AXIE TD HUB

AXIE RAIDS

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Abstract

Tower Defense games are a popular choice among gamers (and even non-gamers) when looking for a relaxing yet challenging game. Axie Tower Defense Hub (or Axie TD Hub), a web app synced up with the Ronin Wallet, will bring this vast playerbase into the Axie universe by featuring all sorts of tower defense games.
Axie Raids, a tug-of-war game in which tactical and strategic choices decide the course of the game in real time, will become the first game featured on the hub. At first, only a 1v1 mode will be created. In later phases, many game modes including 2v2, 3v3, free for all, King of the Hill, etc… will be added.

While creating Axie Raids, a framework will be designed in which future tower defense games can easily be created. Through this easy framework, we will effectively create a basis on which community input is possible and new experiences can be created. Alongside the multitude of game modes, Axie TD Hub is where your ranking, matchmaking and TD community will be hosted.

Goals

- Tapping into the vast tower defense playerbase and letting them enjoy the benefits of owning their own assets and earning off of them in the process.

- Create a 3D tower defense framework in which Axies are dynamically generated based on real assets in a players' wallet. Create Axie Raids, the first tower defense-like game in the Axie Universe.

- Create the Axie Tower Defense hub of the Axie universe. Different game modes, maps, win conditions, etc… All within the 3D framework mentioned above. Incentivise play with rankings, winner prizes and seasonal prize pools.

Team

Emiel Ergo
- Master Degree in Mathematics: expertise in algorithmic graph theory
- 5 years experience in software development
- Certified Salesforce Consultant and Developer
- LinkedIn

Yannis Standaert
- Degree in Sound engineering
- 5+ years experience of full stack Web development (Website, Apps, Webshops, 3D Configurators,...)
- Certified Agile DSDM Project Manager
- Experience with 3D modeling
- LinkedIn

Reinjan Ergo
- Senior Software Developer with 10+ of experience.
- Studied Digital Arts and Entertainment
- Released and maintained a rebuilt standalone desktop client into a modern cloud based, CRM application 'PingWin'.
- Currently part of the fullstack web development team that is responsible for HEARTguide, a web platform that creates a fully interactable digital copy of the human heart, and together with the AI-driven analyses we provide, has the goal of helping physicians with structural heart disease treatment.
- Passionate in game development with many unreleased hobby projects.
- LinkedIn

Axie Raids

The first step in becoming the tower defense hub of the Axie universe, is creating a tower defense game. This game will be the flagship of the Axie TD Hub.

Core Concepts A

Axie Raids is a Tower Defense like tug-of-war game. Players select a team of three Axies from their own Ronin wallet or starter Axies to start a game. The game contains a rectangular battlefield that is sided on the small sides by two rectangular surfaces of equal width to the battlemap. We call the smaller rectangles 'drop zones'. On each end of the rectangle there is a bunker belonging to one of the players.

The goal of the game is simple: destroy the opposing bunker. To achieve this goal, a player can place Axies on their drop zone. Every interval, all the Axies that were placed on the platform are cloned and placed onto the battlemap. The cloned Axies then automatically start running towards the enemy bunker, attacking any enemy Axies they meet along the way.

Axies attack with a combination of all selected body parts. Body parts start off grayed-out and need to be unlocked. To unlock a body part, a certain amount of energy needs to be paid, depending on the card. Each player accrues energy over time. The unlocking of a body part is final and cannot be undone. The more body parts already unlocked for a certain Axie, the more the next unlock will cost.
Placing an Axie on the platform also costs an appropriate amount of energy. This amount is related to the level (the amount of unlocked body parts) of the Axie.

Axies on the battlemap move and attack in an automated way. The players have no control over the clones except for the starting position as formations are kept when cloning.

To incentivise cloning Axies early, an incentive is placed in the middle of the map, for instance a collectable or controllable outpost. This incentive will give the controlling player a bonus like faster energy generation, faster Axies, stronger Axies or something similar.

Each player also has an option to create power plants. These plants create extra energy but need time to become operational. In essence, they shut down energy generation for a period of time to increase the rate at which energy accrues after this period.

For a proof of concept, see Appendix A.

Tactics and balancing

Besides the obvious differentiation between Axies via body parts, there are plenty of tactical approaches to the game. A player could choose to save up energy to unlock body parts, extra power plants or start cloning Axies first to capture the incentive(s). When unlocking body parts, the player can choose to do so for one Axie, spending more energy per upgrade. Or the player can choose to unlock body parts over several Axies, which would be cheaper.

In the future, we plan on integrating charms and runes too. Players could then also use energy to unlock certain runes from their inventory, providing yet another angle to the meta of the game.

Future Game Modes

The strength of Axie Raids will be to customize the game's experience to your own liking. To attain this level of flexibility, we plan to introduce multiple settings. Although we are convinced that this feature will greatly improve the gaming experience, we do not consider it a core mechanic and only plan to implement it after full launch of the standard Axie Raids game.

Team play

An obvious first choice is to implement a 2v2 mode. Axies would be cloned from alternating drop zones between teammates granting the opportunity to create complementary axie-teams, formations and in-game strategies. If performance allows it, 3v3 will also be made available.

Free for All

Axie Raids' default win condition does not fit a Free-for-All brawl all too well. There would not be a clear direction for the Axies on the battlemap to move to. If divided over all enemy players, the game would take exponentially longer. A round-robin system would be too easily abused. Sending each team to every bunker, effectively playing a 1v1 with every other player, would have performance issues. The only possible way to fix this, is to implement new win conditions.

