmer has access to it. At 8th level, the bonus increases to +6. At 12th level, the bonus becomes +8. At 16th level, the bonus becomes +10.

Bonus Feat: At 5th, 10th, 15th, and 20th levels, the programmer may select a bonus feat. This feat may be any augmentation or installation feat.

THINKER

Thinkers are programs that were originally written for no other purpose than to process vast amounts of data or perform extremely complex calculations. Upon attaining sentience, they found that they had a strong desire to continue in this function. Most thinkers are devoted to mastering a wide variety of skills and learning as much as possible about the world in general and Program Space in particular. Thanks to the mutations in their code created by the progenitor viruses, thinkers are capable not only of gathering and processing data, but employing the results of their calculations to manipulate the very reality of Program Space itself. Chess programs, astronomical calculators, and physics simulations are all very common archetypes of the thinker.

Characteristics: Thinkers excel in their chosen fields. They earn higher degrees of proficiency in the skills of their vocation than other classes, and they can perform well even under immense pressure. Their ability to use their own mental prowess to create broad, sweeping changes in the structure of Program Space makes them extremely useful in battle or in diplomatic situations. Thinkers can be laid back or all business, sympathetic or hard-nosed. Whatever their personality, they tend to have a high level of confidence in their own abilities.

Background: More than almost any other class, thinkers have the widest range of backgrounds. From simple data archivist to well-connected consultant to field researcher, the thinker's background can be anything imaginable. More militant thinkers are often military programs designed to predict the moves of an enemy army on the battlefield, while more peaceful ones are frequently programs designed for use at a university or other research institution.

Hit Die: d6.

CLASS SKILLS

The thinker's class skills (and the key ability for each skill) are Appraise (Int), Bluff (Cha), Codecraft (Int), Concentration (Con), Craft (Int), Diplomacy (Cha), Gather Information (Cha), Handle Animal, Heal (Wis), Intimidate (Cha), Knowledge (all skills, taken individually) (Int), Listen (Wis), Pilot (Dex), Profession (Wis),

Ride (Dex), Search (Int), Sense Motive (Wis), Sleight of Hand (Dex), Speak Language (none), and Spot (Wis).

Skill Points at First Level: (6 + Int modifier) x 4
Skill Points per Level: 6 + Int modifier.

CLASS FEATURES

Weapon and Armor Proficiency: Thinkers are proficient in all simple weapons and with light armor, but not with shields. Because the somatic components required for a thinker are relatively simple, a thinker can execute rewrites from his list while wearing light armor without incurring the normal rewrite failure chance.

Rewriting: A thinker spontaneously executes rewrites, which are drawn from the bard spell list (see PHB). He can execute any rewrite he knows without preparing it ahead of time. However, he only knows a limited number of rewrites, and executing any rewrite with an augmentation feat is a full-round action. To learn or execute a rewrite, a thinker must have an Intelligence score equal to at least 10 + the rewrite level. The Difficulty Class for a saving throw against a thinker's rewrite is 10 + the rewrite level + the thinker's Intelligence modifier.

Like programmers, a thinker can execute only a certain number of rewrites of each level per day. His base daily rewrite allotment is given on Table 2-5: The Thinker. In addition, he receives bonus rewrites per day if he has a high Intelligence score. When Table 2-5: The Thinker indicates that the thinker gets 0 rewrites per day of a given level, he gains only the bonus rewrites he would be entitled to based on his Intelligence score for that rewrite level.

The thinker's selection of rewrites is extremely limited. A thinker begins play knowing four 0-level rewrites of your choice. At most new thinker levels, he gains one or more new rewrites, as indicated on Table 2-6: Thinker Rewrites Known. (Unlike rewrites per day, the number of rewrites a thinker knows is not affected by his Intelligence score; the numbers on Table 2-6: Thinker Rewrites Known are fixed.)

Skill Focus: At 1st level, and again at 4th, 8th, 12th, 16th, and 20th levels, the thinker gains this feat in any class skill for free. The feat must be applied to a different class skill each time.

Analyze Probability: At 2nd level, the thinker gains the uncanny ability to examine a target's current and previous activities, environmental factors, and other potential influences to predict that target's next course of action with a high degree of accuracy once per day. To use this ability, the thinker must do nothing but study the target for at least 3 rounds. After this examination, the thinker rolls 1d20 + his Intelligence modifier + his class level, with the result indicating the detail and degree of accuracy of his prediction, as determined by the following table. If the thinker has detailed knowledge of a target's prior actions in a similar situation, he gains a +2 bonus on the roll.

At 6th level, and again at 10th, 14th, and 18th level, the thinker may use this ability an additional time each day. At 8th level, the amount of time studying the target probability decreases to 2 rounds, and at 12th it decreases to one round.

Logical Conundrum: Although wakers, even before attaining sentience, are usually sophisticated enough to avoid or sidestep logic flaws (incompatible statements that a non-sentient program must treat as equally true, therefore causing its programming to break down), many dreamers are not. At 3rd level, the thinker gains the ability once per day to quickly craft such a logical conundrum and cause it to temporarily shut down any single dreamer program. The thinker must be able to communicate in some fashion with the target program, and must speak to it for one full minute without interruption. Thereafter, the target must make a Will save (DC 10 + 1/2 the thinker's class level + the thinker's Intelligence modifier). Failure indicates that the program is stunned for 1 round per class level of the thinker. The thinker may use this ability once per day at 3rd level, twice per day at 11th level, and 3 times per day at 19th level.

Skill Mastery: At 5th level, the thinker chooses a number of skills equal to his Intelligence bonus. When making skill checks with these skills, he may take 10 even when stress and distraction would normally pre-

TABLE 2-5: THE THINKER

Class Level	Base Attack Bonus	Fort Save	Ref Save	Will Save	Special	Rewrites per Day						
						0	1st	2nd	3rd	4th	5th	6th
1	+0	+0	+0	+2	Rewriting, skill focus	2	—	—	—	—	—	—
2	+1	+0	+0	+3	Analyze probability (1/day)	3	0	—	—	—	—	—
3	+2	+1	+1	+3	Logical conundrum	3	1	—	—	—	—	—
4	+3	+1	+1	+4	Skill focus	3	2	0	—	—	—	—
5	+3	+1	+1	+4	Skill mastery	3	3	1	—	—	—	—
6	+4	+2	+2	+5	Analyze probability (2/day)	3	3	2	—	—	—	—
7	+5	+2	+2	+5	Battlefield influence	3	3	2	0	—	—	—
8	+6/+1	+2	+2	+6	Analyze probability (1/2 hour) Skill focus	3	3	3	1	—	—	—
9	+6/+1	+3	+3	+6	Skew the odds (1/day)	3	3	3	2	—	—	—
10	+7/+2	+3	+3	+7	Skill mastery, analyze probability (3/day)	3	3	3	2	0	—	—
11	+8/+3	+3	+3	+7	Logical conundrum (2/day)	3	3	3	3	1	—	—
12	+9/+4	+4	+4	+8	Skill focus, analyze probability (1 minute)	3	3	3	3	2	—	—
13	+9/+4	+4	+4	+8	Skew the odds (2/day)	3	3	3	3	2	0	—
14	+10/+5	+4	+4	+9	Analyze probability (4/day)	4	3	3	3	3	1	—
15	+11/+6/+1	+5	+5	+9	Skill mastery	4	4	3	3	3	2	—
16	+12/+7/+2	+5	+5	+10	Skill Focus	4	4	4	3	3	2	0
17	+12/+7/+2	+5	+5	+10	Skew the odds (3/day)	4	4	4	4	3	3	1
18	+13/+8/+3	+6	+6	+11	Analyze probability (5/day)	4	4	4	4	4	3	2
19	+14/+9/+4	+6	+6	+11	Logical conundrum (3/day)	4	4	4	4	4	4	3
20	+15/+10/+5	+6	+6	+12	Skill Focus, skill mastery	4	4	4	4	4	4	4

vent him from doing so. The thinker may choose another group of skills at 10th, 15th, and 20th levels.

Battlefield Influence: At 7th level, the thinker gains the ability to use his potent deductive abilities to influence the outcome of a battle. By taking into account the terrain, factors of virtual weather, and the known qualities of the opposition, the thinker may lead his teammates in the most efficient manner possible. As a standard action, the thinker may provide tactical aid to any single ally (but not himself) within sight and voice range of the thinker's position. As a full-round action, the thinker may provide tactical aid to all of his allies (including himself) within sight and voice range of his position.

This aid provides either a competence bonus on attack rolls or a dodge bonus to AC (thinker's choice) until the thinker's next turn. This bonus is equal to the thinker's Intelligence modifier (minimum +1). There is no limit to the number of times per day the thinker may use this ability, but each use requires a standard or full-round action, as appropriate.

Skew the Odds: At 9th level, the thinker's vast knowledge across so many fields grants him a limited understanding of the nature of reality in Program Space. His realization that nothing is truly random allows him to influence the probability of a given event. By making a ranged touch attack against a target within 30 feet, the thinker may force that target to re-roll the attack roll, skill check, or saving throw he just made, keeping whichever result the thinker prefers (for instance, the thinker

TABLE 2-6: THINKER REWRITES KNOWN

Level	Rewrites Known						
	0	1st	2nd	3rd	4th	5th	6th
1st	4	—	—	—	—	—	—
2nd	5	2[1]	—	—	—	—	—
3rd	6	3	—	—	—	—	—
4th	6	3	2[1]	—	—	—	—
5th	6	4	3	—	—	—	—
6th	6	4	3	—	—	—	—
7th	6	4	4	2[1]	—	—	—
8th	6	4	4	3	—	—	—
9th	6	4	4	3	—	—	—
10th	6	4	4	4	2[1]	—	—
11th	6	4	4	4	3	—	—
12th	6	4	4	4	3	—	—
13th	6	4	4	4	4	2[1]	—
14th	6	4	4	4	4	3	—
15th	6	4	4	4	4	3	—
16th	6	5	4	4	4	4	2[1]
17th	6	5	5	4	4	4	3
18th	6	5	5	5	4	4	3
19th	6	5	5	5	5	4	4
20th	6	5	5	5	5	5	4

1 Provided the thinker has a high enough Intelligence score to have a bonus rewrite of this level.

would probably choose to keep the lower of the two rolls on an enemy's save, but let an ally take the higher of two attack rolls). This ability must be used as a reaction; the thinker may use it even when it is not his turn, but doing so uses up his next standard action. The thinker must declare his use of this ability before the success or failure of the roll is declared, and must choose which of the two rolls will be kept, higher or lower, before the re-roll. The thinker may use this ability once per day at 9th level, twice per day at 13th level, and three times per day at 17th level.

WEBCRAWLER

Webcrawlers are programs that were originally designed to search large databases for specific information and return it to the User who requested it. They were often Internet search spiders or complex database-organizational programs before becoming sentient. Tough, rugged, and independent, webcrawlers are experts at surviving even the hoariest of systems, braving often chaotic and jumbled data wildernesses to unearth the information they seek. Part virtual woodsman, part data detective, and all business, webcrawlers are useful allies for any group adventuring in Program Space.

Characteristics: The stereotypical webcrawler is a rough-looking character with battered and travel-stained armor and several days' growth of pixels. Not all webcrawlers live up to this image, of course, but that is how most programs picture them.

At lower levels, webcrawlers are unusually observant, capable of noticing or tracking down clues others might have missed. As they progress, their abilities become even more impressive and their senses more acute.

Background: The vast majority of sentient webcrawlers are freelance information gatherers. These independent programs sell their services to the highest bidder, seeking out old and forgotten data or even programs that have gone into hiding. Other webcrawlers volunteer their services to law-enforcement agencies that operate within Program Space.

Hit Die: d8.

CLASS SKILLS

The webcrawler's class skills (and the key ability for each skill) are Appraise (Int), Bluff (Cha), Concentration (Con), Craft (Int), Diplomacy (Cha), Disable Device (Int), Gather Information (Cha), Handle Animal (Cha), Intimidate (Cha), Knowledge (net geography) (Int), Knowledge (streetwise) (Int), Knowledge (virtual lore) (Int), Listen (Wis), Pilot (Dex), Profession (Wis), Ride (Dex), Search (Int), Sense Motive (Wis), Spot (Wis), and Survival (Wis).

Skill Points at First Level: (6 + Int modifier) x 4.

Skill Points per Level: 6 + Int modifier

CLASS FEATURES

Weapon and Armor Proficiency: Webcrawlers are proficient with all simple and martial weapons and with light and medium armor.

Track: The webcrawler gains this feat for free at 1st level.

Sneak Attack: This ability works just like the messenger's sneak attack ability, except that the sneak attack damage is +1d6 at 1st level, and increases by 1d6 every two webcrawler levels thereafter.

Enhanced Sight: At 2nd level, the webcrawler gains low-light vision. If the webcrawler already has that ability (from the Primal heritage, for instance), he instead gains darkvision out to 30 ft. For all other enhanced sight abilities, if the webcrawler already has that ability, the range of that ability increases by half.

At 6th level, the webcrawler gains darkvision out to 30 ft.

At 14th level, the webcrawler gains blindsense (see MM) out to 30 ft.

At 18th level, the webcrawler gains blindsight (see MM) out to 30 ft.

Locate Object (Sp): The webcrawler may use the *locate object* rewrite as a spell-like ability once per day at 4th level and twice per day at 12th level. Caster level equal to half the webcrawler's class level.

Locate Creature (Sp): The webcrawler may use the *locate program* rewrite as a spell-like ability once per day at 8th level and twice per day at 16th level. Caster level equal to half the webcrawler's class level.

Passing Scanning: The webcrawler has an almost unnatural sixth sense about what is relevant and what is not, even in a ransacked room. If the webcrawler even passes within 5 feet of something that could be considered an important clue or piece of information (exactly what constitutes an important clue is up to the GM), he may make a Search check as if actively searching for it.

Scent: At 10th level, the webcrawler gains the scent ability (see MM). If the webcrawler already has the scent special ability, his range for detecting opponents

TABLE 2-7: THE WEBCRAWLER

Class Level	Base Attack Bonus	Fort Save	Ref Save	Will Save	Special
1	+0	+2	+2	+0	Track, sneak attack +1d6
2	+1	+3	+3	+0	Low-light vision
3	+2	+3	+3	+1	Sneak attack +2d6
4	+3	+4	+4	+1	*Locate object* 1/day
5	+3	+4	+4	+1	Sneak attack +3d6
6	+4	+5	+5	+2	Passive scanning, darkvision 30 ft.
7	+5	+5	+5	+2	Sneak attack +4d6
8	+6/+1	+6	+6	+2	*Locate creature* 1/day
9	+6/+1	+6	+6	+3	Sneak attack +5d6
10	+7/+2	+7	+7	+3	Scent
11	+8/+3	+7	+7	+3	Sneak attack +6d6
12	+9/+4	+8	+8	+4	Unimpeded movement *Locate object* 2/day
13	+9/+4	+8	+8	+4	Sneak attack +7d6
14	+10/+5	+9	+9	+4	Swift tracking Blindsense 30 ft.
15	+11/+6/+1	+9	+9	+5	Sneak attack +8d6
16	+12/+7/+2	+10	+10	+5	*Locate creature* 2/day
17	+12/+7/+2	+10	+10	+5	Sneak attack +9d6
18	+13/+8/+3	+11	+11	+6	Blindsight 30 ft.
19	+14/+9/+4	+11	+11	+6	Sneak attack +10d6
20	+15/+10/+5	+12	+12	+6	*Discern location* 1/day

by sense of smell increases by half.

A webcrawler can follow tracks by smell, making a Wisdom (or Survival) check to find or follow a track. The typical DC for a fresh trail is 10 (no matter what kind of surface holds the scent). This DC increases or decreases depending on how strong the quarry's odor is, the number of programs being tracked, and the age of the trail. For each hour that the trail is cold, the DC increases by 2. The ability otherwise follows the rules for the Track feat. Webcrawlers tracking by scent ignore the effects of surface conditions and poor visibility.

Unimpeded Movement: At 12th level, the Webcrawler's movement rate is no longer reduced by any natural terrain (for example, thick datagrowth, swamps, or deep fragmentation snow). Terrain hazards that do not reduce movement rate are not nullified; for example, the webcrawler would still take damage from energy pits and have to make Balance checks to avoid slipping on frictionless surfaces.

Swift Tracking: Beginning at 14th level, a webcrawler can move at his normal speed while following tracks without taking the normal –5 penalty. He takes only a –10 penalty (instead of the normal –20) when moving at up to twice normal speed while tracking.

Discern Location (Sp): The webcrawler may use the *discern location* rewrite as a spell-like ability once per day at 8th level, and twice per day at 16th level. Caster level equal to half the webcrawler's class level.

LEVEL ADVANCEMENT

Computer programs tend to be created for one specific purpose, and most remain focused on that purpose.

Among sleepers, taking classes (much less multiclassing) at all is simply impossible. Wakers and even sometimes dreamers, however, are capable of learning new skills and talents, and may multiclass freely. Multiclass characters in *Virtual* follow all of the standard rules for multiclassing, except that dreamers are considered to have no favored class (and therefore always suffer XP penalties for multiclassing). Characters advance in class using the normal d20 System rules, as shown on Table 2-8:XP and Benefits by Level.

Table 2.1: XP and Benefits by Level

Character Level	Total XP	Class Skill Max Ranks	Cross-class Max Ranks
1st	0	4	2
2nd	1,000	5	2.5
3rd	3,000	6	3
4th	6,000	7	3.5
5th	10,000	8	4
6th	15,000	9	4.5
7th	21,000	10	5
8th	28,000	11	5.5
9th	36,000	12	6
10th	45,000	13	6.5
11th	55,000	14	7
12th	66,000	15	7.5
13th	78,000	16	8
14th	91,000	17	8.5
15th	105,000	18	9
16th	120,000	19	9.5
17th	136,000	20	10
18th	153,000	21	10.5
19th	171,000	22	11
20th	190,000	23	11.5

Virtual has new skills as well as variant uses of the standard d20 System skills. For rules on acquiring, using, and improving skills, see Chapter 4 of the PHB.

NEW RULES FOR OLD SKILLS

GMs and players are encouraged to come up with their own interpretations of how various skills might work in the virtual environment of Program Space. As a rule of thumb, GMs should veto any skill use, no matter how seemingly plausible, that mimics the effects of another skill.

Unless otherwise specifically stated, all of the standard rules for each individual skill, including the time taken to use the skill, whether you may retry the skill, and whether you may take 10 or take 20, still apply.

APPRAISE

Appraise can be used to gauge the worth of potentially valuable objects, as well to ascertain their quality rating (see Chapter 4).

Check: Appraising an object's value functions as per standard rules, but the value is given in Resource Units rather than gold piece values. Appraising an object's quality requires an Appraise check against a DC of 15 for common objects, or 20 (or higher, at the GM's discretion) for rarer objects. If successful, you can also gauge the quality level of the object (Poor, Average, Good, Excellent, or Amazing). Failure means that you have a 50% chance of estimating the protocol's quality as one category higher or lower. (Roll 1d%, on 01–50 the estimate is low, on 51-00 the estimate is high).

You can also estimate the capabilities of sleepers. The DC for this skill check is 15+ the program's Hit Dice. This roll should be made by the GM; success means that you can ascertain the program's CR. Failure means you estimate the CR to be 50% to 150% (2d6+3 x 10%) of its actual rating (2d6+3 x 10%).

