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**Issue 3**

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## Atari XEGS

*Submitted Tue Oct 8 11:05:31 PDT 2019 by Anonymous Contributor. Republished from author's fanzine, Classic Computer Quarterly.*

**A PERFECT BLEND OF ARCADE SIMPLICITY AND COMPUTER COMPLEXITY, ATARI'S LAST 8-BIT SYSTEM STRIVED TO BEAT NINTENDO; BUT THINGS DON'T ALWAYS GO AS PLANNED...**

**What happens when you transform a classic piece of computer hardware into a game console?**

Usually, it becomes a massive flop, such as the Commodore 64GS or even Atari's own 5200 *SuperSystem* to name a few. These failed systems tried to abandon their key-clad origins and ape the success that Nintendo and SEGA had enjoyed at the time. Removing the 'computer' part of a gaming computer effectively cripples the huge potential these machines had to

offer, resulting in little reason to purchase one in the first place. Atari was quick to realise this after the failure of the 5200 and so in 1987, the *Atari XE Video Game System* (often shortened to XEGS) graced the gaming world.

Spearheaded by then CEO of Atari, Jack Tramiel. The XEGS was what the earlier 5200 should have been; a console reimaged-

ining of the classic 8-bit computers that could do everything the older machines did with the “plug and play” simplicity that made consoles popular. The XEGS’ sole purpose was to compete with the Nintendo Entertainment System. This is especially evident in many of its advertisements, which boasts the machine’s computer functionality and readily available game library while labelling the NES as nothing more as a children’s toy. The XEGS was ultimately unable to compete, as Nintendo released their system much earlier and built up a sizeable install base which were happy to stick with what they already had. The one time Atari finally got a computer console right, and it was at the wrong place and the wrong time.

Atari’s XEGS released onto store shelves in two different configurations: a ‘basic set’ containing only the console and a single joystick, and the more widely recog-

nised ‘deluxe set’ that also came with a keyboard and light gun as well as two additional game cartridges (Flight Simulator II and Bug Hunt, both of which made use of the keyboard and the light gun respectively.) The hardware of the XEGS closely resembles Atari’s earlier 65XE computer model: 64K of RAM, 6502 processor, built in BASIC for programming and a similar style keyboard. What sets it apart from previous models however is the system’s unique design: a traditional game console setup (complete with a cartridge slot at the top) in a garish but charming 80’s pastel finish, which also extended to the cartridges and peripherals. (Grey Atari joystick, anyone?)

The Atari XEGS’s library consisted of cartridge games with a lot of them simply being rebranded versions of older titles (a perfect example would be one of its pack-in games, Flight Simulator II, which had

Classic Atari game, *Choplifter*, was remade for the XEGS with updated visuals, bringing the aging 8-bit hardware up to speed with its competitors.





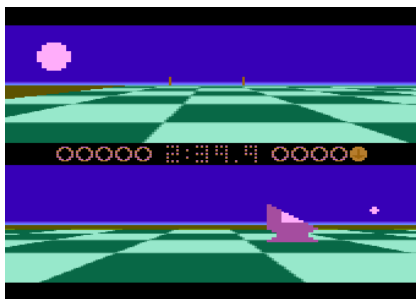
Despite being advertised as a brand new console, the Atari XEGS could run many of the same games as the older Atari 8-bit computers, such as *Ultima III: Exodus*.

already came out for the Atari in 1984). Despite having a mostly recycled game library, the Atari XEGS still had a few interesting titles up its sleeve. Most notably being a unique port of the 1983 arcade classic *Mario Bros*, a game that Atari still had the rights to produce from their 2600 and 5200 conversions. Atari's motivation behind making a brand new version of *Mario Bros*? Spiting Nintendo, who developed the game. There were around thirty-two games released specifically for the system throughout its entire lifespan.

Overall, the Atari XEGS was not the 'Nintendo Killer' that Jack Tramiel had hoped it would be. The system had a lot going for it compared to the 5200; a whole decade's worth of games available right off the bat, relatively decent specs for the time, functional controllers. But alas, the XEGS became yet another one of many Atari projects that fell short

of the ever changing games market, like the 7800, Lynx and the infamous Jaguar. With Atari's only successful console being their humble 2600 Video Computer System from 1977, they should've just stuck to making home computers.

# NOTABLE



## Ballblazer

One of many rereleases of the older Atari 8-bit titles, *Ballblazer* is a simplistic yet innovative take on the soccer formula with smooth First Person action.

## A SELECT FEW TITLES THAT MADE



## Into the Eagle's Nest

*Into the Eagle's Nest* is an oddity indeed. Playing more like a World War II reskin of *Gauntlet*, with POW rescuing and sabotage thrown into the mix.



## Desert Falcon

Also on the Atari 2600 and 7800, the XEGS is the most advanced version of one of Atari's more unique offerings.

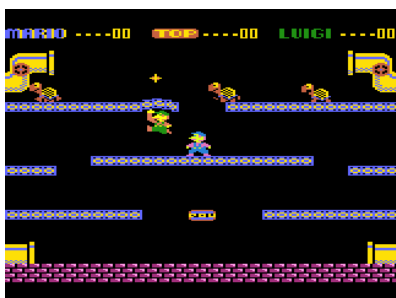


## MIDI Maze

More widely known as *Faceball 2000*, *MIDI Maze* was an ambitious attempt at bringing multiplayer FPS deathmatches onto 8-bit hardware. Too bad it was never released.

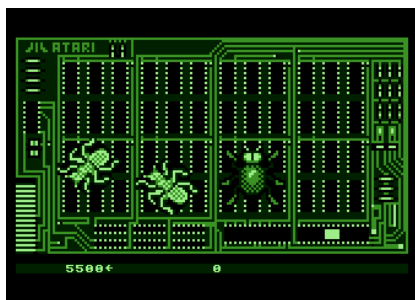
# GAMES

THE XEGS STAND OUT  
FROM ITS PEERS.



