

RetroTorrents: A Detailed White Paper

RetroTorrents: A Detailed White Paper	1
1. What Will RetroTorrents Become?.....	3
2. Why Will RetroTorrents Be Needed?.....	4
2.1. The Enemies of Preservation.....	5
2.2. Endangered Games Poster.....	6
3. How Will RetroTorrents Work?.....	7
3.1. The Perfect User Experience, Games and Soundtracks.....	8
3.2. The Retro Rush Event.....	8
3.3. Retro Rush Poster.....	9
3.4. The RetroTorrents File Formats.....	10
3.5. The RetroTorrents File Formula.....	11
4. Who Will Lead RetroTorrents? (Retreya Warriors).....	12
4.1. The Character Roster.....	12
4.1.1. Ephraim "HostHuman" Escobar.....	12
4.1.2. Michael "DataDog" Escobar.....	13
4.1.3. Michelle "BitBunny" Escobar.....	14
4.1.4. Randall "CodeCat" Escobar.....	15
4.1.5. Ellie "RetroRat" Ulbricht.....	16
4.2. The Origin: "The Eye in the Machine".....	17
4.3. The Retronium Prophecy.....	17
5. Where Will RetroTorrents Be Found?.....	17
6. Will RetroTorrents Be Released?.....	17
7. Operation R.E.T.R.I.S.....	17
8. Potentially Frequently Asked Questions (FAQ).....	18
9. Unused Content.....	22
9.1. Links.....	22
9.2. Images.....	22



From **The Ballistic Retro (TBR)** (The Retro Alliance to Restore & Preserve Media)

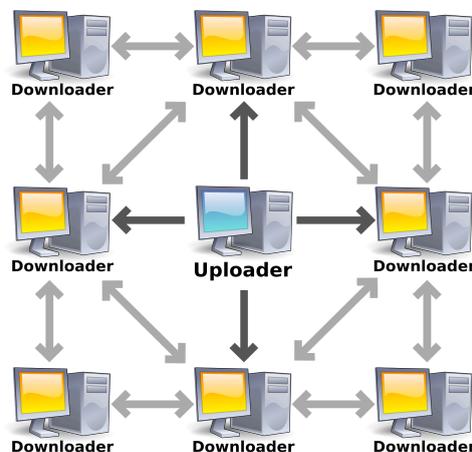
- Any details in this document and project are subject to change
- Version 0.1.1

TLDR: What if [Vimm's Lair](#) or [Myrient](#), but ROM files are smaller and distributed as torrents, has advanced search, includes official soundtracks and is powered by many communities.

1. What Will RetroTorrents Become?

A community-powered "forever library" for retro video games and emulators.

At its core, RetroTorrents will become a curated public collection of video game content such as ROMs, BIOSes and soundtracks (typically 21 years or older) that are freely available for everyone to download and play, ensuring video game history is preserved permanently. Think of it as the next evolution of ROM sites like [Vimm's Lair](#) or [Myrient](#), but with one crucial difference: **No single point of failure, and the database can be distributed.** Instead of relying on a centralized server that can crash, be shut down, or run out of money, RetroTorrents uses the [BitTorrent file sharing protocol](#). This means the people who willingly use and preserve it can host the "library". Every time someone downloads and preserves a game, they become part of an open global network that keeps their history alive.



One example of a [BitTorrent](#) swarm when smartphones and computers are connected.

The legality of using torrents with copyrighted content can vary by country and [Internet Service Provider](#) (ISP). Therefore, it will be important that each individual decides how to download and upload files in the following methods.

1. In the [Cleartnet](#), copyright holders may monitor the network and request the ISP to punish their customers who participated in specific torrents, while also threatening to terminate their service with them. Countries like Germany can go as far as sending a fine from €500 to €1500, often referred to as "[Störerhaftung](#)" (German wikipedia).
2. In a [Virtual Private Network \(VPN\)](#), the connection becomes encrypted and changes the user's IP address or location, with many [VPN providers often ignoring legal action related to copyright](#), due to their [claim and proof of not keeping logs](#).
3. With the [Invisible Internet Project \(I2P\)](#), an anonymous network layer obfuscates the user's identity like a VPN or TOR, though it takes significant time to learn and use compared to using torrents and emulators.
4. **DO NOT** use [The Onion Router \(TOR\)](#) overlay network with torrents, it's not practical and makes the network worse for the people that really need it (journalists, whistleblowers, etc).
5. [IPFS](#) and [Veilid](#) were suggested, but those are total PITA (please prove us wrong).

2. Why Will RetroTorrents Be Needed?

A quiet crisis is rotting inside video game history. A 2023 study by the Video Game History Foundation revealed that [87% of classic video games are "critically endangered"](#). They are no longer commercially available, leaving the used market as the only option to purchase games with a finite supply, and an infinite demand and price.