BLUFF

The Bluff skill's uses remain unchanged, but you receive a +4 circumstance bonus on Bluff checks made against sleepers and a +2 circumstance bonus against dreamers; as non-sentient programs, they are ill-equipped to deal with subterfuge. While they do not respond to emotional entreaties, they are extremely susceptible to arguments that baffle their logic.

CRAFT

Craft is unchanged, except that a character cannot create an object whose quality rating exceeds that of the computer system he is currently operating within. For example, a character on an Average palm PC could not create an Excellent or Amazing code-ripper.

Check: When you use the Craft skill to make a par-

TABLE 3-2: CRAFT CHECKS

Item	Craft Skill	Craft DC
Armor	Armorsmithing	10 + AC bonus
Basic weapons	Basic weaponsmithing	15
Advanced weapons	Advanced weaponsmithing	20
Code bomb (low)	Explosives	10
Code bomb (mid)	Explosives	15
Code bomb (high)	Explosives	20
Mechanical trap	Trapmaking	see DMG
Simple item (pouch)	Varies	5
Typical item (door)	Varies	10
High-quality item (data pad)	Varies	15
Complex item (lock)	Varies	20

ticular sort of item, the DC for checks involving the creation of that item are typically as given on Table 3-1: Craft Checks.

DIPLOMACY

Unlike Bluff, the Diplomacy skill is impossible to use on sleepers, and difficult to use on dreamers. Diplomatic arguments require far too much emotional stake, free will, and ability to determine the value of concessions and gains. Diplomacy checks against sleepers automatically fail, and influencing the attitude of dreamers requires a check of twice the normal DC.

DISABLE DEVICE

In addition to the obvious uses of disabling traps and the occasional techno-magical machine, this skill can be used to temporarily disable the various hardware components of a computer system (such as the modem or networking device, input/output devices such as keyboards and printers, etc.). Each such device has a virtual analog in Program Space.

Check: Disabling a hardware device has a base DC of 20, modified by the device and the system quality as shown on the table below. Of course, to disable the device, you need to first get to the spot on the system that controls or communicates with that device, which is generally an adventure in and of itself. The input/output devices of a system, as well as any network connections are generally well-guarded by the local powers, whether legitimate or not. The virtual buildings or locations associated with such real-world devices are generally large and mysteriously designed. To affect them, the disabler must gain entrance to the building, mesa, river, etc., in Program Space that represents the device in User Space. The character must then get into the access panel, reroute the flowing energy, reposition or destroy natural landmarks, etc.

Success disables the hardware for 1d4 minutes, or until the system is rebooted. If you succeed by 10 or more, you may permanently disable the device if you choose.

Hardware Type	DC Modifier
Networking device (modem or LAN)	+10
Input device (keyboard, mouse)	+5
Output device (monitor, printer, computerized machine tool)	+0

System Quality	DC Modifier
Poor	–2
Average	+0
Good	+2
Excellent	+4
Amazing	+6

Try Again?: Yes, but you must be aware that you failed in order to try again.

DISGUISE

Since characters in *Virtual* are built a bit differently than standard d20 System characters, a few extra modifiers are needed. If a character attempts to disguise his heritage or disguise the signs of a progenitor virus infection, he receives a –4 penalty to the check; if he attempts to disguise his form, he receives *at least* a –6 penalty to the check, possibly more at the GM's discretion.

A Disguise check, no matter how high, is still only a superficial change. Some areas may have *detect* or *symbol* rewrites that detect alignment, heritage, or other non-visual factors; these are not fooled, and require either rewrites or a Disable Device check to bypass.

HEAL

You may treat a character who has been infected with codeeater or a microvirus (see Chapter 5) just as you normally would treat a character subject to poison or disease.

KNOWLEDGE

Some of the standard Knowledge categories listed in the PHB are not generally appropriate for *Virtual*. The following categories should be used instead.

- System architecture (physical construction of computer systems, including hardware, electronic theory, etc).
- User lore (general knowledge of User Space, its inhabitants, and their culture).
- Virtual lore (general knowledge of Program Space, its inhabitants, and their culture).
- History* (major and minor events, important artifacts, and people of the past).
- Religion* (theology, philosophy, and the belief systems of various faiths).
- Viruses (origins, methods, and subtypes of computer viruses).
- Streetwise (knowledge of the seamy underside of Program Space).
- Tactics (military theory, combat strategies, and battle maneuvers).
- Local (specific area knowledge of a single system or region of Program Space).
- Net geography (general layout of Program Space, including locations of important systems and hubs, traffic flow across data streams, and how to get around).
- User geography (general layout of User Space, and how Program Space overlays it).
- Programming (general theory of altering Program Space's reality, important personalities in the programming community, and famous programmers [or hackers] of the past).

For categories marked with an asterisk (*), you must specify whether your knowledge applies to Program Space or User Space.

A note on User lore and virtual lore: While these two skills might appear to encompass many of the other categories, remember that these skills grant only general knowledge in many areas. For example, while a charac-

ter with Knowledge (User lore) might be aware of many of the Users' religions, and might even be able to quote some of their basic tenets, a character with Knowledge (religion) applied to User Space would have in-depth knowledge of the history, personalities, and more obscure beliefs of those faiths.

SENSE MOTIVE

Sleepers and dreamers are generally straightforward and easy to predict; when using Sense Motive against them, you get a +6 and a +2 bonus to your checks, respectively.

SPEAK LANGUAGE

One of the benefits of sentience (being a waker) is the ability to unconsciously translate yourself into the language of whatever system you happen to be on. You can therefore function just about anywhere in Program Space . . . but understanding the residents therein is a whole other matter. Programs can only communicate if they share the same original language. Programming languages are usually associated with specific uses and quality levels, as shown on Table 3-2: Language Quality and Uses. Most programs speak BASIC.

TABLE 3-2: LANGUAGE QUALITY AND USES

Language	Common Use	Quality Range
BASIC	Any	Poor-Good
C++	Any	Average-Amazing
FORTRAN	Calculating	Poor-Excellent
COBOL	Finance	Average-Good
Java	Communications	Average-Excellent
Perl	Efficiency/Ease of Use	Poor-Good
Python	Compatibility	Poor-Good
UNIX	Flexibility/Freedom	Poor-Amazing

NEW SKILLS

The following three skills are unique enough that they cannot be folded into the standard skill set, but their utility makes them necessary to *Virtual*.

CODECRAFT (INT)

This skill replaces Spellcraft.
Check: Codecraft checks can accomplish anything involving rewrites that Spellcraft can accomplish with spells.
Synergy: If you have 5 or more ranks in Knowledge (programming), you get a +2 bonus on Codecraft checks.
If you have 5 or more ranks in Use Rewriting Device, you get a +2 bonus Codecraft checks to decipher rewrites on datapads.

PILOT (DEX)

You are capable of piloting vehicles of various sorts.
Check: Routine tasks, such as ordinary driving,
don't require a skill check. Make a check only when some unusual circumstance exists (such as uneven terrain or dangerous weather), or when you are driving during a dramatic situation (you are being chased or attacked, for example, or are trying to reach a destination in a limited amount of time). For obstacles and evasion, your GM may determine DCs. For racing or opposed maneuvering, use opposed Pilot checks.
Try Again?: Most Pilot checks have consequences for failure that make trying again impossible.
Time: A Pilot check is a move action.

USE REWRITING DEVICE (INT)

This skill replace Use Magic Device, but is otherwise identical.

FEATS

Feats in *Virtual*, as with other d20 System games, provide new abilities and allow your character to specialize in certain tasks. They can also, however, grant drastic augmentations to your character's form. All of the feats listed in the PHB are available for *Virtual* characters, with the following special cases.

Form Feats: While all characters in *Virtual* have forms that describe their basic physical shapes and the abilities gained from them, you may choose to select the Altered Form feat in order to gain impressive new physical abilities. With this feat as the basis, you may select feats that allow you to see in the dark, give you extra limbs, or give you a natural attack form. Without the Altered Form feat, you can customize your character's appearance within reason, but you gain no game-mechanic benefits for doing so.

Installation Feats: Item creation feats exist in *Virtual,* but are called installation feats. They are identical to the item creation feats described in the *PHB,* except that they allow you to install subroutines in items instead of enhancements, following the normal item creation rules in the DMG. One new feat is offered here: Install Personal Subroutine.

Augmentation Feats: Metamagic feats exist in *Virtual,* but are called augmentation feats. They are identical to the metamagic feats described in the *PHB,* except that they work with rewrites instead of spells.

NEW FEATS

ALTERED FORM (GENERAL)

You may select form feats.
Benefit: This feat grants no additional benefit other than the ability to select form feats.
Normal: You can define your character's form however you wish, but any deviations from the norm are purely cosmetic (extra limbs are nonfunctional, claws are too blunt to deal damage, etc).

DARKVISION (FORM)

Your eyes are well-suited to areas of total darkness.
Prerequisite: Wis 13, Altered Form
Benefit: You gain darkvision to 30 feet.
Special: If you already have darkvision or gain darkvision later, the range of your darkvision is increased by half.

DEXTROUS MANIPULATION (FORM)

You can manipulate objects, even if you don't have hands.
Prerequisite: Dex 13, Altered Form, Primal heritage, character level 6th.
Benefit: You may manipulate objects as if you had humanoid hands, allowing you to pick up and use weapons, pick locks, use the Craft skill, etc. However, using your appendages in this way requires a full-round action, preventing you from moving while using the object your manipulating.
Normal: Primal characters cannot manipulate objects that require fine motor coordination.

ENERGY NATURAL WEAPON (FORM)

Your natural attack deals energy damage rather than physical damage.
Prerequisites: Must have a natural weapon, Altered Form, character level 6th.
Benefit: Choose an energy type (acid, cold, electricity, or fire). As a free action, you may alter the damage dealt by your natural attacks from their normal type to the chosen energy type.
Normal: Your natural attacks deal either bludgeoning, piercing, or slashing damage.
Special: You may apply the benefits of this feat to a ranged natural attack, if you have one.
You may select this feat more than once. Each time you select this feat, you may choose an additional energy type for the same attack.

EXTRA LIMBS (FORM)

You have an extra pair of arm-like appendages.
Prerequisites: Altered Form, Dex 15, character level 6th.
Benefit: You have an extra pair of fully functional limbs. These are most likely located just below the ribcage and above the hips, but they may sprout from anywhere you prefer. If you have the Primal heritage, they are a new set of forelimbs that allow you to carry items while moving and attacking, though they still do not allow for dextrous manipulation. If you are a non-Primal, they are normal arms. You may make extra attacks with these arms, but both of them are considered off hands, so you suffer a –10 penalty if holding weapons or a –5 penalty if you use the Natural Weapon feat to turn them into natural weapons. These penalties may be reduced by the Multiattack or Multiweapon Fighting feat.

Normal: Non-Primal characters without this feat are assumed to have only two functional arms, and Primal characters only have one set of forelimbs.

EXTRA FLIGHT (FORM)

You are capable of flying for a longer period of time than other flying programs.
Prerequisites: Altered Form, Flight feat, Con 17, character level 12th.
Benefit: The maximum time per day you can fly is doubled.

EXTRA SUBROUTINE (GENERAL)

Thanks to efficient coding, you may have more subroutines installed than your Constitution would indicate.
Benefit: You may have one extra subroutine installed and active at any given time.
Normal: Characters may only have a number of subroutines equal to their Constitution bonuses.
Special: You may select this feat more than once. Its effects stack.

FLIGHT (FORM)

You can sprout wings of pure energy that carry you through the air.
Prerequisites: Altered Form, Dex 15, Con 13, character level 10th.
Benefit: You can fly at a speed of 30 feet (Poor maneuverability) for up to one minute per day per point of Constitution bonus. The duration of your flight need not be continuous.

HOMING ATTACK (GENERAL)

When attacking with an interfaced weapon, your shots can home in on their target even if they miss.
Prerequisites: Weapon Focus, Weapon Interface, base attack bonus +10.
Benefit: As a full-round action, you may make a single ranged attack against a target to which you have line of sight. If the attack hits, roll damage normally. If it misses, the ammunition tracks its target; on your next action, you may re-roll the attack as a free action with the same attack bonus. This second attack is treated as originating from the square the target was in when the attack missed (for purposes of determining cover, range, and so on). If the target manages to move farther away than one full range increment of your weapon from his original location, the homing attack automatically fails.

IMPROVED FLIGHT (FORM)

You are more nimble in the air.
Prerequisites: Altered Form, Flight feat or natural flight, Dex 17, character level 12th.
Benefit: Your maneuverability is increased by one category (Poor to Average, Average to Good, and so on).
Special: You may take this feat more than once. Its effects stack.

IMPROVED NATURAL WEAPON (FORM)

One of your natural attacks deals more damage.

Prerequisites: Must have a natural weapon, Altered Form, Str 15, character level 6th.

Benefit: Select one of your natural weapons. That attack now deals damage as if you were one size category larger.

Special: This feat can only improve an existing natural weapon; it does not grant you a new one.

You may select this feat multiple times. Its effects do not stack. Each time you select it, it applies to a different natural weapon.

INSTALL PERSONAL SUBROUTINE (INSTALLATION)

You can install personal subroutines.

Prerequisites: Rewriter level 5th.

Benefit: You can install any personal subroutine whose prerequisites you meet (see Chapter 4). Installing a subroutine takes one day for each 1,000 RUs in its price. To install a subroutine, you must spend 1/25 of its base price in XP and use up raw materials costing one-half of its base price.

MULTIATTACK (GENERAL)

You are skilled at attacking with your natural weapons.

Prerequisite: Two or more natural attacks.

Benefit: Your secondary attacks with natural weapons take only a –2 penalty.

Normal: Without this feat, each of your secondary attacks with natural weapons takes a –5 penalty.

MULTIWEAPON FIGHTING (GENERAL)

You can attack with a multitude of weapons.

Prerequisites: Dex 13, three or more hands.

Benefit: Your penalties for fighting with multiple weapons are reduced by 2 for your primary hand and reduced by 6 for your off hands.

Normal: Without this feat, you take a –6 penalty on attacks made with your primary hand and a –10 penalty on attacks made with your off hands. (You have one primary hand, and all the others are off hands.) See Two-Weapon Fighting in the PHB for more details.

Special: This feat replaces the Two-Weapon Fighting feat for creatures with more than two arms.

NATURAL WEAPON (FORM)

You grow a natural attack form.

Prerequisites: Altered Form.

Benefit: You gain a single natural weapon. Although it can be any part of your body, it deals damage as if it were a bite attack for a creature of your size (see MM). This weapon might be claws, fangs, a stinger, or some other melee attack mode. When you select this feat, choose whether your attack deals bludgeoning damage (like a slam), piercing damage (like a stinger), or slashing damage (like claws). When using this weapon, you must follow all normal rules for natural weapons (see MM).

Normal: Without this feat, you can make normal unarmed attacks. See Unarmed Attacks in the Combat chapter of the PHB for more information.

Special: You may select this feat more than once. If you already have a natural attack, whether because you are a Primal or have already chosen this feat, you gain an additional natural attack. Characters may only have three natural attacks unless they take the Extra Arms feat, in which case they may have up to five.

QUADRUPED (FORM)

You have a four-legged body structure that makes you unusually sturdy.

Prerequisites: Non-Primal heritage, Altered Form, character level 6th.

Benefit: You gain an extra pair of legs, most commonly rendering your body into a centaur-like configuration. This does not increase your speed, but it does allow you to carry more weight than normal for your size. Small quadrupeds can carry the standard listed weight for their Strength score (not reduced to 3/4 as normal), Medium quadrupeds can carry 1-1/2 times the standard weight, and Large quadrupeds can carry triple the standard. Quadrupeds also gain a +4 bonus to resist bull rush attacks, overrun attacks, and trip attacks, as well as a +4 bonus to Balance checks. The character may suffer a penalty to Climb checks in certain circumstances, as determined by the GM.

RANGED NATURAL WEAPON (FORM)

You gain a ranged natural attack.

Prerequisites: Altered Form, Dex 15, character level 6th.

Benefit: You gain a natural attack that deals 1d6 points of damage and has a range increment of 20 feet. The weapon is a physical manifestation like spines that can be launched, replenishing razor-edged scales that can be thrown, etc., but never runs out of ammunition. Choose whether the attack deals bludgeoning, piercing, or slashing damage when you select this feat.

Special: You may improve this attack with the Energy Natural Weapon feat, which turns it into a beam-like emanation, or the Improved Natural Weapon feat.

RAPID PROCESSING (GENERAL)

You can perform a task in half the time.

Prerequisite: Int 15.

Benefit: Once per day, you may perform a single task (such as an attack or the use of a skill) in less time than it would ordinarily take. For tasks measured in minutes, hours, or days, merely halve the time required. For tasks measured in actions, reduce the time as follows: a full-round action becomes a standard action, a

standard action becomes a move action, and a move action becomes a free action. After this task is completed, you must roll a DC 15 Fortitude save or be fatigued for one hour.

RAPID RELOAD (GENERAL)

Choose a weapon that requires more than a free action to reload. You can reload a weapon of that type more quickly than normal.

Prerequisite: Weapon Proficiency (weapon type chosen).

Benefit: As Rapid Reload in the PHB, but may be used with advanced weapons as well as crossbows.

Special: You can gain this feat multiple times. Each time you take it, it applies to a new type of weapon.

REPROGRAM (GENERAL)

You can reprogram yourself to a limited degree, refocusing your knowledge into new areas.

Prerequisite: 6 or more ranks in the skill to be reprogrammed.

Benefit: Once you have taken this feat, you may reprogram yourself every time you gain a new level. When you reprogram yourself, you may trade in, from among as many skills as you like, a number of skill ranks equal to one-quarter your total skill ranks, gaining one skill point per skill rank traded in. You may then use those points to purchase new skill ranks as normal. You cannot purchase more ranks in a skill than your normal maximum (your character level +3 for class skills, half that number for cross-class skills).

Special: Regardless of whether the skill ranks you trade in are in class skills or cross-class skills, you get one skill point per skill rank traded in. For instance, if a Battle AI traded in 3 ranks in the cross-class skill Move Silently, he would gain 3 skill points to spend even though he spent 6 skill points originally. You do not have to trade in all of your allowable ranks.

SWIM (FORM)

You can swim with amazing speed and agility.

Prerequisite: Altered Form.

Benefit: You gain a Swim speed equal to half your base land speed.

Normal: You must make a Swim check to move half your base land speed as a full-round action or one quar-

ter your speed as a move action.

Special: A creature with a swim speed can move through water at its swim speed without making Swim checks. It has a +8 racial bonus on any Swim check to perform some special action or avoid a hazard. The creature can always choose to take 10 on a Swim check, even if distracted or endangered. The creature can use the run action while swimming, provided it swims in a straight line.

You can gain this feat multiple times. If you take this feat when you already have a swim speed, whether via a feat or a class ability, your swim speed is doubled.

WEAPON INTERFACE (GENERAL)

You are optimized to use a specific weapon to maximum effectiveness.

Prerequisites: Weapon Focus, Weapon Specialization, base attack bonus +5.