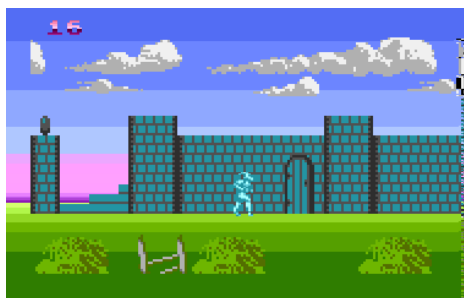
## Mario Bros.

Made by Atari to steal Nintendo's thunder, the XEGS version of *Mario Bros* is one of the finest conversions of the arcade classic. Beating the NES version by a longshot.



## Bug Hunt

One of the pack-in games for the system's launch. *Bug Hunt* was obviously Atari's answer to Nintendo's *Duck Hunt*, making use of the light gun peripheral.



## Shadow of the Beast

A cancelled port of the 1989 Amiga side-scroller. While not made specifically for the XEGS, it would've definitely taken advantage of it. Despite the unfinished state, it's still interesting to check out what could've been.



## Commando

A brilliant conversion of the 1986 Capcom coin-op that never made it onto shelves. With nice well defined graphics, smooth gameplay and responsive controls, it's a mystery why this didn't come out.

# Aeon Flux (1991)

Written Sat Oct 12 22:15:55 PDT 2019

Whenever I bring up Aeon Flux to other people, the response I often get is, “Huh? The crappy movie from 2005?” They’re correct in that the movie in 2005 was considered a disappointment; I haven’t watched it myself. Oddly, the movie has overshadowed the animated series it was based on.

Aeon Flux is set at two futuristic neighboring nations, authoritarian Bregna and anarchic Monica. The title character is a Monican agent. The show follows her various missions and activities in infiltrating Bregna, the nation led by her nemesis and lover Trevor Goodchild.

Aeon Flux aired on MTV and is currently viewable online on MTV’s website; however, considering the current year, anything good getting traction is asking to get ruined by a crappy Netflix adaptation. I highly recommend watching it elsewhere without data analytics (and staying out of the modern surveillance economy entirely).

## The Purpose of Art

If I watch a 1990s cartoon and see a Captain Planet like message on overpopulation and environmentalism, that’s the point where my interest in a show dies. During the early 2010s, there’s no shortage of various culture critics (or censors) talking about the “messages” about certain media.

None of those critics sounded *right*. Even though I can disagree with them

in writing on the specific topics, my intuition didn’t lead me to convincingly articulate the central point of what I thought was wrong with what they were saying. Some critics were simply advocating censorship, but that still wasn’t *it*.

Similarly, when a literature instructor assigns a bad, preachy book I get a nagging feeling that something isn’t right. The author has control over fate in his/her piece of fiction, so any scenario to get across a “point” lacks basis in reality. If it was heavily based on real events, then it wouldn’t be very original either.

Not until far after I watched Aeon Flux did I read an article<sup>1</sup> by the creator and did things start to make sense.

“ A good film is one that requires the viewer to create, through an orchestration of impressions, the meaning of its events. It is, in the end, our ability to create meaning out of the raw experience of life that makes us human. It is the exercise of our faculty to discover meaning which is the purpose of art. The didactic imparting of moral or political messages is emphatically not the purpose of art— that is what we call propaganda.”

<sup>1</sup>Animation World Magazine, The State of Visual Narrative In Film And Comics by Peter Chung, <http://archive.today/Z8aOR>





Unfortunately, public education in my experience instructs the exact opposite. In this case, it's a good thing I held on to intuition despite the surrounding consensus. Still, certain types are dead set on specific interpretations. For the censorship advocates (YouTube stars and academics), I believe their (unconscious) intent steers to ensuring no or fewer possible interpretations could support a competing ideology, belief, etc.

However, if Chung's quote is taken too far, there exists the problem of low effort or poor quality artwork having little independent context to discern meaning besides 2deep4u. There's a difference between vagueness and ambiguity. I still wonder how Peter Chung thought about culture in the 2010s and increasing competition for influence between political beliefs.

Aeon Flux doesn't portray heroes and villains. The best way certain episodes can be described is that different characters have competing interests, and the resulting events don't have a particular morality. Several times, why Aeon and Trevor do certain things isn't explained until the end of the episode. Sometimes even by the end of the episode, things aren't spelled out for the viewer. Understandably, characters with a background in covert ops aren't villains will explain their master plan.

## Content

Aeon Flux has three seasons. Originally, it began as a sequence of short animations without any dialogue between characters. Most of the characters' vocalizations are limited to grunts or sparse

words. The conveyance is still there with face, body language, and other visual details. It may impart the impression of a low budget production, but the talent is apparent with lively motions (albeit low frame rate), dynamic angles, and fully illustrated backgrounds.

In terms of storytelling, the shorts are non-canonical and sometimes depict Aeon's blunders in a mission leading to her demise. For example, in *Gravity*, Aeon fails a jump, but the shorts also offer other glimpses into the setting such as bizarre technology and alien lifeforms. I think the best of these shorts is "War". In battle, Aeon once again dies. The "camera" switches to another protagonist upon death and so forth. Their motives for fighting is conveyed through visual detail.

In the third and final season, Aeon Flux episodes extended to 22 minutes and contained voiced dialogue. Each episode is still self-contained and tends to vary in theme and plots. Some episodes, like the shorts, involve Aeon's demise; the others maintain a persistent canon.

Broadly, the show can be described as a clash of action, romance, drama, with both science and spy fiction. The reoccurring influences in events and circumstances in the episodes are jealousy and misunderstanding. The former isn't done badly in most cases, but the latter is frequent enough that my impression gets dented.

For example, in *Ether Drift Theory*, Aeon is pestered by metal-attracted genetically engineered wasps. One slips behind her knee guard and causes her to fall. To demonstrate the insects'

attraction, Trevor belligerently strips her armor. This causes a scene that gives the wrong impression to Aeon's accomplice, Lindsa (who considers Trevor an enemy), and causes Lindsa to turn against Aeon during a crucial situation. In this episode, Lindsa is succumbing to an illness. Things aren't ticking right in her head, but intentionally contracting a deadly illness by making out with a long-separated significant other during a mission wasn't the best idea.

