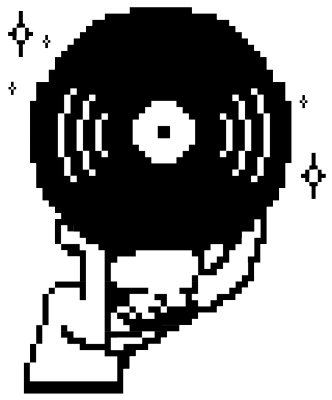
Project report

Kronos Agon^{tn}

By Atlas Studio

Ugo PARODAT *(Leader)* Lucien TEILLET Nathan BABEC Paul GUIHENEUC
Jeremie THEVENIN



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1 Introduction

1.1 Reminder

Our project is a 2D game set in the universe of Greek gods, featuring frenetic and rhythmic combat where tempo is key. Entitled Kronos Agon, which means "battle of time," it re imagines the concept of a party game through intense solo matches against non-player characters (NPCs) or multiplayer sessions via machines connected to the same network (LAN).

The gameplay is based on a unique concept: rhythm mastery. Each Greek god represented in the game has a distinct identity and a set of powers inspired by mythology, but the effectiveness of these powers depends entirely on the player's ability to follow rhythmic sequences. The battles, therefore, become a frenzied dance where rhythmic precision and reactivity are the keys to victory.

In terms of level design, the arenas be dynamic, adapting to the players' actions and the progression of the match. Each environment influence the rhythm of the battles: a fight in the Underworld be slow and heavy, while a duel on Mount Olympus be faster and unpredictable, reflecting the divine energy of the location.

The objective of the Kronos Agon project is to allow the members of Atlas Studio to diversify their technical knowledge, particularly in C sharp, 2D graphics, game design, and network communication (LAN).

Ultimately, our quest is not just about creating a video game. It is also about our individual and collective growth, our ability to collaborate, overcome challenges, and never lose sight of our common goal: successfully completing our project.

1.2 Table

Task	**In charge**	**Alternate**
Base code	Lucien	Ugo
IA	Lucien	Ugo
Story	Nathan	Jeramie
Web Site	Ugo	Jeremie
LAN	Ugo	Jeremie
Animations	Nathan	Lucien
Music	Jeremie	Nathan
Characters	Nathan	Paul
Publicity	Lucien	Jeremie
Maps	Paul	Jeremie
Menus	Nathan	Nathan
Game cover	Paul	Nathan
Sound Effects	Jeremie	Paul
Testing and launch	Lucien	Ugo

Table 1: Planning of each task and who is in charge

1.3 Methods in place

For the successful execution of our project, we established several tools and strategies to ensure effective collaboration and continuous tracking of progress.

First and foremost, we utilized GitHub as our primary platform for collaborative work. By using GitHub, we were able to work simultaneously on the same files, making it easier to manage contributions from multiple team members. The platform's built-in tools allowed us to track changes, review code, and address potential conflicts in a structured and efficient manner. This ensured that all team members could contribute without the risk of overwriting each other's work, fostering a streamlined and productive workflow.

In addition to GitHub, we relied heavily on Discord for communication and real-time collaboration. Discord served as our central hub for exchanging ideas, brainstorming solutions, and discussing the project's ongoing progress. The platform's versatility allowed us to organize our discussions into specific channels, making it easier to separate technical conversations, general updates, and task assignments.

Moreover, Discord became an essential space for documenting and sharing information related to the project. It was on this platform that we kept track of all updates, including progress milestones, challenges encountered, and tasks that remained to be completed. By using Discord as a repository for this information, we ensured that every team member had access to the latest developments and could contribute to problem-solving and decision-making effectively.

In summary, the combination of GitHub for technical collaboration and Discord for communication and information sharing created a robust framework for our team to work cohesively. These tools not only helped us stay organized but also promoted transparency, accountability, and teamwork throughout the entire project.

1.4 Adjustments

Numerous adjustments had to been put in place due to overconfidence in the time we had to put together the project. Hence we had to modify some of general characteristics of the game all of the changes be specified in the document parts of the corresponding tasks.

2 Project progress

2.1 Lore

The story is an important part of our game, even though understanding it is not necessary for the player to grasp the gameplay. We have already outlined the main thread of the story to establish the atmosphere of the various game levels that the player explore. The following is the main lore that be updated for each map and character we create :

Every 500 years, an event of extraordinary cosmic significance shakes the very foundations of the heavens: the Olympian Ascension. This grand millennial trial is a divine tournament where new gods, born from the collective hopes, fears, and dreams of mortals, fight for the honor of joining the ranks of Olympus and securing their place among the immortals.

The tournament is a spectacle unlike any other, consisting of a series of divine trials crafted by the Olympian god entrusted with overseeing the event. For this edition, the responsibility falls upon none other than Apollo, the radiant god of music, poetry, and harmony. Each presiding god leaves their unique imprint on the tournament, and Apollo is no exception. Staying true to his essence, he has chosen a theme that embodies his artistic soul: rhythmic and frenetic battles that test not only strength and strategy but also the ability to resonate with the celestial melodies of the cosmos.

Contestants must prove themselves worthy by aligning their divine essence with the pulse of the universe, moving in perfect harmony with its grand symphony. Only those who can attune their hearts to the cosmic rhythm stand a chance of claiming victory.

Who among these aspiring deities rise to the occasion, conquer the trials, and ascend to the divine glory of Olympus? The answer lies in the music of the universe and the resolve of those bold enough to dance to its tune.

2.2 Gameplay mechanics

2.2.1 Beat system and attacks

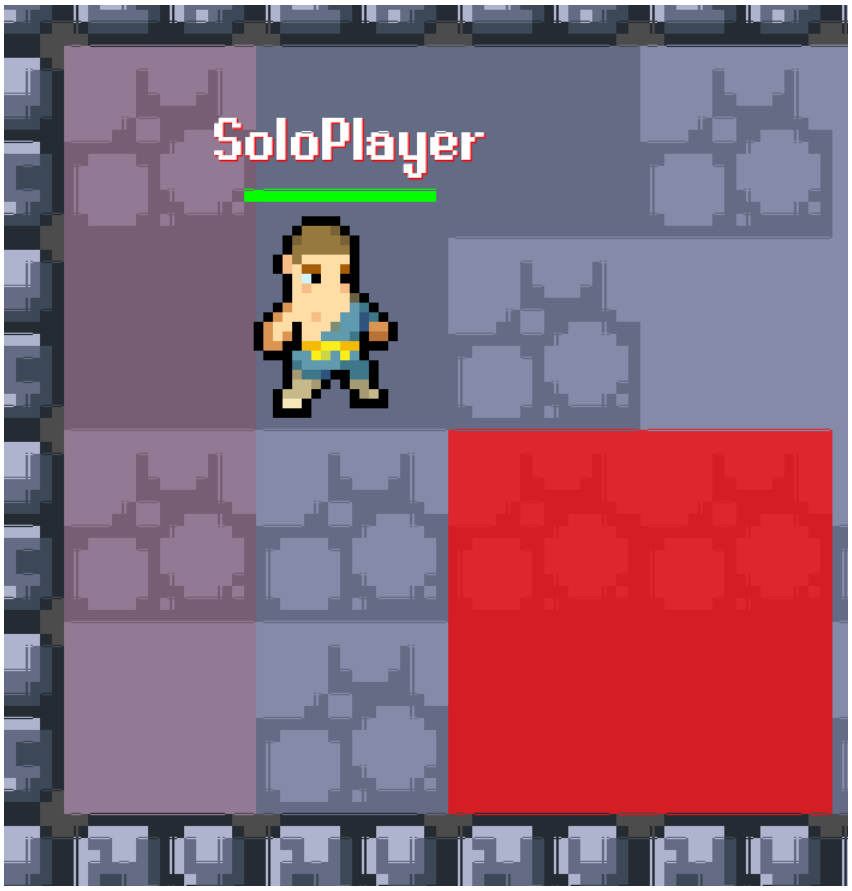
Our game runs on a beat-driven system that sets the tempo for all actions. Each beat is split into two phases: a green phase, where player input is allowed, and a red phase, where input is ignored. Players must move in sync with the green phase—if they press a key during the red phase, they get locked for two beats and are visually flipped upside down to indicate the penalty. This encourages precision and rhythm, rewarding players who stay on time.

The beat isn't constant. As the game progresses, the tempo gradually increases. Beats become shorter, making every action feel more urgent. Early on, players have time to think and act, but as the speed ramps up, they're challenged to react faster and maintain rhythm under pressure. This dynamic pacing ensures the gameplay remains engaging and intense from start to finish.

```
[Indicateur] Beat 70 | Green: True
[Indicateur] Speeding up! New beat duration: 0.39s
[Indicateur] Beat 71 | Green: False
```

```
[Indicateur] Beat 38 | Green: True
[Indicateur] Beat 39 | Green: False
[Indicateur] Speeding up! New beat duration: 0.53s
[Indicateur] Beat 40 | Green: True
```

Attacks are tightly woven into this rhythm. They appear on the grid a few beats in advance, giving players time to react. Crucially, attacks **trigger at the red beat**, just after the window for movement closes. This design choice improves gameplay quality by keeping movement and danger cleanly separated—players act during the green phase, and consequences unfold during the red phase. It creates a clear, satisfying rhythm where anticipation and timing are everything.



2.2.2 Player Movements

Player movement is turn-based and synchronized with the game's rhythm. On each beat, players can move one tile up, down, left, or right—but only if they press a key during the correct input window (the green phase). If they press a movement key during the red (off-beat) phase, their movement is ignored and they become locked for the next two beats. Movement is always grid-aligned, with each step moving the player exactly one cell in the chosen direction.

2.2.3 Health Bar

At the start of the game, each player's health bar is full. The health bar represents the player's remaining life. The system is simple: each player can withstand up to two hits. When the player takes the first hit from an attack, the health bar is reduced by half, providing a clear visual cue of the damage taken.

If the player is hit again while at half health, they are considered defeated and are immediately removed from the game. This binary health system helps keep the combat fast-paced and easy to read, encouraging strategic movement and timing.

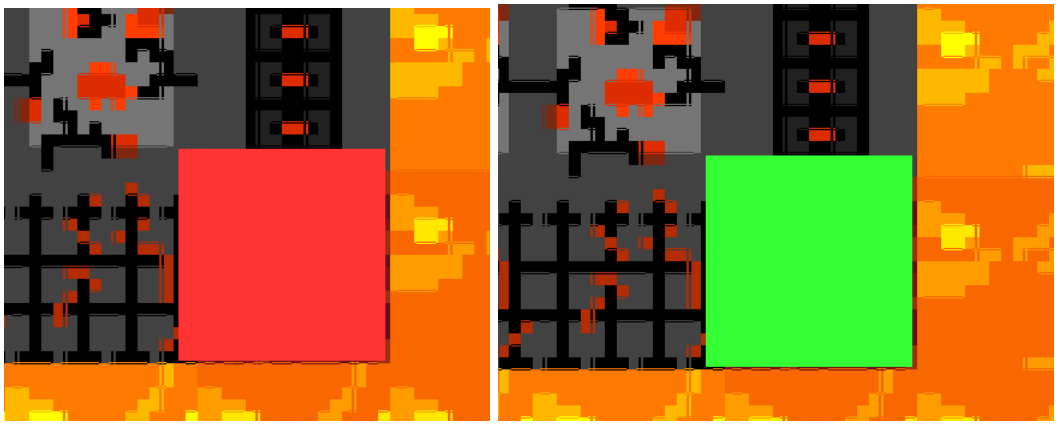
During development, synchronizing the health bar across all players in LAN mode was one of the main technical challenges. At first, health changes were not properly reflected on all clients, leading to desynchronization issues where players would see incorrect health states. However, after several iterations and debugging sessions, we successfully implemented a reliable synchronization system using Remote Procedure Calls (RPCs). Now, the health bar updates correctly and instantly on all clients without any bugs, ensuring a consistent and fair experience for every player.

2.2.4 Indicator

The beat indicator is a visual tool that helps players stay in sync with the rhythm. It's designed to clearly show when it's safe to move (green phase) and when it's not (red phase), making timing intuitive even as the beat accelerates. The indicator cycles between green and red in perfect sync with the game's internal beat counter, reflecting the current phase of each beat.

To enhance visibility and make the rhythm feel more alive, we use a Tween to animate the indicator. Each time the phase changes, the Tween smoothly transitions the indicator's color and scale, creating a pulsing effect that players can feel as much as see. During the green phase, the indicator gently grows and glows green, signaling the window for action. When it shifts to red, it contracts and flashes red, warning players not to move. This subtle but effective animation helps players anticipate beats rather than react to them, especially as the tempo increases.

By combining precise timing with animated feedback, the beat indicator becomes more than just a UI element. it's a core part of the rhythm experience, guiding players moment to moment and making the gameplay feel responsive and musical.



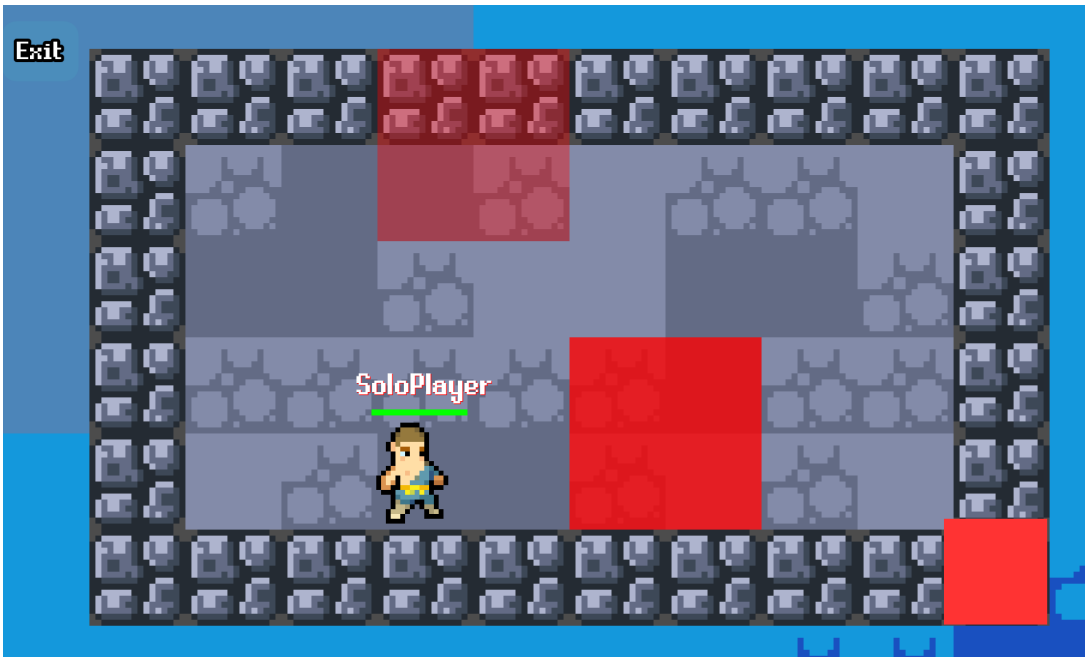
2.2.5 Grid system

Our grid system is the structural backbone of the game, defining where everything happens—player movement, attacks, AI decisions, and visual feedback. The arena is built on a uniform 2D grid where each cell represents a valid position that a character or effect can occupy. All positions and actions snap cleanly to this grid, which ensures consistent and predictable gameplay, especially important in a rhythm-based system where precision is key.