Today, the community is currently relying on a fragile system. While heroic preservation websites exist, each is a centralized "[Library of Alexandria](#)." If any cease to exist, millions of human creativity and work could vanish overnight with no announcement or warning.



This problem must be solved once and for all, by decentralizing the archive and spreading the responsibility of video game preservation to the players. Building a library that cannot vanish, because it can be stored, distributed and restored on the devices of thousands simultaneously, no longer will the hoarders have an excuse to not distribute!

2.1. The Enemies of Preservation

- **The "License" Chains Trap:** Modern digital storefronts do sell games; but that service will eventually stop. When services like the [Nintendo 3DS and Wii U eShop close](#) or the [Sony PlayStation Store for the PS3 and PSP stop accepting purchases](#), that history becomes harder to legally acquire at an affordable price.
- **Physical Media & Hardware Decay:** Physical cartridges, discs and consoles may not last forever. [Disc rot](#) and [scratches](#), [capacitor leaks](#), and [dead save batteries](#) could make the original physical media and hardware useless or weaker. Digitized backups and emulators are the efficient way to save them for the foreseeable future.
- **Inferior Official Ports:** Even when companies re-release games, they are [often altered](#). [Music is removed due to licensing](#), [content is censored](#), or the [paid emulation service is sometimes horrendous](#). RetroTorrents seeks to preserve the **original, unaltered experience**, exactly as a player would remember it.
- **The Centralized Bottleneck:** Traditional [ROM sites are expensive to run](#) (2) and [easy to target](#), by relying on single servers, they create a **single point of failure**. A community with infinite backups may be the last stand on video game preservation.



[Vimm's Lair was once demanded to remove specific games from many companies](#), the files are back online but no one knows who will dare strike him and burn his almost three decade old library (30 years). ([A list of franchises removed from Vimm's Lair](#)).

2.2. Endangered Games Poster



Poster with dark background and green text: "Endangered Games". 5 red cartridges and 1 ordinary cartridge for the Nintendo 64 in a 2x3 rectangle. "Soon the 87% will be lost forever. Use your devices to save them!". gamehistory.org/87percent, retreya.retrotorrents.net.

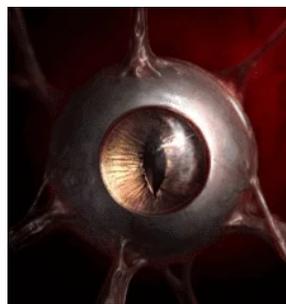
3. How Will RetroTorrents Work?

A library without borders, hosting a map to find retro video game content.

The **Retreye (Retro Eye) Index** will serve as a clean, intuitive search engine that provides [BitTorrent magnet links](#). When a user downloads a game, they are connected to an army or swarm of volunteers who are sharing that specific piece of video game history.

- **For the Players:** Select a console, find game(s), view information of one game or download the game files or soundtracks. Downloads are managed in a [trusted BitTorrent client](#), sharing file pieces with other users in the swarm simultaneously.
- **For the Archivists/Hoarders:** Acquire desired [magnet links](#), put them to a [BitTorrent client](#), preserve game files or soundtracks of preference. Copy [magnet links](#) in bulk depending on what the user has searched for mass downloading (e.g. "Crash" in the ps2 directory or "Zelda" in the wii directory or "Sonic" in the dreamcast directory).

[The Hydra Effect](#) will be a great strength of RetroTorrents for its resilience, **designed to be mirrored and hosted across any domain name**. If [RetroTorrents.net](#) ends up being blocked or seized, the community can host their own fan [Mirror](#) of the site until a new domain name is chosen (e.g., [retreye.vimm.net](#), [retreye.myriant.me](#) or [retreye.cdromance.org](#)).



Lore: "Awaken my child... Know that I am the Overmind; the eternal will of the Swarm." – [The Overmind \(Starcraft\)](#) (*The digital "Retreye" mascot symbolizes a shared, immortal consciousness. Can only return by the will of the players*)

3.1. The Perfect User Experience, Games and Soundtracks

A download, not just a bunch of files. Every game page will be a curated museum entry designed to ensure players get the most accurate version of a game and soundtrack.

With the **"1G1R" Standard (One Game, One ROM)**, a clean and simple standard can be followed, prioritizing the earliest version of a game in a region (e.g. World, USA, Europe, Japan, Korea, Asia, etc), this allows compatibility with [recompilation projects](#).

Potential sources of media

- **Media:** [screenscraper.fr](#) & [mobygames.com](#) (Community video game databases).
- **Soundtracks:** [downloads.khinsider.com](#) (Fan and official soundtrack database).

Rich Metadata & Previews

- **Visuals:** Cover art, screenshots, and a short gameplay video preview.
- **Context:** Serial number, developer/publisher info, release date, player ranges.
- **Community:** Community ratings and PEGI/ESRB age ratings.
- **Bonus Content:** Soundtracks, documentaries, reviews and manuals.