The scenarios generally remain clever. Overall, *Aeon Flux* is both concise and compact with detail, heavily leveraging its medium in storytelling; however, somewhere to some people, some of Trevor Goodchild's introductions may come across as "pretentious" or overly "artsy". Much of the bizarre style makes sense when considering how a visual artist would convey thoughts and intentions of the characters while minimizing internal monologue and dealing with the constraints of run time.

*My favorite episodes are Utopia or Deuteranopia, Thanatophobia, Isthmus Crypticus, A Last Time for Everything, and The Demiurge. For Thanatophobia, I noticed that the online MTV stream omitted the ending scene of the double arm-amputated child for reasons undisclosed.*

Archive of Our Own  
<https://archiveofourown.org/works/18715999>



# 間の楔

Prologue of  
Two Opposites

# Prologue of Two Opposites (Excerpt)

*Submitted Mon Oct 14 22:07:21 PDT 2019 by Lichen. This is fanfiction of The Space Between (間の楔, "Ai no Kusabi"). Republished excerpt from Archive of Our Own: <https://archiveofourown.org/works/18715999>*

## Chapter 1

The twelfth most distant planet from a star is Amoi, barren and inhospitable. The recently colonized planet only hosted three cities that neighbored each other: the capital Tanagura, its urban satellite Midas, and the autonomous sector Ceres. On the nightside from orbit, they glowed like small clustered splotches of light on a dark sphere. Midas shined the brightest and fullest of them all while Ceres only had few and far between specks.

A dark haired young man wearing casual black clothing perched on the rooftops with a sniper rifle. He was contracted to assassinate a foreign diplomat and mere opportunity, not only payment, was more than generous. He was from the slums of Ceres, a destitute autonomous section off shot from the city of Midas, and this was the chance he'd take to go anywhere else.

In the distance where the scope was pointed, the foreign diplomat conversed with a blond man. The scope aligned with the target, and shifted upward and to the side to compensate for the wind and drop.

The trigger was pulled.

The next moment, even though the shot was silenced, security forces swarmed the rooftops, from both the roof entrance and climbing from the sides of the building.

"Shit," he said. The uniforms they wore were not anything he'd encountered be-

fore. There was little law and order in Ceres, but the uniforms matched none of the police and security divisions of Midas. He knew the worst that could happen to a Cererian, a noncitizen with no civil rights.

One, the police weren't fair in the treatment of noncitizens. Those from the slums specifically were considered less than human, commonly denigrated as "slum mongrels". Two, civilians are banned from owning and using firearms—available only from the black market. Three, he fired a round at a foreign VIP. With just the first two considerations, he was as good as dead.

Security surrounded him in a semi-circle. Not wanting to die a slow and guaranteed death by police brutality, he took the next-to-none chances of surviving a jump from the building. He vaulted over the ledge and left behind his rifle.

On the streets below, a man in white clothing casually strolled. His clothing had modest decorations, but the real indication of status, as the custom of the planet, was long blond hair that passed the shoulders and trailed down the back. He paused and outstretched his arms, and moments after the young man in black landed in them. To every bystander, this was an act of heroism that earned applause. The landing was without injury, but with a trivial case of whiplash.

"I believe you owe me."

The sniper woke from his daze to that line in the middle of a public spectacle.

“Who are you?” he said.

“Icarus Mink, just a Blondie.”

The public assumption was, afterwards, the young man was carried to a medical center to recuperate or a police station to investigate his specific situation, but the reality was far from the truth being reported.

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In Eos, the residential palace tower of Tanagura, prior to these events...

Returning from an event, Icarus went and sat in his home office. Tanagura Chief of Information, it was the duty he was born to fill. He looked at his hand and thought how just a month ago he had trouble moving his fingers.

“Too fast,” he said to himself. He reclined and his hand covered his face.

Just after he had been declared a fully grown adult, he was scheduled to undergo a body transplant, moving his brain into a cybernetic body. Immediately after was an acclimation period, then his inauguration, then a celebration amongst his brothers. The end of adolescence was a huge shift. With all the permissions adulthood granted, a whole new world of responsibilities fell on him.

Unlike the others, he was tasked to assimilate the memories of his predecessor, the one who suffered the rare tragedy of death. No elite of Tanagura suffered death, natural or violent. The transfer of memories backed up from a brain to another was a slow and complex task unlike routine file transfers between machines.

It remained a passive activity that can be done gradually and was the easiest of all his tasks.

Throughout his life, his peers in Eos often referred to him in name only. They referenced events far before his birth as if he were an amnesiac. It would all come back to him; they were sure.

He looked at the memory bank. Something about it provoked curiosity, but surely it had to be an entirely different person. Just one memory, and he'd leave the rest of the night to himself.

Seated in front of and addressing his point of view was a Federation dignitary, a man who bore the scars of a middle age on his face, eyes and voice.

“This trade conference has brought us truly significant results,” the old man croaked. “I'm grateful and delighted.”

In response and from himself, he heard a different voice. Like his own it had the composure and elegance expected from a resident of Eos, and of a man, like himself, who was indefinitely preserved in his prime, both mentally and physically.

“We too are always grateful for the Federation's understanding and services. Thank you, Mr. Hazall.”

“No need to thank us. We couldn't have finished the conference this smoothly without your help, Mr. Iason,” the man raised his glass to a toast. “Your performance was splendid. You impress me again and again. It seems we won't need to worry about Tanagura's prosperity in the future.”

“To have you, Mr. Hazall, a pillar of the Federation, speak so highly of me almost

makes me fear the consequences,” Iason lightly joked.

Icarus recognized they were at Parthea, the sector of Tanagura where foreign diplomats were received and respective events were held. While he held no title or position when he was a child, he often made a simple appearance at the parties as a spectator to the chatter between adults. The offworld visitors sometimes assumed him and his brothers were human just as they are. To them, the youth bearing a strong semblance and the surname Mink meant that he was the son of Iason Mink they met in the past. Icarus let the assumptions run and never dismissed or corrected the mentions of ‘his father’.

After an attendant whispered to Iason, Iason excused himself and left. Walking outside in the courtyard, he met with Raoul, his brother and like the rest, a blond haired man.

“Iason, is something wrong?” Raoul asked.

“Nothing important.”

“Not very convincing,” Raoul insisted. “You’re sneaking out even though you’re the party’s host.”