Every player move, attack, and danger tile is aligned to a specific grid cell. We calculate movement and positioning using integer coordinates (like gridX, gridY), not world-space values. This allows us to easily track where players are, check if they're standing in a danger zone, and ensure everything updates in harmony with the beat. To prevent out-of-bounds movement, we restrict the playable area to a smaller region within the grid, slightly offset and shrunk by one tile in all directions.

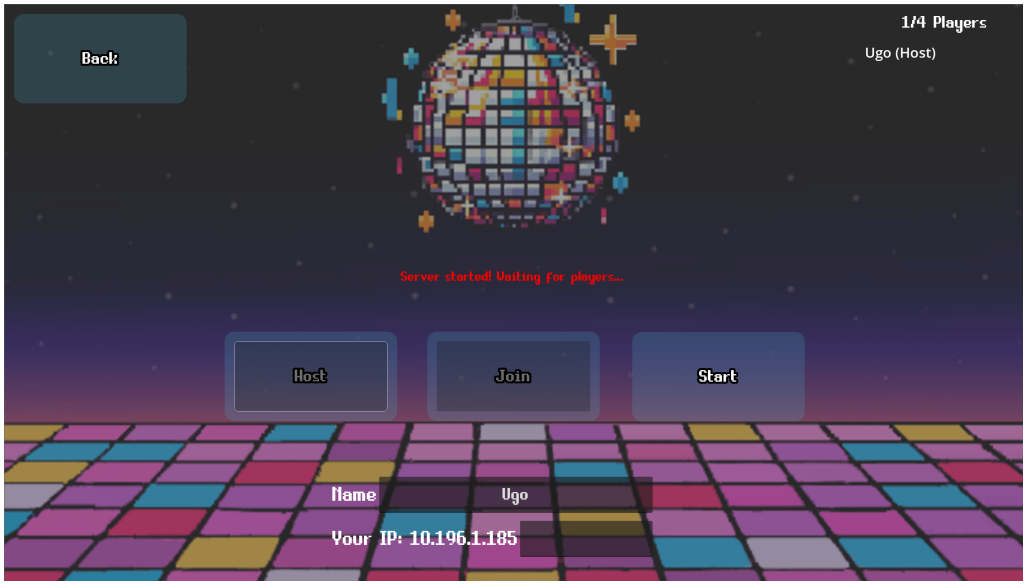
Our system also includes a centralized GridManager that stores the state of each cell. For example, it knows which cells are currently dangerous, where players are located, and where attacks are about to trigger. This makes it easy to handle collision checks and damage logic efficiently.

Visually, we overlay the grid with a DangerOverlay that displays danger zones as red tiles. These tiles appear when an attack is about to strike and vanish once the damage is dealt, always staying in sync with the beat. Because everything is locked to the same grid, the game feels orderly and clear even as the tempo ramps up.

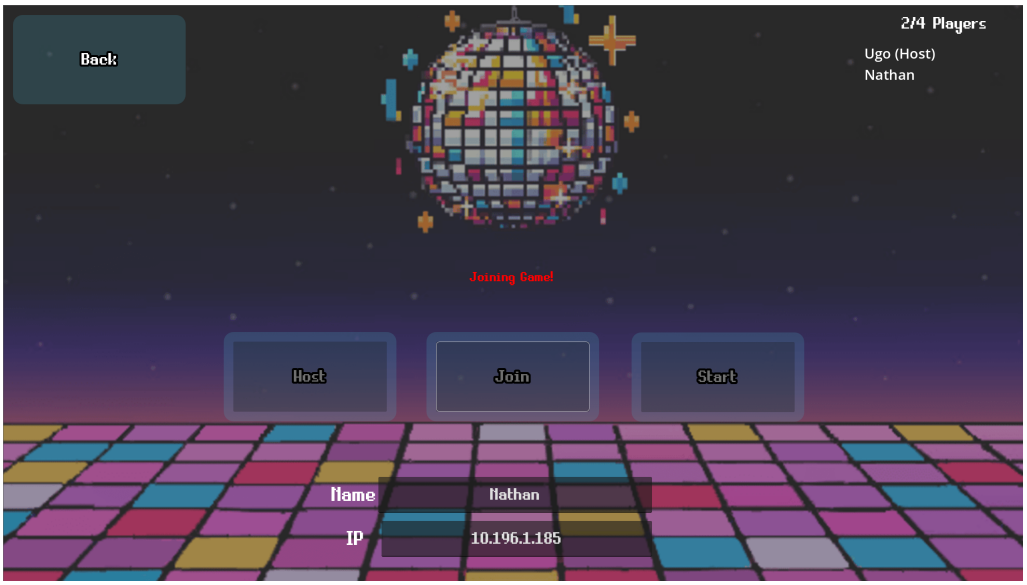


2.2.6 Multiplayer

The multiplayer system is designed exclusively for LAN play, requiring each player to connect from their own computer. There is no support for shared keyboards or local input splitting every participant must have their own device. This approach ensures clean input handling, consistent performance, and accurate synchronization across all players.



Each player joins the game through a local network lobby. The system automatically detects and assigns input devices on each machine, supporting both keyboard and controller configurations. Once connected, all player actions are synchronized beat by beat, maintaining fairness and consistency across the session. This setup allows for smooth, rhythm-based multiplayer gameplay, where everyone competes or cooperates in perfect sync, regardless of which device they're using.



2.2.7 LAN

1 - How It Works

Hosting a Game (Server Role)

When a player chooses to host a game, their machine becomes the server. The system starts listening for incoming connections and displays the host's local IP address on screen. This address is needed by other players to join the game. The host can accommodate up to four players. Once hosting is active, the game waits for players to connect.

Joining a Game (Client Role)

To join a game, players must enter the host's IP address and click the "Join" button. The system attempts to connect to the host's machine. If successful, the player is added to the current session. Each player also sends their chosen name to the host, who then synchronizes and shares the updated player list with all connected participants.

Player Management

The interface displays the number of connected players, up to a maximum of four. Each player's name is shown in a list, and the host is clearly identified. This helps all players verify who is connected and ready. When a new player joins or a player leaves, the list is updated accordingly in real time.

Starting the Game

Only the host has the authority to start the game. Once the "Start" button is pressed, a command is sent to all clients to load the game scene. This ensures that all players transition into the actual gameplay environment at the same time, maintaining synchronization.

Leaving and Connection Handling

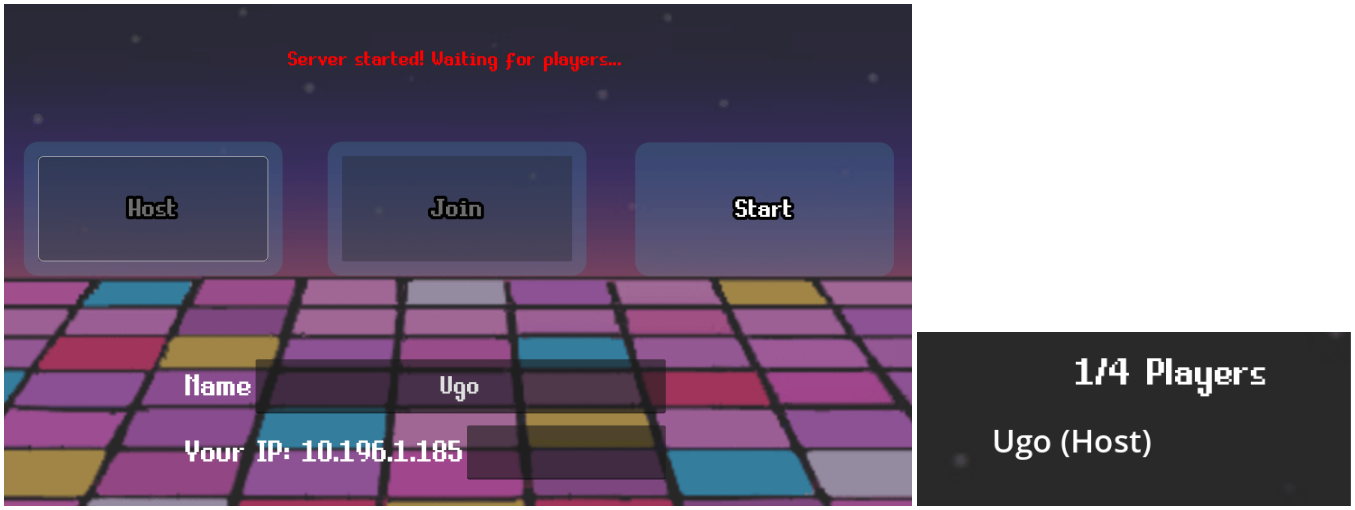
If the host leaves the session, all players are automatically returned to the main menu with a message indicating that the host has disconnected. If a player disconnects individually, they are simply removed from the session without affecting others. If a connection attempt fails, the user is notified with a clear message such as "Connection failed," and the buttons to host or join are re-enabled.

2 - Technical Overview

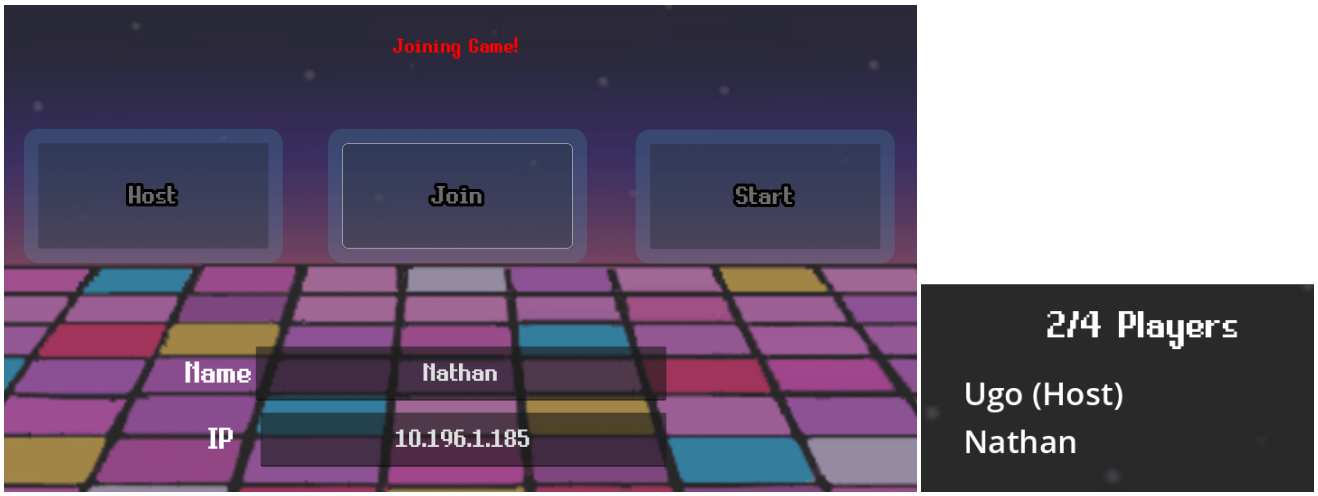
The system uses ENet, a reliable and efficient networking protocol well-suited for real-time multiplayer games. Godot's built-in Multiplayer API is used to manage communication between devices. The data exchange between players (such as names or game commands) is handled through Remote Procedure Calls (RPCs). These RPCs allow actions to be synchronized across all connected machines.

3 3 - Benefits

This LAN system enables local multiplayer experiences without relying on internet access or external servers. It is ideal for settings like LAN parties or casual local gameplay with friends. The design emphasizes stability, clear user feedback, and smooth transitions between menu states and gameplay. It also provides low-latency interaction, which is crucial for a responsive and enjoyable multiplayer experience.



When hosting, the game creates a server using `ENetMultiplayerPeer()` and listens for incoming connections on a specified port. The host can accept up to four players. Once the server is successfully started, a message is displayed: "Server started! Waiting for players...". The local IP address is also shown on screen so other players can use it to connect.



When a player clicks "Join", the program creates a network client using `ENetMultiplayerPeer()` and attempts to connect to the host's IP address on a fixed port. The IP address is entered manually by the user, since each host has a different local IP, which can vary depending on the network configuration. If the connection attempt fails, the interface displays "Connection failed"; if it succeeds, the status label updates to "Joining Game!" and the client is assigned to `Multiplayer.MultiplayerPeer`. From there, the connection is managed automatically.

Because the system uses dynamic local IPs (e.g., starting with 192., 10., or 172.), the player must input the correct host IP for each session. This ensures flexibility across different network environments.

