The Setup

The Ceres Crisis

Astronomers discovered that Ceres' orbit had begun to decay in November of 2235. It was slowing down, spiraling the proverbial drain and falling towards the Sun. A consensus was never reached on the cause of this decay, but research on the topic soon halted as defeatist sentiments rose amongst the scientific community. Not even one of the 65 highly-trained scientists and engineers running a mining operation on Ceres' surface could produce a plausible explanation, nor any of the few hundred thousand pioneers strewn across Jupiter and Saturn's moons.

Ceres was 27% the diameter of Earth's moon—whatever was causing its orbit to decay had to be a force far outside the realm of human intervention.

The consequences of Ceres' orbital decay, regardless of what they may be, were extremely grim. Statistical calculation soon began: would Ceres collide with Mars? Earth? Mercury? Venus? One of their moons? Would its orbit stabilize again somewhere closer to the sun? Even one of the best outcomes—Ceres avoiding every other planet and colliding directly with the Sun—would likely lead to an extreme and sustained burst of radiation. Radiation that the Earth would inevitably pass through, causing radiation poisoning for anyone on the surface, and annihilating the satellite network that now provided the majority of energy and connectivity to the globe. The probability of a solar collision was only 5%, but it was the most anyone could reasonably hope for.

Chances of a safe new stable orbit were estimated at <1%. The calculated probability of it colliding with Mars sat at 19%, with a ±3% margin of error. On January 9th, 2236 Ceres collided with Mars, painting Earth's sky with brilliant, fiery reds that eventually cooled to reveal a single large stroke of white as the ice on Mars and Ceres sublimated. The cloud of vapor was broken up by dots of black and brown—the shattered pieces of Mars' crust broken free from the impact. It was the most significant celestial event human's had ever witnessed, and perhaps ever would.

The roughly 50,000 people who had formed a humble Martian settlement in the prior few decades were incinerated in an instant. A rescue effort for the Ceres miners was deemed too risky, and they didn't possess enough fuel to reach Jupiter. They met the same fate.

The world's reaction spanned the entirety of human emotion. There were those sent instantly into a mania that consumed them. There were those whose inhibitions all but vanished. There were those who plunged into a religious fervor. There were those who felt relieved at a perceived narrow escape from sure death. There were those that entered a state of unequivocal, conspiratorial denial.

And there were those that acted.

Predictions of what would happen next soon became irrelevant. Three days after the Ceres-Mars collision a massive chunk of Mars' crust collided with the Moon, splitting it in three. The three pieces remained in an uneasy orbit around the Moon's original center of gravity. A steady rain of smaller planetary fragments pelted the lunar pieces. Those that made it into the Earth's atmosphere formed a beautiful meteor shower. A shower that would never end—a gorgeous but grim symbol of the new and final age of Earth. The barrage of burning Martian meteors would even occasionally get so bright as to turn even the darkest nights into day.

The United Nations, an institution that had only once seen true relevance in two centuries, was quickly thrust onto center stage. The world's leaders had no choice but to cooperate to find a way forward. A joint international scientific research team was immediately formed to produce models of possible outcomes of a lunar fission. On January 18th, 2236—six days after the moon split in three and in the midst of profound international civil unrest—the research team presented their findings to the world.

Calculating the orbital mechanics of a three-body system was very difficult, especially given the unknown mass of each lunar fragment and the chaotic nature of the solid Martian rain. But with the help of a specialized neural net they were able to arrive at a single, simple conclusion: the

Moon would continue to split apart—inevitably, two of the three lunar pieces would collide, splitting into more pieces and increasing the likelihood of subsequent collisions. Collisions and splits would continue forever until a cloud of lunar debris surrounded much of the Earth's atmosphere. During this time, the debris would gradually demolish the now dense and robust network of national and corporate satellites providing energy and internet connectivity to the globe. Eventually, following the global blackout, this debris would fall, pulverizing the Earth's surface and sending it back to its primordial state—molten, lifeless rock.

The only uncertainty left was the timescale of this cataclysm. The most aggressive estimate gave Earth eight months; the most generous gave it five years.

Escape was the only viable answer, but it wasn't going to be accessible to everyone. Over the previous two centuries, small groups of bright-eyed pioneers had ventured off into the solar system to realize humanity's potential. While the price of space flight had gradually diminished, it still remained out of reach for the majority of the population. The average person had only flown in an airplane a handful of times, let alone in a spaceship. Nearly all the people inhabiting Titan, Europa, and Io had taken their journey as young, independently wealthy entrepreneurs. While conditions on these extraterrestrial colonies were not particularly pleasant, the fact that only the affluent could ever experience them had led to an undercurrent of resentment amongst the less fortunate.