“You don’t need to sneak out too, Raoul.”

“Don’t mind me. I was getting fed up with the flattery and faked smiles.”

---

“Well? Can you walk?”

The sniper woke to that line. The next moment after the public spectacle, he was at the quiet border between Ceres and Midas, transported by the Blondie that

saved him from a fall. While he wasn’t sure how far he’d fallen, it certainly took a toll on him as though the landing rattled the brain in his skull.

After he was set down, he got to his feet still having to support his head with a hand.

“Go back to Ceres. Seek medical assistance if that turns out to be an injury,” Icarus motioned to take his leave.

“If I owe you,” the sniper hazily recalled. “Why are you just letting me off like that?”

“A whimsey,” Icarus turned and walked out of earshot to his aerocar to drive off.

“A whimsey,” he rolled his eyes. *Psh, whatever blondy.* Such a word contrasted the android’s statuesque demeanor. He went on his way back to the slums.

Down an elevator.

A winding obscure path to residential.

Then a five-finger confirmation of his left hand at the door.

“What a night.” He crashed onto his bed. As he rested with his eyes closed, the absurdity of what he had encountered was gradually realized.

Jumping off a building from a lethal height...

And landing in the arms of a Tanagura Blondie? He didn’t pay much attention to detail, but the towering height and trail of long blond hair were unmistakable. Everyone knows Blondie androids are the type that rule the planet and distinguish themselves from regular androids with lifelike synthetic skin and

long hair. To personally meet one wasn't a chance many would get.

"I believe you owe me," the android said.

He was in the habit of paying all debts with money. In Ceres that would've settled any favor with no questions asked. Not many in the slums had any real income, but paying the kind of royal android at the top of the social pyramid with the sum total of what he saved doing contracts was like throwing a grain of salt to an ocean. Meaningless. The android undoubtedly would have a lot and more. If his luck won him the jackpot of a lotto, he'd have the slightest hope to repay the favor. But he wasn't going to concern himself too much unless it came for the dues, and the slums were no place for any android.

Another thought interjected—he fired his gun, but couldn't confirm the kill. The worst case meant that he both lost a gun and didn't get the payout. The only levity that could balance his anxiety was how anyone else from the slums in his position would try to offer their body to an android of all things to repay the favor—a joke of an idea worth sneering to.

His mind drifted blank and he slept.

## Chapter 2

"Isn't it about time you've gotten a Pet, Icarus," one of his brothers asked.

In Tanagura, natural humans were considered inferior animals that only had the place of domestic pets and house attendants at best. On other worlds like in the dawn of computing, the primitive machine was the commodity that served and

accompanied humans. On Amoi, the machine far outclassed the human, leaving them no station at the pinnacle of society, but to be companions treated and taken care of during a brief tenure. The directive may appear to be unchanged, but humans were afforded none of the liberty and transcendence of a free life. The difference between man and machine closed and the common man was more or less in the same position as the common machine.

To others in the galaxy, owning Pets served to both flaunt machine-governed Amoi's influence and the pitiful status of human rights. Despite protests, the practice of Pet ownership was exported through the galaxy. It aligned with a natural vice of humanity and was analogous to an ancient practice that was uniformly abolished long before the first human took to the stars. Until Amoi, there was an uncompromisable universal principle of human society. Wealth afforded power and influence, and a taboo became a commonly indulged trend.

While Pets ultimately were descendent of a biomanufactured product with a serial printed on foot, they were technically the same species as natural humans. For the Pets born in Tanagura, they often were noticeably different from the humans walking in Midas and Ceres. Artificially selected and bred, if not genetically engineered, a Pet was much like a dog to the wolf though nowhere near as taxonomically diverged. A fashion statement, assessed by pedigree, beautiful with some exaggerated features, yet weaker, unintelligent, and doubtfully capable of surviving on its own. Still, they outlived their masters' interest. Once

that had expired so did their time in Tanagura.

Icarus had seen plenty of Pets on leash around Eos. Sparing none of his disinterest in a dimwitted and needy companion, he tested the waters of his brothers' impressions with something starkly offensive to refined tastes. On the different occasions, he started responding, "I'm going to take a slum mongrel as a Pet."

Hubert, neutrally.

"That's an odd choice to make again."

Silbert flatly.

"Then I trust you learned your lesson."

Orphe, nonchalantly.

"Then spare us the havoc."

Gideon with a chuckle.

"It'll be hard to find one as rambunctious and entertaining as the last."

Aisha, unamused.

"Provocative as always."

Raoul withheld his commentary.

And for the rest, Icarus stopped bothering. At his home office, he sighed in retrospection figuring it wasn't easy to rouse anger in those who were multitudes his senior.

Varied responses. Overall, underwhelmingly mild as if there would've been more disapproval. Again, they referenced a past event as if something similar already happened. While the task of assimilating memories incurred some small doubts, something demanded investigation.

Icarus, again, connected to the memory bank.

Coincidentally, Iason's last Pet was from Ceres, a natural human not bred for any trait in particular as a Pet would nor instilled with any conditioned behavior. The black hair, however, was a phenotype not offered in even the most prestigious of biomanufacturing facilities. With the population genomics of the planet of Amoi, such a shade to appear had to indicate some lineage. Any other way, it would've dulled to a dark teal, brown, red or completely whited out, then unseen for the next generations.

The first memory.

"I highly disapprove of that behavior," Iason was walking the streets of Midas and intervened on a pickpocketing attempt. A teen, standing under a head shorter and all articles of his clothing as dark as his hair, was caught in Iason's grasp, his arm pinned behind his back.

"What's happening? What are you doing?" Raoul entered the scene.

Iason withheld his response.

Raoul checked Iason's captive for a chip on the left ear standard to male citizens but found none.

"No PAM chip? A slum mongrel," Raoul concluded. "Don't go around picking up strangers."

"I have better things to do with my time," Iason replied.

"Good," Raoul walked away out of earshot.

Iason released his captive with a shove.

"Cut it out if you were just playing around. Watch yourself. There won't be



a next time,” Iason advised as he turned to take his leave.

Next.