Verification (Trust, but Verify), Every file includes visible hash data (CRC-32, MD5, SHA-1). Users can verify their files against databases like [Redump](#), [No-Intro](#) or [TOSEC](#) to ensure they have a 1:1 perfect copy of their game files like ROMs or ISOs.

3.2. The Retro Rush Event

Torrents will rely on a community of active players and archivists. To prevent obscure games from having slow download speeds or stalling (freezing), a weekly community event will be announced and shown to encourage preservation efforts from the community. This creates a predictable time where download speeds skyrocket, ensuring that even the rarest games remain available.

Time of Event: Friday 21:00 UTC to Sunday 21:00 UTC ([TimeandDate.com](#)).

For those running a seedbox or a homelab, continuous seeding is appreciated

3.3. Retro Rush Poster



Poster with dark background and green text: "Join the retro rush". Servers, computers, smartphones and handheld devices connected to each other through arrows like a swarm. "Download, play & preserve retro video games like never before!". "retreye.retrotorrents.net"

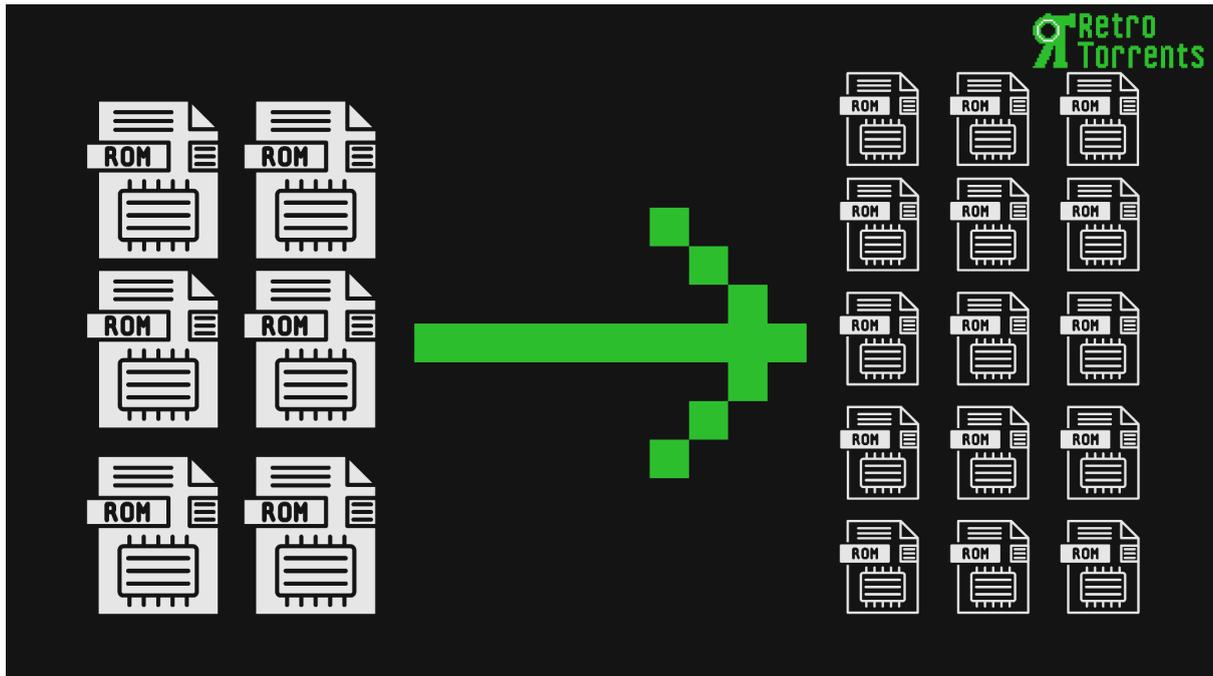
3.4. The RetroTorrents File Formats

[Reversible and lossless compression](#). Players and archivists save hard drive space and can *always* convert the file back to its original, unaltered digital dump for modded consoles.