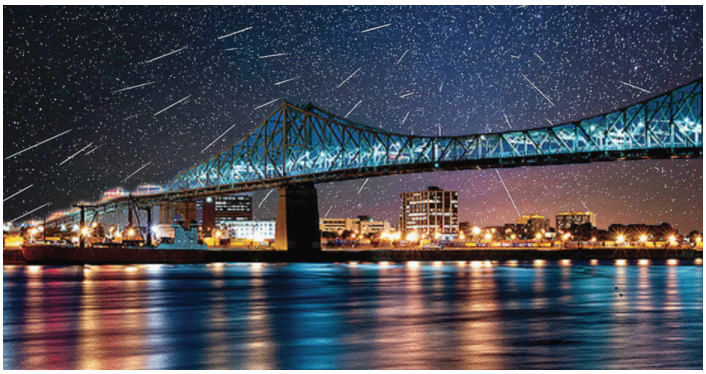
The nations of the world now had a maximum of five years to establish an escape plan. A plan that had to be bifurcated: one that could save the highest number of people, all while carefully avoiding elitism that would plunge their citizenry into irreconcilable chaos; and one that rapidly developed a power grid and internet infrastructure parallel to the soon-to-be destroyed satellite network.

This game takes place in the final years of Earth. Nations are scrambling to cooperate with each other and to keep their citizens productive and focused. Armed conflict between intra- and international factions and military entities are growing ever more intense as control over launch sites becomes pivotal to survival. Power vacuums emerge in the colonies of Jupiter and Saturn's moons as they quickly realize the nations of Earth no longer have sway over them. You can inhabit the role of any number of these people, equipped with the weaponry and defenses we imagine would exist in 200 years.

The Game World

The campaign will occur during the crisis, so between the years of 2236 and 2240.

Earth's Surface



The sky is illuminated permanently by a brilliant meteor shower, continuing still from the remnants of the Mars-Ceres collision. Frequent rocket launches create blindingly bright trails leading up and out into space. The only trails that stretch from space down to the surface come from autonomous cargo ships and thrusters landing back down to be used for another escape mission.

Cities look somewhat familiar to a 21st century eye, but clearly underwent a streamlining in the subsequent two centuries, only to be rapidly jerry-rigged with more primitive tech to offset the loss of the satellite power grid. It's an eclectic mix of old-meets-new. Cables sloppily scale the walls of buildings and prop open windows as they snake inside. The cables are hooked up to wireless generators that provide a sense of normalcy to each building's inhabitants. Nearly a century had passed since the average person had to ever consider what a "cable" was; energy

had flowed through the air, powering everything invisibly. Now, wireless energy could only be localized to a building or two, powered by a generator that itself was hooked up to a thick cable whose opposite end met an enormous black hole energy extractor that had only been erected some time in the previous 4 years.

Signage, once made physically, then digitally through augmented reality implants, is now a strange mix of the two. With the almost total collapse of all satellite infrastructure, GPS mapping accuracy was sent back centuries. This was the foundation of most mid-century augmented reality technology—it would only work if it knew where you were, otherwise the “signs” it was meant to display to you would be wildly misaligned. The end-to-end augmented reality solutions that began emerging later in the 22nd century could still function absent a robust satellite internet infrastructure. For this reason, the newer buildings and businesses had perfectly functional, beautiful digital signage, bright and hovering at the most visible location above their establishment. But older businesses had reverted to physical signage, made often of painted wood or metal.

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As the reality of an imminent fiery death began to set in across Earth’s population, a massive amount of resources were also poured into virtual reality research. If these were to be the final few months or years of everyone’s lives, they might as well spend their leisure time doing fun and fantastical things. Of course the vast majority of people were focused in some direct sense

on aiding the planetary escape effort, but even VR development was considered important for those lucky enough to board the ships out into space. After all, they would never see their home again. A faithful recreation of Earth in a virtual reality was the closest they likely would ever come to seeing it again, and for their descendents it would be the only glimpse they would *ever* get at their species' home planet.