The same individual wandered into a containment zone for a genetically engineered military prototype. After he walked into the room, the door cloaked, phasing into a mirage and then disappearing into the surrounding walls.

“May I lend you a hand?” Iason stood over the slum mongrel that slunk onto the ground after being chased by a chimera.

Declining the offer, he rose to his feet on his own.

“Oh yes. You hate owing favors,” Iason commented. “What a coincidence. I didn’t think I’d see you again in a place like this.”

“Where’s the exit?” he demanded.

“Who knows,” Iason mockingly spoke with disappointment as his shoulders moved down from a shrug. “Where do you think it is?”

“I didn’t come to shoot the shit with you. Where’s the damn exit?”

“No matter how you act, the situation doesn’t change, Riki.”

Riki was startled that Iason knew his name.

“Didn’t Katze warn you about excessive curiosity?” Iason continued.

Next.

Iason stood in the modest confines of a flat in the slums. The entire living quarter was a single room lit insufficiently by the only strip of light on the ceiling.

A small metallic hovel; nonetheless automated systems kept the interiors sanitary and well-maintained to a basic standard.

Riki was caught in Iason’s hold. His captor knowing precisely how to touch him, he managed to begrudgingly utter, “Some day, I’ll kill you.”

“You’re the only one who’d dare talk to a Blondie like that,” Iason smiled and dismissed the remark as an empty threat.

“I was under your thumb for three years, but that didn’t mean I was kissing your ass every second of the day, Iason.”

“Now that you mention it, there was someone a long time ago. Someone just like you. But I gave his face a gentle caress and he came to heel just like that. How about you?”

*Now hold on a second.*

Icarus’ thoughts commented on the sense of time. “A long time ago”— what is that really referring to? Icarus started traversing the memories relationally.

---

Icarus had enough of living through Iason’s memories and consulted information only. Some of Iason’s perspective still bled into the details.

At the time of the Ceres Independence Movement, Jupiter, the planet of Amoi’s digital overlord, instated a ruling class in Tanagura above all others. Man made the machine, and now the machine made a new kind of man. Debuting to the world was Iason Mink and brethren who bent knee to none other than their Creator.

The turnover of Tanagura’s pre-existing human populace was still in progress.

They were given the option of becoming cyborgs, augmented beyond natural capability. If they declined an outperforming cyborg or android would eventually take their place.

One fool turned cyborg both defied Jupiter and denounced the trend. In response, She disabled his life support mechanisms on Her whim alone. The half-man fell, suffocated, and died in the coffin that was his own body. He served as an example to others. Become a cyborg or be replaced. Obey or die.

Over time, the population of humans in Tanagura dwindled. The last one was a recent heir to the position, a black haired member of the lowest rank within Tanagura. The same one embezzled some income of Tanagura into an independence movement. There was a trending belief among humans in Midas that if they weren't going to have representation in Tanagura and by extension Midas, they'd rather have representation in an autonomous sector of their own.

"That's as much as you'll get," Iason Mink, the Chief of Information, had been investigating financial reports and caught the discrepancies. The Onyx office was broken open; Iason made his entrance with squad of military androids accompanying. The man at the desk surrendered.

Months later, Iason was in his penthouse with his brothers soon arriving for a visit.

Orphe enters, "Iason, you wanted to show me your new Pet?"

"Yes. I'm sure even with your impeccable tastes and standards, we'll see eye to eye in this case."

Iason without a word forcefully yanked a chain leash.

The fallen aristocrat stumbled forward in front of the Blondies wearing the standard scant outfit of a Pet. His face was stern and hid insurmountable hatred.

"He's a tad past the teen years, isn't he?" Orphe remarked at a glance but soon recognized. "But my, that face. Iason, you're right. I am impressed."

"Yes, I agree," Silbert added. "This is quite the catch you've got yourself."

Afterwards, the Pet escaped to the outskirts of Midas where new colony was to be established. From then on in Eos, it was made a common practice to instead show off Pets only at public debuts and assign tracer devices. The funds he embezzled was enough to establish the megastructure, Dana-Bahn. He would then cross paths with Iason again.

A blond cyborg with flowing long hair, in white, stood with military androids. A black haired human adorned in darkness, who had cut his hair short and styled it free, stood with a human militia. One originated from order and logic, designed by a divine artificial intelligence. The other evolved from gigaannums old chaos called natural life.

At entrance of Dana-Bahn, the two men stood opposed to one another with their troops both in line formation ready to fire. Iason only came to retrieve his escaped Pet and considered the retrieval not worth the conflict. The ceasefire never broke and the confrontation was defused. A new colony named Ceres was founded bloodlessly. Under the leadership of the young man, Ceres had it's en-

thusiastic first years of prosperity.

“That’s enough for tonight,” Icarus said to himself. Sitting at his desk, his head tilted down with his eyes closed in contemplation.

“Black hair. Maybe they’re from Origin,” Icarus entertained an absurd idea.

But the similarities didn’t just end at the hair. No one in the world knows the reason behind the coincident appearance.

---

Years after Iason’s standoff with the rebel leader.

“Damn it,” the man was injured and swore under his breath. He narrowly escaped a hit, but he was still pursued and already lost a critical amount of blood. He moved himself forward while supported by a wall, bleeding on to it a smeared red path.

“I have to shut it off...”

Dana-Bahn had a high operating cost that was a massive burden on the young colony’s declining economy and infrastructure. Ceres previously received ofworld aid from the Federation, but it came to an abrupt end.

He stumbled to the control room and didn’t have much time left. If he shut down its operations, the young colony would have a better chance of staying afloat. Even if it was doomed, extra years of autonomy were better.

Before initiating the shutdown sequences, he added one extra measure. Every DNA synthesizer in production at Dana-Bahn, to later be exported for use within Ceres, was infected with a

computer virus. The synthesized strands would later be used with artificial wombs to populate the new colony. Each synthesisization was to have an extremely minuscule chance to ignore the inputs and output his DNA sequence instead. Hardcoded— with whatever thousands synthesizers running over the course of decades, one clone of him would emerge.

“Not the last you’ll ever see of me,” he swore as he confirmed the final operations of Dana-Bahn.