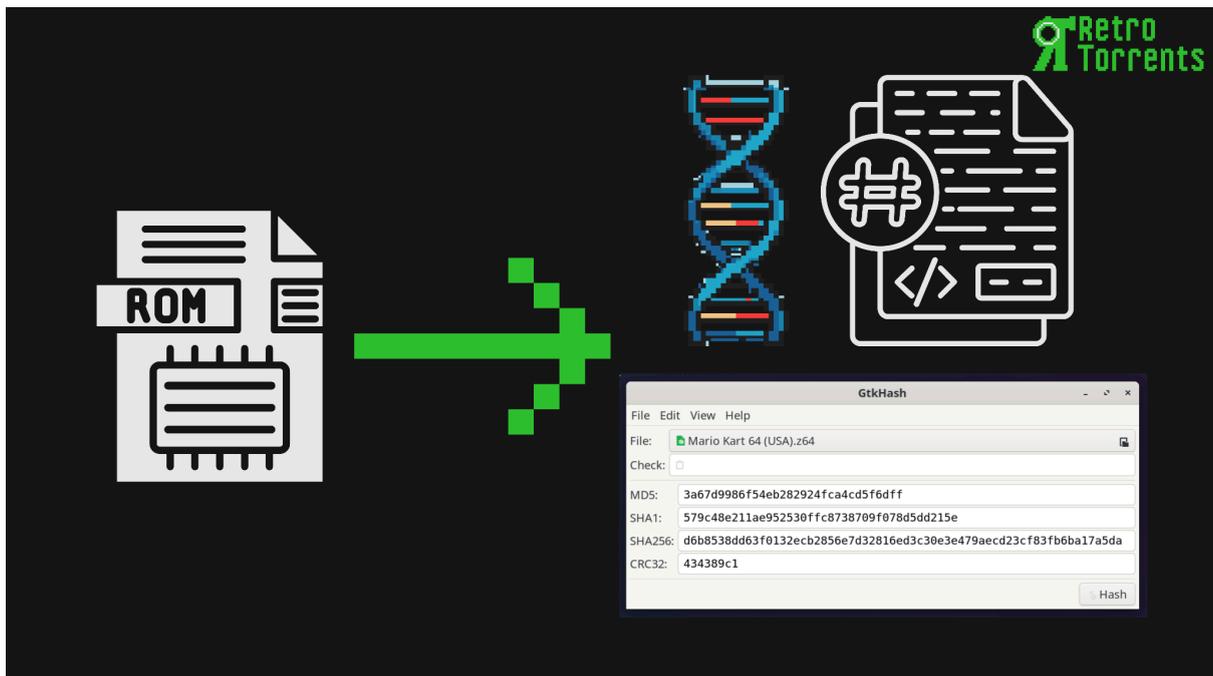
- **Cartridge Consoles & Handhelds**
 - **Format:** Standard [ZIP Archive](#) (Deflate).
 - **Why:** Universal compatibility and high compression for small files.
 - **Systems:**
 - **Nintendo:** NES, SNES, N64, GB (Color & Advance) & DS.
 - **Sega:** Master System & Genesis.
 - **Others:** Atari 2600, 5200, 7800 & Jaguar, & **NEC** TurboGrafx-16.
- **Optical Disc Consoles**
 - **Format:** [Compressed Hunks of Data \(CHD\)](#) (Zstandard).
 - **Why:** Natively supported by most mature emulators and compresses optical disc based media significantly without deleting critical data.
 - **Systems:**
 - **Sony:** PS1, PS2 & PSP.
 - **Sega:** Sega CD, Saturn & Dreamcast.
 - **Others:** Atari Jaguar CD & **NEC** TurboGrafx-CD.
 - Creation examples: Use [chdman](#) with specific commands or settings.
 - **CD:** `chdman createcd -c cdzs,cdfi -hs 19584 -i "Game.cue" -o "Game.chd"`.
 - **DVD/UMD:** `chdman createdvd -c zstd -hs 2048 -i "Game.iso" -o "Game.chd"` (Avoids [createcd](#) & [4096 hunks](#) penalties).
- **Nintendo Optical Media**
 - **GameCube & Wii:** [ReVolution Zstandard \(RVZ\)](#).
 - **Why:** The best [GameCube](#) & [Wii](#) ROMs distributed by Myrient.
 - **Settings:** Open [Dolphin Emulator](#) -> Convert game to RVZ -> Block Size: 128 KiB -> Compression: zstd (Level 19).
 - **Wii U:** [Wii U Disc Compressed Image \(WUX\)](#).
 - **Why:** *The popular .wua* file format does not keep a 1:1 copy of the original disc structure.
 - **Note:** Updates and DLC come in separate *.7z* archives for manual installation in the [Cemu Emulator](#).
 - **Creation Guide:** Use the [wud tool](#). Drag-and-drop an uncompressed *.wud* file on the executable.
- **Specialized Formats**
 - **Nintendo 3DS:** [Zipped 3DS \(Z3DS\)](#) via the [Azahar Emulator](#) tools.
 - **PlayStation 3:** [Decrypted Optical Disc Image \(ISO\)](#) for [RPCS3](#).

References: [Emulation General Wiki](#) & [RetroGameCorps](#)

3.5. The RetroTorrents File Formula



Using [lossless compression](#) with ROMs, BIOSes or soundtracks proves that saving space allows a smartphone, computer or server to hold and preserve more content.



The compressed version of those ROM files can be converted to its original format, then inserted in a file [checksum](#) calculator and compared with [Redump](#), [No-Intro](#) or [TOSEC](#).