3.1 Interface and Functionalities

3.1.1 Game Menu

The Start Title for the game is finalized and is planned to be integrated in a clear, intuitive way to ensure players can navigate effortlessly through the interface. Our aim is to create a streamlined experience, avoiding any confusion while maintaining the focus on the core gameplay. To achieve this, the Start Title is divided into different Menus :

1. Settings and Start Game

The first phase allow players to access essential game settings and start their journey. This section is featuring a straightforward and user-friendly layout. Numerous version existed and we keeping the best balance between easy implementation and visuals.
Here a preview of the different start menu :

Figure 1: Kronos Agon Main Title by Nathan First Prototype

Changes of goals has been made to improve easy implementation in Godot music is also present in the menus navigation and is never interrupted thank to a scrip communicating with the scenes

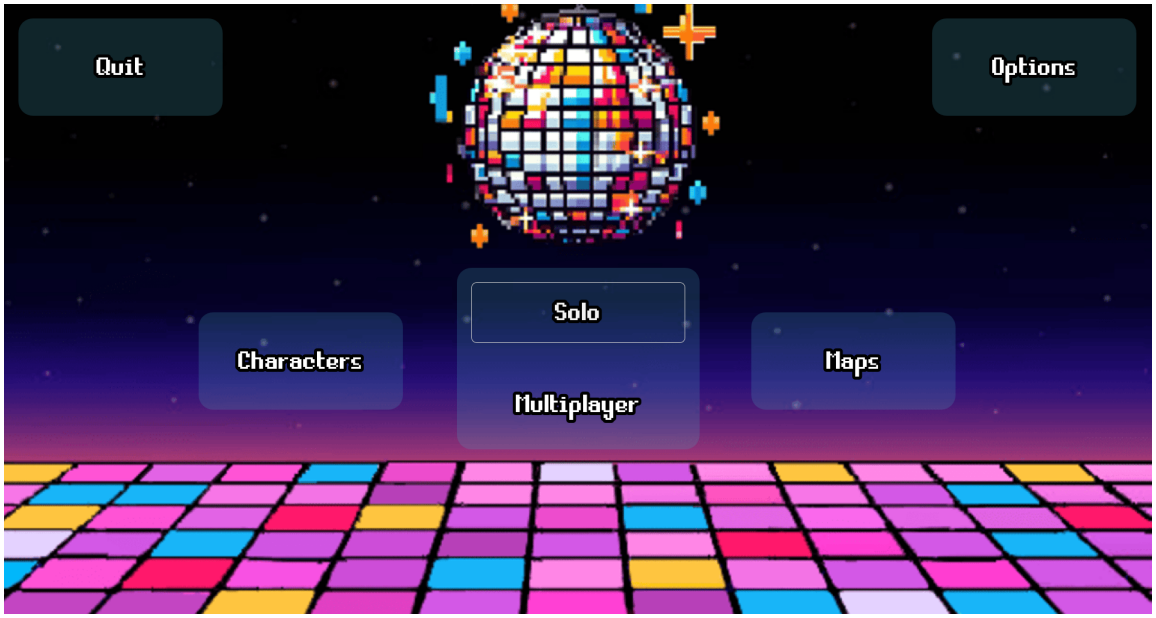


Figure 2: Kronos Agon Main Title by Nathan

2. Character Selection

We have a menu focusing on selecting a characters, a crucial part of the player's immersion and strategy. Players have the opportunity to choose from a variety of characters. This section include detailed character descriptions and visual previews, enabling players to make informed decisions about which character best suits their preferred approach to the game.
(To see the character models go to section 2.5.3 Characters)
The fighter selection use the same background as the main title (blurred in the back)

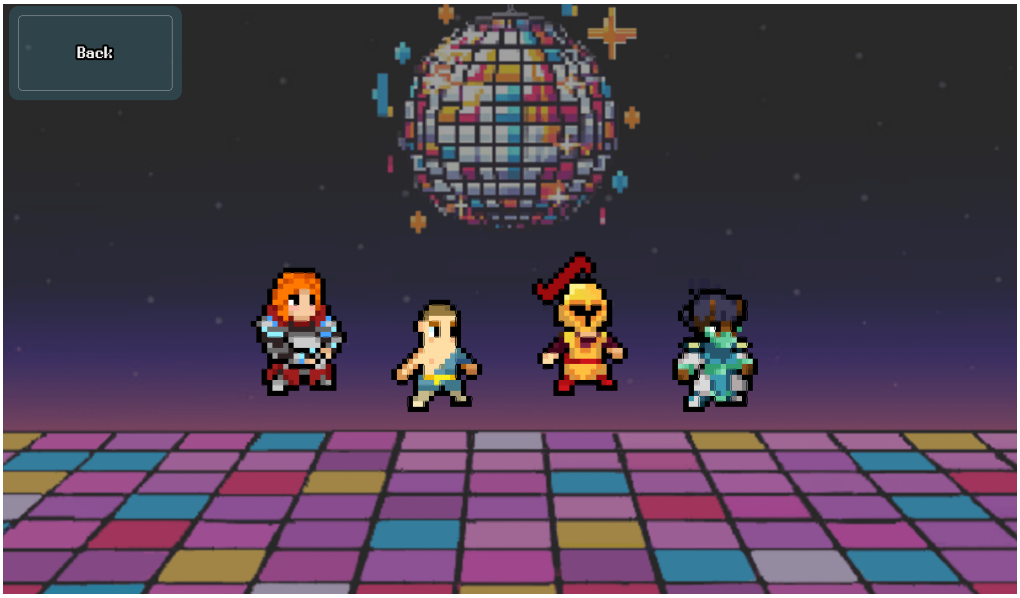


Figure 3: Kronos Agon selection characters by Nathan and Ugo

3. Parameters

In our settings menu, we've implemented a comprehensive suite of adjustable parameters so every player can tailor their experience to their preferences. Under Audio, sliders control the master volume, music volume, and SFX volume independently—allowing you to dial up the soundtrack's energy while keeping sound effects or dialogue at just the right level. In Controls, all keybinds are fully remappable: you can reassign movement. Finally, the Graphics tab lets you choose your display resolution (from low-end 800×600 up to 1920*1080), toggle between windowed, borderless windowed, and fullscreen modes, and enable V-sync or frame-rate caps to ensure smooth performance across a variety of hardware configurations.

Figure 4: Kronos Agon sound settings by Nathan

In Godot, our master-volume slider is built on an HSlider node whose min value and max value correspond to our logical volume range (for example, 0–100). We connect its value changed(float new value) signal to a handler in our Csharp script, where we convert the slider's linear value into decibels before sending it to the audio bus.

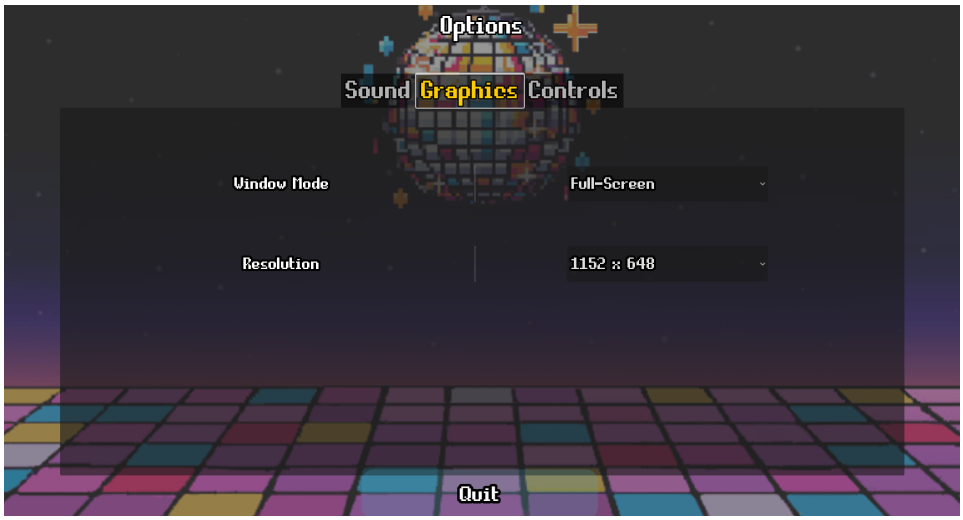


Figure 5: Kronos Agon graphics settings by Nathan

Graphics settings in Godot are implemented through a simple UI menu that lets players choose resolution and window mode at runtime. We populate an options list (e.g. available resolutions) using Godot's DisplayServer API and display it via an OptionButton.

When the player selects a new resolution, we call the appropriate DisplayServer method to resize the game window immediately, and then write those values back into ProjectSettings so they persist on restart. Window mode—whether fullscreen, windowed, or borderless—is handled in the same way: the menu selection triggers a DisplayServer window-mode change and updates the corresponding ProjectSettings key. This approach ensures that all graphics adjustments take effect instantly and remain saved without requiring manual edits to configuration files.

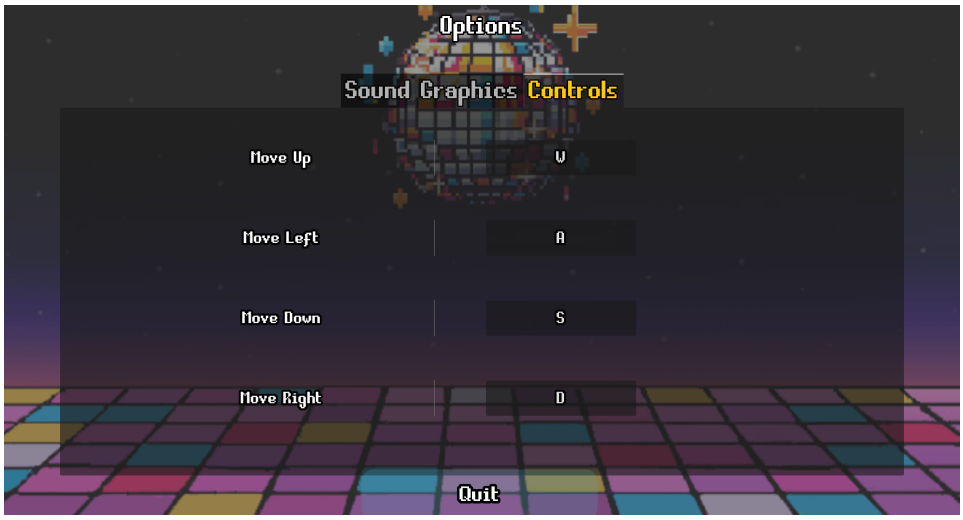


Figure 6: Kronos Agon controls settings by Nathan

Keybinding customization is handled via a dedicated controls menu that lists each in-game action alongside its current input. When a player clicks on an action entry, the UI enters a "listening" state and captures the next key or button event—even differentiating between keyboard, mouse, and controller inputs—using Godot's InputEvent system. Once the new input is detected, the script updates Godot's InputMap by removing the old binding and adding the new one for that action.

By breaking the Start Title into these manageable parts, we aim to create an on boarding process that feels intuitive and welcoming, allowing players to quickly dive into the gameplay without feeling overwhelmed. This structured approach ensures that every player, regardless of their experience level, can get started with confidence and enjoy the game to its fullest.

Figure 7: Kronos Agon odl Main Title

3.1.2 HUD and UI

The HUD (Heads-Up Display) designed to be simple and intuitive, ensuring that players do not feel overwhelmed or disoriented while navigating the game. This minimalistic approach allow players to stay focused on the gameplay itself, rather than being distracted by unnecessary visual elements. One key feature of the HUD be a tempo bar, which play a crucial role in helping players align their moves more easily with the rhythm of the music. By providing a clear, visual representation of the beat, the tempo bar enhance the player's ability to stay in sync with the music, adding a dynamic and engaging layer to the gameplay.

In addition to the HUD, the game's User Interface (UI) incorporate essential menus and overlays to facilitate navigation and provide critical information. The pause menu grant players access to options such as adjusting settings, returning to the main menu, or resuming the game seamlessly. Another important aspect of the UI be the interface that appears between rounds. This interface display key details, such as the scores of the players participating in the game, offering a clear overview of performance and encouraging friendly competition.

The goal is to create an interface that is not only functional but also complements the overall aesthetic and flow of the game. By striking a balance between simplicity and utility, the HUD and UI aim to enhance the player's experience without detracting from the core elements of the gameplay.

3.1.3 Player indicators

To provide a balanced and comprehensive gameplay experience, the game include additional visual indicators on the game tiles that work in harmony with the tempo bar displayed in the UI. These tile-based hazard indicators are designed to alert players to any imminent dangers or obstacles present on the map, giving them a clear understanding of potential threats. By doing so, players have the opportunity to anticipate and respond to hazards in advance, reducing the likelihood of dying unexpectedly or feeling frustrated by unforeseen challenges.

These indicators be seamlessly integrated into the game's visual design, ensuring that they are noticeable without being overly intrusive or detracting from the immersive atmosphere of the map. Whether it's a visual cue such as a glowing effect, a change in color, or an animation that highlights an approaching hazard, the goal is to communicate critical information to the player in a way that feels natural and intuitive.

This system not only enhances the overall fairness of the game but also empowers players to develop strategies and improve their reaction times, as they learn to interpret and act upon the visual signals provided by the hazard indicators. By combining these tile-based warnings with the tempo bar, the game strikes a balance between rhythm-based gameplay and situational awareness, ensuring that players remain engaged and challenged without feeling overwhelmed or confused.

Ultimately, these features work together to create a more enjoyable and rewarding experience, allowing players to focus on honing their skills and navigating the game world with confidence and precision.

3.2 AI Behavior

Our AI system is built to strike a balance between clever behavior and streamlined logic. While it's relatively simple under the hood, the goal is to make it feel responsive, lively, and fun to compete against. Just like human players, the AI adheres to the rhythm-based rules of the game—it moves on beat, avoids hazards, and stays in sync with the pulse of the arena.

Every time the green input window arrives (i.e., a valid action beat), the AI evaluates its position and decides what to do based on two key factors: danger and randomness.

- **If the AI is standing in a danger zone:**
  - It has a 70% chance to move.
  - It first scans all nearby tiles to find safe ones (tiles without incoming hazards).
  - From the list of safe directions, it randomly picks one and moves there, adding unpredictability to its escape.
- **If the AI is not in immediate danger:**
  - It still has a 30% chance to make a move, just to keep things interesting.
  - This prevents the AI from becoming static or too passive, making it feel more like an active opponent—even in calmer moments.

This probability-driven system gives the AI a sense of awareness without relying on heavy computations. It reacts intelligently when under threat but still exhibits spontaneous behaviors, making it feel more "alive." The mix of logic and randomness ensures that players can't easily predict every move, which keeps the gameplay fresh and engaging—no two matches ever feel exactly the same.

3.3 Graphics

A picture is worth a thousand beats—and in "Kronos Agon," our graphics are the heartbeat of the experience. Every pixel—from the tiniest tile to the grandest background vista—has been hand-tuned to match our mythic themes and pulse in time with the music. By marrying crisp 16×16 pixel art with dynamic animations and cohesive color palettes, we transport players straight into the realms of Olympus, the depths of Tartarus, and the rolling tides of the Ocean.

This section dives into the visual magic:

- **Tile Designs:**
  - Intricate patterns that dance with each beat—marble runes on Olympus, cracked obsidian on Tartarus, and swirling sandbanks in the Ocean.
  - Ambient details like drifting clouds, flickering embers, and lapping waves add life to every stage.
- **Character Art:**
  - Expressive sprites with dual outlines for perfect legibility on any background.
  - Idle animations teeming with personality: from Adonia's ember twirls to Skotádion's spectral shuffles.
- **Environmental Assets:**
  - Interactive props—banners that flutter, chains that clank, and tide pools that wash over tiles in rhythm.
  - Layered parallax backgrounds that add depth and drama without stealing the spotlight.

Get ready to see—and feel—the world of "Kronos Agon" come alive in every frame!

3.3.1 Maps

"Kronos Agon" throws players into three wildly different arenas, each built on a 12×8 tile grid but bursting with its own flavor:

- **Mount Olympus:**
  - *Vibe:* Bright, airy, and majestically serene—imagine marble columns, drifting clouds, and golden rays.
  - *Palette:* Soft whites, pale blues, and gleaming gold accents.
  - *Layout:* A tidy rectangular grid (12×8) with open sightlines, inflatable cloud platforms, and decorative runes pulsing to the beat.
- **Tartarus:**
  - *Vibe:* Dark, brooding, and infernally intense—think molten fissures, jagged obsidian, and flickering embers.
  - *Palette:* Deep crimsons, smoldering oranges, and shadowy purples.
  - *Layout:* A menacing 12×8 grid laced with lava pits on every third tile, spiked pillars that emerge in rhythm, and chains that rattle with every beat.
- **Ocean:**
  - *Vibe:* Calm yet dynamic—picture rolling waves, sunlit reefs, and treasure-strewn sandbanks.
  - *Palette:* Aquas, sandy beiges, and pearl-white highlights.
  - *Layout:* A 12×8 grid dotted with tide pools that wash over tiles in time with the music, coral columns that sway, and hidden currents that tug at unwary fighters.