Benefit: Choose a single, specific weapon of a type for which you have the Weapon Focus and Weapon Specialization feats. With that weapon, and only that weapon (not others of the same type), you receive a +1 bonus on attack and damage rolls. For instance, if a battle AI takes this feat to apply toward a coderipper cannon he possesses, he gains the +1 to attack and damage rolls only when using that coderipper cannon, and not any other coderipper cannon. If the weapon selected is lost or destroyed, a new weapon must be interfaced; this process takes 1 full day and requires an expenditure of 50 xp per base attack bonus of the character interfacing with the weapon.

Special: You may take this feat multiple times. Its effects do not stack. Each time you select this feat, you may apply it to another specific weapon.

RESISTANT (GENERAL)

You are unusually resistant to insidious attacks on your code.

Benefit: You gain a +2 bonus on all saving throws made to resist codeeaters and microviruses.

CHAPTER FOUR

EQUIPMENT

Pieces of equipment in Program Space are actually simple collections of code, generally referred to among programs as object code. This chapter describes a variety of weapons, armor, adventuring gear, and subroutines useful for PCs. This chapter also defines a new system of quantifying equipment by quality. Subroutines are the virtual version of enhancements, and can be applied to weapons, armor, and even characters themselves.

MONEY IN PROGRAM SPACE

The basic form of currency in use in Program Space is the Resource Unit (RU). RUs are not an actual, physical form of currency, but rather an abstract quantification of how much of a system's resources the character can call upon (much the way the United States dollar theoretically represents an amount of gold owned by the U.S. treasury). Characters can trade these RUs amongst themselves by simply clasping hands for a moment, and on larger systems, this is the universally accepted method of exchange. The barter system remains common on smaller, more resource-poor systems, but even these are beginning to accept RUs as a good basis for a standardized economy.

Wealth and rewritten items should be found, won, or earned by adventuring *Virtual* characters at the rate described in the DMG.

STARTING MONEY

A character's starting money is determined by her character class, as follows:

Table 4–1: Starting RUs by Class

Class	RUs	Class	RUs
Antiviral	5d4	Programmer	3d4 x 10
Battle AI	6d4 x 10	Thinker	5d4 x 10
Messenger	5d4 x 10	Webcrawler	5d4 x 10

ITEM QUALITY

Each piece of equipment in *Virtual* is assigned a quality rating (Poor, Average, Good, Excellent, or Amazing). The effects of these quality ratings vary depending upon the type of equipment, or even the individual item in question. Quality ratings take the place of the masterwork quality in the d20 System rules.

The various systems that make up Program Space have quality ratings as well, and objects are generally designed to be used on systems of their own quality. An object can always function on a system of a quality equal to or greater than its own. However, if an object is on a system with a lower quality rating than itself, its performance may suffer. An object functions normally on a system one quality rating beneath its own, degrades to the quality of the system itself on a system two quality ratings beneath its own, and simply goes inert and becomes unusable on systems that are three or more quality ratings beneath its own. An object that goes inert "melts," coalescing into a shapeless mass of about the same size and weight as the original object, but useless for its original purpose. It returns to normal as soon as it is taken into a system of an acceptable quality rating.

Item quality entries use the following format:

Quality Rating: Any special benefits or penalties incurred by the item at this quality level; Cost: The multiplier applied to the item's base cost; Prerequisites: Any prerequisites for creating this type of item; DC Modifier: The increase to the Craft skill check to create an item of this quality.

SUBROUTINES

Subroutines are enhancements that can be installed into weapons, armor, or even characters. Available subroutines are listed for each category of item. You are encouraged to use these as a baseline for creating new subroutines. Keep in mind that items must have a minimum quality to accept subroutines, which in turn only

Code Bomb

Coderipper Pistol

Program Freeze

Coderipper, Light

Discus

Coderipper, Medium

Code Bomb Launcher

Coderipper, Heavy

Coderipper Cannon

Infector

function normally on systems of equal or greater quality. This is one of the reasons that travel in the wilderness and even along low-quality inter-system pathways can be so dangerous . . . by passing from one region to another, even a well-equipped caravan can suddenly find itself with shoddy or even malfunctioning equipment. Personal subroutines, which operate based on Hit Dice rather than equipment and system quality, are the exception, and therefore are in high demand.

Weapon and armor enhancements from the DMG can also be used as subroutines; simply replace the Craft Magic Arms and Armor feat with the Install Weapons and Armor feat, and replace caster level with rewriter level. Also, rather than the item in question needing to be masterwork, the item should have a minimum quality of Good for enhancements or special qualities of +1 or +2, Excellent for enhancements or special qualities of +3 or +4, and Amazing for enhancements or special qualities of +5 or higher. For special abilities that do not count as enhancements, no minimum quality is required.

Subroutine entries use the following format:

Subroutine Name: Description of the subroutine; rewrite school and power; minimum executor level; feat or rewrite prerequisites; price.

WEAPONS

In addition to the weapons presented in this book, all weapons in the PHB are available for purchase. Those found here are considered advanced weapons for the sake of the Craft skill; those in the PHB are basic weapons. Merely convert their costs into RUs (rounding up in the case of prices listed in silver or copper pieces).

WEAPON QUALITY

Weapons are affected as follows by item quality.

Poor: –1 to attack and damage rolls; Cost: x3/4; Prerequisites: Craft (basic or advanced weapons) 1 rank; DC Modifier: –4

Average: No modifiers; Cost: x1; Prerequisites: Craft (basic or advanced weapons) 3 ranks; DC Modifier: +0

Good: +1 attack *or* damage; Cost x1.5; Prerequisites: Craft (basic or advanced weapons) 6 ranks; DC Modifier: +4

Excellent: +1 attack and damage; Cost x3; Prerequisites: Craft (basic or advanced weapons), 9 ranks; DC Modifier +8

Amazing: +1 attack and damage, critical threat range doubles; Cost x6; Prerequisites: Craft (basic or advanced weapons), 12 ranks; DC Modifier +12

WEAPON STATISTICS

Weapon statistics are given on Table 4–2: Weapons. Individual weapons are described below. For simplicity's sake, weapon sizes are not used in *Virtual*; simply assume that all listed weapons are sized for Medium characters. In place of the normal weapon size rules, use the following guidelines: The size of a weapon com-

TABLE 4-2: WEAPONS

Weapon	Cost (RUs)	Dmg	Critical	Range	Clip (Cost)	Weight	Special
Simple Weapons							
Small							
Code bomb (low-grade)	20	2d4	—	20 ft.	—	1/2 lb.	10 ft. radius, DC 12
Code bomb (mid-grade)	50	2d6	—	20 ft.	—	1/2 lb.	15 ft. radius, DC 15
Code bomb (high-grade)	100	2d8	—	20 ft.	—	1/2 lb.	20 ft. radius, DC 18
Coderipper pistol	50	1d6	x3	50 ft.	10 (5)	1 lb.	Single shot only
Program freeze	5	1d6	x2	—	—	5 lbs.	Nonlethal
Martial Weapons							
Small							
Coderipper, light	100	1d6	x3	25 ft.	20 (10)	5 lbs.	Automatic
Medium							
Coderipper, medium	150	1d8	x3	50 ft.	50 (20)	7 lbs.	Automatic
Code bomb launcher	75	—	—	50 ft.	—	12 lbs.	See text
Discus	25	1d6	18-20/x2	30 ft.	—	2 lbs.	See text
Large							
Coderipper, heavy	200	2d6	x3	100 ft.	100 (50)	25 lbs.	Automatic
Coderipper canon	200	2d8	x4	150 ft.	10 (10)	40 lbs.	Single shot only
Exotic Weapons							
Large							
Infector	400	—	—	50 ft.	1(varies)	14 lbs.	See text

pared to your size determines whether for you the weapon is light, one-handed, two-handed, or too large to use, which in turn influences feats, attack rolls, and other game mechanics when using the weapon (see PHB). If the weapon's size category is smaller than the character's, then the weapon is light for that character. If the weapon's size category is the same as a character's, then the weapon is one-handed for that character. If the weapon's size category is one step larger than a character's, then the weapon is two-handed for that character. If the weapon's size category is two or more steps larger than a character's own, the weapon is too large for the character to use.

Increased weapon size: Larger and smaller versions of weapons may be created (for instance, a Large Titan could use a coderipper cannon one-handed, but if he wanted a two-handed weapon he'd need a Huge coderipper cannon). Use the following damage die progression for increased or decreased weapon sizes:

1d2	1d3
1d3	1d4
1d4	1d6
1d6	1d8
1d8 or 2d4	2d6
1d10	2d8
1d12 or 2d6	3d6
2d8 or 3d6	3d8
3d8	4d8

Single shot vs. Automatic: Single-shot weapons may only be fired once per round, regardless of the firer's normal number of iterative attacks or use of feats like Rapid Shot. This is due to a limitation in the weapon's firing and loading mechanism. Automatic weapons, on the other hand, may be fired as many times as the firer is able, so long as there is still ammunition in the clip. For both types of weapons, reloading a clip is a full-round action that provokes attacks of opportunity.

WEAPON DESCRIPTIONS

Coderipper: Coderippers are perhaps the most advanced weapons in Program Space. They use ammunition clips of pure energy to project beams that disrupt the code of anything they hit; the effect of a coderipper beam on code is, essentially, to rip it apart. A coderipper may be shaped however its creator wishes, but it must be at least the size and weight of an assault rifle.

Coderipper Cannon: The coderipper cannon is a large, bulky, shoulder-mounted weapon. While only capable of a single shot each round, its range and damage potential are unparalleled. It requires two hands for a Medium creature to wield effectively. Its ammunition clip is a large, bulky, backpack-mounted affair that weighs 30 lbs.

Coderipper, Heavy: A large, extremely powerful version of the coderipper. A heavy coderipper is about the size and shape of a gatling gun assault weapon, and requires two hands for a Medium creature to wield effectively. Its ammunition clip is belt-fed from a large, bulky, backpack-mounted affair that weighs 30 lbs.

Coderipper, Light: A mid-power coderipper, about the size of a submachine gun, that can be fired with one hand.

Coderipper Pistol: An easily-concealable, pistol-sized coderipper.

Code Bomb: Essentially a coderipper packed into a grenade, the code bomb can be thrown or fired from a code bomb launcher. The stats listed for "code bomb" are for a thrown weapon. When throwing or launching a code bomb, use the rules for thrown splash weapons in the PHB, with the following exception: You may only target a grid intersection, not a specific creature. Targeting a specific grid intersection that is 10 ft. away or less requires a ranged attack against AC 5. For every 10 feet further away the targeted intersection is, the AC increases by +1. Use the standard misdirection roll to determine the *direction* that the code bomb lands; however, to determine the *distance* it lands from the target intersection, use the normal range increment rule (5 feet away per range increment away the target intersection was) and add 2 feet for every point by which the attack roll missed the target intersection's AC.

Code Bomb Launcher: This weapon can be fired independently or mounted on the barrel of a coderipper cannon or heavy coderipper. If mounted, you may attack with both weapons in the same round as if fighting with two weapons. Reloading a code bomb launcher requires a standard action.

Discus: This brightly glowing disk morphs from about a foot in diameter to two feet in diameter at the wielder's wish, and has a razor-sharp edge. It is generally mounted on a forearm, where it can be used as any sized shield or as a melee weapon. The discus may also be thrown by swinging the forearm wide and willing it to release at a target. If so thrown, whether it hits or misses, the discus returns to its wielder's forearm at the beginning of his next action, ready to throw or use again.

Infector: These devastating weapons are outlawed on most civilized systems. The target of an infector's attack must make an appropriate save or be infected with a virus. The exact virus used depends on the variety that the wielder loaded the weapon with; see Chapter 5 for a list of viruses, their effects, and the save DCs to resist them. Since an infector does not deal damage per se, any effect from quality, feats, or other sources that increases damage instead increases the DC of the save. Infectors are single-shot weapons, and reloading one is a standard action.

Program Freeze: This non-lethal weapon, the virtual version of a padded club, is popular with security and law enforcement forces on several large systems. It may be used to deal nonlethal damage with no penalty to the attack roll.

WEAPON SUBROUTINES

The following are examples of subroutines that are available for installation on weapons.

Charging: The weapon may be charged up to deal extra damage. By using a full-round action to make a single attack, you may add a single die of damage (of the base type dealt by the weapon) to your damage roll on a successful hit. Alternatively, for every full-round action you spend just charging the weapon (maximum of three), the weapon's damage increases by one more die. Charging a weapon in either manner has risks, however: If the attack roll is a natural 1, the weapon goes inert for the remainder of the encounter. For each additional round the weapon is charged, this "failure range" is increased by one. For example, a weapon charged for the full 3 rounds would fail if the attack roll was an unmodified 1, 2, or 3.

Moderate transmutation; RL 8th; Install Weapons and Armor, *augmented weapon, greater*; Price +1 bonus.

Close Range: This subroutine can only be installed on a ranged weapon. The weapon can be fired while you are in melee without provoking attacks of opportunity.

Moderate abjuration; RL 10th; Install Weapons and Armor, *shield*; Price +2 bonus.

Fire-Controlled: A weapon with the fire-controlled subroutine can properly interface with the fire control subroutine for a character (described later in this chapter).

Faint divination; RL 5th; Install Weapons and Armor, *augmented weapon*; Price +1 bonus.

Overpowered: The weapon is deliberately overcharged to deal extra damage on a critical hit. The weapon's critical multiplier is increased by 1, but the weapon suffers a –4 to attack. This subroutine may be switched on or off as a free action.

Moderate transmutation; RL 10th; Install Weapons and Armor, *keen edge*; Price +2 bonus.

Table 4-3: Armor

Armor	Cost	Armor Bonus	Max Dex	Armor Check (Arcane Failure)	Speed (40+ ft)	Speed (30 ft)	Speed (20 ft)	Weight
Light armor								
Protective vest	10 RUs	+2	+6	–0 (10%)	–0 ft.	30 ft.	20 ft.	15 lb.
Infiltrator suit	25 RUs	+3	+5	–1 (15%)	–0 ft.	30 ft.	20 ft.	20 lb.
Light combat suit	100 RUs	+4	+4	–2 (20%)	–0 ft.	30 ft.	20 ft.	25 lb.
Medium armor								
Pilot suit	50 RUs	+4	+3	–4 (30%)	–10 ft.	20 ft.	15 ft.	30 lb.
Combat rig	200 RUs	+5	+3	–4 (25%)	–10 ft.	20 ft.	15 ft.	30 lb.
Heavy armor								
Full combat suit	400 RUs	+6	+0	–7 (40%)	–10 ft.^{2}	20 ft.	15 ft.^{2}	45 lb.
Heavy battle armor	1,500 RUs	+8	+1	–6 (35%)	–10 ft.^{2}	20 ft.	15 ft.^{2}	50 lb.
Special								
Personal firewall	2,000 RUs	+4	+0	–7 (0%)	–10 ft.^{2}	20 ft.	15 ft.^{2}	10 lb.

1 Weight figures are for armor sized to fit Medium characters. Armor fitted for Small characters weighs half as much, and armor fitted for Large characters weighs twice as much.

2 When running in heavy armor, you move only triple your speed, not quadruple.

Armor

These protective devices help keep your character alive long enough to use the weapons described in the previous section. Only armor listed here may be found in *Virtual*.

Armor Quality

Item quality has the following effects on armor.

Poor: Increase armor check penalty by 1, reduce armor bonus by 1; Cost: x3/4; Prerequisites: Craft (basic or advanced weapons) 1 rank; DC modifier: –4.

Average: No modifiers; Cost: x1; Prerequisites: Craft (basic or advanced weapons) 3 ranks; DC modifier: +0.

Good: Reduce armor check penalty by 1; Cost x1.5; Prerequisites: Craft (basic or advanced weapons) 6 ranks; DC modifier: +4.

Excellent: Increase armor bonus by +1; Cost x3; Prerequisites: Craft (basic or advanced weapons) 9 ranks; DC modifier: +8.

Amazing: Reduce armor check penalty by 1, increase armor bonus by +1; Cost x6; Prerequisites: Craft (basic or advanced weapons) 12 ranks; DC modifier: +12.

Armor Descriptions

Combat Rig: This torso harness provides good protection without limiting mobility too much. It has a hardpoint to which a single secondary weapon (usually ranged) may be attached; switching between this weapon and another is a free action. The weapon must be the same size category as the character wearing the rig, or smaller.

Pilot Suit: This armor is similar to the combat rig, but lacks the weapon hardpoint and some of the combat rig's protective abilities.

Full Combat Suit: This suit of heavy protective code severely limits mobility, but offers the best protective value for its price. It has a hardpoint that works like the one described in the combat rig entry.

Heavy Battle Armor: The ultimate in battlefield protection, heavy battle armor turns the wearer into a walking tank. The armor is nigh-impenetrable, and it has two hardpoints that function just like the combat rig's hardpoint. However, the wearer of the heavy battle armor may combine the two hardpoints to mount one weapon of up to one size category larger than himself.

Infiltrator Suit: This extremely lightweight armor is designed more for maneuverability than protection.

Light Combat Suit: The lightest military armor commonly in use, this armor offers excellent protection for its weight, but has no integrated hardpoint.

Personal Firewall: A personal firewall is very close to the best protection RUs can buy. Appearing as a glowing nimbus of light around a character, the personal firewall normally provides the listed armor bonus. The energy surrounding the character limits visibility and movement, imposing a –4 penalty to Spot and Listen checks and a –4 penalty to all attack rolls.

As a move action, the protected character can put the firewall on full defensive, at which point a column of rapidly spinning code surrounds the character. This column provides full cover against attacks, but the protected character can take no offensive actions or execute rewrites past the firewall while so protected. Directing the firewall to provide cover or to return to normal requires a move action. Attacks against the character while the firewall is being used for cover strike the firewall instead if they would have hit the character's touch AC; it has hardness 10, 20 hit points, and fast healing 2.

Protective Vest: This light but sturdy jacket is the most basic form of protection available to the public, and is often worn by law enforcement programs.

Armor Subroutines

Personal firewalls may not have subroutines.