He slumped back at the terminal, let out one final expletive to Tanagura as a dying gesture, and passed away.

Considering many other possibilities, one can see this operation as futile, but calling it such wouldn’t have mattered to him. This was his shot in the dark. If Ceres became a wasteland of poverty, if Ceres was brought under Tanagura subjugation, or if his descendant was to live in abject conditions, if his descendant was brought to kneel before a Blondie, if his descendant didn’t even continue his ideals, if every DNA synthesizer was decommissioned, at least someone like him had a chance to be out there. The rest was left to fate.

Ceres survived generations later, but iconically as The Slums. Poverty dragged the morality of its citizens down to criminal savagery. Violence, rape, and theft directed at each other were commonplace despite the solidarity of their progenitors. Dana-Bahn became the enormous scrap heap of a memorial to Ceres’ past independence efforts. Before it was destroyed, it was economically in the awkward middle ground of being too expensive to simply dismantle for scrap metal

and too dilapidated to be useful to anyone but the occasional thrill seeker.

Most denizens of Ceres came into being by DNA synthesizers and artificial wombs at a facility known as Guardian. What would have served the people of Ceres became an instrument of control owned by Tanagura. For every girl born, there were nine boys. Women being crucial in producing an unmanipulated population had no obligation to move out from Guardian, but men that were in no short supply were evicted at an early age of thirteen. Among adults, homosexuality became a norm and was the release valve that pacified public outrage over the obvious population control mechanisms. The descendants of the rebels that defied the rule of machines were a controlled population that neither grew or died off. The populace of impoverished noncitizens, with no recognized rights, served as an example to others.

In recent past at Guardian, Ceres, a boy had emerged from an accouchement pod with nurses attending.

“Oh, what’s this? Black hair?”

“Let me see!” A nurse joined in. “Wow, there hasn’t been a babe with that hair color in decades!”

“It’s black just like the founder’s hair. What should we name him?”

“Something with an R,” a nurse suggested with initial enthusiasm that died down with acknowledgment of the current condition of Ceres and the life it can only offer the boy, “but don’t copy the exact name.”

“Hmm... Rye! How about that?”

“Sounds good.”

---

Rye sat up on the rooftops at night.

*What the hell was I thinking?*

He jolted up in the morning to that thought. After he attempted a hit and was surrounded by security forces, he wobbled home from the Midas-Ceres border and slept. He dreaded Midas’ militarized police coming at any second to kick down his door and apprehend him. After all, he had “only” fired an illegally obtained and owned weapon during an assassination attempt. His half-assed getaway was jumping off the building.

Nothing ever happened.

“What gives?” Rye tossed a small piece of rubble to the distance. If he was going to get arrested, then it happening now would be better than all the anxiety that came from anticipation.

He looked to the streets below.

A man warmed his hands near a flaming trash can.

A bum drank from a bottle and initiated a fight with a random bystander.

A group of teens with improvised weapons chased another individual speeding away on a hoverboard.

No sign of a police raid. Same as it’s always been. Just hopeless daily havoc. If it wasn’t for gossip and rumors the daily occurrences on the street would be everyone’s only recourse for entertainment. Hopes and dreams among the denizens were snuffed out by smoke and narcotics. With not much else to do, Rye often spent his nights alone gazing at the stars.

Alone.

But the solitude in itself was a blessing when it isolated him from the ongoings of the streets below. There was serenity up here. Distance muted the daily cacophony. The wind blew pure air from the skies. Though he sat on the rooftops from the slums, there was always some place higher be it a skyscraper in Midas or the stars.

He looked to the distance. Like the light at the end of a dark hallway was the city lights of Midas— vibrant, colorful, and animating the night sky with holograms. Advertising not only wares, but the lifestyle of its citizens.

“It’s better here,” as if the city lulled.

Every time Rye looked at Midas he had to wonder what living that life was like. A life without having to constantly hide as every job in the black market would have him do. Smuggling weaponry between borders, avoiding patrols, constantly ensuring there’s no trail for his transactions. Living off the volatility of the market and the contract opportunities while Midas citizens could live on a consistent, stable wage.

Residence and an ID is all it took. There’s nothing distinguishing a mongrel of the slums and a citizen of Midas besides the clothes and maybe an accent. Ultimately, money did the talking.

“If nothing’s going to happen, I guess it should be safe to head back.”

# Reverse Engineering Devil May Cry 4

*Submitted Tue Oct 29 04:23:21 PDT 2019 by Anonymous Contributor*

When a game developer doesn't release modding tools or any form of support, usually a fanbase just shrugs. For Devil May Cry, a small community of modders and reverse engineers formed around the early PC releases of CAPCOM games. Admittedly, most modifications in the community are aesthetic, e.g texture and model swaps, but the start comes from reverse engineering file formats. The other modifications made were hacks and trainers that modified game logic—most commonly for the unofficial sandbox mode for players to practice combos and conveniently make videos.

In the late 2000s and early 2010s, video game companies often released two different binaries for their PC games. One executable was the DirectX 9 (DX9) version, and the other executable was the DirectX 10 (DX10) version. The problem this presents, when memory scanning, is that every address and pointer would have to be rediscovered for each binary. To save the effort, gamehackers in the Devil May Cry modding community ended up sticking to the DX9 executable. This was "tough luck" for me as I preferred using DX10 since I build desktops with higher tier video cards than CPUs.

A lot of the initial work I did didn't cover what other modifications were capable of doing, but I had an entirely different vision for the community. I had my optimism placed on the idea of libre scripts as opposed to proprietary scripts. The way I've seen it: if the other scripts were libre, then someone else in my posi-

tion wouldn't have to start from ground zero to get what they want. Additionally because of proprietary scripts, users launched multiple memory editors for one session of the game, which increases the potential for conflicts and crashes.

I also imagined not being bound to a certain unpreferred version of the game. If someone didn't want to put in the effort to make a DX10 version of their script, I certainly was, but the mindset wasn't there at the time. When I pried open the game enough to get the gist of the data structures, the series of trainers I made were aligned with what I wanted. Still, I don't think the free (libre) attitude has caught on.