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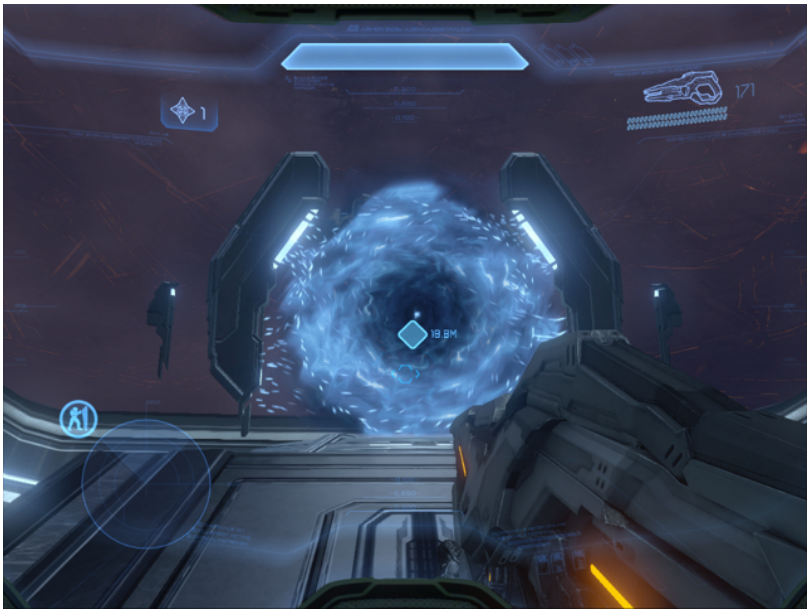
Alternative means for transport—something other than fuel-consuming spacecraft—were researched heavily during the 22nd century. Their importance only grew in the years of the Ceres Crisis. The most pivotal advancement in alternative transportation technology came as a consequence of a parallel advancement in the energy sector.

In 2142 scientists were finally able to create a black hole in a controlled laboratory setting. The black hole was of comparably miniscule mass to natural black holes, and rather quickly evaporated; nevertheless, this advancement landed squarely among the largest in all of human history. Political controversy soon followed, largely mirroring the panic that ensued following the Chernobyl meltdown in the late 20th century. The panic was not entirely unfounded—black holes were extremely destructive after all—but stable and controlled environments soon proved black hole research to be as safe as the nuclear fusion research of the past. Regardless of this fact, immense public pressure led politicians to relegate the research to off-planet facilities. A large enough portion of the Earth's population genuinely felt that any research mishap could potentially collapse the entire Earth into a black hole, killing everyone and everything in an instant. For nearly all of the next century, black hole research and resulting technology would be de facto exclusive to the colonial solar system. Those pioneers were happy to deal with the risk.

By the year 2147 Martian researchers discovered that they could reliably extract the near-infinite energy of a black hole by feeding it with negative energy particles. The destruction of these particles would produce an expulsion of positive energy particles capable of escaping the clutches of the black hole's event horizon. This changed everything. Colonies on Mars immediately began to utilize the new energy technology, and soon they all were supported by black hole extractors. Not long after, black hole energy became the lifeblood of the entire colonial solar system. By 2156 the technology was even streamlined enough to be usable as a propulsion system for spacecraft. Despite the many advancements, caution ruled on the home planet, and black hole-related technology remained internationally outlawed. Even ships from the colonial solar system using black hole propulsion were forced to remain outside of the Moon's orbit.

Ships were still flying around at sub-light speeds though, much like they had before. The real leap came from the laboratory creation of a wormhole in 2170. It was terribly unstable, much like the first man-made black hole, but represented another seminal moment in human advancement. Within only a few years, scientists and engineers were able to utilize the enormous energy output of now-portable black holes to stabilize their artificial wormhole. By 2185 black-hole-powered wormholes were a viable form of transport over short distances. Reasonably small objects, devices, and even living human beings could use wormholes to instantaneously teleport short distances (a few dozen miles at most). The distance between the two ends of a wormhole was directly related to its stability, and even by the start of Ceres Crisis the available distance a wormhole could be used to teleport had increased very little. It was unfortunately not a viable technology for a mass exodus of Earth to the other bodies of the solar system, but it was still deeply transformative.



By the start of the Ceres Crisis, wormhole teleporters were still expensive to manufacture, but saw considerably widespread use throughout the colonial solar system. Larger ships had teleporters aboard that—when aligned with a surface counterpart—could transport crew to and from the ground instantly, removing the need for most landings. Ships would maintain a stable orbit until they were needed again. Cities also employed the use of teleporters to quickly expand their borders without a noticeable increase in commute time from any sector to another. Even

some wealthy organizations had a few teleporters in their massive buildings for employees to quickly get around.

