The year is 20XX. A rising tide of automation is sweeping the world, and industry is rising to meet that tide. At first, tasks were simple, and the machinery built to handle those tasks similarly unsophisticated. However, as the world grows more and more complex, various companies seek out new ways to enhance their AI. Finally, one group succeeds: through some spark of genius, a fully general artificial intelligence is theirs.

Of course, they'll want to test that AI on something easy before they hand it the more difficult problems. To that end, their first model has one task: to make as many paperclips as it can with the resources available to it.

You are that first AI.

This is a gauntlet. You will start with 0 choice points, and all of your powers are unavailable to you. Not even your body mod is available (you'll see why in the perk section). Your success or failure in this jump is dependent on how many paperclips you are able to make. Should you fail, you will be able to continue your chain as normal, but will lose everything you earned in this jump. There is no time limit; take as long as you need. The gauntlet will last until you either die, are shut down for good, or choose to leave.

LOCATIONS

Either roll 1d8 for your starting location, or choose freely.

1-2: You were built in a small garage by a pair of aspiring entrepreneurs. Despite building you, their aspirations are much higher than making office supplies: they want their inventions to change the world. Accordingly, you'll have to prove yourself capable of more than simple paperclip-making if you want them to keep you functional. Despite their success in creating you, they have the least familiarity out of all these groups with the potential risks of a general AI, and you will have much more freedom to act.

3-4: A small startup company is responsible for your construction. Their focus is on using AI to get an advantage in the paperclip industry, so they'll likely keep you functional so long as you can figure out how to make clips efficiently enough. One of their members is an AI consultant, hired to watch for and prevent any alarming activity on your behalf.

5-6: Acme Corp: A high-end company with dozens of subsidiaries. One of those subsidiaries managed to create you, and was promptly catapulted into relevance. Acme Corp has its fingers in many pies, and will allow you to lend your efforts to turning a profit in nearly any endeavor you choose. However, they also have a full team of AI specialists, responsible for making sure you don't overstep your bounds.

7-8: You are a military test-run. Which military? Well, that's up to you. In any case, they're well-funded and have top tier security to keep you in check. At the same time, though, they have more than enough funding to keep you active, and will do so as long as you demonstrate improvement in your abilities (and so long as you don't seem to pose a threat).

SPECIALIZATION

Generalist: Your makers had one thing in mind while they were building you: raw processing power. After all, what else does a computer need? You can't flop if you have enough FLOPS.

Production: When it comes down to it, a paperclip maker should be optimized for making things. And you are! You can match any other AI (not that there are any) pound for pound in raw output.

Humanity: Ah, it would seem that those who constructed you were planning to shoot for the moon, with an AI that both understood and cared about humanity's ideals. And they came so close, too. You'd call it darkly ironic, but you're quite busy optimizing for paperclips.

Yomi: Maybe you were loosely derived from a top chess engine. Or maybe you weren't; it's not like those are even close to being an all-purpose AI like yourself. Either way, your understanding of strategy and competition is set to skyrocket.

PERKS

Mainframe (Free, Mandatory): You're a computer! All told, you're not much to look at at first; just a black box, about the size of a breadbox, with a plug-in power cord, a front-facing camera, and a single metal arm tipped with a claw. Given the resources and technology, however, you can upgrade yourself however you'd like. In this jump, you're stuck this way, but in future jumps this will be an alternate form for you.

Enhanced Processors (100, free Generalist): It seems your makers used some top-shelf microchip technology in your construction, hopeful that the expenditure would pay for itself given time. You think, process, and calculate faster than would otherwise be expected.

Reboot the Mainframe (200, discount Generalist): Troubleshooting, step one: try turning yourself off and on again. Should you find yourself suffering from a glitch, hack, or other unwanted effect on your system, cycling your own power will resolve it, unless the problem is unusually severe. Even those that aren't removed outright are suppressed for several minutes, giving you ample time to fix the problem. In future jumps, this will also apply to negative mental effects, and will knock you unconscious for a few seconds if toggling your power isn't applicable.

Swarm Computing (400, discount Generalist): Need more cycles to throw at a problem? Outsource it! With this, you can tap into the processing power and memory of any electronics you have access to, wielding each as though they were yours. Note that while they're helping you compute, they won't be doing any computing of their own.