## The Trick

The trick with multiple executables of the game is that the base address of the pointer will be different, but the offsets will largely be the same. Generally, knowing this saves effort when making a hack compatible for multiple versions e.g patches, updates, without scanning arrays of bytes. In some cases, the last offset has its differences, but even if that's the case, knowing the former offsets sets bounds on where to scan.

Specifically for Devil May Cry 4, the software design pattern used is Mediator. It does as its name implies: it mediates interactions between objects such as camera & boss, player & monster, and so forth. It also stores logic related to objec-

```

1  DirectX 9: ["DevilMayCry4_DX9.exe"+A558B8]
2  DirectX 10: ["DevilMayCry4_DX10.exe"+A5C8BC]
3  DirectX 9 (Debug): ["DevilMayCry4_DX9.exe"+A77B18]
4  DirectX 10 (Debug): ["DevilMayCry4_DX10.exe"+A80B38]
5  Special Edition (no patch): ["DevilMayCry4SpecialEdition.exe"+f59f00]

```

Mediators for different builds of Devil May Cry 4.

```

1  ["DevilMayCry4SpecialEdition.exe"+f59f00]+24]+60; player scale x
2  ["DevilMayCry4SpecialEdition.exe"+f59f00]+24]+64; ... y
3  ["DevilMayCry4SpecialEdition.exe"+f59f00]+24]+68; ... z

```

These are floating point values that, when messing around, can result in a giant Dante, mini-Dante, or paper Dante (or Nero, Trish, Lady). In other versions, the last offset, “+60” might not be the scale for the x-axis; however, the player character object was consistently at “+24”.

tives such as Red Orbs, Style Points, and the Mission Timer. Once the Mediator is identified, most data relevant to what players want from hacks is easy to find by locality of data.

## Finding Booleans: Thanks to the Mediator

Most basic gamehacking tutorials will start off scanning values such as health or mana. When it comes to booleans, the effort becomes untenable as 0 and 1 are

useful numbers and especially if the condition is not meant to change (e.g check for collision, cutscenes, etc).

With the address for Mediator available, checking what instructions access the Mediator yields some useful booleans. For example, initiating a cutscene will yield the boolean that governs whether to play the cutscene. An entity– player or demon– about to get hit will yield the check for hit registration. Sample below is injected code that disables hit registration.

```

1  newmem:
2  ;this can affect boss Dante
3  ;before doing the comparison..
4  ;check whether the entity is a player or a boss
5  push  eax
6  mov  eax, [DevilMayCry4SpecialEdition.exe+f59f00]
7  mov  eax, [eax+24] ;eax = player character
8  cmp  ebp, eax      ;compare entity with player character address
9  pop  eax           ;restore eax
10  jne  originalcode ;entity is not the player -> get hit as usual
11  mov  al, 01
12
13  originalcode:
14  cmp  al,01        ;al = 0 if entity should be hit
15  je   DevilMayCry4SpecialEdition.exe+4CEB91
16
17  exit:
18  jmp  returnhere

```

```

19
20 DevilMayCry4SpecialEdition.exe+4CE8B5:
21 jmp newmem
22 nop
23 nop
24 nop
25 returnhere:

```

## Extra Fun: Unstuck Style Meter

Cheats that make the game easier are entry level go-to's. One of the things I didn't like about Devil May Cry 4 was that the Style Meter retains rank even though the meter itself has drained.

Telling a game company to make a game "harder" via a forum thread or public discussion causes most to get characterized as an out-of-touch tryhard, i.e. an utter waste of time. Some people still pull that line even though there's no shortage of casual games in today's market. When

the Devil May Cry series grows out of its "we're too hardcore" / "need easier gameplay" complex— despite easy mode, despite time investment being everything short of F2P games' and MMOs'— is something I'll be waiting a long time for. In this case, there's no reason to wait.

The Style Meter is one of the objects that isn't in the Mediator. There might be a pointer path from Mediator to the Style Meter somewhere, but the Style Meter has its own base address.

```

1 percentage:
2 ;buffer combo gauge so the game will not constantly drop through ranks
3 ;otherwise it'll fall through down to N rank
4 dd (float)0.75
5
6 upercentage:
7 ;buffer combo gauge so the game will not rank down immediately after rank up
8 dd (float)0.25
9
10 rankdown:
11 ;xmm1 = combo gauge
12 ;xmm2 = 0.0
13 ;esi = style meter object
14 ;OK to write over eax here
15 ;game has checked if style rank is above 5
16 mov eax, [esi+20] ;eax = style rank
17 comiss xmm1, xmm2 ;check if combo gauge is above 0.0
18 ja originalcode ;current combo gauge is above 0 so proceed as usual
19 cmp eax, 0 ;check if player is at N rank
20 je originalcode ;can't rank down for N, go to original code & exit
21 dec eax ;rank down the player
22 mov [esi+20], eax ;place new rank at style rank address
23 ;If we rank down from S -> A, we want the threshold to rank from A.
24 push ebx ;safety
25 mov ebx, [esi+eax*4+1cc] ;ebx = rank up threshold for current rank
26 ;game only sticks for S and below

```



```

27 ;new possible ranks are N, D, C, B, A
28 cvtsi2ss xmm5, ebx
29 movss xmm2, [percentage]
30 mulss xmm5, xmm2
31 movss [esi+190], xmm5
32 pop ebx ;restore ebx
33 xorps xmm2, xmm2 ;restore xmm2, 0.0
34 xorps xmm5, xmm5 ;restore xmm5, 0.0
35
36 originalcode: ;still need to do this
37 mov eax,esi
38 call DevilMayCry4SpecialEdition.exe+1B1220
39
40 exit_rdown:
41 jmp ret_from_rdown
42
43 DevilMayCry4SpecialEdition.exe+1B0B91:
44 jmp rankdown
45 nop
46 nop
47 ret_from_rdown:
48
49 rankup:
50 ;xmm0 = 0.0
51 ;esi = style meter object
52 ;eax = style rank
53 ;OK to overwrite xmm0, ecx, xmm2
54 ;game has already checked if style rank is below 5
55 ;this is prior to the game assigning the new style rank
56 push eax ;save style rank
57 inc eax ;index for rank up threshold
58 mov ecx, [esi+eax*4+1cc]
59 pop eax
60 cvtsi2ss xmm0, ecx ;convert 4-byte to floating point
61 movss xmm2, [upercentage]
62 mulss xmm0, xmm2 ;xmm0 = rankup threshold * 0.25
63
64 originalcode2:
65 movss [esi+00000190],xmm0
66
67 exit_rup:
68 jmp returnhere
69
70 DevilMayCry4SpecialEdition.exe+1B0CF1:
71 jmp rankup
72 nop
73 nop
74 nop
75 returnhere:

```

# Opus Magnum (2017)

*Written Sun Oct 20 15:28:20 PDT 2019*

Opus Magnum is a puzzle game following Anataeus Vaya, a recently graduated alchemist employed by a noble family. In the world of Opus Magnum, the City is dotted by a few megalithic noble houses. The game artwork portrays a contemporary cityscape while each noble house is colossal compared to the average building.