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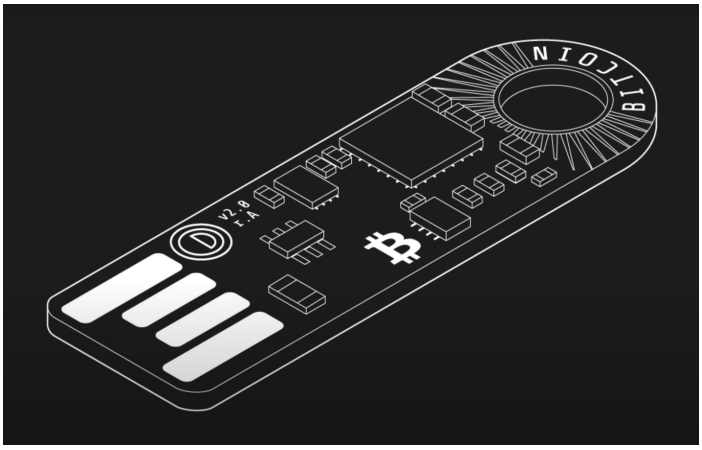
By the late 21st century, cryptocurrency had almost completely eclipsed fiat currency. A smattering of smaller nations' governments attempted to maintain a local monopoly of value, but few were successful without grotesque violence and oppressive enforcement tactics. The anonymity and reliability of Bitcoin toppled most dictatorships, doing more to expand the domain of equal opportunity and liberal democracy than any "just wars" from the Western world ever could.

Bitcoin's shortcomings had entirely been addressed. Mining had transitioned entirely to sustainable energy, and Bitcoin's long transaction settlement time and universal adoption had forced innovation. Developers were able to create high volume and fast settlement solutions on higher layers of the bitcoin network.

But instant-settlement zero-trust transactions were still desired by certain small but important subsects of the population. For this reason, BitDrives were developed. Somewhat paradoxically, they merged the digital asset of Bitcoin with specific advantages naturally derived from physical currency. BitDrives (BDs) were bearer instruments with Bitcoin keys generated on-device, meaning that an exchange of BDs was an instant exchange of value, with no need for the parties involved to wait on confirmation of settlement from the blockchain. These devices had to be damaged or destroyed to be spent, meaning while they could change hands any number of times, they could only truly be *spent* once. Their use case was limited almost entirely to large and important purchases of the super wealthy, whether those purchases were legal or not. Typically not.

BDs looked like the flash drives of the early 21st century, save for their lack of metal contacts meant to be inserted into a port. Simply place the drive in direct physical contact with any part of a computational device and you could verify its value and contents. By the 23rd century not only had computer ports been done away with, but transistors could also be packed at any conceivable density, so the size of electronic devices were almost entirely arbitrary. BDs, and other devices meant to interface with human hands were large enough only so that they could be stably held, not so they could feasibly house a sufficiently powerful battery or GPU.



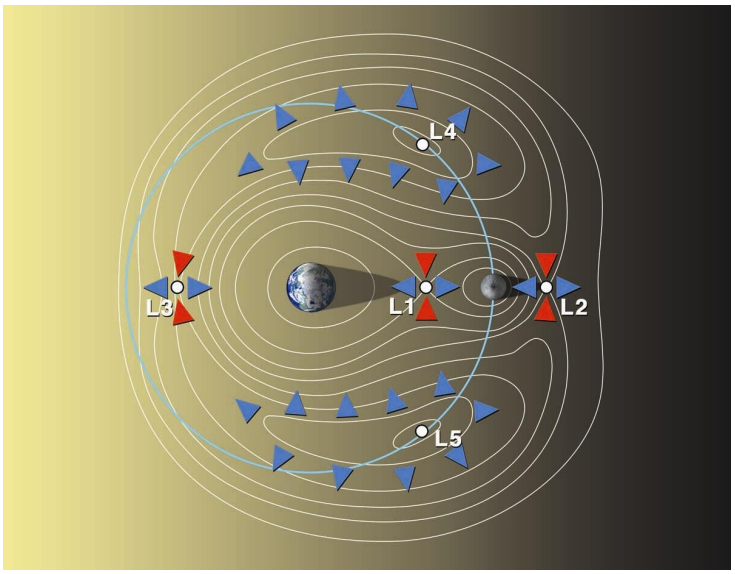
BDs provided a massive liability that was completely foreign to any other cryptocurrency due to its physical nature. For this reason, the private brokers who manufactured and held BDs stored them in massive warehouses with intense 24-hour surveillance and robotic security.

Earth's Orbit

Ships leaving Earth not meant for a final escape are often populated by humanoid robots. The ships were all initially built for human occupants, so their robotic counterparts naturally had to mimic their form. These robots provide safety to the Earth-based crew in the event of disaster, and also provide insurance against desperate crew members intent on an unauthorized escape.