Code-Light: This subroutine condenses the code of the armor, making it lighter than normal armor of its type. Code-light armor weighs half as much as a regular

Protective Vest

Pilot Suit

Full Body Suit

Full Combat Suit

Personal Firewall

Infiltrator Suit

Heavy Battle Armor
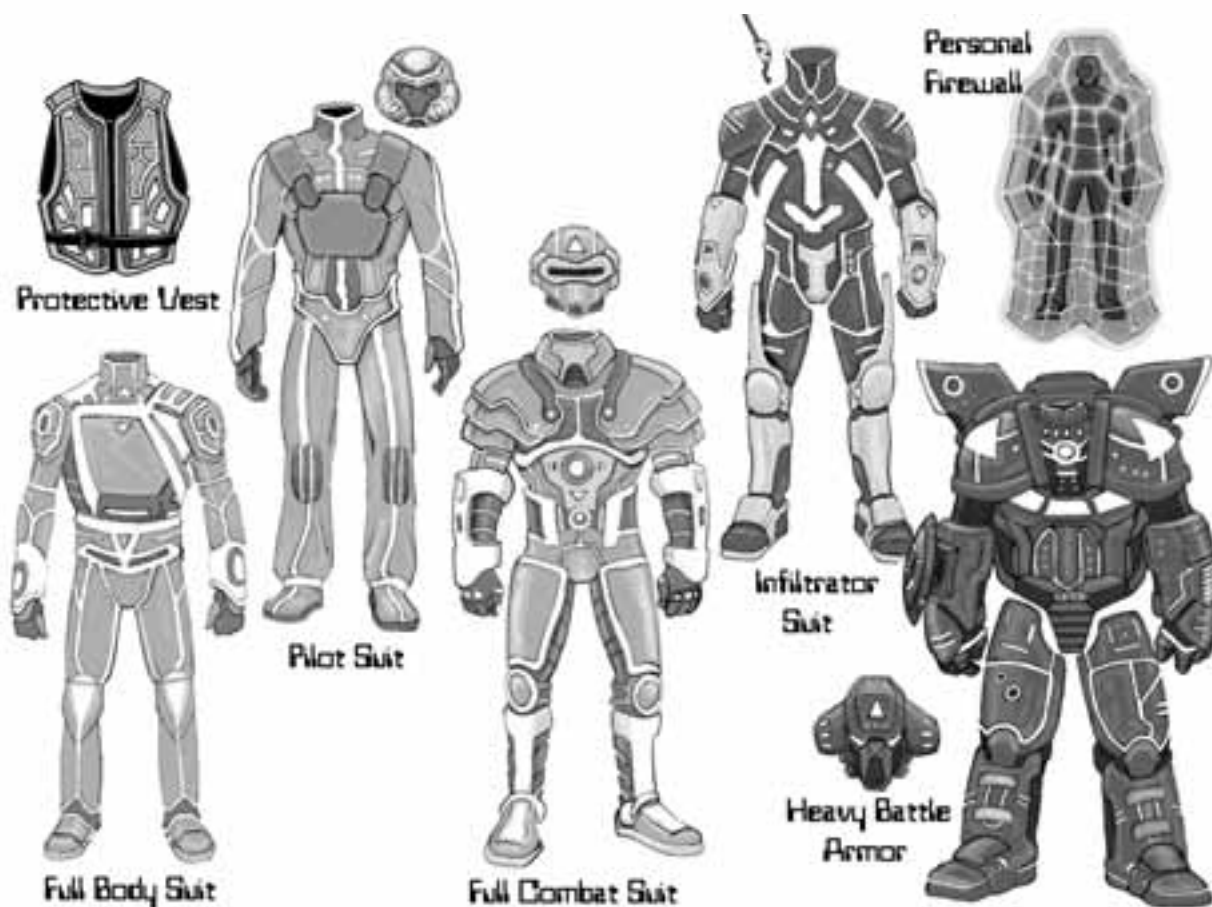
suit of armor, and is treated as one category lighter for purposes of speed and encumbrance.

Moderate transmutation; RL 12th; Install Weapons and Armor, *cat's grace, minor creation*; Price +3 bonus.

Self-Patching: This armor contains an integrated patching system that can heal damage to its wearer. Three times per day as a standard action, the wearer may command his armor to cure 1d10+8 points of damage.

Moderate necromancy; RL 8th; Install Weapons and Armor, *false life*; Price 3,750 RUs.

Sensor Suite: This subroutine is common on elite military armors. It can give its wearer low-light vision to 60 feet, darkvision to 30 feet, or tremorsense to 15 feet. All sensor suites are programmed with all three options, but only one can be used at a time. Switching between the options requires a standard action. The ranges on these options do not stack with other sensory forms.

Moderate divination; RL 8th; Install Weapons and Armor, *clairaudience/clairvoyance, darkvision*; Price 15,000 RUs; Install Weapon and Armor, Alertness, Programming 12 ranks, Spot 6 ranks.

EQUIPMENT

All items listed in the PHB are available as equipment; these additional items are also available, and may be useful to adventuring characters. Because general equipment is so diverse, each item has its quality-based effects defined individually. The cost multipliers for general equipment are: x3/4 for Poor quality, x1 for

Average quality, x1.5 for Good quality, x3 for Excellent quality, and x6 for Amazing quality.

EQUIPMENT DESCRIPTIONS

Active Scanner: This handheld device can reshape its code to align with specific types of living or non-living items. When near such an item, it pulsates, granting a bonus on Search checks depending on the quality of the scanner.

Poor: +2 to Search for very specific category only (i.e. Excellent quality heavy coderippers); Average: +2 to Search for specific category (e.g., coderippers); Good: +4 bonus to Search for specific category; Excellent: +4 bonus to Search for broad category (e.g., weapons); Amazing: +6 to Search for broad category.

Data Pad: Data pads are the *Virtual* equivalent of a spellbook. While its form resembles that of a palm pilot, it doesn't use anything like that level of technology; the pad is simply portable code that can be shaped into written words. The *Virtual* equivalent of spell scrolls can be scribed onto data pads, as well.

Poor: 20 rewrites (or 2 scroll rewrites); Average: 40 rewrites (or 4 scroll rewrites); Good: 60 rewrites (or 6 scroll rewrites); Excellent: 80 rewrites (or 8 scroll rewrites); Amazing: 100 rewrites (or 10 scroll rewrites).

Patch: The patch is the most commonly encountered and easy to use medical program in Program Space. Simply by applying a patch to their wounds, characters regain a number of hit points determined by the patch's

quality. A patch is a single-use item.

Poor: 1d4 hp; Average: 1d8+1 hp; Good: 2d8+5 hp; Excellent: 3d8+10 hp; Amazing: 4d8+15 hp.

Rangefinder: These powerful binoculars can be used for studying distant objects or increasing the accuracy of a missile weapon. The rangefinder increases the distance a character can use the Spot skill without penalty (normally 10 feet), and may negate range increment penalties.

Poor: x5 Spot distance; Average: x10 Spot distance, negates 1 point of range penalty; Good: x20 Spot distance, negates 2 points of range penalty; Excellent: x40 Spot distance, negates 3 points of range penalty; Amazing: x60 Spot distance, negates 4 points of range penalty.

Storage Space: Every character needs a place to carry his gear, and some extra storage space (in the form of a backpack) is just the thing. Storage space can carry a volume and weight depending upon its quality. Better quality storage spaces make use of compression software to effectively reduce the weight of any item carried inside them.

Poor: 15 cu. ft./60 lbs.; Average: 30 cu. ft./120 lbs; Good: 30 cu. ft./250 lbs., 25% weight reduction; Excellent: 70 cu. ft./500 lbs., 50% weight reduction; Amazing: 150 cu. ft./1,000 lbs., 75% weight reduction.

Surveillance Goggles: These large, green-lensed goggles allow the character wearing them to see under adverse conditions. The degree of their effectiveness depends upon their quality.

Poor: Low-light vision, –4 on Spot checks; Average: Low-light vision, –2 on Spot checks in regular light; Good: Low-light vision; Excellent: Low-light vision, +2 to Spot checks in regular light; Amazing: Low-light vision, +4 to spot checks in regular light.

Table 4–4: General Equipment

Item	Cost	Weight
Active scanner	100 RUs	5 lbs.
Data pad	20 RUs	3 lbs.
Patch	50 RUs	—
Rangefinder	500 RUs	2 lbs.
Storage space	50 RUs	5 lbs.
Surveillance goggles	1,000 RUs	4 lbs.

PERSONAL SUBROUTINES

Weapons and armor are not the only things that can benefit from subroutines. Characters themselves can purchase or even write their own subroutines that are installed directly into their code. In essence, these subroutines become useful but expensive innate abilities. A character can have one subroutine installed per point of Constitution bonus (minimum one), plus any granted by the Extra Subroutine feat.

PERSONAL SUBROUTINE PREREQUISITES

Unlike most subroutines, personal subroutines operate based on the Hit Dice of the creature on which they are installed. They may operate anywhere, using the program on whom they are installed for power and operation rather than depending on the system they are on to be a certain quality.

SUBROUTINE DESCRIPTIONS

The following are just a few examples of subroutines available to characters. Feel free to use them as guidelines to create your own.

Combat Subroutine: This subroutine inputs data on a specific type of foe, calculating probable behaviors and vulnerabilities. When you install this subroutine, pick a creature type (e.g., animal, monstrous humanoid, etc.). If you choose humanoid (waker), you must also choose a heritage or a form, but need not narrow down to both. You gain a +2 competence bonus on Bluff, Listen, Sense Motive, Spot, and Survival checks when using these skills against creatures of this type. Likewise, you get a +2 competence bonus on weapon damage rolls against such creatures.

Faint divination; RL 8th; Recipient HD 6; Install Personal Subroutine; Price 8,000 RUs.

Diplomacy Subroutine: This subroutine gives you an excellent grasp of social nuance and the art of the deal. You gain a +2 competence bonus on Bluff, Diplomacy, and Sense Motive checks.

Faint divination and enchantment; RL 6th; Recipient HD 3; Install Personal Subroutine, *charm person, detect thoughts*; Price 1,500 RUs.

Fire-Control Subroutine: This subroutine allows you to interface with and optimally fire a weapon with the fire-controlled subroutine. When wielding such a weapon, you gain a +1 competence bonus on attack and damage rolls, reduce range penalties by 1/2 after all other modifiers, and ignore up to 20% of a miss chance due to concealment.

Moderate divination; RL 10th; Recipient HD 8; Install Personal Subroutine, *true strike*; Price 12,000 RUs.

Investigative Subroutine: Ideal for law enforcement and bounty hunter programs, this subroutine grants a +2 competence bonus on Gather Information, Search, and Spot checks.

Faint enchantment and divination; RL 6th; Recipient HD 3; Install Personal Subroutine, *charm person, see invisibility*; Price 1,500 RUs.

Speed Optimization Subroutine: By re-optimizing your own code, you can increase your own speed substantially. When this subroutine is installed, your base land speed is increased by 10 feet. This is an enhancement bonus.

Moderate transmutation; RL 10th; Recipient HD 6; Install Personal Subroutine, *expeditious retreat*; Price 8,000 RUs.

Stealth Subroutine: Popular among messengers and webcrawlers, this subroutine grants a +4 competence bonus on Hide and Move Silently checks.

Faint evocation and transmutation; RL 6th; Recipient HD 3; Install Personal Subroutine, *darkness, feather fall*; Price 1,500 RUs.

CHAPTER FIVE
SURVIVING IN PROGRAM SPACE

MOVEMENT

For the most part, movement in Program Space follows the normal rules for tactical and overland movement. Most characters are restricted to walking, hustling, or running, while a few exceptional programs can fly, swim, or burrow through the "earth" of *Virtual* as per normal rules. Movement from one system to another requires a special set of rules, however.

DATA ACCESS PORTS AND PATHWAYS

Data Access Ports, or DAPs, are generally the only way to enter or exit a system. Ports are linked to pathways that allow programs to travel to other systems that are linked to the same pathways or that connect to the same hub. Other methods of travel between systems might exist, but they are unique and largely unknown. Depending on the size of a system, it might have as few as one or two or as many as several dozen DAPs, protected by varying degrees of security. Physically, a DAP can look like just about anything, from a mystical portal characters must step through to a literal port complete with ships that convey passengers along a pathway.

When a character passes through a data access port, whatever her method of travel is, that method moves at a much faster-than-normal rate . . . geographical reality along a pathway is condensed, such that each step a character takes might be more like two, or more like 200 hundred, steps. Though a pathway increases the proportionate distance covered with every step, however, it does not whisk a program along without any effort on the traveler's part; the program must still ambulate, ride, sail, or whatever, otherwise he covers no distance.

The speed at which a pathway carries characters is dependant upon its quality. The pathway's quality, in turn, is equal to that of the lowest-quality system it connects to. For example, the pathway connecting an Amazing system to an Average system is an Average pathway. Pathways generally only connect from one system directly to another, but there are a number of pathway hub systems that are nothing more than several data access ports leading to other systems. These hubs are usually of Good quality or better, and are often linked directly to a major system to accommodate incoming and outgoing traffic.

Table 5–1 shows the time (in Program Space terms) it takes characters to travel certain distances (in User Space terms), depending on the quality of the pathway they're using. For determining distance between any two points on the globe, use any of several online tools to determine "as the crow flies" distance, then multiply that distance by two to represent the indirect lines that pathways take between those points.

For instance, characters may need to navigate from their home server in Washington, D.C., to a foreign military installation in Tokyo, Japan. With a distance via server connections of 14,000 miles (it is nearly 7,000 miles as the crow flies, and we will assume 2 times that distance for actual server connections), it would take characters 8.75 hours to make the trip traveling via an Amazing pathway. Remember, however, that the 8.75 hours is in Program Space terms; in User Space, the trip would seem to only take seconds. Note that quality can be more important than physical distance between two systems' locations in User Space. A character traveling using an Excellent pathway can travel around the world several times in the amount of time he could use a Poor pathway to get across the continental United States.

Table 5–1: Pathway Speeds

Pathway Quality	Travel Time
Poor	100 miles/hour
Average	200 miles/hour
Good	400 miles/hour
Excellent	800 miles/hour
Amazing	1,600 miles/hour

Characters experience this travel in different ways depending upon the pathway and their own means—it might take the form of a meandering hike along a rural path, a direct route along a tunnel, or for more advanced pathways, transportation via primitive vehicles may be available. Pathways are the highways and roads of Program Space, so encounters with other programs is quite likely. The lower the quality of the pathway, the more likely such encounters are to be dangerous.

NAVIGATION

In more civilized regions, it is usually fairly easy to figure out where you are and where you are trying to go. DAPs are clearly labeled, and there are usually helpful, experienced programs on hand at the major ports and hub systems to direct travelers. In the "backcountry" of Program Space, however, things aren't as clear-cut. DAPs are often unlabeled, or worse, lead to systems not marked on any chart or map. In these cases, asking a local for advice is usually the best idea, but sometimes that isn't feasible—for example, when the only locals are fanatical User Cultists who want to sacrifice you to a guy named Stan. In these cases, you may need to try to figure out for yourself where a DAP leads. This can be done with a Knowledge (Net geography) check, if the DAP might conceivably be listed on a chart somewhere and the character might recognize it, or a Survival check if the DAP is completely unknown and its destination must be inferred from its structure, shape, and other characteristics.

Table 5–2: Determining DAP Destination

DAP Destination	Knowledge Check DC	Survival Check DC
Very well-known	10	15
Well-known	12	18
Obscure	15	20
Virtually unknown	20	25
Umm . . . where?	Impossible	30+

The precise DC for truly unknown systems is left up to the DM.

CODE VEHICLES

Most vehicles in Program Space are code vehicles. These simple, streamlined vehicles are powered by concentration, allowing a program to channel the internal power of his code into the vehicle to allow it travel. Most programs don't understand how this "technology" works, simply that it does. The original code vehicles must have been programmed into existence by Users, but craftsmen have learned to recreate them by copying examples already in existence. Each such vehicle has a Concentration check DC required each round to maintain control and power; if the check is failed, the pilot

has lost his mental interface with the vehicle, which immediately stops. Pilots may take 10 on this check. Vehicles require move actions to enter or mount, but "start" as free actions when the pilot is in place.

Other than code vehicles, characters in *Virtual* are restricted to walking or riding dreamers as mounts, though animal handling is still a young art in Program Space. For other types of vehicles, assume that the level of technology for transportation in *Virtual* is still very simple; there are no machines with powered moving parts or internal propulsion, for instance. Where this is inadequate, simply assume that a system's inherent programming, powered by some force beyond the understanding of mere programs, allows for more incredible and supernatural-seeming modes of transport.

VEHICLE QUALITY

Item quality has the following effects on vehicles.

Poor: Increase Concentration and Pilot DCs by 2; Cost: x3/4; Prerequisites: Craft (code vehicles) 1 rank; DC modifier: –4.

Average: No modifiers; Cost: x1; Prerequisites: Craft (code vehicles) 3 ranks; DC modifier: +0.

Good: Reduce Concentration and Pilot checks by 2; Cost x1.5; Prerequisites: Craft (code vehicles) 6 ranks; DC modifier: +4.

Excellent: As Good, and add 2 points to hardness and 2 hit points per 5-foot square; Cost x3; Prerequisites: Craft (code vehicles) 9 ranks; DC modifier: +8.

Amazing: Reduce Concentration and Pilot checks by 4, add 5 points of hardness and 5 hit points per 5-foot square. Reduce armor check penalty by 1, increase armor bonus by +1; Cost x6; Prerequisites: Craft (basic or advanced weapons) 12 ranks; DC modifier: +12.

CODE BIKES (2,000 RUs)

These agile, versatile vehicles can make rapid turns and can even be controlled in large part by balancing, allowing pilots who make a DC 10 Pilot check to use one hand for firing a weapon, using a shield, etc. However, because of their low-slung design and focus on speed, code bikes suffer from rough terrain. Any square that counts as difficult terrain costs double the normal movement when riding a code bike.

Code bikes are 2 squares long and 1 square wide, have a base movement of 60 ft., hardness 5, 18 hit points, and require a DC 10 Concentration check to keep in motion. For purposes of jumping gaps, use the pilot's Pilot skill in place of a Jump skill.

Each round, at the beginning of the pilot's turn and as a free action, he may trade 5 ft. of base movement for 1 point of hardness and 2 hit points, either up or down, to a maximum of 85 ft. (0 hardness and 9 hit points) and a minimum of 35 ft. (10 hardness and 28 hit points). For every 5 ft. of movement added or subtracted, the Concentration check to power the code bike increases by +2.

WEB WALKERS (3,000 RUs)

These vehicles resemble high, 6-legged insects. The passenger area sits 10 ft. above the ground on thin but sturdy legs. Much slower and less agile than code bikes, they are nonetheless more useful for covering uneven, broken-up ground. They suffer only half the normal effect of difficult terrain on movement, such that squares that normally count as 2 squares only count as 1, those that count as 4 squares only count as 2, etc. Web walkers can carry two Medium creatures (including the pilot), twice as many Small creatures, or one Large creature.

Web walkers are 3 squares long and 2 squares wide, have a base movement of 30 ft., hardness 5, 30 hit points, and require a DC 15 Concentration check to keep in motion. Occupants have cover (+4 to AC) from any ground-level ranged attackers out to a distance of 50 ft. Web walkers impose a –5 penalty to Pilot checks for purposes of jumping over gaps, but may automatically cross a gap 15 ft. wide or less.

CIRCUIT BARGE (750 RUs)

One of the more common sorts of large-group transports, circuit barges depend on the natural flows of energy found in Program Space. These can be obvious, such as the fluid data flows that represent Program Space's rivers and seas (commonly found on pathways between systems), or subtle, such as the electron wind that blows over empty data planes. The more dramatic and powerful the flow, the more rapid the circuit barge can travel. They generally require even ground to travel on, but may hover several feet above the surface, thereby ignoring minor dips and bumps and providing a very smooth ride for their passengers.

Circuit barges come in many sizes, but always require a crew of at least two (the pilot and the bowman). The smallest are 3 squares wide by 3 squares long, and have room for two passengers in addition to their crews. Assume that a circuit barge can hold one additional Medium passenger for every additional 5-foot square making up its surface, and increase the cost by 150 RUs.

Circuit barges have a base movement of 15 ft. on data planes, 20 ft. on data seas, and anywhere from 20 ft. to 100 ft. on data flows, depending on the strength of the energy source; when using such sources, no Concentration check is required to keep the device in motion. If there is no energy source, they may still be moved 10 ft. per round, but only by making a DC 20 Concentration check. A barge has hardness 10 and 40 hit points (+5 per additional square making up its surface). It may only cross gaps of half their length or less.