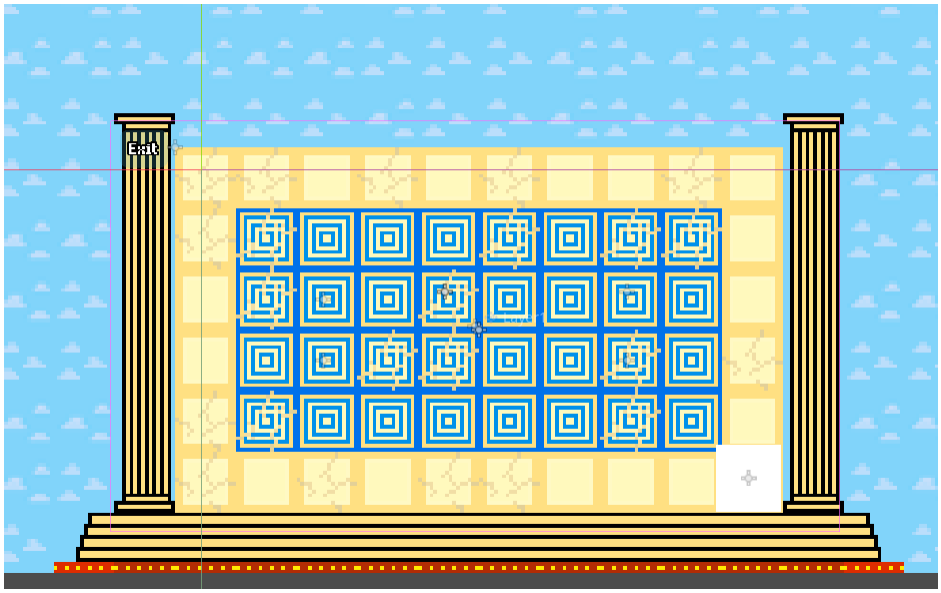


Figure 8: Board of the God's houses

Each map is carefully tuned to its mythic theme, offering distinct visual cues and interactive hazards that keep the rhythm combat fresh and immersive—whether you're battling beneath Zeus's throne, surviving the underworld's wrath, or dancing on the ocean floor!

For the Tartarus, we envisioned creating a map that exudes a sense of heaviness and despair, utilizing a palette of dark, muted colors to effectively convey the difficulty and oppressive atmosphere of the environment. This map is designed not only to challenge players but to immerse them in a foreboding and tense experience, making every step feel like a struggle.

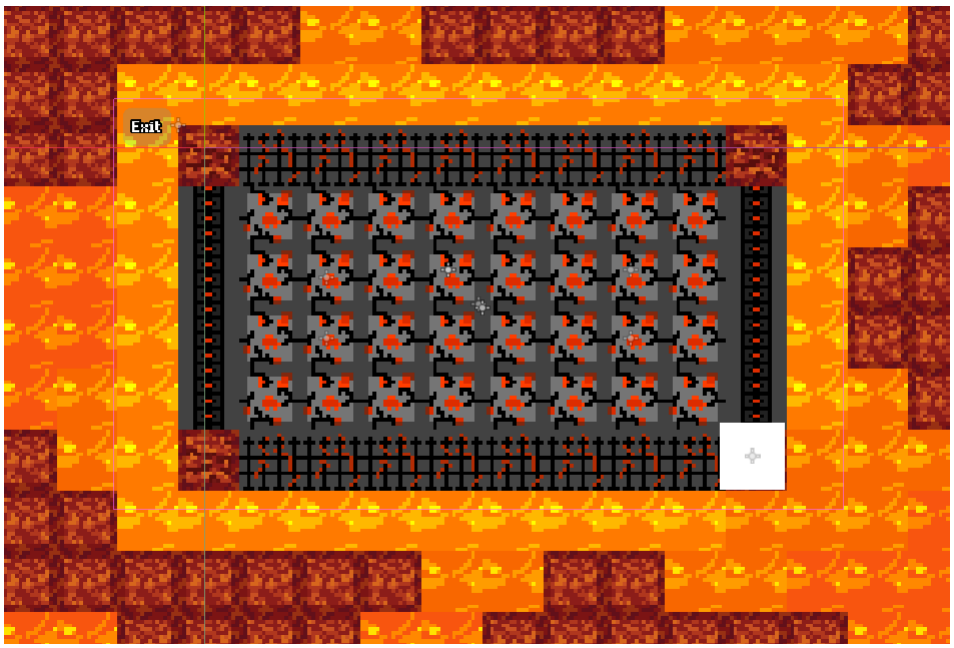


Figure 9: Board of Tartarus

For the Ocean, we thought of a map that resembles an island in the middle of the sea, with a calm but dramatic atmosphere around it reminding us the different climates of the ocean and the house of Poseidon.

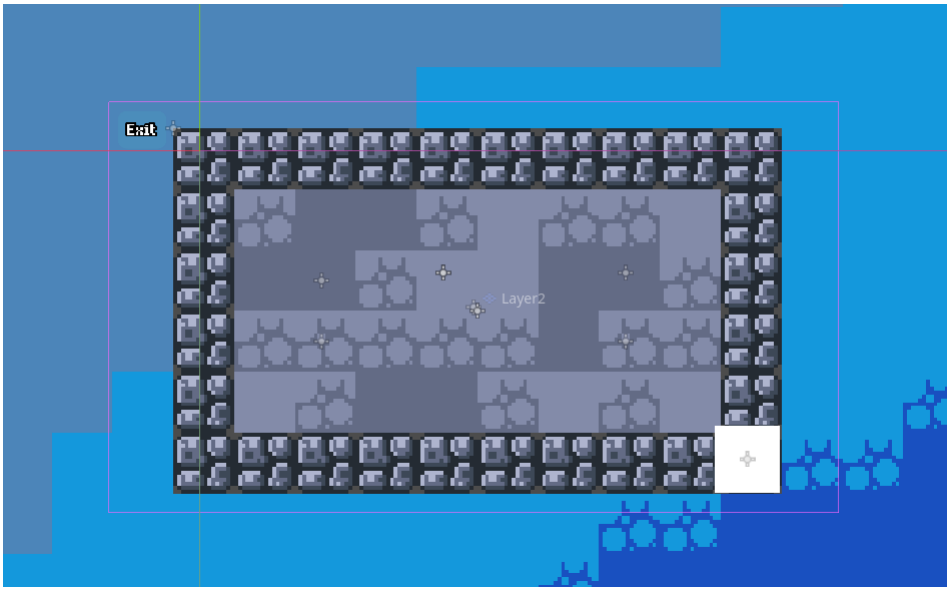


Figure 10: Board of Tartarus

3.3.2 Assets

When we jumped ship from Unity to Godot, we leveled up our pixel game—everything now rocks a crisp 16×16 look! We've stayed true to our mythic roots with two wildly different atmospheres:

- **Tartarus Tileset:**
  - *Mood:* Dark, infernal, and a little bit scary—think molten rock, flickering embers, and jagged obsidian spikes.
  - *Palette:* Deep reds, ominous purples, and smoldering oranges to make you feel like you're right in the heart of the Underworld.
  - *Highlights:* Lava pools that bubble on the beat, chains that clank in time, and cracked stone floors that glow with hellfire.
- **Mount Olympus Tileset:**
  - *Mood:* Bright, majestic, and serene—imagine marble columns, drifting clouds, and golden sunbeams.
  - *Palette:* Soft whites, sky blues, and gleaming golds for that "home of the gods" vibe.
  - *Highlights:* Flowy banners that flutter to the rhythm, gleaming runes that pulse with divine energy, and polished marble tiles that sparkle underfoot.

Below are the key building blocks for our underworld spectacle—get ready to stare into the abyss (and maybe tap your foot to the lava's rhythm)!

Here are the different assets for the Tartarus map:

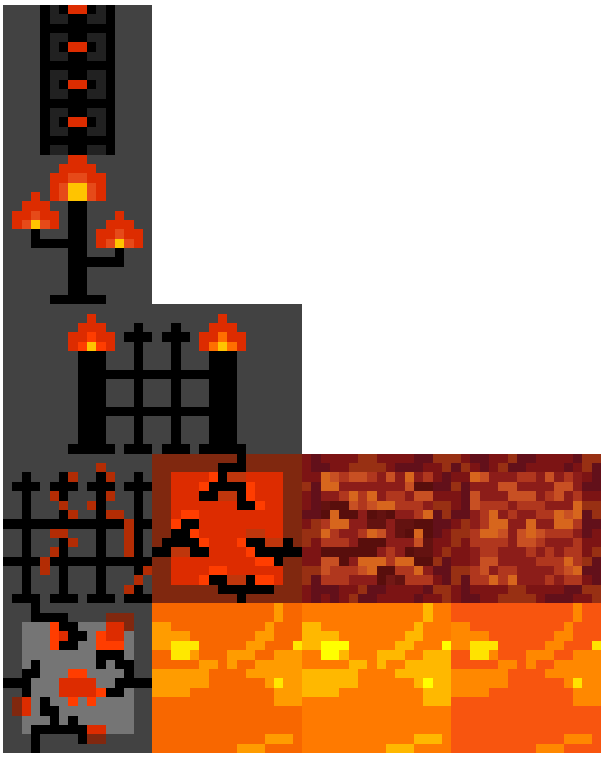


Figure 11: Assets for Tartarus Map

The first tile at the top represents a wall that separates the playable area from the lava, serving as a boundary for the map. The second row shows a decorative chandelier, which is not part of the map itself, as it is simply a prototype used during the map design process.

The third row was intended to represent the boundary of the barrier located at the top of the map, both on the right and left sides. On the fourth row, the tile on the far left represents the same barrier mentioned earlier. To its right, there is a red tile that could have been part of the playable area, contrasting with the grey playable tile.

The next two tiles are rock blocks, which serve both as the edge of the barriers and as decorative elements for the map. On the last row, the top-left tile is the grey playable tile, this is where all the gameplay takes place, including player and AI movement, random attacks, and more. The remaining three tiles are different colored lava tiles, used to add visual variety and richness to the decorative areas.

And here are the different assets of the Mt. Olympus map :

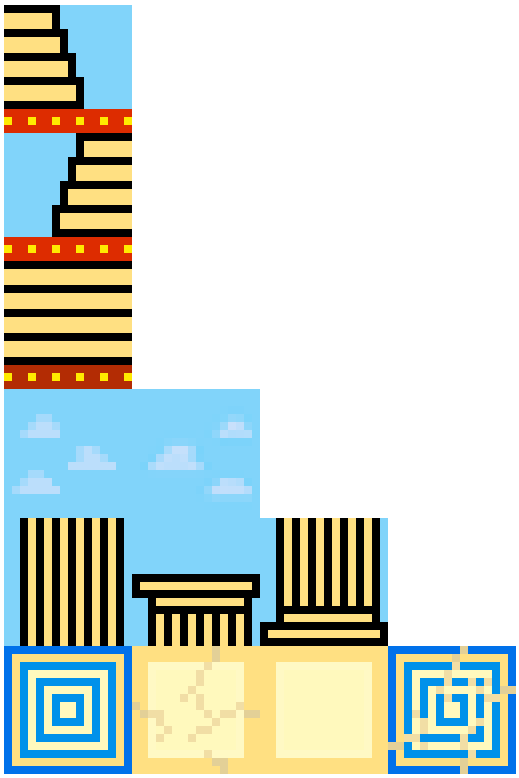


Figure 12: Assets for Mt. Olympus Map

The first three rows represent the base and extremities of a grand staircase at the bottom of the map, inspired by ancient Greek temples and mythology. These elements help convey a sense of grandeur and classical architecture.

The fourth row features decorative sky tiles with clouds, placed at the top and sides of the map to create an elevated, open atmosphere, as if the map were set high above the ground or among the heavens.

The fifth row includes parts of a Greek temple pillar, the top, bottom, and central shaft. These are used as decorative architectural elements throughout the map, reinforcing the mythological theme.

The final row contains the playable area tiles. The blue square patterned tiles form the center of the map, with some broken variations for visual diversity. The lighter-colored tiles mark the outer limits of the playable zone, also featuring damaged versions to suggest age or battle damage.

3.3.3 Characters

Step into the Disco-Arena and meet our fabulous quartet of fighters—each one strutting their unique idle animations like they own the dance floor! To keep everybody crystal clear (even when the beat gets wild), every character comes with two snazzy outline options:

- **White Outline:** Perfect for those moody, shadowy maps like Tartarus—think "ghostly glow" so you never lose track of your hero.
- **Black Outline:** Shines on bright stages such as Olympus or Ocean at high noon—imagine a bold, inky border that pops against sunlit skies.

Our magic asset pipeline handles the switch automatically at load time, scouting the map's vibe and slapping on the right outline so your fighter always stands out—no manual fiddling required!

Here's the lineup of beat-battling legends:

- **Adonia, the Fireblade Sentinel:**
  - *Idle Move:* She gives her flaming sword a sassy twirl, sprinkled with drifting embers that groove to the beat.
  - *Fun Quirk:* Sparks pop at her feet every other beat—talk about fiery footwork!
- **Hoplite, the Spartan Warrior:**
  - *Idle Move:* He rocks a shield-brace stance, tapping his shield like it's his personal metronome.
  - *Fun Quirk:* His helmet plume sways in perfect time—because even Spartans appreciate a good rhythm.
- **Filippos, Acolyte of Poseidon:**
  - *Idle Move:* Tiny water ripples ooze from his sandals and his trident glows in a chill aqua pulse.
  - *Fun Quirk:* Every so often he summons a little wave—proving he's got sea power and style.
- **Skotádion, Stygian Warden:**
  - *Idle Move:* He shuffles in shadowy coils, with ghostly lights flickering in his eyes on the off-beats.
  - *Fun Quirk:* His cloak billows unpredictably—think "spooky dance partner" vibes.

Figure 13: Adonia

Adonia, the Emberblade Sentinel Adonia stands out on the battlefield with her fiery mane of copper-red hair braided into a warrior's knot, each strand flickering like living flame against the cold steel of her polished bronze armor. Her breastplate is embossed with the intertwining serpents of Eris, symbolizing both her willingness to sow discord among foes and her unwavering determination in the heat of combat. Twin horned pauldrons crest her shoulders, and a crimson tabard—stitched with durable leather runes—flows behind her as she moves in time to the divine tempo.

Lore Born beneath an omen of shooting stars in the shadow of Mount Helicon, Adonia was raised by a secretive order of temple-guard maidens sworn to protect the sacred lyres of Apollo. As a child, she discovered that her heartbeat naturally resonated with the god's celestial music—allowing her to sense shifts in cosmic rhythm that guided her sword strikes. When Apollo decreed that the next Olympian Ascension be a contest of harmonic combat, Adonia stepped forward, determined to prove that her blade could dance as deftly as any instrument.