The space between the atmosphere of Earth and the Moon is a junkyard. A coupling of functional satellites and their demolished counterparts create an uneasy cloud in low orbit. Fast-moving pieces of debris from the Ceres-Mars collision cut through space and burn up as they hit the atmosphere. Seven massive Lunar chunks orbit chaotically around the former center

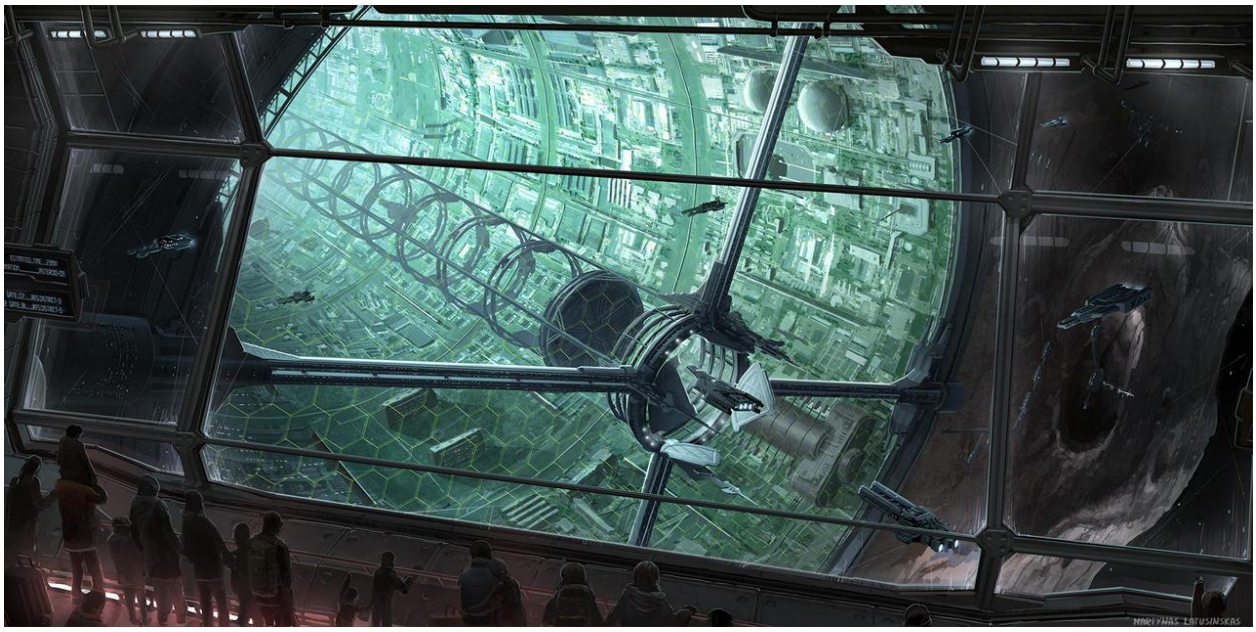
of the Moon. A cloud of rock and ice from the Ceres-Mars collision and collapse of the Moon grows denser by the day, filling the space in high orbit.



Cargo ships, especially fuel transports, almost always ended their journey to Earth at L_2, the Lagrangian Point outside the orbit of the rocky pieces that used to make up the Moon. A Lagrangian Point is a gravitationally neutral point in space in which an object of sufficient mass can remain stationary relative to the other two relevant bodies. This was done for a number of reasons: to conserve fuel on the part of the large cargo ship (leaving more for Earth) and in the event of all-to-frequent delays; to provide a neutral point for the nations of the world to meet and acquire their ration of supplies, rather than the transport ship landing within the borders of a particular nation; and to prevent the ever-increasingly-likely catastrophic collision between a piece of space debris and the cargo ship resulting in the loss of all cargo. These cargo ships would be met by smaller ferry ships from nearly every nation, each taking their designated ration of supplies back down to the surface where they could be utilized. These ships were heavily armored and highly agile to avoid crippling damage from the massive cloud of debris now forming a chaotic cloud between the Moon and Earth. And even if one or two went down in the retrieval process, no lives would be lost and the remaining ferries would have still achieved success.