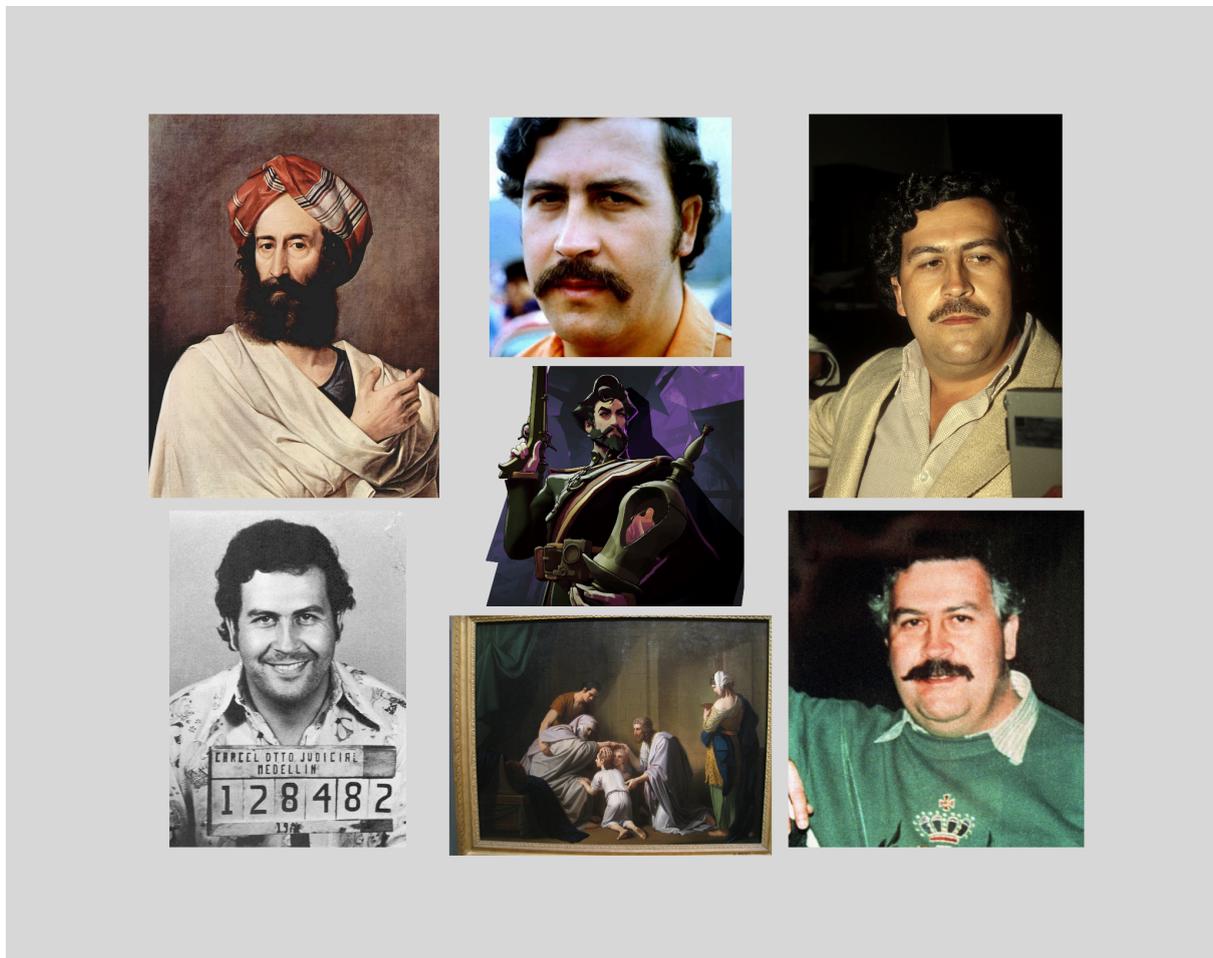
4. Who Will Lead RetroTorrents? (Retreya Warriors)

A team of core characters will embody the community as groups and departments. They are warriors fighting the harsh data decay in video games and other retro media.

4.1. The Character Roster

4.1.1. Ephraim “HostHuman” Escobar

- **Archetype:** The Visionary
- **Role:** The strategist who holds the keys to the servers and the grounded human element in a world of digital avatars.
- **Lore:** Born in Hawaii. While the others fight in the digital trenches, he ensures the lights stay on. The immovable object against the unstoppable force.



[Mirage from Deadlock](#)

4.1.2. Michael "DataDog" Escobar

- **Archetype:** The Guardian of Truth (Blacksmith).
- **Visual Signature: Square & Solid.** (Golden fur, green eyes and square black hair, heavy build).
- **Vibe:** Uncompromising, silent, and solid.
- **The Character:** DataDog, the shield of truth. His square, solid design represents the integrity of the archive. He speaks rarely, preferring to communicate through the integrity of his curated files. While being the master archivist, he ensures that a 1994 game meets the standards of tomorrow.
 - **Motto:** "Data does not lie. It only remembers".
 - **Spirit:** Inspired by the uncompromising dedication of Aaron Swartz, he shows the way of the perfect ROMs with his life.
- **Signature Weapon: Checksum Compressor.**
 - *Form:* A squared and green blacksmith hammer that can transform into a sledgehammer.
 - *Abilities:* His hammers are utilized to compress media ready for distribution and create crowd control to slam, crushing corruption and pushing back large crowds of opposing forces that threaten the integrity of the people's library.