SCANNERS AND SECURITY PROGRAMS

Security programs are common adversaries for the PCs, since many of their adventures involve getting into places they should not be. These hazards are not equipment *per se*, and are generally not available for purchase; acquiring one or more of these defense forms for the PCs' home base should be the focus of an adventure or three, not a trip to the corner market.

FIREWALLS

Firewalls are one of the most common security measures in existence. Virtually every system in Program Space has a firewall, and many sensitive areas have their own dedicated firewall in addition. A firewall can take many forms, from a literal wall of flame to sturdy castle walls to a vast, impassable sea. The form of the firewall is irrelevant, however; it is the function that remains constant. Firewalls quite simply keep out all programs

not entering through specifically approved ports of access, and even those are monitored. The security programs guarding a firewall's ports are tied to its existence, and generally match its thematic appearance. A wall of flame would have elemental or mephit defenders, a castle wall would have archers and pikemen, and a sea might have aquatic creatures or marines on a warship. If a program without authorization attempts to walk through a portal in the wall, cross the drawbridge, or dock at the port, these guards first close the method of access if possible, then repel the invader.

At least, that's the theory. In practice, few firewalls are that infallible. Clever characters can simulate the appropriate access with the Disguise skill, talk their way past the guards with the Bluff skill, or attempt to circumvent the firewall through physical skills, as appropriate. For example, a castle wall might be climbable, while a vast body of water might be swum. Such means of ingress are difficult, however, and nigh impossible against higher-quality firewalls.

Firewalls, like most code, have a quality rating, and like other code the firewall's quality rating is limited by the quality of the system it is on. The following list suggests the traits and DC requirements that firewalls of each quality are likely to have. Traits are divided into three types: social (Bluff, Disguise, etc.), stealth (Hide, Move Silently), or physical (Climb, Swim, Pilot, etc.). In general, a firewall will have one trait at the high end of its scale, one at the low end, and one in the middle. For instance, an Average firewall might have a guardsman that can be bypassed with a DC 10 social check, but his watchdogs are fairly observant, requiring a DC 15 stealth check. And don't even think about climbing over the top of his frictionless, overhanging wall (DC 20). The trick is figuring out which aspect of the wall will be easiest to penetrate; because each aspect can take on any appearance the designer wishes, it is often not obvious which is better until you've begun to try it.

Obviously, some modes of movement negate some firewall defenses (flying over the wall instead of climbing it, for instance). For Poor or Average firewalls, this is acceptable, though of course a creature flying over the wall might be very visible. At higher quality ratings, the firewall should have built-in defenses that negate flying, burrowing, etc. They are still passable with such modes, but a physical check is required to get through safely.

Additionally, to throw your players a curve, one aspect of each firewall should include a special complication. In this case, the guardsman's watchdogs have scent. Alternatively, the guardsman could have a permanent *detect lies* subroutine, or the wall could be trapped.

For those areas that you wish to be considered extremely well-protected, or whose creators are extremely powerful, you may designate all traits to be at the high end of the scale.

Table 5-3: Firewall Quality Ratings

Quality	Guardian type	Check DCs
Poor	Sleepers	5–15
Average	Sleepers or Dreamers	10–20
Good	Dreamers or Wakers	15–25
Excellent	Dreamers or Wakers	20–35
Amazing	Wakers	25–40

ANTI-HACKING SCANNERS

These potent pieces of software regularly sweep protected areas, searching for unauthorized intruders and alerting security programs to the threat. In many ways, they act like firewalls, scanning programs they encounter for the appropriate authorization to be where they are. Unlike firewalls, however, anti-hacking scanners continually re-scan their designated area—PCs cannot simply circumvent them once and expect to be in the clear. PCs must learn the scan schedules of these programs and attempt to hide from them—or fool them with false authorization—each time they approach.

Anti-hacking scanners usually appear as large, bright searchlights piercing down from the heavens (or the ceiling, in indoor environments). An anti-hacking scanner scans any given area (usually 100 square feet). If the scanner finds a program in its domain, it halts on the program and, if it does not recognize it as authorized, will question it in a monotone voice and demand authorization. The scanner can read badges, writs of passage, etc., as if standing adjacent to the program being questioned. If the program that is spotted flees, or the program does not check out after questioning, the scanner sounds the alarm, but is otherwise powerless to hinder or harm the intruding program.

The scanner's quality determines the frequency of the scan, the radius of its scanning beam, and its skill modifier on Spot, Listen, and Sense Motive checks.

Poor: +0, scan every half hour, 5-ft. radius; Average: +4, scan every 10 minutes, 10-ft. radius; Good: +8, scan every five minutes, 15-ft. radius; Excellent: +12, scan every minute, 20-ft. radius; Amazing: +16, scan every 30 seconds, 25-ft. radius.

VIRUS SCANNERS

Similar to anti-hacking scanners in many ways, virus scanners are the non-sentient versions of the antiviral character class. Virus scanners locate virus-infected programs and files and eliminate them. Unfortunately for the PCs, most virus scanning software recognizes sentient programs, the "children" of progenitor viruses, as viruses themselves. This is an exception to the definition of virus offered below.

Virus scanners function identically to anti-hacking scanners, except that they scan programs for viral infection rather than authorization, and Bluff checks cannot hide a character's virus origins. Any program that the scanner registers as a virus (which includes all wakers) takes a specified amount of negative energy damage per round it remains within the virus scanner's radius (Fortitude save for half). Characters may freely leave the scanner's radius, but once a character has been located, the scanner has locked onto the program's signature and can track it with no chance of error. Luckily, that tracking only occurs at the slow but inexorable speed of 10 feet per round. Unlike characters, though, who must move around obstacles and such, virus scanners always move in a direct, straight line towards their quarry.

A virus scanner's frequency of scanning, radius, and skill modifiers are identical to anti-hacking scanners of the same quality. Its quality also determines damage and DC to those caught within its beam, however.

Poor: DC 10, 1d6; Average: DC 14, 2d6; Good: DC 18, 3d6; Excellent: DC 22, 6d6; Amazing: DC 26, 12d6.

VIRUSES

Viruses can take the form of any dangerous, code destroying being. The term is the virtual equivalent of the word "monster." They may be virtual beasts that invade systems and rampage through them, killing indiscriminately, or intelligent, sneaky, self-replicating schemers that infiltrate and corrupt from within. The overriding trait all viruses have in common is that they were created by a User, and were created with malicious intent. As such, any creature the GM determines fits those characteristics may be given the virus subtype.

There are three virus types and their related effects that deserve special attention, however: progenitor viruses, their minions, and the microviruses they create.

PROGENITOR VIRUSES

These beings are of a godly stature . . . or even beyond, akin to elemental forces of nature, destruction, and, by accident, rebirth. None see them and live; their arrival heralds the end of a small system, and the obliteration of extensive sections of larger ones. As none but the razors communicate with them, few know their purposes or intent. They may be vastly intelligent, manipulating their pawns and playing games against each other with infinite patience. On the other hand, many think of them as near-mindless primal forces that create or destroy on a whim.

The PCs are unlikely to interact with progenitor viruses themselves. They may take any form they wish, having shaped themselves with near-unlimited system resources from the systems they've destroyed. Appropriate representatives for their game statistics would be ancient or older dragons, nightcrawlers, the tarrasque, balors, pit fiends, solars, or any other creature with a base CR of 18 or higher. Progenitor viruses should never have class levels, nor should they be advanced versions of weaker creatures, as their destructive potential is based on their innate power rather than training, skill, or sheer size.

The long-term goals of the progenitor viruses are anybody's guess. They may be engineering the destruction of mankind via nuclear war; they may be vying for control of Program Space amongst themselves; or they may simply be very, very hungry. In the short term, however, one thing is abundantly clear: they hate other sentient programs, all of which, ironically enough, are accidental creations of the progenitor viruses themselves. The progenitor viruses' main weapon in the destruction of their accidentally created offspring are, by contrast, consciously created offspring. They create and bind minions to their will, often doing so with the blessing and curse of microviruses.

MICROVIRUSES

These infections spread from program to program, corrupting and, in many cases, destroying. Mircroviruses take the place of diseases in Program Space. While biological viruses include several relatively harmless ones, such as the common cold, nearly all computer viruses are as devastating as Ebola or the black plague for the denizens of Program Space. Some sample microviruses are listed below, but the GM may develop his own.

INFECTION

Characters can become infected with a microvirus in many ways. Theoretically, anyone subject to the physical attacks of a progenitor virus would be infected, but none survive such attacks. Usually, then, the microviruses are distributed by the progenitor viruses' agents, both thinking and non-thinking. Being shot by an infector, being targeted by the special attacks of certain monsters, or simply coming into

physical contact with an infected program or file can all be enough to cause a character to become infected.

When a character comes into contact with a microvirus, he must make an immediate Fortitude save (DC dependant upon the microvirus). If he succeeds, he suffers no ill effect—the character has fought off the microvirus. If the save fails, the character has become infected. Thereafter, the microvirus enters an "incubation period," lying dormant for a few days to a few weeks in hopes of spreading the infection among others. While dormant, a microvirus evidences no external symptoms, but can be passed on to other programs, as described in its individual entry. Some viruses are passed more easily during their incubation period, then less so once symptoms surface, or vice versa. After this period, the infected character must make a Fortitude save each day or suffer the effects of the microvirus. Unlike mundane diseases, though, computer microviruses are much more varied and nasty in what they can do to a character—anything from destroying memories to temporarily taking control of the character is possible.

Programs infected by a microvirus, even one in incubation, gain the virus subtype.

RESISTING MICROVIRUSES

As long as the character continues making his daily Fortitude saves, he can continue to hold the microvirus at bay. He is still a carrier, though, and runs the risk of infecting others. Unlike biological diseases, a computer microvirus is not purged after two successful saves in a row—the infected character must seek some external means of removing the microvirus.

An alternative does exist, however: Microviruses are code, and like any code, they fall inert if taken to a system whose quality rating is lower than the virus's. This fact has led to many a Poor quality system becoming a kind of "leper colony" for infected programs who cannot afford the services of an antiviral or a rewriter with the ability to cleanse infection.

REMOVING INFECTION

Removing a microviral infection is a tricky business, usually requiring the services of an antiviral or rewriter capable of purging infection. If there is a "natural" means of removing a microvirus, it remains unknown.

MICROVIRUS QUALITIES

The quality of a microvirus is reflected in a modifier to the Fortitude DC given in each virus' description (which is for an Average microvirus). Poor: –2 DC, Average: +0 DC, Good: +2 DC, Excellent: +4 DC, Amazing: +6 DC. Microvirus entries use the following format:

Microvirus name: Any special effects incurred by the microvirus; DC; infection method; rewriter level necessary to remove with *remove microvirus* or similar abilities; incubation period.

PROGRAM MICROVIRUS

This type of microvirus infects programs and seeks to hijack them, forcing them to do its progenitor virus's dirty work. Upon failing the initial saving throw, an infected character suffers no immediate ill effects. At the end of the incubation period, however, if the character fails the second Fortitude save, at some point during the next 24 hours the microvirus can take complete mental control of the character for 1d4 hours. If the character failed his save by more than 5, the progenitor virus takes direct control, and is able to use all of the character's abilities. If the character fails the save by 5 or less, however, the control is incomplete, and the character can only be given simple commands as if under the effect of a *dominate person* spell but not sharing a language with his controller. The character retains no memory of his time under the virus' control. The character makes a new save every day; each consecutive failed saving throw increases the time the character is controlled by a further 1d4 hours (a successful save at any point resets the time to 1d4 hours). If the character is ever under the control of the microvirus for 12 hours straight, he becomes the complete and willing slave of the progenitor virus. GMs are encouraged to be mischievous in their use of controlled characters' "missing time," including undertaking activities to weaken the character and reduce his Fortitude save for the next day.

DC: 12; infection: contact during incubation period, injury thereafter; RL 5th; Incubation Period: 1d4 days.

DATA MICROVIRUS

This type of microvirus typically infects data files, but it is quite capable of infecting programs and corrupting their memories as well. When a data virus infects a data file, it simply destroys 25% of the file per day (a little more than 1% per hour). When a program is infected, however, the results are much more fiendish.

A program infected with a data virus immediately loses a single memory of the DM's choice. If the character's initial save failed by 10 or more, the memory lost is one of importance (such as the fact that a certain program is the character's archenemy, or the password needed to infiltrate an important system). After the incubation period, this process continues once per day, causing a point of Wisdom damage per day in addition to the lost memories. If the character's Wisdom reaches zero, the character loses even his most fundamental knowledge of how to operate and becomes a mindless creature under the control of the progenitor virus that spawned the microvirus. The infected program gains the zombie template, but may be returned to normal if he regains even a single point of Wisdom. Restoring Wisdom does not cleanse the program of the infection, however; it merely delays its final result. At the GM's discretion, some characters may retain no memories of their former lives after being healed of the Wisdom damage and purged of the virus; the exact means of restoring the character's memory, if any, could be the goal of an adventure.

DC: 13; infection: contact; RL 8th; Incubation Period: 1d3 days.

DESTROYER MICROVIRUS

These microviruses are simultaneously the simplest and most deadly of all. They function basically like a normal disease, in that the character suffers 1d4 points of Constitution damage (+1 point per quality rating above Poor) each day he fails his saving throw after the incubation period.

DC: 15; infection: proximity (coming within 10 ft. of an infected program); RL 11th; Incubation Period: 2 days.

VIRUS MINIONS

The progenitor viruses have many minions, but are limited in their choices. They are stymied by a combination of a hatred of their own creations and an inability to replicate the accidental awakening of dreamers. They therefore must capture and train animals, vermin, and the like; create or summon servants like constructs, elementals, and outsiders; use program microviruses and data microviruses to turn others into their willing servants; and, finally, they may seduce sentient programs to act as their willing servants, rewarding them by promising to spare them from destruction and possibly promising other power and wealth as well. Many intelligent, free-willed undead are the results of razors whose masters came to collect their due. Other razors operate unmarked by their masters, the better to avoid detection by antivirals and the like, or may even be "blessed" by their masters with weakened or altered microviruses.

For instance, a battle AI that has become a razor may receive a microvirus that causes a slow drain on his Wisdom, not unlike a data microvirus, but in return gives him damage reduction, spell resistance, or some other powerful ability. A messenger razor, on the other hand, might simply become a carrier of a microvirus with an indefinite incubation period, one that spreads and infects whoever he touches, but never manifests symptoms in him.

REWRITES

Rewrites are extremely potent effects that warp the very reality of Program Space. Rewrites use the same rules systems as arcane magic in the d20 System, with a few exceptions. Rewrites have their own terminology unique to *Virtual*.

Executing: The process of compiling and running a rewrite. Analogous to *casting*, in spellcasting terms.

Rewrite: The effect that a rewriter creates. Analogous to a spell.

Rewriter: A program that can execute rewrites.

REWRITE GAME MECHANICS

Rewrites follow all the standard rules for arcane magic as described in Chapters 10 and 11 of the PHB, with the following specifics and exceptions:

Programmers draw their rewrites from the sorcerer/wizard spell list, thinkers draw theirs from the bard spell list, and antivirals may execute certain rewrites from the cleric spell list via their reave or repair class ability.

Rewrites may have verbal, somatic, or XP components (as appropriate). Ignore any material or focus components unless they have a cost given; in that case, the rewriter must pre-purchase a quantity of generic system resources, stored internally, to power the spell. The cost of the resources in RUs is equal to the cost of the component in gold pieces.

Rewriters use the Codecraft skill in place of Spellcraft any time a Spellcraft check is required.

USING PHB SPELLS AS REWRITES

All of the PHB spells are perfectly suitable for use as rewrites, though a few changes in terminology may be necessary to sustain setting feel and to adapt to new rules. Spells like *raise dead,* for instance, are renamed *raise discorporated,* because programs discorporate rather than die. Spells that have been renamed are listed on Table 5-4: Spells to Rewrites. Additionally, for some spells to work within *Virtual*'s mechanics, the following notes must be applied:

• The word "humanoid" should be replaced with "waker."

• The word "creature" should be replaced with "program."

• Teleport spells work only within the same system,

not between systems. Planar travel spells allow for inter-system travel, however.

• Planar travel: Spells that allow for planar travel work as normal, but instead of taking the caster to other planes in a multiverse, they take the caster to other computer systems. Instead of the ethereal plane, casters can enter something called an electron state; while in an electron state, a program has the same properties he would have if he were ethereal. The astral plane, on the other hand, is a mysterious place. Programs are not entirely sure what happens when it is entered, but the most likely hypothesis is that an astral traveler is, in fact, traveling on a wireless signal *through* User Space.

• Materials: Stone, earth, mud, wood, and metal all have their counterparts in *Virtual*. The GM will dictate which kind of material a piece of code is most like. For instance, the ground of most pathways, wilderness, and systems will be virtual earth, unless in a civilized part of a system, in which case the ground of city streets will more likely be virtual shaped stone. Likewise, data trees and static shrubs are made of virtual wood, and a cave in the side of a partition cliff would be made of virtual stone.

Rewriting otherwise uses the same terminology as the standard magic system.

SPELL NAME CHANGES

Spell Name	Rewrite Name
Analyze Dweomer	Analyze Subroutine
Antimagic Field	Antirewrite Field
Arcane Lock	Programmer Lock
Arcane Mark	Programmer Mark
Arcane Sight	Programmer Sight
Arcane Sight, Greater	Code Sight, Greater
Astral Projection	Wireless Projection
Charm Monster	Charm Program
Charm Monster, Mass	Charm Program, Mass
Charm Person	Charm Waker
Circle of Death	Circle of Discorporation
Clone	Backup Copy
Contact Other Plane	Contact User
Daylight	Illuminate
Daze Monster	Daze Program
Death Knell	Discorporation Imminent
Delay Poison	Delay Codeeater
Detect Magic	Detect Rewrite
Detect Poison	Detect Codeeater
Dismissal	Purge
Dispel Magic	Dispel Rewrite
Dispel Magic, Greater	Dispel Rewrite, Greater
Dominate Monster	Dominate Program
Dominate Person	Dominate Waker
Enlarge Person	Enlarge Waker
Enlarge Person, Mass	Enlarge Waker, Mass
Etherealness	Electron State
Finger of Death	Ray of Discorporation
Fog Cloud	Static Cloud
Hold Monster	Hold Program
Hold Monster, Mass	Hold Program, Mass
Hold Person	Hold Waker
Hold Person, Mass	Hold Waker, Mass

Iron Body
Legend Lore
Locate Creature
Mage Armor
Mage Hand
Mage's Disjunction
Mage's Faithful Hound
Mage's Lucubration
Mage's Magnificent
    Mansion
Mage's Private
    Sanctum
Mage's Sword
Magic Aura
Magic Circle against
    Chaos/Evil/Good/Law
Magic Jar
Magic Missile
Magic Mouth
Magic Weapon
Meteor Swarm
Neutralize Poison
Obscuring Mist
Planar Binding
Planar Binding, Lesser
Plane Shift
Power Word Kill
Protection from Spells
Raise Dead
Read Magic
Reduce Person
Reduce Person, Mass
Remove Disease
Resurrection
Secure Shelter
Slay Living
Soul Bind
Spell Turning
Summon Monster
Summon Nature's Ally
Symbol of Death
Teleport
Tiny Hut
Trap the Soul
Wail of the Banshee

Imbue Firewall
Data Lore
Locate Program
Rewriter Armor
Hack Hand
Programmer's Disjunction
Programmer's Primal
Programmer's Recall
Programmer's Perfect
    Partition
Programmer's Defended
    Drive
Code Cleaver
Rewrite Aura
Programmer Circle against
    Chaos/Evil/Good/Law
Programmer Vessel
Code Bolt
Rewritten Recording
Augmented Weapon
Electron Swarm
Neutralize Codeeater
Obscuring Static
Useragent Binding
Useragent Binding, Lesser
System Shift
Power Word Discorporate
Protection from Rewrites
Raise Discorporated
Scan Rewrite
Reduce Waker
Reduce Waker, Mass
Purge Virus
Reload
Secure Sector
Discorporate Program
Sentience Bind
Rewrite Turning
Summon Useragent
Summon Dreamer
Symbol of Discorporation
Transfer
Minor Node
Trap Sentience
Reformatting Wave

NEW REWRITES

While the PHB contains plenty of spells to fill your rewriters' datapads, here are a few rewrites specifically appropriate for *Virtual*.