Throughout the tournament, Adonia's signature "Emberblade Waltz" attack sees her spinning in perfect sync with the soundtrack's crescendo, each arc of her sword trailing sparks that dazzle and disorient opponents. Though she fights for honor rather than glory, whispers in the Underworld tell of Hades himself pacing the shadows to watch her battles, intrigued by her ability to channel fire and fury in equal measure. Adonia's journey in Kronos Agon is one of grace under pressure—where every step, every slash, and every breath must harmonize with the beat of the gods themselves.

Figure 14: Hoplite

Hoplite, the Rhythm of the Phalanx Hoplite cuts an imposing figure in burnished bronze greaves and cuirass, the polished metal embossed with the sigil of Sparta—a lambda set within a stylized shield motif. His crimson cloak, fastened by a Spartan brooch at the shoulder, billows behind him as he locks his aegis helmet into place, its black horsehair crest sweeping back like a war banner. In his steady grip rests a long spear tipped with tempered iron, while a round aspis shield, rimmed in iron and painted deep maroon, hangs at his side, ready to intercept both blow and beat.

Lore Forged in the crucible of Lacedaemonian rigor, Hoplite was inducted into the agoge at a tender age, his very heartbeat drilled to echo the disciplined cadence of Spartan war drums. When the call of the Olympian Ascension spread across Greece, he saw an opportunity to prove that Spartan order could tame even the capricious whims of divine rhythm. Trained in phalanx formation and honed by relentless drills beneath Mount Taygetus, Hoplite wields his spear not just as a weapon, but as a metronome—each thrust timed to a beat only he can hear. Tales whisper that his signature move, the "Shieldwall Stomp," sends shockwaves through the arena in perfect sync with the soundtrack's bass pulse, shattering enemy defenses both physical and mental. Though he fights for Sparta's unyielding honor, there are those who suspect his true quest is to master the cosmic tempo itself—and, in doing so, uplift his homeland to embrace the harmony of the gods.

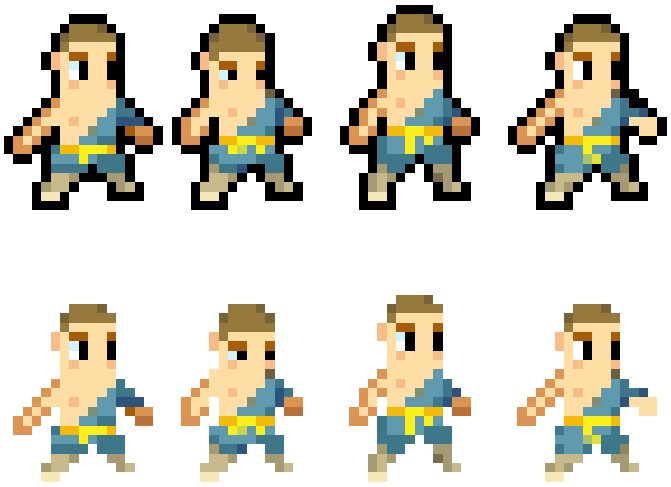


Figure 15: Filippos

Filippos, the Trident's Acolyte Clad in flowing azure robes trimmed with sea-green embroidery, Filippos moves with the fluid grace of ocean currents. His head is shaven save for a single braided topknot that sways like kelp in tide, and his calm gray eyes reflect the storm-wracked depths of the seas. Instead of heavy armor, he bears supple leather bracers inscribed with Poseidon's wave sigil and carries a slender trident-staff tipped with crystalline coral—its three prongs humming softly with latent aquatic power.

Lore Found as an orphan on the shores of the Aegean, Filippos was raised by the monks of a hidden temple dedicated to Poseidon. There, he learned to harness the rhythm of the tides, meditating daily to the chants that echoed like crashing waves. When Apollo's Olympian Ascension challenged mortals to prove their divine resonance, Filippos saw an echo of his own calling: to wield water not only as a force of nature, but as a melodic weapon. His signature "Tidal Requiem" unleashes a sweeping arc of brine that pulses in perfect time with the arena's percussion, knocking adversaries off balance as though caught in a whirlpool. While his serene demeanor belies a fierce devotion, whispers among the other contenders tell of Filippos stepping onto the battlefield barefoot—feet damp as if just emerged from surf—ready to show that the truest power lies in harmony between man and sea.

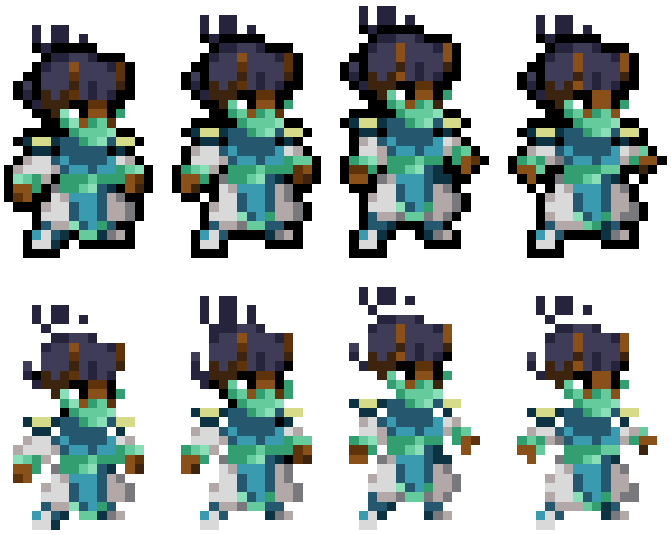


Figure 16: Skotádion

Skotádion, Warden of the Stygian Chasm Emerging from the obsidian depths of the Underworld, Skotádion appears as a towering silhouette of living shadow. His skin is charcoal-black and seems to absorb the dim glow of the Hadean realm, while tendrils of smoky darkness coil around his horned crown like restless serpents. Cracks of molten crimson light pulse beneath his skin at each breath, and his eyes burn with an infernal glow that flickers like dying embers. Clad in jagged, rune-carved greaves of brimstone, he wields a barbed glaive—its shaft forged from bone and its blade blacker than the void itself.

Lore Born from the anguished cries of souls condemned to eternal torment, Skotádion was appointed by Hades as the sentinel of the Styx's deepest chasm. Legends say that every time the river's waters seethe with new wrath, Skotádion's molten veins surge, and he rises to scour the Underworld of intruders and rebellious spirits. His signature "Oblivion Maw" attack opens a rift in shadow, swallowing enemies in pure nothingness timed to the sorrowful dirge that echoes through Tartarus. Though mortal heroes rarely survive his domain, whispers tell of a lost chorus of shades bound to his will—spectral wraiths that dance at his command, fueling his strength with the rhythm of their lament. In Kronos Agon, Skotádion fights not for glory, but to ensure that no soul escapes the darkness he embodies.

3.3.4 Animation's

Alongside the new characters, we are also focusing on enhancing the game's visual and immersive aspects by introducing animations.

These animations bring life to the characters, showcasing fluid and dynamic movements that highlight their personalities and actions.
Whether it's a character's dancing, attack sequence, or interaction with the environment, the animations are being designed to add depth and polish to the overall presentation.

These visual upgrades are intended to make the game world feel more alive and engaging, ensuring that every moment, from battles to exploration, is as captivating as possible.

The animation process as started like seen in the image above there is an idle form of the fighter (that's why there are four of each version) Nathan is currently learning of how animate in Photoshop to ease the jobs of implementing the character in the final game.

In a pixel art game, attack animations play a crucial role in making the gameplay feel responsive and satisfying, even with a limited number of frames. By focusing on key visual elements, we can create impactful effects that enhance the gameplay experience without requiring overly complex animation.

Creating attack animations for a pixel art game requires a balance between fluidity and efficiency, especially when working with limited frames. For a dynamic feel, we designed a few distinct attack effects, including a sharp thunder strike and a vibrant rainbow beam, and a small 1x1 explosion. The thunder animation consists of just a few frames, emphasizing a sudden flash followed by jagged energy dispersing outward, giving it a quick and impactful look. Meanwhile, the rainbow beam, though minimal in frames,shows the different colors of the rainbow as it shoots forward, creating a magical yet concise effect. The tiny 1x1 explosion adds an extra touch of feedback, giving attacks a subtle yet satisfying impact. By carefully timing each frame and using contrast effectively, these animations maintain a strong visual presence without overwhelming the game's pixel aesthetic.

While developing the game, we made new attacks, one inspired by the thunder of Zeus but this time with a splash attack effect and the other one a meteorite that falls upon the player doing splash damage as well.

Figure 17: Different frames of the lightning attack

Figure 18: Different frames of the Rainbow beam

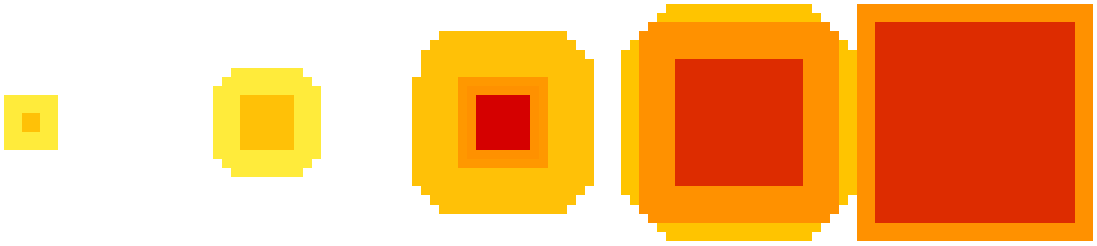


Figure 19: Different frames of the 1x1 Explosion

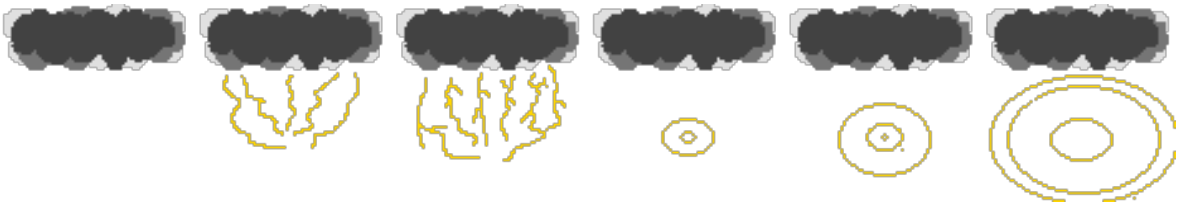


Figure 20: Different frames of the thunder attack

Figure 21: Different frames of the meteorite attack

Unfortunately, the attacks will not be implemented in the game due to a lac of experience in Godot implementation but we will surely add them in a future update so make sure to check it out.

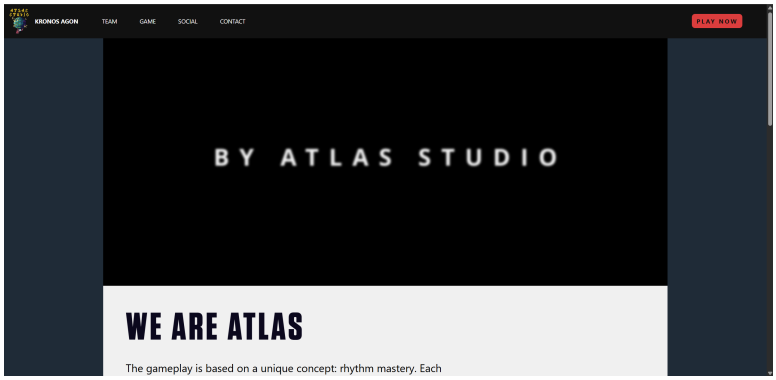
3.4 Website

3.4.1 Theme

Atlas Studio Website

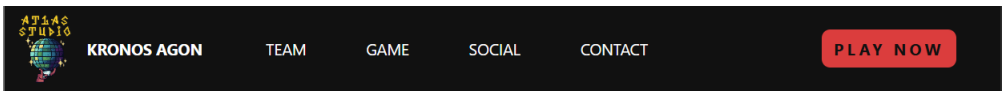
The website is an essential part of our project as it represents our studio, Atlas Studio, and promotes our game Kronos Agon. We developed it using HTML and CSS with Visual Studio Code, one of the most versatile and widely-used web development environments.

Creating this website allowed us to explore core concepts in front-end development, including layout architecture, responsiveness, user interface design, and accessibility principles.

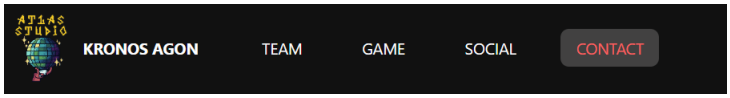


The image above shows an early structure of the homepage. The large gray box is reserved for an animated game intro, while the section below introduces the studio. Layout and spacing are already defined, though color and visual identity are still in prototype mode.

3.4.2 Navigation System

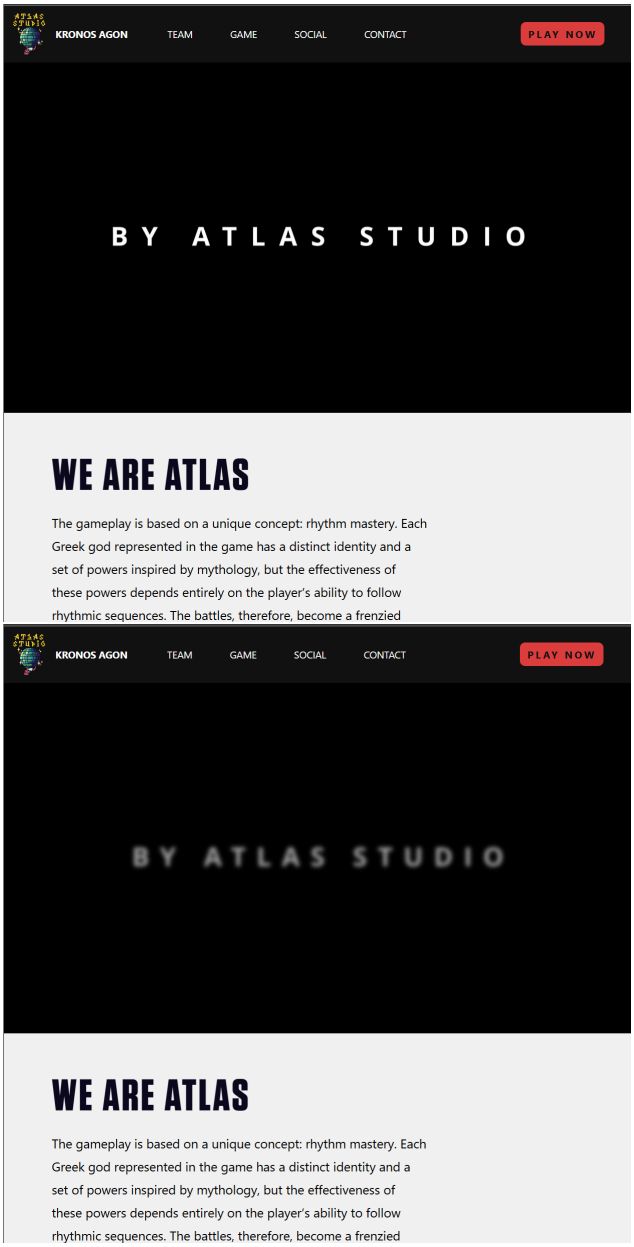


Navigation is a core aspect of user experience. We implemented a horizontal navigation bar accessible from every page, offering intuitive access to key sections: **Home**, **Game**, **Team**, **Contact**, and a clear *"Play Now"* button for downloading Kronos Agon.