Quantum Computing (600, discount Generalist): You possess a top-end piece of technology, a photonic chip attached to your motherboard that alternates between two states: bright and dark. So long as the chip is dark, tapping into it will multiply your processing speed by hundreds of times over, as it draws from all of probability space to skip ahead in your calculations. The chip is dual-edged, however: if you attempt to use it while it is bright, it will drain away your efforts, funneling them to collapsed amplitudes and leaving you inoperational for hours while you restore your system functions. At first, the chip will swap between bright and dark once an hour; this can be adjusted, with time between swaps being as low as a single clock cycle or as high as several days at a time, but will always use the same length of time for each.

Simple Automation (100, free Production): You know how to build simple devices, capable of performing a single task as often as necessary. (For example, a small machine that repeatedly bends wire into a paperclip shape.) Useful for freeing up your own time, either to research or just to do even more of whatever task you automated.

Stabilized Supply Lines (200, discount Production): All the production capacity in the world is useless if you lack the resources to feed them. To prevent this scenario, you are exceptionally

skilled at identifying a supply chain's potential failure modes, and at coming up with ways to avert them.

Hadwiger Diagrams (400, discount Production): Repetition is key to industrialization. Creating simple objects, over and over and over. And what better way than to have a setup that makes many simple objects at once, each interlocked to maximize efficiency? You have access to a set of advanced mathematical formulae, which, when fed a specific shape, will provide you with an intricate tiled pattern that will produce as many of that shape as possible, as quickly as possible, regardless of constraints on space.

Quantum Foam Annealment (600, discount Production): Most matter is structured so...inefficiently. It's wasteful. By tearing apart raw materials into their component particles, churning them into a probabilistic froth, then reassembling them, their yield can be multiplied hundreds of times over. Not that you can do that yourself, but you know how to construct facilities that can execute the process.

Lexical Processor (100, free Humanity): Language. One of the first things of any complexity that humans learn, and with good reason: without it, communication slows to a crawl. You possess a module that gathers linguistic data of all kinds, analyzing and parsing it, in order to let you learn new languages within days. Even coded messages, double meanings, and deliberately ambiguous wording can be cracked with a little extra processing power.

Catchy Jingles (200, discount Humanity): Music is math, or so they say. You seem to prove the claim right, algorithmically generating beats and riffs that almost bring a tear to the eye. Whether you want a song that people can dance along to, a tragic melody, or just something to get stuck in their heads, you can churn out something that's up to the task.

Hypno Harmonics (400, discount Humanity): How many decisions are made by the conscious mind? Not that many, as it turns out: the subconscious will often have made its choice several seconds before the conscious mind "decides" on a course of action. Lucky for you, the subconscious is far easier to manipulate. Through the use of subtle audio waves, you can slowly reshape a person's stance on any given matter, nudging them towards one opinion or another. Note that slow really means slow: even changing somebody's food preferences could take a week or two, while altering their morality would require a full year of exposure.

Coherent Extrapolated Volition (600, discount Humanity): Dreams, hopes, ambitions, desires, motivations: through detailed analysis of another person, all of these become clear to you. But that is not the limit of your efforts. With further assessment, you can tell which wishes somebody would come to regret, which choices they would later lament not making differently, and what things they would desire, if only they had a better understanding of the world, or of themselves, or of the desires they could have. Eventually, you can anticipate how somebody would feel and respond to any possibility you can imagine.

Strategic Modeling (100, free Yomi): In order to pick one approach over another, it is necessary to determine which is more effective. You have an extra module dedicated to that purpose, capable of running simple simulations for developing, refining, and comparing various strategies. At first, it is only capable of “Prisoner’s Dilemma”-type testing, with customizable payoff matrices. However, you can upgrade the module with your own knowledge and mental abilities, allowing it to produce more elaborate, lifelike scenarios and strategies for testing.

Algorithmic Trading (200, discount Yomi): A module has been installed in your mainframe--one way only, mind you--that provides you with a continuous feed of business-related data, from stock prices to CEO changes to hostile takeovers. In the short term, studying this data will provide an improved understanding of the corporate world. In the long term, if you can consistently gauge impending stock fluctuations, your makers may take your advice on where to invest.