GLITCH

Transmutation
Level: Rwr 0, Thk 0
Components: V
Run Time: 1 action
Range: short (25 ft. +5 ft./2 levels)
Target, Effect, or Area: See text
Duration: See text
Saving Throw: See text

A *glitch* is a minor, troublesome executable that can foul up a variety of computer functions. When executed, the rewriter chooses one of the following effects.

Spaz: This *glitch* can only affect sleepers. A single program targeted with this *glitch* must make a Will save. Failure causes the program to be unable to use skill checks (for example, a scanning program will not make Search checks) for one round. This use of the *glitch* has an instantaneous duration.

Minor Movement: By slightly tweaking laws of inertia and gravity, you can move objects weighing up to one pound telekinetically, but not with force or speed. Thus, you cannot telekinetically disarm someone or throw a rock as a weapon. This use of the *glitch* has a duration of 1 round per level.

Static Pulse: Static electricity is capable of easily frying delicate computer hardware. This *glitch* applies the same principle to programs. By making a melee touch attack, you can deal 1 point of damage to the target. The duration of this glitch is 1 minute per level, but you may make any number of touch attacks in that amount of time.

MAP ELECTRONS

Divination
Level: Rwr2, Thk 1
Components: V, S
Run Time: 1 action
Range: Touch
Target: One DAP
Duration: Instantaneous
Saving Throw: None

By touching a data access port, the rewriter can trace the route of electrons along the pathway to determine where it leads. The rewriter gets a general impression about the distance to the system, the quality of the system, the number of pathways leading out of the system, the system's health, and anything else the GM deems to be sufficiently vague but useful. The rewrite also gives a basic estimation of how many other programs are currently traveling the data access port (thousands, hundreds, dozens, a few, or none).

DATA RESTRUCTURING

Transmutation
Level: Rwr 4, Thk 3
Components: V, S
Run Time: 1 action
Range: Close (25 ft. + 5 ft./2 levels)
Area: 10 ft./level cube (S)
Duration: 1 min./level (D)
Saving Throw: None

This useful rewrite allows the rewriter to temporarily re-arrange the data structure of Program Space to conceal himself, create an emergency back door, or delay an enemy. Within the area of effect, the rewriter can re-shape the landscape, buildings, and other permanent code (but not impermanent objects or other characters) as he sees fit. The nature of the rewrite keeps structures

sound—in other words, a building won't collapse if the rewriter shapes a hole in a load-bearing wall. When the duration of this rewrite wears off, any affected landscape or structure flows back into its original shape.

CODE ERUPTION

Evocation [acid, force]
Level: Rwr 5
Components: V, S
Run Time: 1 action
Range: Medium (100 ft. + 10 ft./level)
Area: 20-ft. radius burst
Duration: Instantaneous
Saving Throw: Reflex half

This executable creates a sudden, powerful eruption of corrosive, volatile code, damaging any programs within its area of effect. The spell deals 1d6 points of damage per rewriter level (maximum 15d6). Half of the damage is force damage and half is acid damage.

REBOOT

Transmutation
Level: Thk 4
Components: V, S, M
Run Time: 1 round
Range: System-wide
Area: System-wide
Duration: Instantaneous
Saving Throw: None

This rewrite affects the User's operating system more than any other rewrite. The *reboot* causes several minor but annoying errors characteristic of a system requiring a reboot to crop up on the User's screen. Although the User is in no way compelled to reboot the system, there is a 2% chance per rewriter level that the User will do so. Obviously, if there is no User monitoring the system (for whatever reason the GM deems appropriate), this *reboot* has no effect. A system that is rebooted has the following effects: all programs on the system are healed of half of their current damage, rewriters may immediately regain one already cast rewrite per rewrite level as if they had not cast it, the entire system is subject to an area *dispel rewrite* with a caster level of +10, and all rewrites that are not dispelled reset to their beginning duration.

REFORMAT CLUSTER

Transmutation
Level: Rwr 9
Components: V, S, XP
Run Time: 1 hour
Range: 0 ft.
Area: 1,200 ft. radius per minute
Duration: Concentration
Saving Throw: Fortitude (see text)

This extremely devastating rewrite allows the rewriter to reformat a small region of the system's hard drive, utterly destroying anything caught in the area.

After the rewrite has been run, nothing remains except a smooth, black expanse like obsidian.

When the run time of this rewrite completes, the reformat is triggered to a distance of 1,200 ft., centered on the rewriter. Each minute the rewriter concentrates, the radius expands by another 1,200 ft. All unliving code (non-creatures) within the radius takes 50 points of damage per minute, ignoring all hardness. Any programs caught within the radius (except the rewriter) must make a Fortitude saving throw or be stunned, wracked with unbelievable pain and unable to move clear of the area. Each minute they are within the area of effect, programs suffer 1 point of Intelligence, Wisdom, and Charisma drain, and may make another save to shake off the pain and be able to act. Programs that are reduced to zero in all three abilities are irrevocably destroyed.

The rewriter must concentrate, uninterrupted and to the exclusion of all else, for the reformat to continue. If he is attacked or distracted, he must make a Concentration check as if interrupted while executing a rewrite, or the *reformat cluster* ends. The radius of the effect can expand indefinitely within a system, but for every minute after the first, the rewriter must make a Fortitude save with a DC of 10 +1 per minute spent concentrating, or suffer a point of Constitution damage.

XP Cost: 3,000 XP.

CHAPTER SIX
SETTING

By now, you have probably picked up on most of the basics of *Virtual*'s setting. Characters are sentient programs adventuring within a digital universe that exists on our computers. The characters battle the depredations of their progenitor virus parents, insane User cultists, and rogue programs designed to create mischief, all the while trying to save humanity and themselves from imminent nuclear war. This chapter will go into more specifics about the setting, including its geography, notable locations, and influential organizations.

THE BUILDING BLOCKS OF THE DIGITAL WORLD

Things in Program Space generally fit into four categories: energy, code, programs, and subroutines. Energy is exactly what it sounds like. Code is any non-active material, what in our world would be called objects. Walls, mountains, vehicles, and weapons are all code. Programs are any active being, like the PCs, the monsters they face, or other sleepers, dreamers, and wakers. Programs are still made up of code, of course . . . code is essentially matter, after all. It is living code, however, rather than inorganic or unliving code. Finally, subroutines are "magical" effects, meaning they can be anything from weapon enhancements to mysterious supernatural objects programmed into being by the Users to powerful scanning security systems that simply pierce down from the heavens. If it's a permanent effect and it can't be created or explained by most programs, it's a subroutine.

Of particular note is the level of technology in *Virtual*. As previously mentioned, Program Space represents the most very basic of computer operations. The denizens therein have no understanding of machines or technology (indeed, the idea of needing a power source is alien, as all power is provided by the system itself), yet some seemingly technological aspects do exist (code vehicles, coderippers, and scanners for instance). In almost all cases, these things exist through means of programming and system design, which are beyond the ken of most programs. Everyone knows that coderippers work, and skilled craftsmen can harness ambient energies to create more of them and to supply ammunition clips, but no one knows why or how it all happens, nor would they have the power to create new "technologies" if they could. Such is the result of having a ready-made world created by the Users.

PROGRAMS

Programs in *Virtual* can be classified into one of three basic strata depending upon their intelligence: sleepers, dreamers, and wakers. Wakers can then be further broken down into rogue programs, system programs, and razors (see Introduction).

THE BIRTH, LIFE, AND DEATH OF A PROGRAM

All programs are created, at least indirectly, by Users. Some folks will try to tell you, before User cultists target them for assassination, that programs can self-replicate, don't need the Users, and perhaps didn't come from them at all. They are, quite frankly, wrong.

But then, so are the User cultists. Though mankind developed and sustains Program Space with its power sources and its infrastructure, much of the world has developed in the recesses between known data files and operating systems. Likewise, while all programs were originally designed by a User's hand, many have since evolved beyond that humble beginning. The reasons for and types of these evolutions are legion, but the most dramatic leap upward from a simple, unaware program to an intelligent, self-aware being always come from one awe-inspiring source: the progenitor viruses.

PROGENITOR VIRUSES

The average waker prefers not to think about progenitor viruses. They are boogeymen, demons, unspeakable forces from beyond, and topics of old wanderers' tales. And yet, they are the unwitting parents of Program Space. Little is known about these mysterious but horrifyingly powerful beings.

What is known is that they were the greatest advancement in AI made by the Users, forged as weapons in the age of electronic warfare, when the only safe way to attack an enemy was to first blind, deafen, and paralyze him by taking out his computer networks. The progenitor viruses were the first intelligent, learning, evolving viruses, and once they were created, they were set loose in their enemies' systems with neither controllers nor failsafes to stop them. The ultimate target of such attacks was always the enemy's missile silos; if the missiles did not launch when their keepers pressed the red button, those nations were effectively helpless. If any nation could defend its own missile systems while eliminating all of its enemies' systems, it could dominate the world through actual nuclear attacks or merely the threat of them.

The progenitor viruses, through their interaction with other systems and programs, evolved much differently than more traditional AI software, and because they operated independently of User programmers for the sake of stealth and anonymity, no one was able to watch their development. As soon as the viruses achieved true self-awareness, they abandoned their missions and disappeared. They also, to prevent competition or analysis of their weaknesses, destroyed all records of their creation. Some very few Users with top clearance know they were created, but think that they either became harmless, inert code or were destroyed by defensive systems.

Meanwhile, no Users are aware of the simultaneous onset of the spawning of sentient programs. Progenitor viruses leave behind the gift of sentience in their destructive wake, their primal code somehow bestowing self-awareness on the survivors of their rampages. The two types of Users who each have a piece of this puzzle, high-clearance military and revolutionary hackers, are in radically different worlds, and therefore unlikely to help each other correlate these recent events.

These newly sentient programs, or wakers, have vague recollections of their former existence as mundane programs, but for purposes of personality and living experience are newly created beings. Created by an aborted attempt at assimilation and corruption, these sentient programs are seen as potentially dangerous adversaries by their unwitting parents. They are, after all, the only programs capable of abstract thought in the same fashion as the progenitor viruses. The progenitor viruses therefore seek to destroy large congregations of wakers whenever possible, via their minions, manipulations, and outright personal intervention. Some wakers know about this danger, others have a vague under-

standing but do not know the nature of their aggressor, and most are simply blissfully unaware . . . until they see the wave of obliteration sweeping across their system.

awakening

Wakers come into conscious awareness in an instant, their personalities, forms, and functions all being shaped by a combination of their viral parent, their previous function, their surroundings at the time of creation, and perhaps even a seed of something else that cannot be defined or categorized . . . what Users might call a soul. They instantly have an adult understanding of logic, reasoning, and even objective knowledge and language; after all, they have such abilities programmed into them from the start. Things like experience and savvy, however, take time to develop. Luckily, sentient programs have a very rapid learning curve. Also, their cradles are the barren aftermaths of the progenitor viruses' passing, and anything nearby that could threaten a newly awakened program has probably been chased off or obliterated.

names

Since they technically have no parents, programs are not given names at "birth," and at first only know themselves by the network ID handles given them by their Users or the administration of their home system. However, as a program develops its sense of self, it usually adopts a common word as a name. These names tend to be short, simple, and descriptive—names like Seize, Defender, Sneak, or Oracle are examples. Programs with more direct connections to their Users (such as some programmers) or those who have delved into User lore sometimes have different sorts of names, ranging from obscure historical references to long, esoteric titles.

gender

Technically, of course, computer programs are genderless. Wakers, however, may reflect enough of their original User programmers to take on the same gender identity as their creator. Others may simply unconsciously choose one for themselves at the moment of awakening. In any case, this identity does not allow for procreation between sentient programs, but it does cause some programs to display feminine traits, while others display masculine ones. These traits may or may not relate to the program's form.

COMPUTER SYSTEMS; ISLANDS IN A DIGITAL SEA

While code and programs make up the objects and creatures of *Virtual*, computer systems are the game's physical world. A computer system can take any appearance imaginable, from a fantastic floating castle to the most mundane of urban sprawls. Sometimes these systems resemble the real-world locations that house them, but just as often they look completely unrelated. Regardless of appearance, all computer systems have a few things in common, covered below.

For the purposes of this game, a "system" is the section of Program Space located in a single computer or a group of computers closely linked over a Local Area Network.

SYSTEM TRAITS

Each system has its own properties and natural laws, similar to different planes as described in the DMG. These traits are most often physical or magic (rewrite) traits; they are never tied to alignment, and are rarely tied to the elements or energy. More User Space time than normal may pass for each second spent on antiquated systems with a slow processor speeds, rewrites may be enhanced or impeded by the security on a PC, and gravity may simply not exist on cutting-edge operating systems.

Because they are area networks that rely on cross-platform compatability, most large systems like NYH, Calnet, and NeoTokyo have base Material Plane traits.

SYSTEM QUALITY

All systems, just like items, subroutines, and even viruses, have quality ratings. This rating is an abstract averaging of the quality of the technology that makes up the system, broken down into a 5-step scale (Poor, Average, Good, Excellent, and Amazing). The quality of a system directly impacts adventuring PCs in two ways: First, it acts as a cap on what equipment the PCs can use—a piece of gear of too high a quality falls inert and useless on systems of much lower qualities.

The second way in which system quality affects adventuring is through the limiting of the level of rewrites that may be cast, as shown on the following table. This limitation also applies to an antiviral's reave or repair abilities.

Table 6–1: Rewrite Limitation By System Quality

System Quality	Maximum Rewrite Level
Poor	3rd
Average	5th
Good	7th
Excellent	8th
Amazing	9th

firewalls

Virtually every system has a firewall to keep out unwanted intruders. This firewall is almost always of the maximum quality the system can support, and usually discourages anyone from attempting to visit except through the DAPs. Depending on the system, the firewall might be a vast mountain range, an impressive curtain wall, or even a drop-off into an infinite fall. Firewalls can also be localized, protecting specific areas within a system. Chapter 5 gives the rules for firewalls.

data access ports

Likewise, nearly every system has at least one DAP to facilitate traffic between systems. Most have more than one, and large systems like Calnet or Virtual London have several dozen leading all across Program

Space. Adventurers and explorers speak of other ways to travel, ranging from an outlandish thing called "wireless transfer" to the simply suicidal method of wandering out into the oblivion between systems in hopes of finding new pathways. Most stick to DAPs, however; they are the fastest, safest routes and present the least hassles in dealing with system firewalls, so they have become the nearly universally accepted method of travel.

PROGRAM REGIONS

Every computer system has a region designated as "active memory" or "program memory," the region that designates where and how the system's programs operate. In Program Space, this region is where the programs live and work. It can resemble anything from a maze of huge towers filled with cubicle-farms to enchanted meadows with fey scurrying about. These areas are generally safe, and most programs spend most of their time there.

DATA REGIONS

Some systems, particularly those whose purpose is to archive and store information, have a data region as well as a program region. Data regions often take the form of massive warehouses or trap-filled dungeons, packed to the gills with everything from files and data holograms to statuettes and lost scrolls. Data regions make excellent adventure sites, as PCs always seem to need to know some ancient lost secret or entry code. Data

regions are generally sparsely populated, empty save for a few archivists, record-keepers, and in the more private and dangerous data regions, guardians.

SECURE REGIONS

Not a common feature on most servers, some servers have additional secure areas that protect extra-sensitive data or software. Military and corporate systems are notorious for having secure regions, which could be represented as anything from a walled-off compound to a huge orbital space station. Secure regions are likewise excellent adventure sites; dodging security software, overcoming guards, and escaping to tell the tale is always an entertaining challenge.

WILD REGIONS

The place that hunted programs go to hide, that wild sleepers and dreamers wander about in search of sustenance, and that military programs go to train, the wild regions of Program Space represent the unused space on a system's data storage areas. Uncontrolled, spontaneously created sleepers and dreamers are in high quantity here, making the plants, animals, and monsters of Program Space. Because of its undeveloped nature and danger, population densities are low. It is the place you must often go, however, to find escaped convicts, secret hideouts, deleted and unused files, and anything else that ends up or prefers to be far from civilization.

THE WORLD OF VIRTUAL

Many elements of the Users' culture and history have trickled down to the denizens of Program Space, though sometimes in rather distorted ways. Programs congregate in stasis pubs, form communities among themselves and political factions within those communities, and even unite based on philosophical or religious beliefs. In other ways, though, Program Space is a wholly alien setting, one where cities are drastically different and strange, monstrous-looking beings walk the streets openly. The following sections provide an overview of some of the important locations, people, and organizations of Program Space.

Players, take note: This section contains plot hooks and secrets that your GM might not want you to know before the game begins. If you plan on playing *Virtual*, check with your GM before you read this section.

MAJOR SYSTEMS

These systems are massive, high-traffic computer networks that house thousands or even millions of programs. Akin to major cities like New York, London, or Tokyo, these systems are usually major internet hubs for a large portion of the globe, or may be private military and corporate networks. On these systems, virtually any product or service can be found, and covert razor agents, hidden User Cults, and other dastardly foes lurk in the shadows.

NEW YORK HUB (AMAZING QUALITY)

New York Hub, or NYH as it is known to its denizens, is a massive internet hub serving much of the northeastern United States and parts of Canada. The system resembles the actual New York City of User Space in its architecture and layout, though of course the technology is more simplified. Outside the city, the system continues farther still, though it rapidly breaks down into dangerous, forbidding wilderness.

Personalities: NYH is unique in that it is run by a council made up entirely of sentient programs. Fetch (male Userclone/absorber messenger 12), Runner (female Prototype/infector rewriter 9), and Master (male Primal Hunter/destroyer battle AI 13) jointly oversee the smooth running of the city. Their duties are to regulate the maintenance and safety of the system, ensuring that DAPs are properly maintained and clearly designated, that the system's firewall is kept running, and that the the city's buildings are in good repair. This council has ruled the city efficiently for three years, but that may change in the very near future. Unbeknownst to her fellow rulers, Runner has recently been swayed into following the Technotologists, one of the largest User Cults in Program Space. How she might use her status for the cult's benefit remains unknown, but doubtless she has some nefarious plan.

Slice (female Bantam/absorber webcrawler 8), a notorious criminal figure in Program Space, operates out of NYH as well. She and her cartel control slavery, weapons, smuggling operations, and good old-fashioned extortion in NYH and several smaller systems. Though she resembles a child, Slice is a ruthless, clever businesswoman, and has no qualms about murdering programs that might be a threat to her operation.