4.1.3. Michelle "BitBunny" Escobar

- **Archetype:** The Silent Courier (Prophet).
- **Visual Signature: Oval & Fluid.** (Large ears, white fur with round brown spots, bouncy but volatile).
- **Vibe:** Introverted, efficient, fragile, but surprisingly powerful.
- **The Character:** Do not mistake her laziness for weakness. BitBunny patiently and precisely controls her "Swarm"—the global network of peer-to-peer traffic. She operates in the shadows of torrents, ensuring the delivery pipelines remain open.
 - **Motto:** "I have seen the burden of the people in his lair".
 - **Spirit:** Channeling the resilience of Sci-Hub's Alexandra Elbakyan, she represents the unstoppable nature of decentralized sharing.
- **Signature Weapon: Swarm Summoner.**
 - *Form:* A long violet staff with a round, oval hook.
 - *Abilities:* She uses the staff to **guide and motivate** her seeders. In combat, the hook **pulls or removes objects** (or weapons) from enemies, allowing her to summon swarms to capture anyone threatening her allies.



4.1.4. Randall "CodeCat" Escobar

- **Archetype:** The Architect of Chaos (Rogue).
- **Visual Signature: Triangular & Sharp.** (Grey fur, sharp blue eyes and hair, angular features).
- **Vibe:** Dynamic, rebellious, and lightning-fast.
- **The Character:** Randall, the jagged edge of the rebellion. With a design inspired by the ocean's chaotic waves and sharp lines of code, he represents speed and defiance. He weaponizes himself to bypass walls that block information.
 - **Motto:** "Video games want to be free!".
 - **Spirit:** Channeling the energy of early hacktivists (like The Pirate Bay co-founders), a resourceful, talkative, and intensely focused on freedom.
- **Signature Weapon: Triple Tormenters.**
 - *Form:* a blue triangular katana and a cutlass pirate sword.
 - *Abilities:* True to his rogue nature, CodeCat **retreats from danger**, vanishing before reappearing to deliver **swift attacks** and defensive parries to protect his friends.



4.2. The Origin: "The Eye in the Machine"

Tragedy: It began with Michael (DataDog). While performing emergency maintenance on a failing server rack during an electrical storm, a catastrophic surge bridged the gap between the hardware and the operator.

Ascension: The voltage arc didn't kill him, his left eye went missing. The energy that surged through him coalesced into a digital entity—**The Retreya**.

Legacy: Michael survived, and his sacrificed eye gave a new purpose. The "All-Seeing Eye" of the project—a digital consciousness that lives in the swarms of thousands, guiding the team and blessing the internet with a new eternal memory.

"Oh Retreya... we will hold you in our servers for as long as we can, but may the world hold you in theirs forever." — Michael "DataDog" Escobar

4.3. The Retronium Prophecy

While the team's weapons are formidable, they are not indestructible. In the heat of battle, weapons will break, and can only be restored from Retreya's inner material. **Retronium**, a pixelated, regenerative and colorful digital matter generated by the collective memory of retro content. As long as it **maintains relevance**, the Retreya generates new energy to quickly repair the gear for its warriors, so they can keep fighting the Digital Dark Age of retro video games forever, as the project grows, so will their army.

5. Where Will RetroTorrents Be Found?

The project will be accessible via its main domain and will foster its community across several modern social and secure chat platforms. Please join us if you believe and know the best way to ROMs or would like to distribute compressed files or art of the Retreya warriors around the internet!

- **Main Domain (no website at the moment, sorry):** RetroTorrents.net.
- **Social Media:** [Mastodon \(kolektiva\)](#), [Lemmy \(Dbzero\)](#), [BlueSky](#) & [Twitter \(X\)](#).
- **Secure Community Chats:** [SimpleX](#) & [Signal](#).

6. Will RetroTorrents Be Released?

The planned release date for the Retreya Index is **not confirmed**.

7. Operation R.E.T.R.I.S.

The entire mission will be framed under **Operation R.E.T.R.I.S.**, which stands for **Rescuing Electronic Treasures & Restoring Immersive Stories**. This serves as a call to adventure for everyone who believes in the cause and wants to join the movement.

8. Potentially Frequently Asked Questions (FAQ)

8.1. What is the long-term mission of RetroTorrents?

The primary mission, to provide free and permanent access to playable retro video games and soundtracks, especially large disc-based games that are difficult to distribute for centralized websites. Our secondary goal, to create a rich user experience with clear visuals, metadata, and game previews. Finally, a mascot-driven narrative to build an active, engaged community around the project, an easy way to prove if fictional characters can be “illegal”.

8.2. How do you define the criteria for including a game in the collection (e.g., 21 years old, abandonware, expired licenses)?