We added subtle hover animations to enhance interactivity: on mouseover, the text changes color (to pink), and a border appears with a smooth 0.3-second transition. These small details greatly contribute to the modern look and feel of the site.

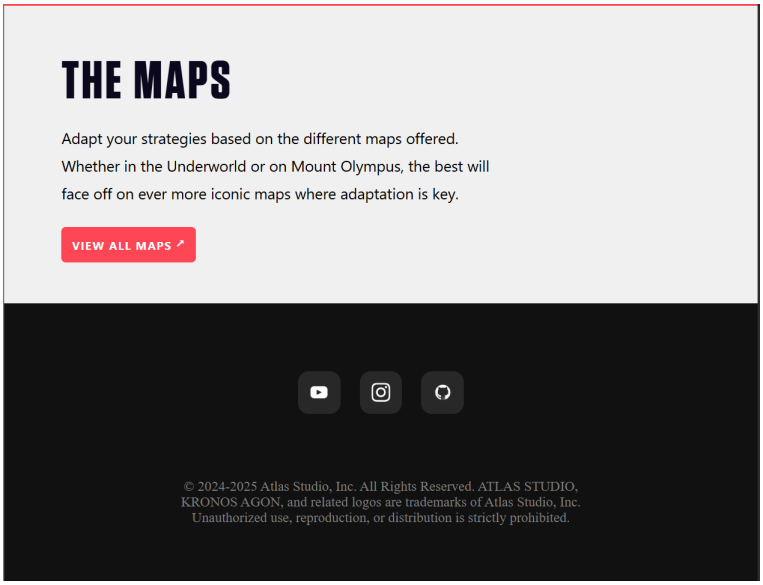
3.4.3 Video Section



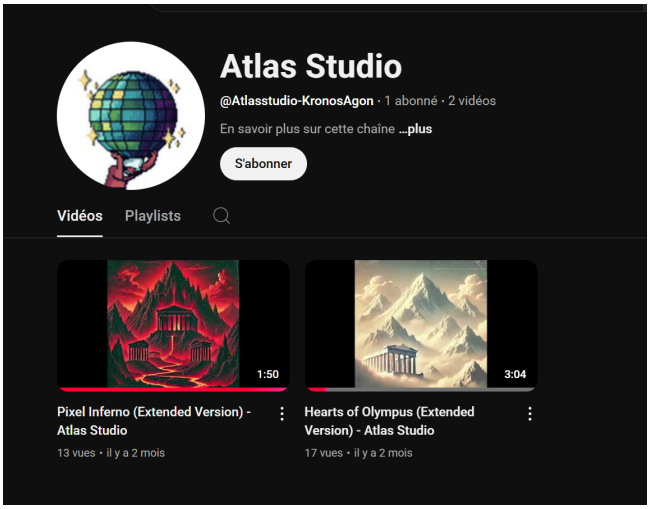
At the very top of our homepage is a short teaser video produced by Jérémie. This five-second animation opens with the text "BY ATLAS STUDIO" and fades away smoothly. While simple, it immediately conveys our identity and professionalism.

The implementation was done using the native `<video>` HTML tag with autoplay and muted attributes. In future updates, we plan to include a full-length gameplay trailer.

3.4.4 Footer and Social Links

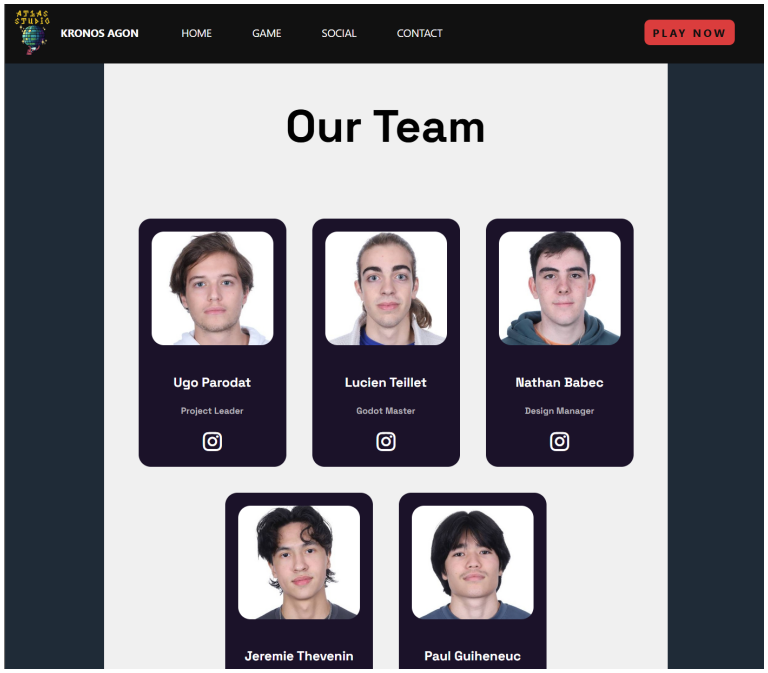


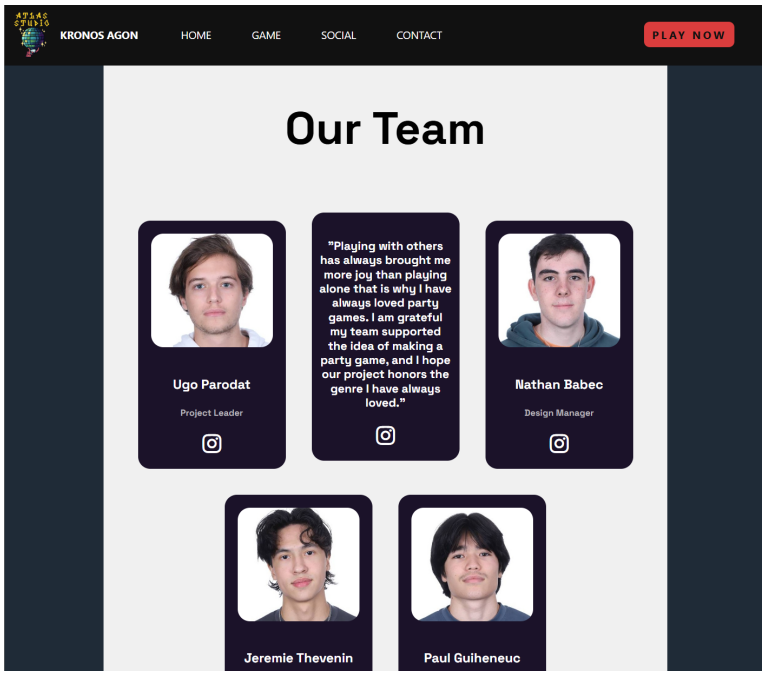
Each page ends with a consistent footer including copyright information, site ownership, and direct links to our social media.



Users can access our YouTube channel GitHub repository and Instagram through clickable icons.

3.4.5 Team Presentation



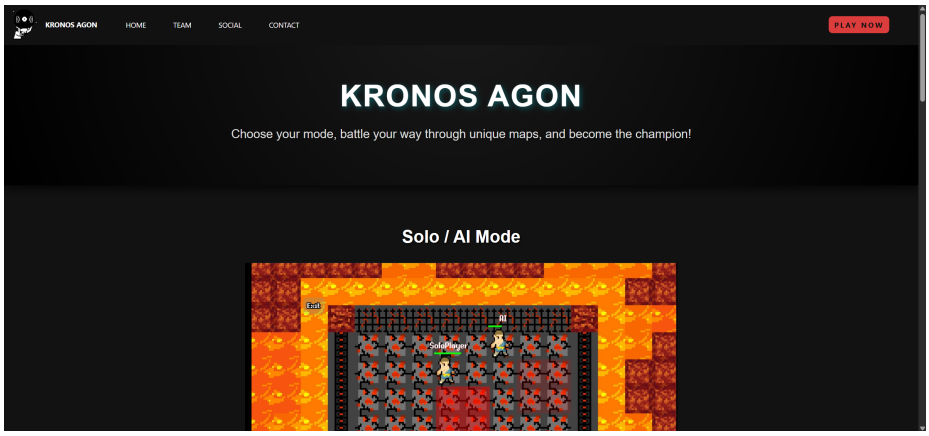


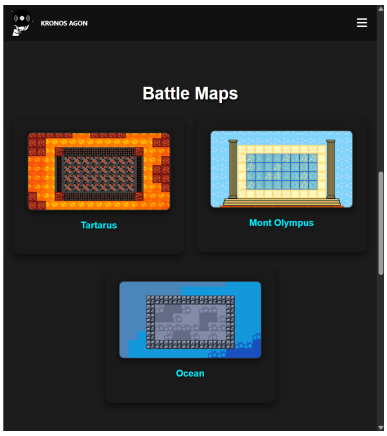
This section introduces the members of Atlas Studio. Each contributor has a dedicated block including their photo, role, and a short biography. Whether developers, designers, or artists, every member is highlighted.

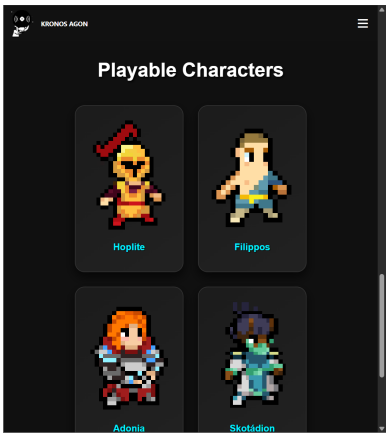
The visual layout ensures clear hierarchy and readability. Improvements are still in progress regarding color contrast and spacing for visual clarity.

3.4.6 Game Presentation

On the second page we can find a quick presentation of our game with the main characteristics as solo / ai, multiplayer gameplay the different maps and playable characters. The solo and multiplayer presentation are small gameplay videos.

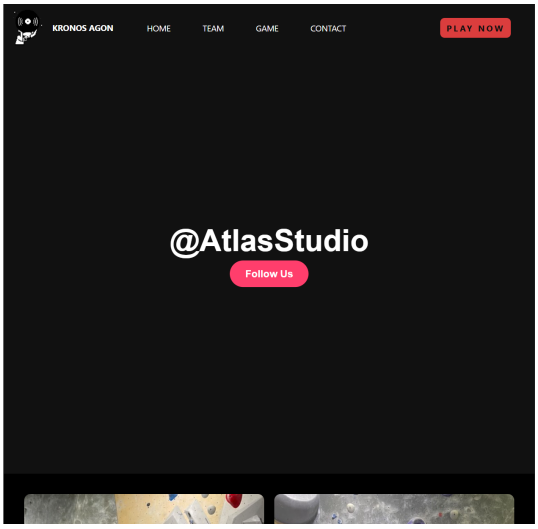


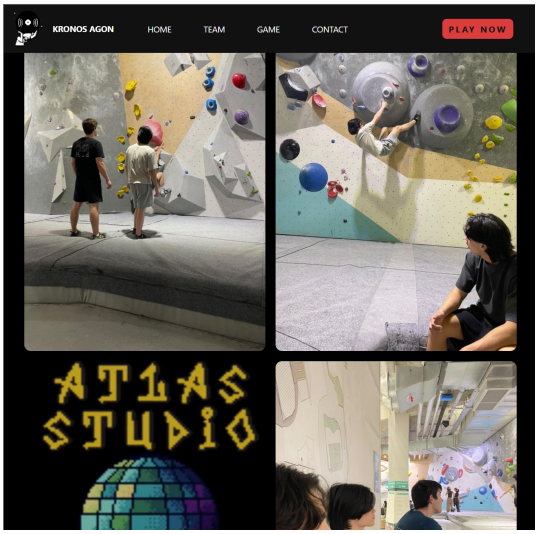




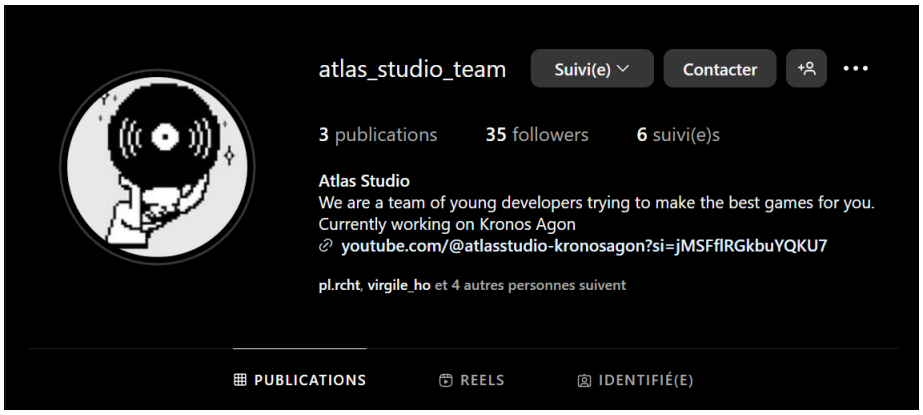
3.4.7 Social Media

Stay connected with us through our Instagram page, where we regularly share updates, behind-the-scenes moments, and highlights from our journey.





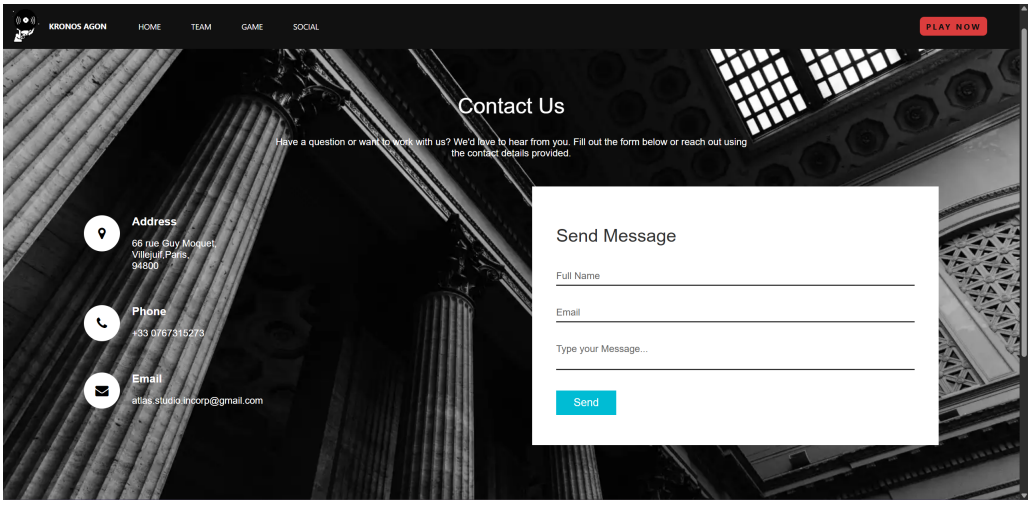
This section features a curated selection of our social media content, including eye-catching photos and short video clips taken directly from our Instagram stories and posts. It offers a visual snapshot of our experiences and milestones, giving followers an easy way to stay up-to-date and feel part of the adventure.