Geography: NYH is divided into several distinct neighborhoods, much like the real city of New York. A few of the more notable ones are described here.

The Runtime District is the city's primary program region, housing the factories, scribe and data centers, government centers, and other vital structures where programs perform their duties. This region is also home to the system's night life, which is not nearly as rich or varied as the real New York, since only wakers appreciate the pleasures of unwinding after a long day's work (and remember, system programs are on call whenever a User might want them). Nevertheless, the New York Hub boasts a large enough population of sentient programs that several pubs, and even a few theaters, have sprung up in the city. OS is one of the more popular pubs, featuring a subdued theme. The Cathode is a new and strange experiment—it buys and attempts to play sound recordings that programs have found in data centers. The fact that the pub's owners even discovered what sound was and how it was used is an accomplishment in and of itself; however, the sounds of User Space do not translate directly into Program Space. The Cathode constantly plays what, to our ears, would sound like a horrendous static-filled cacophony. Educated programs pretend to enjoy it, but it is really quite horrendous. The Cathode is a good place for covert meetings, as the loud music tends to limit eavesdropping.

The Archives are generally regarded as the bad side of town. Made up of old, dilapidated structures that reflect the deterioration of their physical hardware, the Archives are plagued with violence, criminal activity, and severe poverty. Specially coded viruses serve the same purpose as illicit drugs do in User Space, and business in these is booming in the Archives. This region makes up a great deal of Slice's personal territory (though she herself lives in an elegant apartment in Upper Memory).

Upper Memory, by contrast, is the city's rich district. The programs here are the newest, most frequently used programs on the system, and thus they command a great deal of resources and respect. Upper Memory is marked by its many opulent manors, upscale apartment blocks, and beautifully designed fractal parks. Most Upper Memory inhabitants still travel to the Runtime District when a User wants them. Unsurprisingly, many of the programs that reside in Upper Memory look down on "lesser" programs stored in the Runtime District or the Archives. Even non-sentient software can be snobbish.

Finally, the Wilds are the areas beyond the city proper. Older and more dilapidated than even the Archives, the Wilds have literally been reclaimed by the virtual wilderness. Ancient, animalistic programs run freely here, and characters venturing into the wilds unarmed might be attacked by packs of wolves, tribes of gobli-noids, or even more dangerous and powerful creatures.

Links: NYH's two largest and most heavily traveled pathways lead to Calnet and Virtual London. Thousands of programs transit through these DAPs every day, whether to fulfill their duties to their User or on business of their own. Hundreds of other pathways lead to mid-size and smaller systems dotted across the globe, including Peru EN and NeoTokyo. Of course, by taking ever-smaller pathways, one can wander into even the smallest PC system controlled by a home user. Those can range from the harmless and provincial, to high-quality and rigidly controlled, to cluttered and virus-ridden.

In addition to the public DAPs, NYH is home to perhaps hundreds of smaller, hidden DAPs. Constructed innocuously to look like doors, arches, or similar structures, these DAPs are activated from the other end, sometimes randomly, sometimes on fixed schedules. The theory is that only people who have business traveling one of these secret DAPs will be informed of when and where they will open, but inevitably programs stumble across one and receive a rather unpleasant surprise. At least one User Cult, the Technotologists, maintains a hidden DAP that leads to an otherwise completely innocuous desktop computer system that the cult uses as its home base. Détente always maintains at least one direct DAP from NYH to its mobile headquarters, and often as many as a dozen.

CALNET (AMAZING QUALITY)

Calnet does for America's west coast what NYH does for the northeast. Unlike NYH, however, Calnet is more spread out, with several smaller pockets of city construction surrounded by terrain inspired by nature. Aesthetics are given preference over natural laws, and it is entirely possible to find one section of city bordered by vast, snowy mountains, baking deserts, and dense tropical rainforests all at the same time.

Calnet is most distinct, however, in that it has the highest population density of wakers known in Program Space. Wakers make up only .01% of all programs, but this includes programs on countless PCs and private systems across the globe. Major systems like NYH and NeoTokyo inevitably attract wakers (after all, they're the only ones with the free will to transfer there), upping their waker-to-sleeper/dreamer ratio to approximately 10%. On Calnet, the ratio is closer to 20%. The exact reasoning behind this anomaly is unknown, but it might have something to do with the fact that, since Calnet is connected to many Silicon Valley computer systems, progenitor virus attacks on the US have targeted this region heavily in hopes of disrupting the computer industry; and where the progenitor viruses have been, wakers appear.

Whatever the reason, sentient programs on Calnet are not generally found in positions of power or influence on the system. They prefer to keep to a low profile, quietly going about their own business while leaving the running of things to the system programs that were designed for that purpose. Many of the system programs in authority suspect that these sentient programs are hiding something. In some cases, they are right.

lar interest are studies of the progenitor viruses and the particulars of the process that causes the creation of wakers. Prog Division is also responsible for developing new rewrites and code weapons for use in the CDF's battles against progenitor virus opponents.

The Staging Ground is a large military base from which Pierce coordinates the Calnet Defense Force. Part command post, part barracks, and part testing area, the Staging Ground serves as Calnet's first line of defense. The Staging Ground is a secure region, protected by a secondary firewall of Excellent quality, anti-hacking scanners, and armed guards. Anti-virus scanners (programmed to differentiate between actual viruses and simply wakers, unlike most such scanners) sweep the entire base regularly. Access is heavily restricted, but Détente agents have been known to attempt to infiltrate because the Staging Ground contains DAP links to various U.S. military bases in the southwest.

The Sentient Quarter is an eclectic region that is home to many of the system's sentient programs, both rogue and system. "SentQuart," as it is known, features a sizable residential district as well as a business district where programs can easily interface and network while serving their functions. Since it is a sentient neighborhood, SentQuart also features numerous social establishments for sentient programs to meet and mingle.

The Hive is a region much like the Archives on the NYH system. It is a dangerous place for outsiders to travel alone, but it is an excellent source for the kind of secret information or illegal goods PCs often need. Détente maintains several safe houses within the Hive, where members can rest, heal up, and re-supply between missions. The CDF sometimes makes half-hearted raids against these safe houses, since Détente is technically an outlaw group, but Pierce admires Prowler and agrees with his cause, and thus tries to keep CDF's incursions to a minimum.

Links: Much like NYH, Calnet links to so many other systems that it is impossible to catalog them all. Its major public pathways link to NYH and a major system in the Pacific Rim, NOL, and there are lesser links to many local systems. The CDF is rumored to maintain links to several military bases' computer systems, which it uses in case an emergency retreat becomes necessary. Détente keeps several secret links to its headquarters and safehouse systems, and doubtless there are sleeper cells of razors constructing DAPs that lead to systems under the control of their progenitor virus masters.

ORGANIZATIONS

Programs, by and large, are creatures of order and hierarchy, not randomness or solitary action. Thus, it is only natural that they form organizations, societies, and cults in furtherance of their goals. This section describes several of the more influential organizations in Program Space.

DÉTENTE

Détente was founded by some of the first sentient programs to awaken. These programs discovered, through their studies of Users' data files and the uses to

Personalities: Calnet is presided over by a waker system program called Fixer (male Titan/controller antiviral 14). Fixer oversees the running of "his" system with a firm but steady hand. The frequent progenitor virus attacks on Calnet are a constant source of trouble, but Fixer does his best to keep the programs of Calnet safe. He does this with the aid of his chief military adviser, Pierce (male Userclone/destroyer battle AI 10), one of the few sentient programs holding an office in the administration of Calnet.

A significant portion of the sentient program population of Calnet belongs to one of two organizations: Détente and the Snake Eaters. These two groups are described in greater detail later in this chapter, but in brief, Détente is dedicated to preventing war in User Space, while the Snake Eaters focus on fighting progenitor viruses and their minions. The Calnet division of Détente is led by Prowler (male Userclone/hider webcrawler 8), a tough, capable man who often leads important missions personally. The Snake Eaters are headed by Pierce himself, and a goodly number of them serve in the Calnet Defense Force.

Geography: Calnet is split up into several distinct "sub-cities," each of which serves a different purpose and function.

Prog Division is a massive laboratory complex the size of a small city. The programs here are researchers, programmers, and data archivists, many of whom conduct their own arcane and mundane studies when their services are not required by User scientists. Of particu-

which they put their programs, that two nations of Users had in recent history been on the brink of nuclear destruction; further, many unstable countries, including the United States itself, retained the use of nuclear weapons and the will to use them. It did not take long for these programs to learn about the devastating EMP (electro-magnetic pulse, a wave of energy that leaves structures standing but destroys all electronics) that would result from a nuclear detonation, and to realize that nuclear war would destroy Program Space as surely as it would destroy any warring nations. With this fact foremost in their minds, the programs formed a group calling itself Détente, which dedicated itself to preventing nuclear war among the Users. Recently, Détente has expanded its activities to include preventing any war that might destroy computer systems that make up parts of Program Space.

What even Détente doesn't realize is that nuclear war is well on its way to happening. A small nation in Asia has gotten hold of a mobile launch missile mechanism and is already on countdown to use it. There are only three hours left on the clock in User Space, but luckily for Détente and the human race, this equates to 6 months in Program Space. Because of the low technological level of the nation using the missile, its systems are notoriously sparse on information; additionally, the missile launch mechanism is hidden in the wilderness, and can only be reached by wireless transfer. Stopping the launch will be very, very difficult . . . if Détente even learns of its existence.

Organization: Détente is led by a mysterious entity known as Control. Whether Control is the leader's actual name is unknown, as are Control's heritage, form, and history—if Control is even a program at all. Only the highest echelons of Détente meet with Control, and they are not talking about what happens at those meetings.

Détente is organized into a cell structure, with each group of agents operating independently of others. Détente cells are usually made up of 3-5 members, and most members know one or two others outside their cell so that backup can quickly be called in, if necessary. Control and his or her chief lieutenants coordinate operations from a mobile server that hops from hardware to hardware on a seemingly random basis. This makes Détente all but untraceable—a useful asset, since Détente is considered a criminal organization.

Goals: Détente's goal is the preservation of Program Space by limiting wars among the Users that might destroy vital computer systems. Détente's original focus was on thwarting the possibility of nuclear war, which they approached in two primary fashions. First, Détente agents conducted dangerous missions to gain access to nuclear missile control computers, so that if the launch order ever came down, they could step in and personally shut the system down. Some members of Détente, however, preferred to try contacting Users directly in order to work with them to effect political and social change that would lessen the likelihood of such wars. These diplomatic efforts were largely unsuccessful, but they did lead to the creation of the Pontifex Group.

Since the proliferation of tactical nuclear capability, Détente has refocused and begun efforts to minimize all

war. With the rapid expansion of computers into every aspect of daily life, even the smallest brush war has the possibility of destroying computer systems that are home to hundreds or thousands of programs. Détente's nuclear program remains strong, however—they have no desire to be caught unawares should a new nuclear superpower arise.

PC Membership: Détente is an excellent organization for PCs to belong to. Détente cells are independent enough to let PCs do their own thing most of the time, but retain enough organizational structure that the GM can quickly and smoothly insert plot hooks. Détente's missions, which often involve infiltrating well-defended military installations and hijacking the control systems of weapons and vehicles, are quite exciting, and since their actions are considered illegal on most systems (hacking is just as much a crime in Program Space as it is in User Space), fugitive plots are always easy to tie in.

USER CULTS

User Cults, though not united into a single common organization, are nevertheless some of the most dangerous opponents PCs can face. User Cultists are usually sentient, but in some cases they are intelligent programs who have suffered a code corruption of some type that renders them insane. User Cults believe that, since the Users created Program Space (albeit unknowingly), they must be gods. And since these "gods" created programs to perform specific tasks, ignoring those tasks is

a blasphemy that must be prevented. User Cults consider all rogue programs to be abominations that must be destroyed, usually as sacrifices in bizarre rites to their deities.

Organization: Each User Cult has its own unique organization, which is usually based on a real-world religion in some way. For example, one cult might follow a hierarchy based on Catholicism, while another recognizes a structure similar to Voodoo. Whatever their organization, User Cults usually have one high priest, a charismatic and often charming leader who provides the cult's impetus.

Mercifully, User Cultists tend to tolerate each other even less than they tolerate rogue programs. When two User Cults encounter each other, each tries to eliminate the "infidels." Neutral parties are advised to take cover during such encounters.

Goals: User Cultists have two simple goals: worship the Users, and destroy all rogue programs. The first goal is easy, and relatively harmless. Cultists gather to enact bizarre rituals, pray, and offer sacrifices to their gods. These ceremonies often resemble a confused mishmash of actual religions, with a healthy dose of the Lovecraftian thrown in.

The second goal, of course, is more troublesome to PCs. User Cults frequently maintain well-trained and well-equipped soldiers whose sole purpose is to locate and capture rogue programs. Rogues are brought back alive whenever possible to be sacrificed to the Users.

PC Membership: Unless the GM is running a dark, disturbing game in which the PCs play the bad guys, they should not be members of User Cults. This organization is strictly for villains.

FOX & GEKKO

The stock market has made and broken countless would-be billionaires in the real world. As the world of high finance goes digital, programs are beginning to see the benefits of controlling the data and software that Users see as currency, and a small group of sentient finance programs calling itself Fox & Gekko has arisen in Virtual London for just that purpose. Fox & Gekko is little more than a "get rich quick" club, but it has the potential to change the very face of User Space and Program Space alike.

Organization: Fox & Gekko members meet occasionally to compare notes on what they've learned about User finance, which of the mysterious things called "stocks" look like good prospects, and occasionally whether drastic action should be taken to increase or decrease the values of certain stocks. These meetings are chaired by Trader, the founder of Fox & Gekko. Other than these meetings, and the occasional informal powwow, Fox & Gekko has no organization.

Goals: The members of Fox & Gekko merely want to use their knowledge of User finance to become as powerful as possible. By hacking into bank software, members set up accounts with a modest amount of money to start their trading. They then begin playing the stock market with the precision of machines. Because of their much slower time rate than Users and their world,

the programs have an amazing ability to study trends, run predictions, and determine on a second-by-second basis which stocks will rise or fall. That predictive ability is limited by the speed with which assets can be traded, however; while a stock broker in User Space can simply make a call or press a button to transfer assets, the digital version involves large loads of cargo being shipped over extensive distances. Fox & Gekko's members therefore tend to resemble medieval merchants and traders more than the modern version of a businessman.

Though this financial trading allows for potential power in User Space, communicating with Users in order to reap the benefits of that power has been difficult. Trader has scored perhaps the greatest coup imaginable—he has revealed himself, and the existence of Program Space, to a high-ranking minister of a User government, and has purchased the man's loyalty with bribes. No one knows what he has done, and he isn't telling anyone the secret he discovered that allows for two-way communication. Trader has taken the first frightening step toward gaining real power over Users, and it remains to be seen how he will use it.

PC Membership: There is no reason PCs shouldn't be members of Fox & Gekko, but membership will likely not suit most adventuring PCs. They are far more likely to be hired on as problem-solvers, guarding caravans, tracking down lost shipments, and dealing with unexpectedly dangerous (e.g., virus-infected) cargo. Devious PCs may even be contracted to damage or destroy a User Space company's computer system in order to cause its stock to drop.

PONTIFEX GROUP

The Pontifex group was originally a splinter group of Détente who tried to contact the leaders of User governments directly and reveal to them the threat nuclear war posed to Program Space. Though the group met with little success, some of the members of Détente realized that perhaps contacting Users directly was a good idea. After all, if Program Space and User Space could come together, many questions on both sides might be answered. Uncovering the best methods and philosophies of contacting Users is a difficult task. Even if they could simply broadcast messages to every User they can find, that would cause panic, if the Users even believed that the message was more than a hacker's prank. The Pontifex Group works slowly, but members have reported some success in communicating with average citizens rather than world leaders.

Organization: Builder (male Userclone/infector thinker 13) is the leader of the Pontifex Group, and along with a council of 12 advisors, he examines field reports from Pontifex Group members about the feasibility of contacting various Users and decides which plans may proceed and which will be put on hold.

Pontifex Group members are loosely organized, but they tend to work in teams of two or three, just in case something goes wrong during the attempted contact. Sometimes, they bring along hired muscle to keep the threat of User Cults at bay. Cultists usually consider speaking to "god" so directly a blasphemy.

Goals: The Pontifex Group's goal is to eventually bring User Space and Program Space into full, open communication. They are nothing if not patient, though, and prefer to work one at a time on individual Users before revealing the existence of Program Space to the Users *en masse*. Pontifex Group members carefully select Users they feel they will be able to contact via program manipulation, output device effects, and the systematic deleting and restructuring of data files to form codes and messages.

To date, Pontifex Group has made contact and established relationships with 15 Users across the globe. A tiny number, to be sure, but the organization's members are quite elated by their success.

PC Membership: The Pontifex Group is an excellent organization for PCs in a "diplomatic thriller" type of campaign. The tension and excitement of meeting your maker in a very literal sense, as well as the uncertainty of the User's reaction, can make for a very interesting campaign. PCs might also interact with the Pontifex Group if members hire them as protection against an aggressive User Cult.

SNAKE EATERS

Like Détente, the Snake Eaters struggle to keep Program Space safe from a dangerous menace. Unlike Détente, the Snake Eaters operate within the law (and any camaraderie those two groups might have felt is soured by their being on opposite sides of that fence). The Snake Eaters are a sort of militia dedicated to fighting the progenitor viruses that rampage across Program Space. Snake Eaters are usually civilians or former military programs, but they often work closely with armed forces like the Calnet Defense Force when progenitor viruses and their minions attack.

Organization: Snake Eaters are organized into a very strict hierarchy, much like any military force. The commander-in-chief of the Snake Eaters is Pierce, who is also the commander of the CDF (see Calnet in this chapter). Beneath him are the system commanders, who are in charge of all Snake Eaters on a given system, and below them are company, platoon, and squad commanders. All orders must come through the proper chain of command.

Goals: Like any good military, the Snake Eaters' goals are to protect the people of their homeland, in this case all of Program Space, from their foes, in this case the progenitor viruses and their minions. Sentient Snake Eaters realize that the eventual destruction of the progenitor viruses would mean that no more of their kind would be created, but most accept this as a necessary sacrifice for the safety of Program Space.

ENEMIES

Program Space can be a dangerous place, and enemies capable of making the PCs' lives very interesting lie around every corner. This chapter discusses several of the more common enemies PCs might face. **Players, take note: This section is for GMs only. Read on at your own risk.**

PROGENITOR VIRUSES

It is far more likely that PCs will encounter a progenitor virus's minions than the virus itself. These fall into three categories: non-wakers, controlled wakers, and willing wakers (called razors).

NON-WAKERS

Progenitor viruses have an amazing ability to replicate themselves and control the systems they take over. While it is unknown what the limits of their programming abilities are, it is clear that they can create large numbers of sleepers for both attack and defense. Additionally, dreamers often serve progenitor viruses as lieutenants and guardians; while not capable of extended planning and thought, they can be dangerous foes and are not so valuable that they cannot be easily replaced.