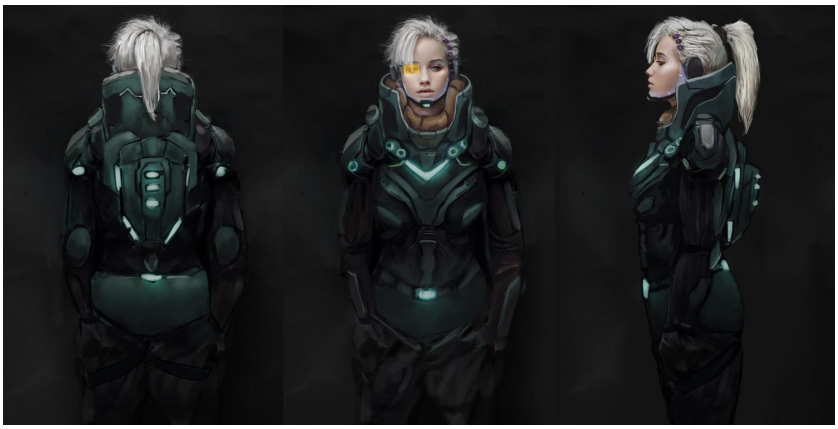
The Colonial Solar System

Colonies exist on the surfaces of Titan, Europa, and Io, and existed on Ceres and Mars until the Crisis. The largest man-made object in the solar system orbits Jupiter as well: the space city of Atlantis.



Each of the colonies and cities in the colonial solar system do commerce with one another and have their own internal politics. As the Ceres Crisis continues the conflict among these colonies grows ever more brutal. The group with the largest power and influence outside of Earth will soon dictate the remaining course of human history.

With the increasing frequency of armed conflict, and the stakes involved, many of the extraterrestrial humans preferred methods that preserved their own lives without reducing their destructive ability. For this reason they tended to go about their warring as inhabitants of humanoid robots. These robots could operate autonomously and had impressively intricate minds. They were often companions to humans throughout the solar system, aiding in any number of tasks. But they could also be controlled remotely. Biological humans would hook up to a neural interface and control the movements and behaviors of these robots. They could wield weapons and deal real damage without the fear of death. Sometimes, in the most serious of conflicts, particular groups would hunt down the biological humans whom they opposed and murder them, but a sort of unwritten sportsmanship guided most other conflicts. If no one had to die to settle a dispute, then they wouldn't.



Europa

The enormous beige orb of Jupiter fills the sky, bathing the icy surface of Europa in a cool light. Its many moons dot the sky, shining brilliantly like enormous stars. Jagged frozen hills form the uneven horizon, broken up occasionally by massive plumes of water vapor, spraying deep into

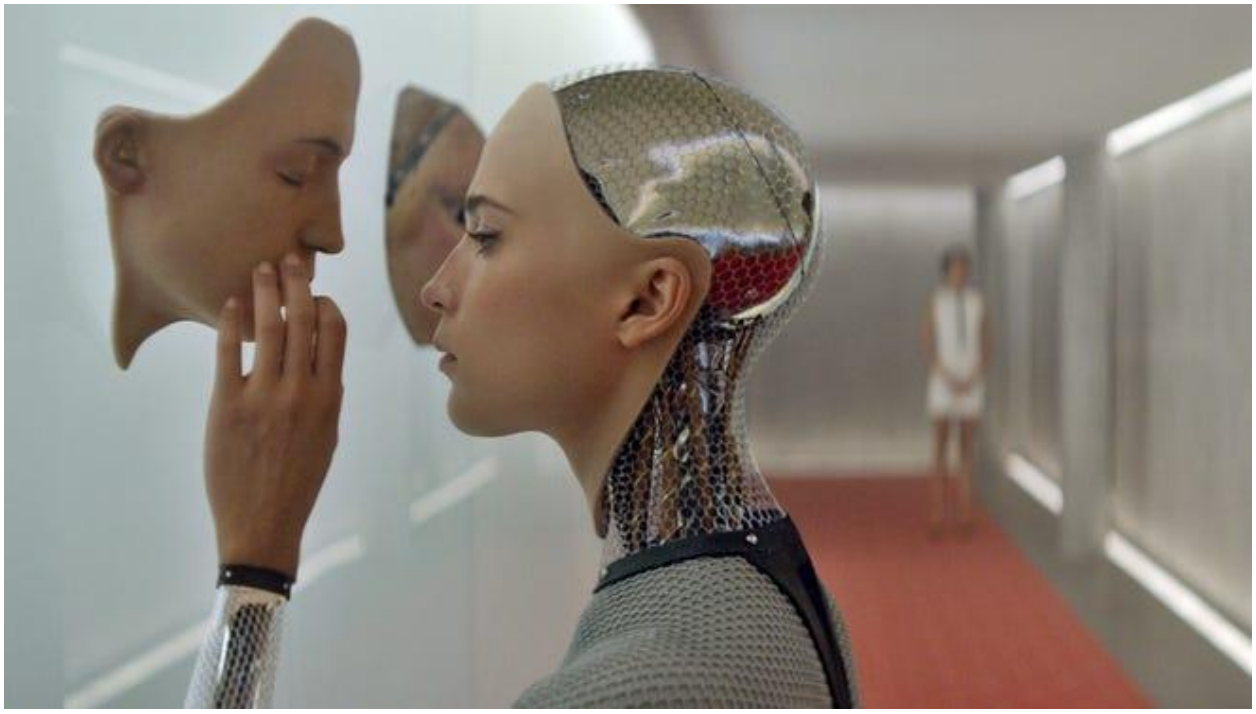
space unhindered by gravity. Occasionally a brilliant metal tube drifts across the sky—the space city of Atlantis.