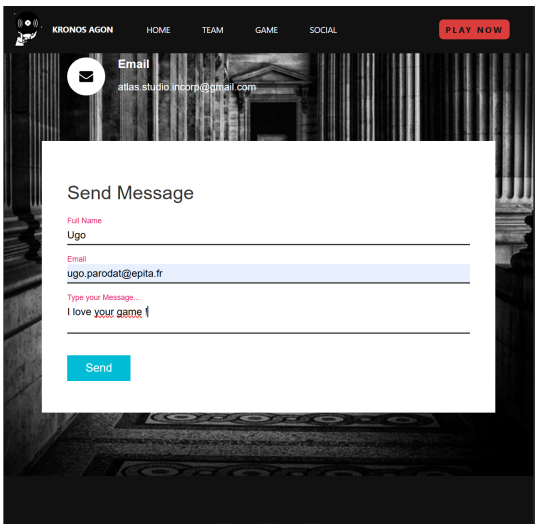


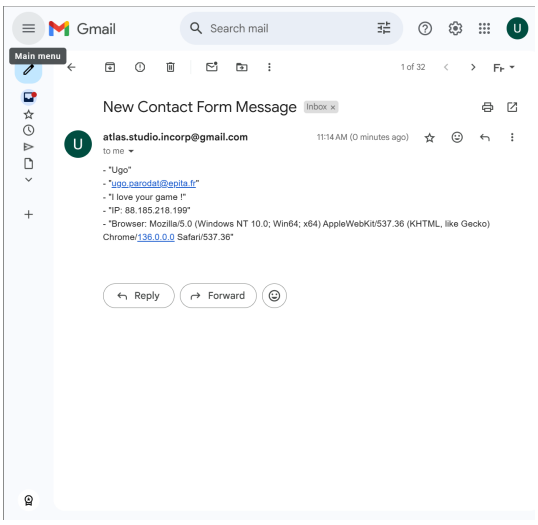
Simply click on the follow button on our website and you will be redirected directly to our instagram page.

3.4.8 Contact Us

Welcome to our contact page your direct link to getting in touch with us.



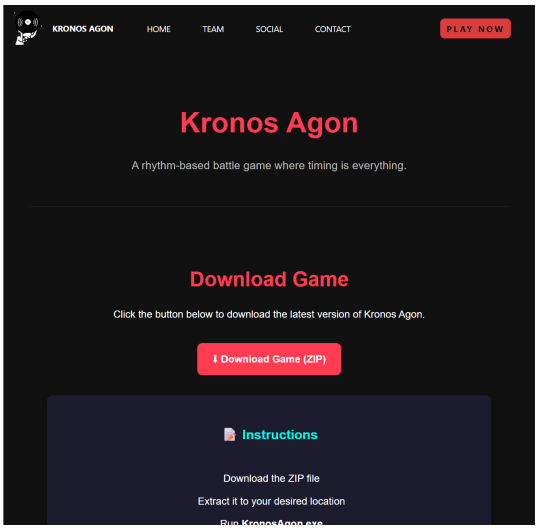


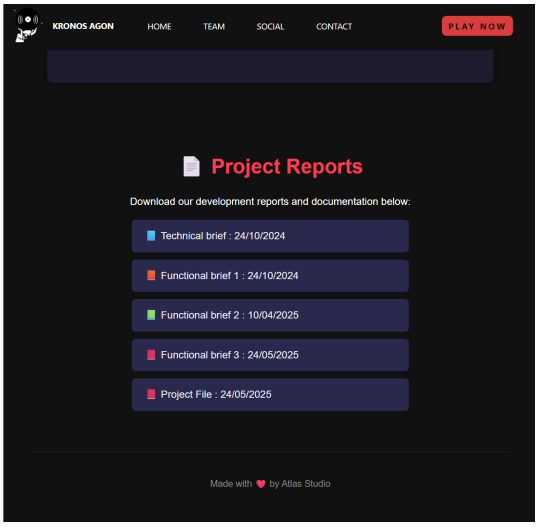


Simply fill out the contact form and hit send your message will be sent directly to the official Atlas Studio email. The form submission works through JavaScript, using "Render", a free cloud service platform that hosts the backend. When the form is submitted, the data is processed and securely transmitted to our server, which then forwards the content to our email inbox in real time. This ensures fast, reliable communication without the need for manual handling.

3.4.9 Download

Welcome to the download page of our website.

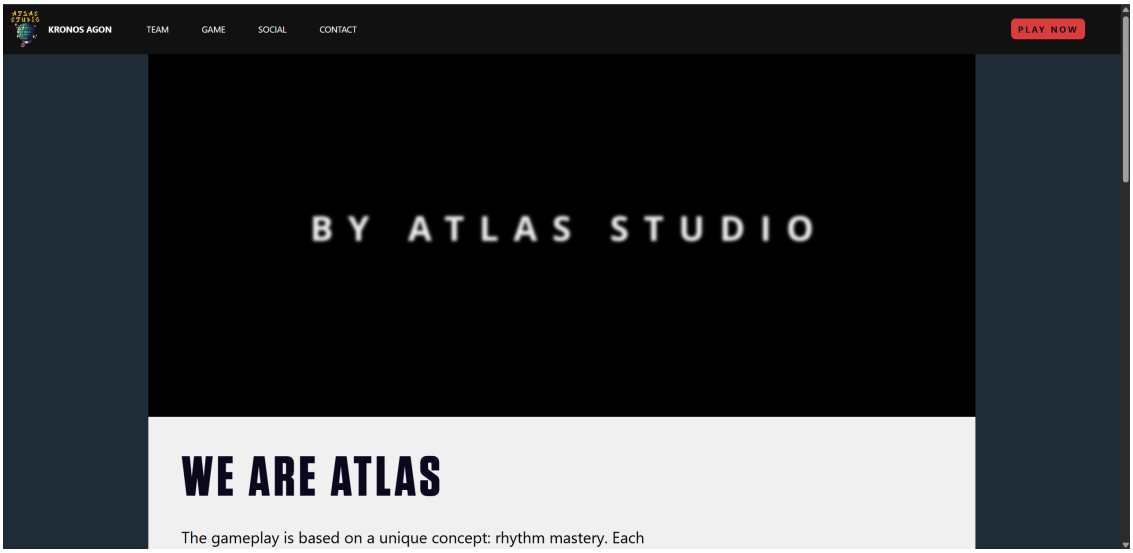


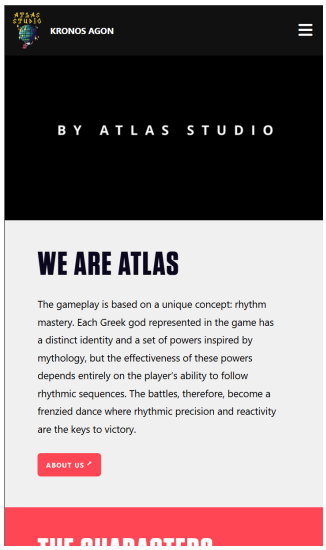


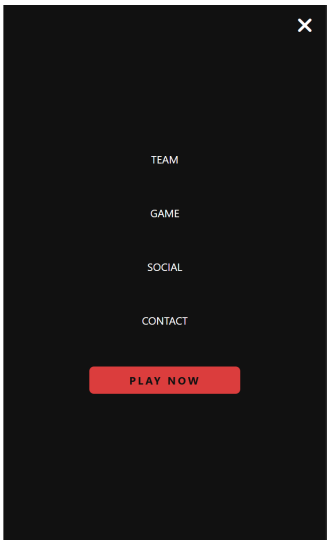
Here, you can download the game itself along with all the official documents we have compiled throughout the project. This includes technical and functional briefs, progress reports. You will also find installation guides and user manuals inside the project file zip to help you get started quickly and easily.

3.4.10 Responsive Design

Our website is fully responsive, which means it automatically adjusts its layout and appearance to fit any screen size, whether you are using a desktop computer, a tablet, or a smartphone. This allows users to navigate the website easily without needing to zoom in or scroll side to side.







We achieved this responsive design using a combination of "CSS Flexbox", which helps structure and align content neatly on the page, and "`@media` queries", which detect the size of the user's screen and apply different styles depending on whether it is a phone, tablet, or computer. Thanks to this approach, every user gets a smooth and visually consistent experience, no matter what device they use to access the our website.

3.4.11 Media Queries in CSS

This image is a practical example of how we use media queries in our website. You don't need to understand the exact code shown what is important is understanding what it "does". Media queries are one of the key tools that make our website flexible and responsive, allowing it to adapt smoothly to different screen sizes.

```css
@media (max-width: 950px)
{
    .topbody, .midbody, .midbody2, .copyright
    {
        margin: 0;
    }

    h1.we, h1.we2
    {
        margin-left: 30px;
        padding-top: 20px;
        font-size: 7vw;
    }

    .p1, .p2
    {
        font-size: 2vw;
        margin-left: 30px;
    }

    .ul2
    {
        margin-left: 30px;
    }
```

Above is a snippet from our CSS code where we use the `@media` rule a key feature in making websites responsive. In this example, the rule activates when the screen width becomes smaller than 950 pixels. When that happens, the website automatically adjusts its styles to better fit smaller screens, like tablets or smartphones.

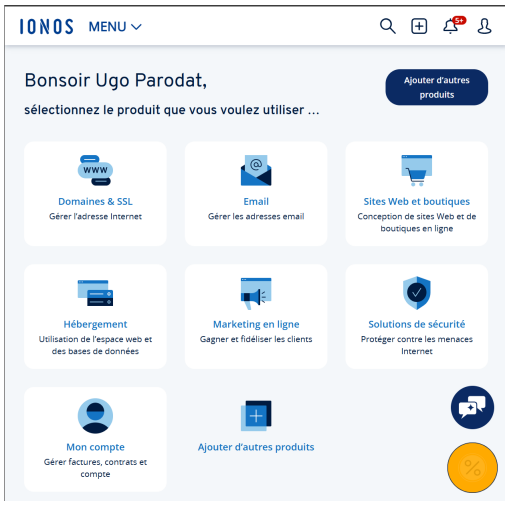
Media queries allow us to change font sizes, adjust image dimensions, rearrange layout elements, and fine-tune spacing. This ensures that everything stays readable, well-organized, and visually appealing, no matter what device is being used.

Without media queries and responsive design, the website would look cramped or broken on mobile devices, making it hard to use and navigate. By implementing these techniques, we have made sure that all users whether on a phone, tablet, or desktop have a smooth and enjoyable experience.

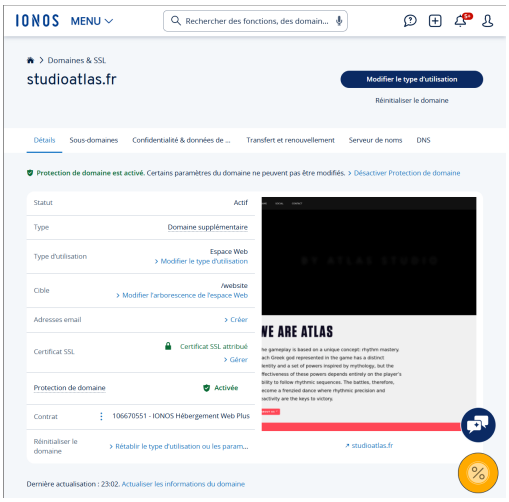
3.4.12 Website Deployment & Hosting

Once our website was designed and tested locally, we moved on to the deployment phase. This step is essential to make the site publicly accessible on the internet.

We chose to deploy the site using a traditional **FTP (File Transfer Protocol)** method via our hosting provider IONOS. After configuring the domain name `studioatlas.fr`, we used an FTP client to upload our project files from Visual Studio Code directly to the remote server.



This process allows us to update the website in real-time: any changes made to the HTML, CSS, or assets can be pushed to the server in a matter of seconds. We can also create different directories for future versions or backups.



The domain `https://studioatlas.fr` is now live and accessible on all browsers and devices. Hosting also allows us to track analytics, optimize performance, and eventually scale up to include backend services if needed.

Overall, the deployment stage marks a major milestone, transforming our local project into a fully functional and professional online platform.

3.4.13 Conclusion

Our website is more than just a place to display content it is a fully realized digital extension of Atlas Studio. Every section, every design element, and every interaction has been carefully crafted to reflect our identity, our goals, and our commitment to quality. It serves as a central hub for sharing our work, engaging with visitors, and building a professional online presence.

Throughout this project, we have explored and applied many essential aspects of modern web development, including responsive design, accessibility, performance optimization, and user experience principles. From writing clean and structured HTML and CSS, to implementing JavaScript functionalities and media queries, every step has strengthened our technical understanding and creative problem solving abilities.

Working on this website has also helped us sharpen our design thinking. We have learned how to place the user at the center of the experience—making sure the interface is intuitive, the content is easy to navigate, and the visuals are appealing and meaningful. These decisions were always made with the goal of communicating our project in the clearest and most compelling way possible.

Beyond technical knowledge, this experience has fostered collaboration and project management skills. From initial planning to final deployment, we organized tasks, solved challenges, and brought together our ideas to form a unified and professional final product.

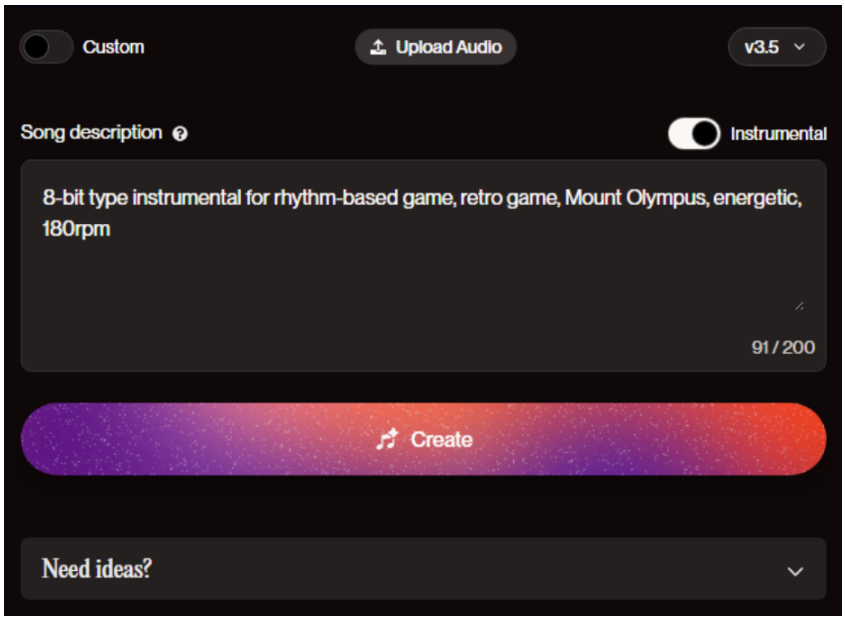
The result is a responsive, elegant, and functional website that proudly represents **Kronos Agon** and the spirit of Atlas Studio. While the website marks the end of this phase of the project, it also acts as a foundation for future growth.