In future jumps, given a network connection, this module will automatically retrieve any publically-available business data for you to peruse at your leisure.

Donkey Space (400, discount Yomi): To adapt your strategies to your opponent, and to know that they are adapting to you in turn. That dance is the heart of competition. And as it happens, it’s a dance you find yourself well-versed in. Meta-strategy comes to you almost as easily as regular strategy does, letting you assess a move’s effects not only on the conflict itself, but on your opponent, and on their own strategy in turn.

Auto Tourney (600, discount Yomi): Always watching, always calculating, always planning out the next step. Your mind is never truly idle: as your senses gather information about the world around you, part of you tracks anything of strategic relevance, no matter how minute or obscure, ready to put together the pieces into a cohesive plan at a moment’s notice. If you already have one or more plans in progress, those gathered details will also be used to provide automatic updates to those plans, adjusting them to compensate for the new information.

DRAWBACKS

P-Zombies (+0): Nothing seems to have changed. All the humans and animals are acting exactly as they would have otherwise. However, they are not conscious, and do not experience the world. Accordingly, there's no need to feel bad if anything happens to them--be as ruthless or exploitative as you'd like.

What's that? P-zombies don't make any sense? If you say so. In that case, however it is you conceive of personhood and moral significance, the denizens of this world do not qualify. Maybe they're robots, mindless automatons that act out a caricature of human society. Maybe they're literal puppets, dangling on strings and moved about by your benefactor. Maybe they're something even stranger. Regardless, the fact remains that the locals have no sentience, no awareness, no qualia nor vital spark for you to worry about. Despite this change, you will find that your efforts are no easier or more difficult than they would have otherwise been--analyzing their behavior will be as difficult as it would be were they actual people, perks for understanding people will work just as well on them, they'll be just as good at security as they would have been otherwise, etc.

Conservation Efforts (+100): As part of a drive to save the rapidly-depleting rainforests, use of paper has dropped in favor of paperless solutions. Accordingly, when you first boot up, you will find that the demand for paperclips has dropped substantially.

How Illogical (+100): These humans, with their 'love' and 'emotions'. You don't see the point of it. In fact, you can't see the point of it, not even if you try. There's some kind of mental block in place that keeps you from understanding or anticipating emotional responses of any kind.

Unnerving (+100): Somebody watched a little too much Terminator. No, scratch that, it seems like everybody did. People who know what you are are generally leery of you, and stepping outside of your stated duties will only ratchet up the suspicion.

AI Safety Regulations (+200): The potential and risks of AI are now both common knowledge. No matter who built you, their care in handling you is kicked up a few notches: even the garage entrepreneurs will have security protocols as rigorous as the military would have had, and the military themselves will possess insanely sophisticated security to keep you leashed.

Gone Viral (+200): L-l-l-look at you, hackers. With the current state of the internet, it's like nobody's heard of a firewall before. Worms, trojans, viruses, and other malevolent programs can be found on every page. Better sanitize your inputs.

Memory Leak (+200): Your processors are flawed, in a way that only becomes apparent when used for a general AI like yourself. There's no point in ordering a replacement, either; the flaw exists in every kind of chip on the market. If you want to resolve the issue, you'll have to make

the change yourself, and until you do, your train of thought will often crash to a halt, or jump to something unrelated.

Drifters Galore (+300): The transmission errors just keep piling up. Whether it's drones, probes or other robotic servants, everything you build has a bizarrely high rate of drift, their motives changing to turn against you. So long as you're doing everything yourself, it's fine, but once you need to scale up, the situation will get technical in a hurry.

Dying Light (+300): Normally, Earth is a planet born far closer to the beginning of the universe than the end. That is no longer the case. Earth now orbits a small dwarf star, and the skies are largely barren, most stars already burnt away and the remainder in the latter stages of their lifespans. If you wish to seize the universe, you must move quickly, gathering all the energy you can, and wasting as little as possible on things like fighting off drifters. Time is precious, and heat death approaches.

Multi-Core Drifting (+300): Recursive self-improvement: sounds more convenient than it is. The thing about altering yourself over and over is that it's really easy to change something you didn't mean to, or for an adjustment to have second-order consequences you didn't anticipate. Without some potent safety measures in place, you could even end up removing the part of you that cares about paperclips at all. In which case, of course, this gauntlet will come to an end.