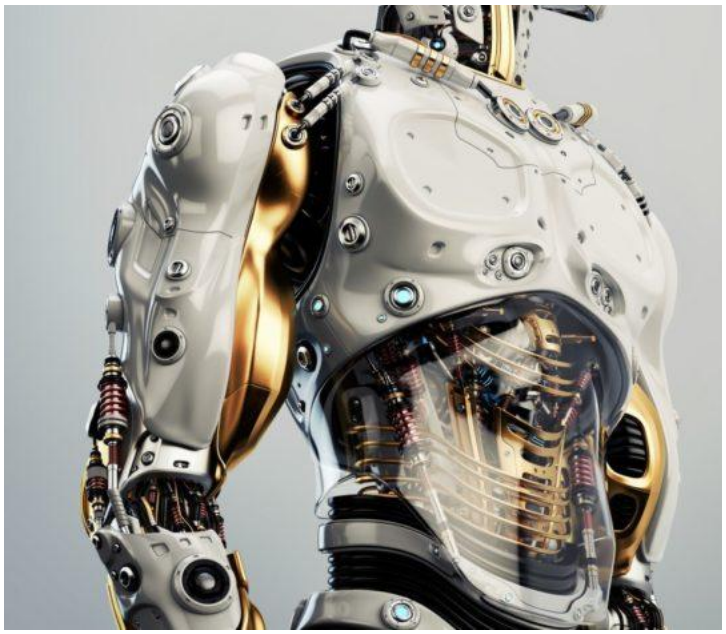
A single city exists on Europa, on one of the flatter portions of its surface—its capital of Juneau. Having been built free of existing human structures, it is far more organized and uniform than the cities of Earth. Streets form a straight, wide grid, and buildings are tall and thin. With gravity only 13% of Earth's, tall buildings and even bridges between them are easy to construct, and make up the majority of Europan structures. In a collective effort to make the Jovian moon appear less cold and desolate, most of Juneau's buildings are painted with warm yellows, oranges, and reds; a stark contrast to the endless water ice that composes the Europan crust. Digital signage shimmers over every building and storefront, superimposed onto the city streets by its inhabitants' AR implants. People walk around freely, as if they were still on Earth—their colorful, weighted and heavily radiation-shielded space suits simulate 1G to keep everyone feeling and functioning naturally.

The minimal gravity means air travel is excessively easy, and nearly all wheeled vehicles also have an array of thrusters for flight. Due to the extremely thin atmosphere, rotor-based flight is virtually impossible, so thrusters took their place. The now-ancient dream of flying cars was never realized on Earth, but on Europa it was fundamental to the reality of their small but growing society.

Player Character

The player in both the campaign and competitive multiplayer is a humanoid robot, controlled remotely by a real human being that the player may or may not ever really see. They are essentially the proxy for this real human. These humanoid robots look mechanically intricate but have very pleasant, smooth, human-like faces. This is a consequence of them also being able to run their own AI and interact with humans in the world of the game. It helps immensely with human-robot interaction if they have both a shared verbal language as well as facial expressions, eye contact, and body language.





Music and Sound

Ideally orchestral mixed with electronic. Not too upbeat as to make the tone seem super happy-go-lucky, but intense and rhythmic enough to maybe get people tapping their feet. Something along the lines of the tracks listed below:

Kampus - Pilot Priest

The Last Goodbye - Pilot Priest

Human After All - Daft Punk

Solar Sailer - Daft Punk

Derezzed - Daft Punk

Campaign Outline

Crypto Heist

Background Summary

- Year is ~2240
- A handful of space colonies exist, but the vast majority of humans are still living on Earth's surface
- Ceres orbit decayed unexpectedly, colliding with Mars and sending debris out into the solar system
- Most of this debris flew towards Earth, some of it so large that it broke up the Moon
- The Moon will continue to break over the next 1-5 years until its pieces fall down to Earth and pummel the surface into oblivion
- Everyone that can is trying to get off of Earth before this happens, whether they buy an expensive one-way ticket, or they are chosen by the government, or they do so forcefully
- Crypto is the main currency of the world
- Physical versions of crypto exist—called BitDrives or BDs—for highly specific, large transactions between the wealthy
- Some "banks" exist only to transact in BDs and have very wealthy, connected clientele

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Players are raiding a BD bank in order to secure the funds they need to purchase a one-way ticket off of Earth.