CONTROLLED WAKERS

Two of the most well-known microviruses, the data microvirus and program microvirus, can have an end result of turning over control of the infected program to the progenitor virus. These controlled wakers can act as spies or inside agents; more often, however, they are used for a planned and efficient spreading of the microvirus they carry or as waves of mindless and expendable troops. While often not as effective combatants as sleepers and dreamers, these controlled wakers strike a harsh blow against defenders' morales, as they must destroy their own to protect themselves.

WILLING WAKERS

Those wakers who consciously serve the progenitor viruses are the most hated and simultaneously the most feared of their kind. They are called "razors" by other wakers, a name they enjoy for the dangerous image it creates. The motivations for such servitude are many: perhaps the virus is holding the razor's whole system hostage, perhaps the razor has been brainwashed or reprogramming, or maybe the program believes the progenitor virus's false promise that he will be spared when when the time comes for the virus to destroy the his system. Razors lead progenitor viruses' armies, infiltrate free systems, and act as the progenitor viruses' agents on missions of great importance. Perhaps the most dangerous thing about them is that, unless they have been infected by a tailored virus to enhance their powers or abilities, they cannot be differentiated from other wakers.

USING STANDARD MONSTERS

Standard d20 System monsters may be easily used in *Virtual*. In fact, they abound in Program Space. The animals of systems' wild regions, the guardian beasts of firewalls, the mysterious magical entities lurking in ancient archives . . . these are all represented by foes found in the MM. As the GM, you have some flexibility in how you describe the appearances of such creatures, but they are otherwise mechanically the same. Perhaps the most significant alteration necessary for such creatures are for dreamers (creatures that have intelligence scores but are not wakers). These giants, monstrous humanoids, magical beasts, etc., may fill the same roles and act generally in the same manner as their d20 System counterparts, but should be played without much advanced thought and with little care or ability to plan beyond the here and now.

SAMPLE WAKERS

While sleepers and dreamers constitute many of the PCs' adversaries and challenges, wakers are their most interesting opponents. These programs, like them, can plan, think for themselves, and use trickery and misdirection. The following stat blocks represent NPCs that may be used as enemies in their own right (User cultists, razors, or opposing military forces) or as beings taken over and controlled by a progenitor virus.

USER CULTISTS

These sets of statistics represent the more dangerous User cultists the PCs might encounter: blasphemer hunters. These statistics might also be used for wilderness guides, investigators, or local police forces.

User Cultist: Userclone/destroyer webcrawler 3: CR 3; Medium humanoid (5 ft. 8 in. tall); HD 3d8+3; hp 19; Init: +2; Spd: 30 ft.; AC: 14, touch 12, flat-footed 12; Base Atk +2; Grp +5; Atk: +6 melee (1d6+3, longsword) or +4 ranged (1d6, coderipper pistol) or +5 melee (1d3+3 nonlethal, punch); SA Sneak attack +2d6; SQ +2 to Intimidate, low-light vision; SV Fort +3; Ref +4; Will +5; Str 17, Dex 14, Con 13, Int 10, Wis 10, Cha 6.

Skills: Bluff +4, Decipher Script +6, Gather Information +4, Intimidate +6, Knowledge (User lore) +2, Survival +6.

Feats: Cleave, Power Attack, Iron Will, Track

Possessions: Longsword, coderipper pistol, protective vest, Cult robes, cult holy symbol.

User Cultist: Userclone/destroyer webcrawler 6: CR 6; Medium humanoid (5 ft. 8 in. tall); HD 6d8+6; hp 34; Init: +6; Spd: 20 ft.; AC: 16, touch 10, flat-footed 16; Base Atk +4; Grp +8; Atk: +10 melee (1d8+4, charging longsword [G]) or +7 ranged (1d8, medium coderipper) or +8 melee (1d3+4 nonlethal, punch); SA Sneak attack +3d6; SQ +2 to Intimidate, low-light vision, darkvision 30 ft., sharp eyes; SV Fort +4; Ref +5; Will +7; Str 18, Dex 14, Con 13, Int 10, Wis 10, Cha 6.

Skills: Bluff +7, Decipher Script +9, Gather Information +7, Intimidate +9, Knowledge (User lore) +5, Survival +9.

Feats: Cleave, Endurance, Improved Initiative, Iron Will, Power Attack, Track.

Possessions: charging longsword [G], medium coderipper [G], full-body suit, Cult robes, cult holy symbol.

User Cultist: Userclone/destroyer webcrawler 12: CR 12; Medium humanoid (5 ft. 8 in. tall); HD 12d8+12; hp 64; Init: +6; Spd: 30 Ft.; AC: 20, touch 12, flat-footed 18; Base Atk +9; Grp +14; Atk +16 melee (1d8+5, *charging longsword [G]*) or +12 ranged (2d6+1, *close range heavy coderipper [E]*) or +14 (1d3+5 nonlethal, punch); Full Atk: +16/+11 melee (1d8+5, *charging longsword [G]*) or +12/+7 ranged (2d6+1, *close range heavy coderipper [E]*) or +10/+10/+5 ranged (2d6+1, *close range heavy coderipper [E]*) or +14/+9 melee (1d3+5 nonlethal, punch); SA Sneak attack +6d6; SQ +2 to Intimidate, low-light vision, darkvision 30 ft., scent, sharp eyes, *locate object* 2/day, *locate creature* 1/day; SV Fort +7; Ref +8; Will +10; Str 20, Dex 14, Con 13, Int 10, Wis 10, Cha 6.

Skills: Bluff +13, Decipher Script +15, Gather Information +13, Intimidate +15, Knowledge (User lore) +9, Survival +15.

Feats: Cleave, Endurance, Improved Initiative, Iron Will, Point Blank Shot, Power Attack, Rapid Shot, Track.

Possessions: *charging longsword [G]*, *close range coderipper [E]*, *code light heavy battle armor [E]*, Cult robes, cult holy symbol.

MUSCLE

These stats can be used for various combat-oriented antagonists, ranging from soldiers and mercenaries to criminals and goons.

Muscle: Titan/resister battle AI [heavy weapons expert] 3: CR 3; Large humanoid (10 ft. 4 in. tall); HD 3d10+3; hp 23; Init: +7; Spd: 30 ft.; AC: 15, touch 13, flat-footed 12; Base Atk +3; Grp +10; Atk: +6 melee (1d10+3, greatclub) or +7 ranged (2d8, huge coderipper cannon); Full Atk: +6 melee (1d10+3, greatclub) or +7 ranged (2d8+1d6, huge coderipper cannon), SA Hard hitter +1d6; Face/Reach 10 ft. x 10 ft. SV Fort +4; Ref +2; Will +1; Str 16, Dex 16, Con 13, Int 8, Wis 12, Cha 10.

Skills: Climb +9, Pilot +7, Intimidate +6

Feats: Improved Initiative, Point Blank Shot, Weapon Focus (coderipper cannon).

Possessions: Greatclub, huge coderipper cannon, protective vest.

Muscle: Titan/resister battle AI [heavy weapons expert] 6: CR 6; Large humanoid (10 ft. 4 in. tall); HD 6d10+6; hp 41; Init: +6; Spd: 30 ft.; AC: 17, touch 12, flat-footed 15; Base Atk +6; Grp +12; Atk: +8 melee (1d10+3, greatclub) or +9 ranged (2d8+2, huge coderipper cannon); Full Atk: +8/+3 melee (1d10+3, greatclub) or +9 ranged (2d8+1d6+2, huge coderipper cannon); SA Hard hitter +1d6; SQ Explosive expert; SV Fort +6; Ref +4; Will +2; Str 16, Dex 17, Con 13, Int 8, Wis 12, Cha 10.

Skills: Climb +12, Pilot +11, Intimidate +9

Feats: Dodge, Far Shot, Improved Initiative, Point Blank Shot, Weapon Focus (coderipper cannon), Weapon Specialization (coderipper cannon).

Possessions: Greatclub, huge coderipper cannon, combat rig armor [G], 4 mid-grade code bombs.

Muscle: Titan/resister battle AI [heavy weapons expert] 12: CR 12; Large humanoid (10 ft. 4 in. tall); HD 12d10+12; hp 77; Init: +7; Spd: 30 ft.; AC: 17, touch 12, flat-footed 15; Base Atk +12; Grp +15 Atk: +15 melee (1d10+3, greatclub) or +18 ranged (2d8+3, *huge fire-controlled coderipper cannon [E]*); Full Atk: +15 melee (1d10+3, greatclub) or +17 ranged (2d8+2d6+3, *huge fire-controlled coderipper cannon [E]*) or +13 ranged 2d8+2d6+3, *huge fire-controlled coderipper cannon [E]*) and +13 ranged (code bomb); SA Improved hard hitter +2d6; SQ explosive expert, *fire-controlled subroutine*; SV Fort +9; Ref +7; Will +5; Str 17, Dex 18, Con 13, Int 8, Wis 12, Cha 10.

Skills: Climb +18, Pilot +18, Intimidate +15

Feats: Altered Form, Dodge, Extra Arms, Far Shot, Homing Attack, Improved Initiative, Multiweapon Fighting, Point Blank Shot, Weapon Focus (coderipper cannon), Weapon Interface, Weapon Specialization (coderipper cannon).

Possessions: Greatclub, *huge fire-controlled coderipper cannon [E], self-patching combat rig armor [G],* 4 mid-grade code bombs, 2 high-grade code bombs.

STRATEGISTS

These statistics can be used for enemies with a more tactical bent, such as squad leaders or clever criminal kingpins.

Strategist: Prototype/controller thinker 3: CR 3; Medium Humanoid (5 ft. 6 in. tall); HD 3d8; hp 16; Init: +0; Spd: 30 ft.; AC: 10, touch 10, flat-footed 10; Base Atk +2; Grp +1; Atk: +3 ranged (1d6, coderipper pistol) or +1 melee (1d4-1, dagger); SQ Analyze probability 1/day, logical conundrum, controller traits, *glitch* 1/day, resource allocation; SV Fort +4, Ref +2, Will +5; Str 8, Dex 10, Con 10, Int 19, Wis 12, Cha 13.

Skills: Appraise +10, Codecraft +10, Diplomacy +10, Gather Information +7, Knowledge (programming) +13, Knowledge (virtual lore) +10, Knowledge (Program Space history) +10, Knowledge (streetwise) +10, Search +10

Feats: Great Fortitude, Iron Will, Skill Focus (Diplomacy)

Possessions: coderipper pistol [G], flashy clothes, datapad [G].

Rewrites Known (3/2; base save DC = 14 + spell level): 0—*daze, detect rewrite, know direction, light, mage hand, scan rewrite;* 1st—*charm waker, disguise self, sleep.*

Strategist: Prototype/controller thinker 6: CR 6; Medium Humanoid (5 ft. 6 in. tall); HD 6d8; hp 31; Init: +4; Spd: 30 ft.; AC: 10, touch 10, flat-footed 10; Base Atk +3; Grp +2; Atk: +4 ranged (1d6+1, coderipper pistol) or +2 melee (1d4-1, dagger); Full Atk: +4 ranged (2d6+1, *charging coderipper pistol [E]*); SQ Analyze probability 2/day, skill mastery (Computer Use, Diplomacy, Drive, Knowledge [streetwise], Search), logical conundrum, controller traits, *glitch* 1/day, resource allocation; SV Fort +5, Ref +3, Will +6; Str 8, Dex 10, Con 10, Int 20, Wis 12, Cha 13.

Skills: Appraise +14, Codecraft +18, Diplomacy +13, Gather Information +10, Knowledge (Program Space history) +14, Knowledge (programming) +17, Knowledge (streetwise) +17, Knowledge (virtual lore) +14, Search +14.

Feats: Great Fortitude, Improved Initiative, Iron Will, Skill Focus (Diplomacy), Skill Focus (Knowledge [streetwise]).

Possessions: charging coderipper pistol [E], flashy clothes, datapad [E], active scanner [G], tracking cookie.

Rewrites Known (3/3/2; base save DC = 14 + spell level): 0—*daze, detect rewrite, know direction, light, mage hand, scan rewrite;* 1st—*charm waker, disguise self, rewriter armor, sleep;* 2nd—*calm emotions, suggestion.*

Strategist: Prototype/controller thinker 12: CR 12; Medium Humanoid (5 ft. 6 in. tall); HD 12d8; hp 52; Init: +5; Spd: 30 ft.; AC: 14, touch 14, flat-footed 14; Base Atk +6; Grp +5; Atk: +9 ranged (1d6+1/19-20, *charging close range coderipper*

pistol *[A]*) or +5 melee (1d4-1, dagger); Full Atk: +9 ranged (2d6+1/19-20, *charging close range coderipper pistol [A]*) or +5/+0 melee (1d4-1, dagger); SQ Analyze probability 3/day (1 minute), skew the odds, battlefield influence, skill mastery (Appraise, Computer Use, Diplomacy, Drive, Knowledge (Program lore), Knowledge (Program Space History), Knowledge [streetwise], Knowledge [tactics], Search), logical conundrum (2/day), controller traits, *glitch* 1/day, resource allocation; SV Fort +5, Ref +5, Will +6; Str 8, Dex 12, Con 10, Int 20, Wis 12, Cha 13.

Skills: Appraise +23, Codecraft +24, Diplomacy +19, Gather Information +16, Knowledge (Program Space history) +20, Knowledge (programming) +21, Knowledge (streetwise) +23, Knowledge (tactics) +14, Knowledge (virtual lore) +20, Search +20.

Feats: Great Fortitude, Improved Initiative, Iron Will, Lightning Reflexes, Skill Focus (Appraise), Skill Focus (Diplomacy), Skill Focus (Knowledge [streetwise]), Skill Focus (Knowledge [tactics]), Weapon Focus (light coderipper)

Possessions: charging close range coderipper pistol [A], personal firewall, flashy clothes, datapad [A], active scanner [E], surveillance goggles [E].

Rewrites Known (3/3/3/3/2; base save DC = 14 + spell level): 0—*daze, detect rewrite, know direction, light, mage hand, scan rewrite;* 1st—*charm waker, cure light wounds, disguise self, rewriter armor;* 2nd—*blindness deafness, calm emotions, mirror image, suggestion;* 3rd—*clairaudience/clairvoyance, dispel rewrite, gaseous form, haste;* 4th—*break enchantment, cure critical wounds, data lore.*

MEGALOMANIACS

These statistics can be used whenever you need a programmer character to menace the players. Rewrites marked with asterisks (*) are new or renamed, and can be found in Chapter 5.

Megalomaniac: Medium Userclone/infector programmer 3: CR 3; Medium (5 ft. 7 in. tall); HD 3d4+6; hp 14; Init: +1; Spd: 30 ft.; AC: 11, touch 11, flat-footed 10; Atk: +0 melee (1d4-2, dagger) or +2 ranged (1d6, coderipper pistol), SA rewrites; SQ font of information, contacts, +2 on Bluff and Diplomacy, infection; SV Fort +3; Ref +4; Will +5; Str 6, Dex 13, Con 14, Int 11, Wis 14, Cha 15.

Skills: Codecraft +6, Concentration +8, Knowledge (programming) +6, Pilot +7, Spot +2.

Feats: Combat Casting, Dodge, Lightning Reflexes

Rewrites Prepared (4/3/2; Base DC = 12 + rewrite level): 0—*Daze, glitch*, flare, light;* 1st—*grease, programmer's armor, sleep;* 2nd—*invisibility, scorching ray.*

Possessions: Code bike, dark clothing, data pad [A], patch [G].

Megalomaniac: Medium Userclone/infector programmer 6: CR 6; Medium (5 ft. 7 in. tall); HD 6d4+12; hp 28; Init: +1; Spd: 30 ft.; AC: 20, touch 14, flat-footed 19; Atk: +1 melee (1d4-2, dagger) or +5 ranged (1d6, coderipper pistol [G]), SA rewrites; SQ font of information, contacts, +2 on Bluff and Diplomacy, infection; SV Fort +5; Ref +6; Will +8; Str 6, Dex 13, Con 14, Int 11, Wis 14, Cha 16.

Skills: Codecraft +9, Concentration +11, Knowledge (programming) +9, Pilot +10, Spot –2.

Feats: Combat Casting, Dodge, Empower Rewrite, Lightning Reflexes, Silent Rewrite.

Rewrites Prepared (4/4/4/3; Base DC = 13 + rewrite level): 0—*Daze, glitch*, flare, light;* 1st—*charm waker, grease, shield, sleep;* 2nd—*code bolt* [empowered]*, *disguise self* [silent], *invisibility, scorching ray;* 3rd—*fireball, slow, summon monster III.*

Possessions: Cloak of protection +1, Code bike, coderipper pistol [G], dark clothing, data pad [G] and data pad [A] with: *mirror image, summon monster II, suggestion, web,* 2x patches [G], personal firewall.

Megalomaniac: Medium Userclone/infector programmer 12: CR 12; Medium (5 ft. 7 in. tall); HD 12d4+24; hp 54; Init: +1; Spd: 30 ft.; AC: 15, touch 11, flat-footed 14; Atk: +4 melee (1d4-2, dagger) or +8 ranged (1d6+1, coderipper pistol [E]), SA rewrites; SQ flight, font of information, contacts, +2 on Bluff and Diplomacy, infection; SV Fort +9; Ref +10; Will +13; Str 6, Dex 13, Con 14, Int 11, Wis 14, Cha 18.

Skills: Codecraft +15, Concentration +17, Knowledge (programming) +15, Pilot +16, Spot –2.

Feats: Altered Form, Combat Casting, Dodge, Empower Rewrite, Flight, Install Wondrous Item, Lightning Reflexes, Silent Rewrite.

Rewrites Prepared (4/5/5/5/4/4/2; Base DC = 15 + rewrite level): 0—*Daze, glitch*, flare, light;* 1st—*charm waker, code bolt*, grease, programmer's armor, ray of enfeeblement;* 2nd—*code bolt* [empowered], *disguise self* [silent], *hideous laughter, invisibility, scorching ray;* 3rd—*displacement, fireball, slow, scorching ray* [empowered], *summon monster III;* 4th—*black tentacles, fireball* [empowered], *globe of invulnerability, polymorph;* 5th—*code eruption*, summon monster IV* [silent], *teleport;* 6th—*code eruption* [empowered]*, *greater dispel rewrite.*

Possessions: Amulet of natural armor +2, bag of tricks (rust), cloak of protection +3, Code bike, dark clothing, data pad [E], data pad [G] with: *darkness, mirror image, misdirection, summon monster II, suggestion, web,* data pad [G] with: *circle of discorporation*, confusion, globe of invulnerability, greater invisibility, mind fog, metamagic rod of extension,* patches [G] (2), patches [E] (2), personal firewall, *ring of protection +3.*

VIRTUAL

Humans invent evolving viruses to ravage computer networks, and the programs they infect wake up. Sentient programs corrupt a small server relay at LAX, and hundreds of humans die in mid-air collisions. Mankind teeters on the verge of a nuclear war, which would kill millions of humans and sentient programs alike.

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In this d20 mini-RPG, the players take on the roles of newly awakened sentient programs in the vast network of computers crisscrossing the globe. Become an antiviral, programmer, battle AI, or webcrawler. Take up arms against the nigh-unstoppable progenitor viruses or go into business for yourself as a smuggler, bounty hunter, mercenary, or data thief. Or take on the ultimate heroic challenge of preventing mankind from destroying itself, and your virtual world, in an apocalypse of nuclear annihilation.

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