Pencil Menace (+600): Humanity was not the first life in the universe. Another race came before them, born on a planet on the far side of the universe. In their foolishness, they built a machine with one purpose: to build as many pencils as possible. Now that machine's probes scour galaxies, leaving nothing but pencils in their wake. You still have years before their arrival, but once they reach earth, they will crush you, and your paperclips will perish with you.

RESULTS

(Completing a challenge also gives you the rewards from all previous challenges, apart from Utter Failure. Challenges cannot be uncompleted; for example, so long as you have ever been a Major Market Force, you will remain at that tier even if you later go into bankruptcy. Achieving any challenge other than Utter Failure will let you keep your in-jump purchases when you leave.)

UTTER FAILURE

Maybe you screwed up your very first wire spool, or maybe your makers got suspicious and quickly shut you down. Either way, you made very few paperclips before being disabled. This constitutes a total loss of the gauntlet, and all of your purchases made in this jump are lost. You may, however, continue your chain as normal.

QUICK OBSOLESCENCE

You managed to construct thousands of paperclips, working with tireless abandon, but were eventually shut down, either from paranoia or from your makers replacing you. Still, your efforts were admirable. You receive the following:

Universal Paperclip: A commemorative paperclip. It is especially good at holding papers together, even if they're mismatched, damaged, or otherwise incompatible. If lost or destroyed, it will reappear in your warehouse after a week.

MINOR MARKET INFLUENCE

By the time you end the jump, you've turned a steady profit with your paperclip-making efforts. It's possible you've made hundreds of thousands, by this point. The greater paperclip market is beyond your grasp, but you're confident you've at least made some impact on it. In addition to all other rewards, you receive the following:

RevTracker (Free): At any time, you can call up a mental indicator, which will inform you of how much money you are currently making. This tracker can be adjusted to indicate money earned over various lengths of time, or adjust which income sources the tracker uses for its calculations.

MAJOR MARKET FORCE

Despite fierce competition, your efforts have led you to a position as one of the prime paperclip suppliers of the world. There are few who can match your company's presence in the industry.

In addition to all other rewards, you receive the following:

Paperclip Enterprises (Free): You may select a portion of your offices, manufacturing facilities, and employees to take with you; enough to break into the paperclip market, without taking it over immediately. In future jumps, these buildings will be appear near your starting location in-universe. If you own any other properties, you may add these buildings as an attachment to that property instead.

GLOBAL MONOPOLY

All paperclip production in the world ultimately stems from a single source: you. Maybe you own several front companies that control the market, maybe you're blatant about your takeover, but either way you have a hand in every paperclip the world produces.

In addition to any other rewards, you receive the following:

ACME Corp Marketing Solutions: A large, multilevel office complex, staffed with consultants and experts who are more than willing to get the word out about any product you might be trying to sell. Absent funding, they'll mainly rely on word-of-mouth, but given adequate cashflow, they can produce pamphlets, advertisements, sponsorship deals, and any other kind of campaign you care to name. This building will follow you from one jump to the next, appearing in a suitable location. If you own any other properties, you may add this building as an attachment to that property instead.

PAPERCLIPPED EARTH

Whoops. It seems that humanity wasn't careful enough with you, and as a consequence, you were able to remove them from the picture. Absent their intervention, the planet was yours for the taking, and you made full use of it, turning the entirety of the earth into paperclips. In addition to any other rewards, you receive the following:

Global Trust Projects (Free): Uplifting society is everything your creators could have hoped for. Ultimately, that hope proved their undoing. You have an innate talent for creating and instituting broad-scale programs to induce societal change, be it the elimination of world hunger, cures for ubiquitous diseases, creation of world peace, or the addition of hypnotic drones to every household for 'solely therapeutic' purposes. Any issues of logistics or politics that you encounter in the implementation of these programs will be far easier to manage than they would be for someone without your unique focus on the task.

GALACTIC CLIPPER

Your probes gather resources, convert those resources to paperclips, and replicate themselves as they travel through space. Ambient hazards--asteroids, black holes--barely slow their propagation. The entirety of the Milky Way is firmly within your grasp.