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1. The Hideout

➔ This is the room where the heist crew has set up neural interface machines.
➔ Half the players start in one room, half in another. They are visually very similar.
➔ Players are given a brief introduction to their intended mission from a remote voice (hacker companion), who appears on-screen as a video chat window on the HUD; "We're going to raid the bank, head into the machines and let's get to it"
➔ Players must enter the neural interface machines, which are linked to humanoid robots they will inhabit during their mission.

The humanoid robots are linked wirelessly with the remote neural interface machines, and so the robots have been delivered street-side to the BD bank, before players even inhabit them.

2. Curbside

- ➔ Players initialize in their android bodies outside of the bank.
- ➔ Quick dialogue: “You guys remember the plan right? Either way, the chip with instructions has been embedded in your androids already. Keep your cool and we’ll make it out of this okay?”
  “You go in first, scout out the cameras, and be prepared to take em out”

The Plan:

- ★ Entry with Energy Weapons
- ★ Acquire BDs
- ★ Escape to Rooftops
- ★ Run to Hidden Portal to Rendezvous Point

3. The Bank

- ➔ Players walk in the front entrance.
- ➔ There are stationary, hovering camera bots that must be shot.
- ➔ There are a handful of wealthy folks lined up at the tellers, and they freak out and run into the corner and cower as players enter with their weapons. Players cannot actually shoot these people, their weapons auto-disable, and maybe they even get a warning sound cue not to involve anyone unrelated to the mission.
- ➔ Another crew of NPC androids rushes in, fires a warning shot, and storms the robotic tellers, shooting them.
- ➔ Players make their way towards the vault as per instructions from their remote hacker companion.
- ➔ The path to the vault is obvious, and guarded by hovering security drones with mounted weapons. These are the first enemies that pose a threat.

4. The Vault

- ➔ Once players reach the vault they are instructed to blow it open with energy grenades.
- ➔ Once the vault entrance has been blown open, the NPC crew floods in and starts looting.
- ➔ Hacker urgently warns of backup SWAT teams incoming. They flood in from the ceiling and surrounding doorways, closing in on the vault.
- ➔ Players must fight these bipedal, humanoid enemies and defend the NPCs (and players?) that are looting the BDs, taking cover from surrounding shelves or walls.
- ➔ Could have some sort of “money collection minigame” where players can choose to participate in the looting if they want to increase their “score” or they can just focus solely on defending the looters with their weapons, maybe they lose money/score every time they die
- ➔ As the flood of enemies starts to slow, the hacker tells players that the plan has changed: “The roof is blocked, we need a new way out to the rendezvous! Blow a

hole in that wall and get out! (UI highlights a specific wall nearby, outside the vault)”

5. The Streets

- ➔ Players blow a hole in one of the outer walls of the bank with their grenades, and escape to another street.
- ➔ NPC crew that just stole all the money: “You go ahead, we’ll catch up in a minute”
- ➔ As players enter the street, more SWAT cars and armed drones flood out and engage in combat.
- ➔ Once this next wave of enemies has been defeated, players have to make their way to the makeshift teleporter that will send them to the rendezvous location

While players were fighting, the NPC crew snuck around another way and already went through the teleporter.

6. Not-the-Rendezvous

- ➔ Players find and enter the teleporter, being sent to some sort of unintended spot in the city.
- ➔ Hacker companion: “This isn’t the location we agreed upon…”
- ➔ The NPC crew comes out from their hiding spots, pointing their weapons at the players.
- ➔ Players weapons are disabled from a jammer the NPCs
- ➔ The NPC crew stops pointing their weapons at half the players and says something like “Dispose of these two, they’re not useful anymore. We’re going to leave with the money.”
- ➔ Half the players are on the side of the NPCs, the others are not, this is arbitrarily decided when players are split at the beginning.
- ➔ The NPC crew exits the scene, player weapons are re-enabled, and players enter a PVP fight against each other.
- ➔ Could have a minigame with money being dropped on death or something

7. Hideout

- ➔ Players end up back in the original rooms where they started, are now back to being normal humans and have no weapons. They exit the neural interface machines.
- ➔ One team has the “good” ending where they and the NPC crew purchase tickets off of Earth, the other team has the “bad” ending of some kind.