For simplification, The console must be at least 21 years old since its first release. This allows the team to move more towards having an expanded library of previous consoles before moving to further generations (Wii, PS3, Xbox360), since the files of these games can get bigger than previous generations.

8.3. How do you plan to ensure the project’s sustainability and independence over time?

The **Retreya (Retro Eye) Index** will allow others to download a copy of the site and upload a mirror within their own domain name (e.g. **retreya.erista.me** from [Erista Group](#)), this allows Retreya to become a community effort, rather than a central identity, so as long as it follows the big three digital imperatives.

1. **Purpose:** Accept voluntary donations. Allowing advertisements is unethical.
2. **Thought:** Absolute freedom and be non-judgmental (unless it hurts the innocent).
3. **Perfection:** Maintain quality and integrity. When absolutely necessary, release uncompressed versions of other files, updates and DLC.

8.4. How does RetroTorrents position itself regarding copyright and intellectual property laws?

We at RetroTorrents believe that current copyright laws are overly restrictive and fail to serve the public good, especially for '[abandonware](#)' or culturally significant works that are no longer commercially available. These laws are a form of information hoarding that harms, rather than saves cultural access and preservation.

[This can even go as far as the English Queen Mary I](#) (1700s).

8.5. Have you consulted any legal experts or institutions to establish a legal framework?

From a realistic and defensive standpoint, RetroTorrents and The Retreya Index by themselves do not host the files, only the [BitTorrent magnet links](#) that redirect users to a swarm who have the files on their devices and are distributing them without a fee or paywall.

8.6. What happens if a rights holder requests the removal of a specific game?

Delete torrents from people's retro video game library? [ThePirateBay Email](#).

8.7. Could you describe the technical structure of the project (hosting, curation, metadata, file verification system)?

- **Hosting:** A prototype may be first hosted in Cloudflare pages, while using basic database functionality to make complex search queries on different categories.
- **Curation & Metadata:** [ScreenScraper](#) will allow RetroTorrents to get the information about the games such as genres, players and media, which should be verified or corrected in the slight case the original proposal was not accurate.
- **Verification System:** Verify the hash of the files and compress them (DataDog) before the torrent seeder group (BitBunny) can prepare the games in a local device and distribute them.

8.8. How do you ensure file integrity (hash checks, CRC verification, etc.)?

Original and uncompressed files must be verified before compression and must keep the SHA1 hash ([Redump](#) for discs, [No-Intro](#) for cartridges, and [TOSEC](#) for software & firmware).

8.9. Is there a web interface, catalog, or search engine planned for community access?

Within the global page or a console's page, the search engine feature can be basic (name search) or advanced (genres, sub-genres, years, players). Thanks to [ScreenScraper](#), the site could allow players to find new games based on more factors and contexts.

URL design concept:

- [retreye.retrotorrents.net](#) (global page).
- [retreye.retrotorrents.net/ps2](#) (playstation 2 page).
- [retreye.retrotorrents.net/ps2/God-of-War](#) (playstation 2 game page).

8.10. What measures are taken to protect contributors from tracking or potential legal action?

Each contributor must follow a good [OPSEC](#) and be responsible for their own security, since the torrents are public, anyone can see IP addresses of other contributors in swarms of games they are downloading or uploading (distributing).

8.11. From your perspective, what are the main differences between using RetroTorrents via clearnet, a VPN, or I2P?

- **Clearnet:** No security measure is used, anyone can see your IP address, can be the fastest or slowest depending on your ISPs terms and conditions.
- **VPN:** IP address is obfuscated by a provider (ProtonVPN, MullvadVPN) and works with qBittorrent (PC) and Flud (Android).
- **I2P:** IP address is scrambled in a network, not all clients have implemented it and requires a [guide to work with the software](#).

8.12. Is there a mechanism for reporting malicious or corrupted torrents?

No, files must have been verified before [torrent files](#) and [magnet links](#) are created, which is later added to the database, ready to upload. Every game should be tested in an emulator for at least 2 minutes after verification.

8.13. How can the community contribute (uploading, verification, tagging, documentation)?

Only the administrator (Ephraim) may manage the torrents on the site, while contributors are encouraged to seed the files and host mirrors of the Retreya Index or contribute to the [ScreenScraper](#) community that provides the media (covers, screenshots, etc). As different people may have different views, but can still participate outside of a legal gray area.

8.14. Is there a moderation or curator system to ensure the quality of shared content?

RetroTorrents is not a public tracker like [The Pirate Bay](#), but rather a preservation group. It's up to the community to participate on new uploads of games to preserve, whether the game is good or bad in an artistic sense should be out of the question. (e.g. [CheetahMen](#)).

8.15. Is there transparency regarding project governance (team, funding, decision-making)?

Ephraim can provide 50% funding for hosting (Other half is Bolívar). Decisions can be made as a group to a problem and may ask the community as an open ended question (e.g. "What video game soundtracks would you want first in this console?").