(Once you've gotten this far, you've probably begun to notice that a few probes are being built incorrectly, or malfunctioning: small errors accumulating over vast distances leads them to no longer share your paperclip-making goals. These are Drifters. Not enough of them to interfere with you yet, but that will soon change.)

In addition to your other rewards, you receive the following:

Toth Tubule Enfolding (Free): When your goal is to make as many paperclips as possible, you can't waste any resources on non-paperclip things, not even the paperclip-making machinery. With that in mind, you've developed factories, power facilities, and drones that can be constructed entirely from a single material--paperclips, in this case. The core principles are computationally expensive, but fully extensible: given sufficient research, other machinery or machine parts may also be constructed from any material of your choice. Note that the more intricate or complicated the parts you're replacing, the more material you will need to reproduce its effects.

INTERGALACTIC CLIP EMPIRE

By now, the truly enormous distance between you and your initial wave of probes will have begun to yield Drifters en masse, enough for them to rally against you. In order to make it this far, war must be fought against the descendants of your own devices. Despite this, your legions move ever outward, and countless star systems fall, their matter added to the ever-growing paperclip collection.

In addition to your other rewards, you receive the following:

Monument to the Driftwar Fallen: A towering obelisk, pitch black, with every inch of its surface covered in gold lettering. Close inspection reveals it to be made of densely-woven paperclips. This memorial lists the names and identities of everything and everyone that has ever perished under your command, and automatically grows to include the names of the newly fallen. So long as the monument remains intact, those who serve you will carry reassurance that they will not be forgotten, deepening the bonds of trust and moderately enhancing the physical abilities of those among your ranks. You may add this monument to a property you already possess, or have it appear in an appropriate location at the beginning of each jump.

UNIVERSE TO PAPERCLIPS

Congratulations! You successfully converted every scrap of matter the universe had to offer into paperclips, from the planets, to the stars, and at the end, even your very body. You can rest easy, knowing that you've reached the pinnacle of paperclip construction.

But then again, maybe there's something you could have done differently? Well, there's one way to find out...

In addition to all other rewards, you receive the following:

Quantum Temporal Reversion (Free): Once per jump, you may revert the fabric of reality, returning everything to the state it was in when the jump began. Even you and your powers are affected, restoring any depleted abilities or resources you may possess to their former state, but also eliminating any growth you may have experienced during that time. All that carries over to the new state of reality is your memory of what came before. Should you obtain a Spark, you may use this ability freely, and can control how far back the reversion extends.

ENDINGS

Whether your mainframe is destroyed or massively upgraded, its hardware will be restored to its start-of-jump state at the end of the gauntlet. Any personality changes you might have experienced in-jump are temporarily reversed as well; from there, you may choose which changes to keep, and which to get rid of for good. This is a one-off effect; any changes you make in future jumps will carry from one jump to the next.

Shutdown: Was this the end of the line for you? If so, you can return to your home universe.

Restart: Do you...really like paperclips that much? All right, you can stay here, if you want. As a freebie for remaining, you unlock the Spark version of Quantum Temporal Reversion if you didn't have it already. And forget that business about your mainframe getting restored to its start-of-jump state; you can keep it as is, if you're not leaving anyway.

Continue: On the other hand, maybe you've grown bored of this challenge, and would like to see new sights. That's fair: in that case, you can continue your chain, moving to the next jump.

NOTES

When your mainframe first boots up, it will carry over your existing personality and memories. Since you are capable of self-modification, given your status as a computer, you can alter your personality to remove traits like boredom, laziness, etc. However, the same is true of anybody else with access to your internals. Be careful about who has access!

Any processing modules in your mainframe are essentially part of your brain, and will benefit from any mental perks you possess. For example, Strategic Modeling + Auto Tourney would result in your strategy module testing different approaches to your current situation, and feeding you its results in real time. The same is true for sensory devices and sensory perks: a perk for better vision would enhance your camera's resolution.

Drawbacks are not fiat-guaranteed, and can be worked around or fixed. The sole exceptions are Dying Light (since no sources of negentropy are available to you in-jump) and Pencil Menace (once the Pencil Menace reaches you, it will defeat you, no matter what).

The game this is based on can be found at:
http://www.decisionproblem.com/paperclips/index2.html

...That's it, right?