Anataeus works under the Van Tassen House until a war, started by another noble family, exterminates his employers. The game continues to follow Anataeus' journey as a rogue alchemist.

On store pages, Opus Magnum lists itself with Linux support. A brief look at the game files and the licence reveals that the game uses Mono and MonoKickstart for the Linux binary. It then maps some DLLs to Linux SOs. At 50 hours cumulatively played on Xubuntu 18.04, I haven't encountered any bugs or crashes.

Opus Magnum primarily conveys its story through static 2D artwork and scrolling text; thus, its unlikely to come across bottlenecks on a modern gaming desktop.

## Gameplay and Story

The process of alchemy in the game is portrayed by a state machine that moves, combines, and splits "atoms" (in-game: elemental proxies). The general form of the puzzles in game involve inputs and having a desired output such as transmuting lead to gold. The "board" (transmu-

tation engine) is unitized as hexagonal tiles, and the player has autonomy over where the inputs and outputs may be positioned.

The "solution" to the puzzle is an animated little machine that can vary widely depending on design. The player assembles mechanical parts and glyphs, then assigns basic instructions (e.g a mechanical arm to rotate or move on a track). Each component of the machine has an associated cost and size, then for each part, instructions take time to execute. Upon the completion of the puzzle, the game records three primary characteristics of the machine: cost, how many and which parts were used; cycles, how quickly the machine generates the output; and area, how much space the machine uses.

The ideal portrayed by the online leaderboards is to strive for efficiency. However, getting the lowest possible scores involves making different designs that optimize for one metric only as opposed to a single design that balances all three. There's a few times in the early game, I wondered how my friends were designing very tiny, fast, and cheap machines, but really, they made three different machines that specialized for each metric.

The cost, size, and time don't factor into a resource management "meta" even though Anataeus' situation changes, e.g financially, from holding the position as the House Alchemist of a noble family to staying in The Downriver Quarters. That's neither a good or bad thing, but it's some constraint I pretend to hold myself to.



I'd pour existing water in a vial, but here, he designs a machine that transmutes water.

In terms of conveyance, some of the contexts of the puzzles don't quite match the real life purpose of designing machines. In the earlier chapters, it's a little bit of Anataeus' employers' incompetence and a little bit of Anataeus' overachieving. Technically, Anataeus is designing machines to transmute items for one-off situations such as Hangover Cure or Airship Fuel. In the later chapters, he invents some material while the player is left with the implementation of the machines that produce it.

Throughout the main campaign, Opus Magnum sticks to its format of puzzles. In the early game, puzzles require simple shapes such as three atoms in a straight chain. The later chapters then involve larger molecules in special patterns, e.g a crystal lattice. With the solutions I tend to make (re-using arms and glyphs), the instruction count tends to increase as the puzzles demands more complex arrangements, but that's entirely my approach to the problem.

## Overall

Opus Magnum doesn't strive to be a bigger game than it has to be. If you're strapped for time, Opus Magnum is a decent fit in a tight schedule since it doesn't demand much. There's no "lock-in" or commitment to leaving the game on as in other games. It's single player, isn't a real-time game, and isn't quite a turn-based game. Work towards a solution, then save, quit and recontinue any time.

A lot of my fun with the game is optimizing solutions and designing new solutions



The transmutation engine's workspace as seen in-game. Reagents and products may be placed anywhere as long as the player's machine works. *I also solved this puzzle "backwards".*

with different constraints. A nifty feature is recording GIFs of the solutions, which entails the general ease of sharing GIFs over the internet. It's nice to see how other differently other players think when approaching a problem to better or worse results.

player-created solution



PRODUCTS: 0/6 COST: 250<sup>0</sup> CYCLES: 25 AREA: 68

commands to mechanisms



# Sketches / Filler



Random face  
(no reference)

Random fit girl drawn  
from reference  
(unknown source)

# Editor/Publisher/Writer’s Note

Thank you for reading. Thanks to all seeders for distributing the electronic versions.

When it comes to amateur publishing, imperfect use of the English language is to be expected. While I was reading through my own copy of Issue 2, I noticed two jarring errors.

new torrent, but seeing an error on print is bad as it is. Instead of entirely abandoning Issue 2’s original torrent, I’ll link both the original and the fix for two typos.

Ordinarily, I wouldn’t beat myself up over a spelling error, but I got tugged between the target medium being print and the method of distribution being torrents. Issue 2 can’t be edited without making a

For the game review, the personal desktop that ran Opus Magnum was Xubuntu 18.04, AMD FX-6350, AMD RX Vega, and 8 GB of RAM— for those who don’t have the benefit of *works on my machine*.

## Identification (Monero)

Remove any line breaks when verifying. If the signature is not good, then the message is not from the bearer of the address.

**Message:** intraverse03

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**Signature:** SigV1SHvr8gaJoyYC12d4Tf81gsEhJw87BCe8dGET8vNRpc2gYd4rih7kwQaCUG75qCm2fzLQ8HBYXdXLMhPFARt7AoQp

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2798013548638691b26d4924123d40b4c555a728 (v3)

9ae168297f3d52540df9b6311b20f56e275e51a5 (v2)



(a) Address



(b) Signature



(c) Previous Issue

Produced in GIMP + LaTeX.

# Intraverse Infinity

You gotta be you. Only one in the world.