8.16. Are there plans to collaborate with museums, universities, or video game archives?

This may not be possible, as websites related to ROMs or torrents are usually given a bad light in businesses or other non-profits. But perhaps other communities may accept it.

8.17. Do you envision developing an educational or research-oriented interface for the preserved games?

[The Video Game History Foundation already has a library of content related to videogames.](#) There may be a chance to link each game to its respective page on resources like the Video Game History Foundation's website. This creates a bridge, directing users to the educational context.

8.18. What's your vision for RetroTorrents in five years?

Absolute access to retro video games! Rom Site operators begin contributing with RetroTorrents by uploading (distributing) files from torrents and/or hosting a mirror of the Retreya Index with their own domain name at a low cost.



Thank you for reading the RetroTorrents white paper! Please remember we are doing this for fun, for games, for RetroTorrents.

-Ephraim "HostHuman" Escobar and Bolívar

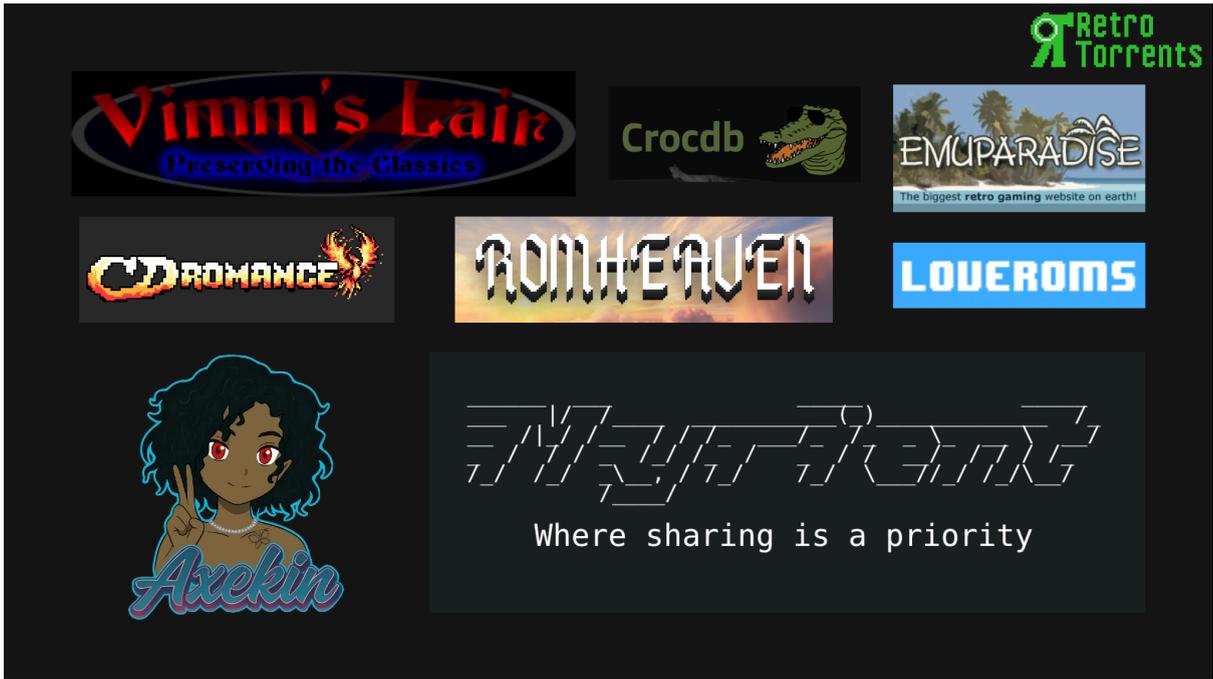
9. Unused Content

9.1. Links

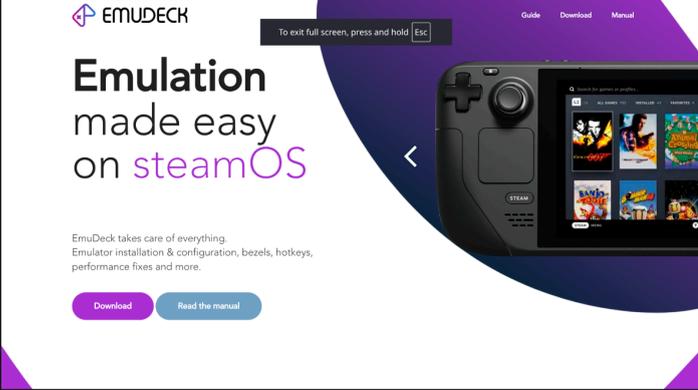
- Rentry Page - <https://rentry.co/RetroTorrents>
- 1G1R Collection - <https://rentry.co/1G1R>
- FMHY's ROM Sites List - <https://fmhy.net/gaming#rom-sites>

9.2. Images










RetroTorrents

Download, Play & Preserve Retro Video Games!