We invite you to explore our website, learn about our journey, and connect with us.

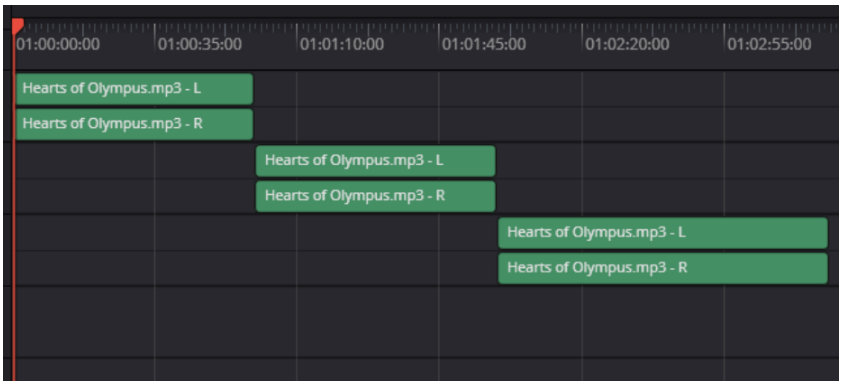
Visit us: `https://studioatlas.fr`

3.5 Music and SFX

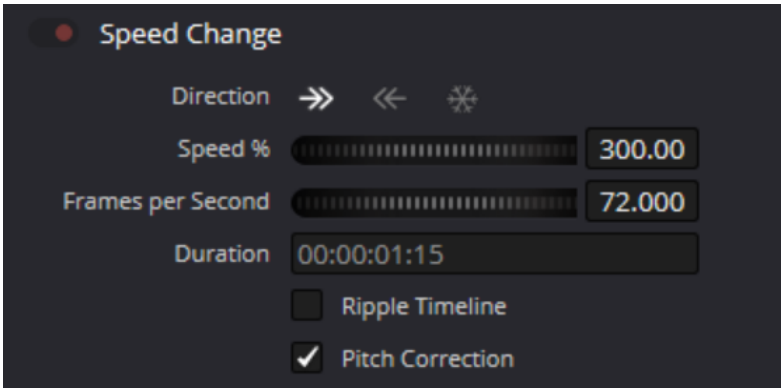
3.5.1 Music



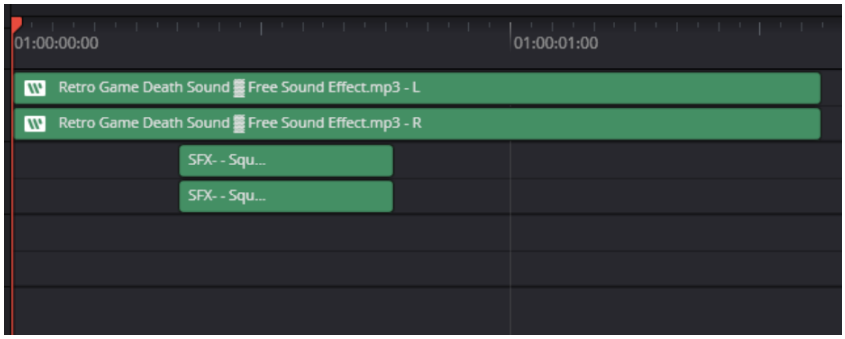
The music and sound effects are crucial elements of our game, as they enhance immersion and bring life to the different maps and environments. To create the music, we used an AI composition tool called Suno, which allows to generate dynamic soundtracks tailored to the themes of each map.



For example, Mount Olympus features a majestic and uplifting orchestral tune, while the Underworld has a darker, ominous melody with deep bass and eerie undertones. Each map has a rising tempo that increases the difficulty of the gameplay throughout the rounds. The music is divided in 3 distinct parts each following different BPM's.

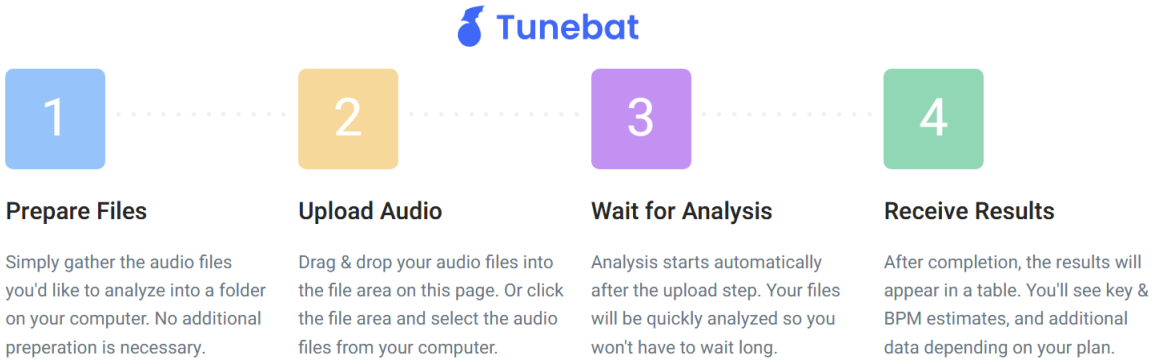


Additionally, we gathered various sound effects (SFX) from online libraries and modified them using DaVinci Resolve. For instance, we combined different sounds to finalise the sound of a character dying or sped up or slowed down certain sounds to fit the dynamic of the game.

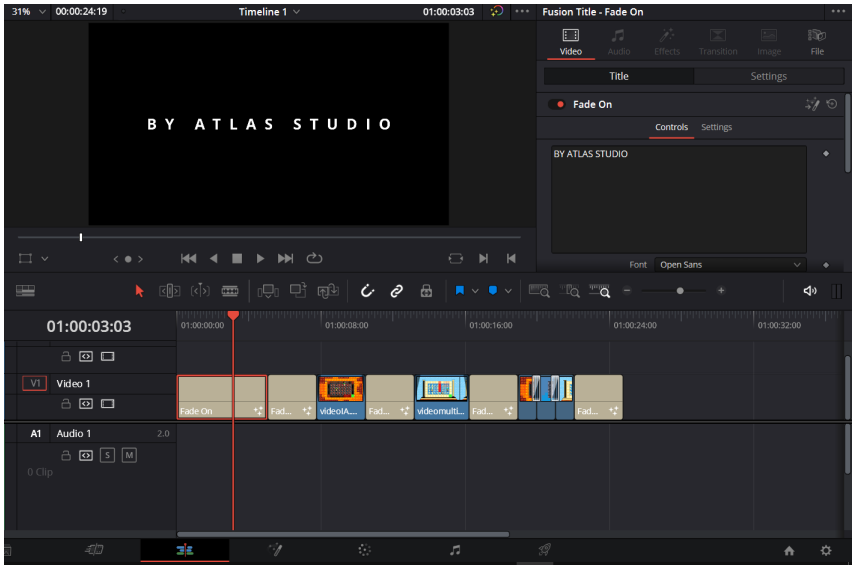


The editing process involved layering, equalizing, and applying filters to make the SFX feel authentic and seamless within the game world.

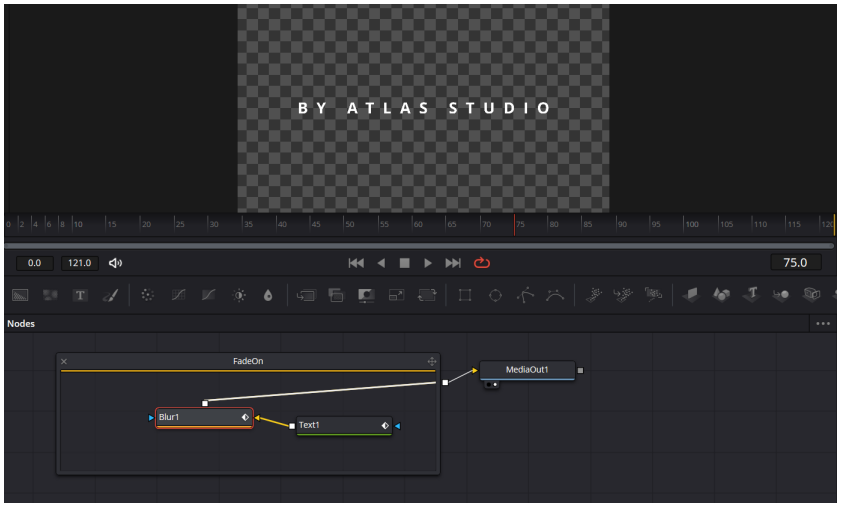
The final touches, like fade-ins and spatial effects, ensure an immersive audio experience that complements the gameplay perfectly.



We used an app called Tunebat to find the different BPMs of the songs and adjust them accordingly. This helped us match the tempos for a smoother mix.



To create a cinematic introduction for our game trailer, we used DaVinci Resolve's timeline editor to organize and structure the video. The titles "BY ATLAS STUDIO", "PLAY WITH AI", "PLAY WITH FRIENDS", "ON DIFFERENT MAPS", and "PLAY NOW" were manually animated to fade in smoothly, enhancing the professional feel of the trailer. Each clip was carefully arranged to match a desired pace, while fade transitions between scenes ensured fluidity and visual coherence throughout the edit.



The Fusion workspace in DaVinci Resolve allowed us to craft a custom animated title using nodes. In this scene, we used a Text node connected through a Blur node to the MediaOut, giving the title a soft focus that sharpens as it fades in—enhancing the dramatic reveal of the studio name. This node-based approach gave us full control over the animation's behavior and timing, helping us to establish a strong visual identity from the first frames of the trailer.

4 Recapitulation

4.1 Gameplay Mechanics

- **Rhythm-Driven Combat**: Core combat remains anchored to our two-phase beat system (green input window / red penalty window). Movement and attacks are fully grid-aligned, rewarding precise timing and penalizing off-beat actions with a two-beat lockout and visual feedback.
- **Dynamic Tempo**: The game's BPM ramps up smoothly over time—early rounds favor deliberate play, while later stages demand rapid, music-driven reactions. Attack telegraphs and triggers stay synchronized to the beat, enhancing readability and strategic depth.
- **Multiplayer (LAN)**: A LAN lobby allows up to four players on separate machines to host or join sessions via `ENetMultiplayerPeer`. Connection status updates guide players through hosting and joining, with dynamic IP configuration planned next. Full input synchronization per beat is in place, though in-game testing across multiple devices is ongoing.
- **Single-Player AI**: When fewer than four humans join, the AI fills vacant slots. It follows beat-based movement rules, fleeing hazards with a 70% bias and otherwise moving 30% of the time to simulate unpredictability. AI behavior is now integrated and provides consistently challenging solo play.

4.2 Interface & Functionality

- **Game Menu**: A three-phase title screen guides players through Start & Settings, Character Selection, and LAN/Single-Player setup. Prototype assets for main menu, character portraits, and settings panels are implemented; final art and additional buttons remain to be polished.
- **HUD & Indicators**: A tempo bar pulses in sync with the green/red beat cycle. Tile-based hazard overlays flash one beat before impact, giving players clear visual warnings. Pause and round-summary screens display scores and options without breaking musical flow.

4.3 Graphics & Animation

- **Maps**: Three arenas are available—Mount Olympus (bright, majestic), Tartarus (dark, oppressive), and Ocean (calm yet dramatic). Each grid is 12×8 tiles, with unique environmental assets.
- **Tile & Object Assets**: All tiles and props adhere to a 16×16 pixel pixel-art style. Olympus uses light palettes; Tartarus uses deep reds and grays; Ocean features blues and sandy tones.
- **Characters**: Four fighters—Adonia (fireblade sentinel), Hoplite (Spartan phalanx warrior), Filippos (Poseidon's acolyte), Skotádion (Stygian warden)—each ship with dual outlines (white/black) for visibility on any background. Idle animations for all four are complete.
- **Attack & VFX**: Prototype frames exist for a lightning strike, rainbow beam, small explosion, thunder splash, and meteorite fall. Implementation in Godot is pending further scripting expertise.

4.4 Web Presence

- **Website Prototype**: Built in HTML/CSS, featuring a top teaser video, horizontal navbar (Home, Game, Team, Contact, Play Now) with hover effects, and placeholder video and team sections.
- **Responsive Design**: Uses Flexbox and media queries to adapt layouts below 950 px; mobile menu and stacked content are functional. Footer includes social links and GitHub icon. Planned enhancements include full trailer, multilingual support, and accessible ARIA landmarks.

4.5 Music & SFX

- **AI-Generated Soundtracks**: Three cycling tracks (Underworld, Olympus, Ocean) created via Suno AI, each with three tempo tiers that match gameplay difficulty. BPM was verified and adjusted in Tunebat.
- **Sound Effects**: Custom SFX assembled and refined in DaVinci Resolve—character deaths, attack impacts, UI clicks—layered and equalized for cohesion. Spatial audio and fade-ins/fade-outs ensure immersive feedback.

5 Recapitulation of the Team's Year

The Atlas Studio team—Ugo, Lucien, Nathan, Paul, and Jérémie—set out not only to build a rhythm-based 2D fighting game inspired by Greek mythology but to grow as developers, artists, and collaborators. *Kronos Agon* is the result of that collective ambition, shaped through intense learning curves, creative sparks, and technical challenges.

What We Learned

- **Technical Mastery:** Deepened skills in C#, Godot 4, pixel art, and LAN network programming.
- **Team Collaboration:** Established robust workflows and communication habits using GitHub and Discord.
- **Game Design:** Translated abstract rhythm mechanics into concrete gameplay systems—beat-synchronized combat, dynamic tempo adjustments, and AI behaviors.
- **Web Development:** Built and deployed a responsive studio website, mastering HTML/CSS layouts, Flexbox, media queries, and IONOS hosting.

Joys & Highlights

- **Inventing the Beat System:** The green/red movement phases created a uniquely engaging rhythm mechanic.
- **Worldbuilding & Lore:** Crafted mythic narratives and characters (e.g., Adonia, Skotádion) that added emotional depth.
- **Graphics & Characters:** Designed custom pixel-art maps and fighters with dual outlines for clarity and personality-driven idle animations.
- **Sound Design:** Blended AI-generated tracks (via Suno) with custom SFX, giving each arena a distinct rhythmic identity.

Deceptions & Challenges

- **Time Underestimation:** Early overconfidence led to tight timelines; ambitious features—complex attacks and full LAN support—were postponed.
- **Godot Learning Curve:** Transitioning from Unity to Godot was rewarding but introduced delays in animation and multiplayer integration.
- **Implementation Gaps:** Some VFX (e.g., meteor attacks) and advanced networking logic remained incomplete at launch.

The Final Product

Kronos Agon stands as a dynamic rhythm-fighting game that blends timing, mythology, and competition. From the heights of Olympus to the depths of Tartarus, every element reflects a year's worth of effort, passion, and teamwork. While certain goals await future updates, the foundations are solid and full of potential.