Win Conditions

To fix the free for all conundrum, we will implement a 'King of the Hill' mechanic. Instead of automatically attacking the enemy bunker, Axies would stay in the middle and earn points

by being the only team alive in a center area. King of the Hill could also be implemented in a 1v1 game to incentivise early aggression.

Rankings, Prizes and Rewards

Beginning in the pre-launch Alpha phase, Axie TD Hub will contain a ranking system for Axie Raids. An option will be created to play ranked or casual games. To establish a competitive scene, a matchmaking process will be implemented that matches players based on rank. To incentivise ranked play, a prize pool system will be set up to reward the highest ranked players. This prize pool could initially be funded by the team but will eventually be, at least partly, funded by the players themselves through entry fees.

To play a ranked Match, a player will need to pay a small entry fee. The combined entry fee of the players will then be divided according to the following percentages.

- Ranked Mode
  - 70 % to the victor
  - 15 % to Axie Raids team
  - 15 % to the Ranked prize pool

These values could be altered and modified depending on future game modes, community feedback, Prize Pool sizes, etc...

In the long term Axie Raids could reward players with additional prizes including custom animations, ways to customize their drop-zone and customize their Axies in Axie Raids and other featured games.

Tech Stack

Axie Raids

- NodeJs
- [BabylonJS](#)

Axie TD Hub

- .Net core (with umbraco CMS)
- WebGL with Web Components

Database

- SQLite

Roadmap

The roadmap specified below is an estimate on what and we want to deliver in which phase. For estimates on when these phases will commence and conclude, see Milestones.

Minimum Viable Product

Our minimum viable product contains three aspects: a working version of Axie Raids with all core concepts included. A first version of the Axie TD Hub where Axie Raids can be hosted. And a database + API to store accounts, rankings, etc....

In this phase, the focus will be on Axie Raids. Axie TD Hub would only contain an option to create an Account, link it to a Ronin address and select a team out of the starter Axies to play Axie Raids. When this is the case, the three main branches of our project - Axie TD Hub, Axie Raids and Database - would be up and running in their most simple form.

When we deliver the minimum viable product, we will open it to a limited audience and (closed) Alpha begins.

Goals

- Axie TD Hub functionality
  - Create Account
  - Link Account with Ronin wallet
  - Select Team of 3 starter Axies
- Axie Raids
  - Game has a recognisable look and feel containing
    - 3D models of all starter Axies
    - First animations and sound effects are in place
    - Other in-game assets like the battlemap, drop zones and bunkers have 3D models that are well received
  - Core Concepts (as stated in this document) work without bugs
- Database
  - Account management with Ronin Addresses

Pre-release: Alpha

In the Alpha phase, Axie TD Hub will be greatly improved to create a UI/UX in the house style. A ranking system will be added to create a playing incentive. Additionally, players will be able to sync their Axies to Axie TD Hub and create teams consisting of their own Axies.

Axie Raids will be able to dynamically model all different Axie body parts, shapes, colors etc…, put them together and thus recreate every Axie in the 3D environment. This means that every body part will be implemented in Axie Raids including damage, shield, status effects, AoE, etc…

In the Alpha phase we will begin balancing different aspects of the game. In this phase, some core concepts could change when found not fitting for the game.

Finding balance between a fun and relaxing game while remaining challenging enough to have a lasting player base is no easy task. We think that community engagement plays a big role in overcoming this challenge and as such, feedback from the players in this phase is paramount. We will interact with the community primarily through a Youtube Channel and Discord, Twitter and Reddit presence. To incentivise early players, a (small) prize pool system will be set up. (Note that the smart contracts in which SLP and/or other assets will be stored will not be implemented yet in this phase. Extraction of any prizes will only be available in Beta phase).

Alpha phase ends when Axie Raids is thoroughly tested and stable. After this phase, the core concepts are firmly set and will not be revised anymore.

Goals

- Axie TD Hub functionality
    - Sync Axies from Ronin wallet to Axie TD Hub
    - Ranking system
    - Prize Pools for ranked matches
- Axie Raids
    - Performant, fun and engaging game
    - All body parts are fully included
    - Core Concepts are Balanced
- Database
    - Ranking system
- Marketing

- ○ Axie Raids Youtube Channel
- ○ Twitter, Reddit and Discord presence

Pre-release: Beta

The synchronization of SLP to and from Axie TD Hub is the key aspect of the Beta phase. SLP will be used to pay for entry fees in ranked matches and conversely used to pay out the prize pool and ranked match rewards.

From this phase onwards, players will be able to choose between Casual Mode (Free) and Ranked Mode (entry fee paid in SLP). Starter Axies can still be used, but only in Practice Mode.

To maximize community feedback, more focus will be put on marketing at this phase. We will create a teaser that will be released through our Youtube channel and other social media platforms. Furthermore, a website will be created to host our development blog, integrate Axie TD Hub, (subscription to) a newsletter, events, etc…

Axie TD hub will again be improved to create a dynamic environment from which future games can be accessed. Axie Raids will remain the featured game for the foreseeable future. The secondary goal of the Beta phase is to tweak certain aspects of the game, primarily body parts, to balance the game further. Even though the core concepts will be set in Alpha phase, certain cards could still be vastly over- or underpowered in Axie Raids.

Goals

- Axie TD Hub functionality
  - ○ Smart contracts to transfer SLP and/or other assets to and from Ronin Wallet
- Axie Raids
  - ○ Casual and Ranked Mode
  - ○ Balanced standard game mode
- Database
  - ○ Asset management by Account
- Marketing
  - ○ Create teaser/trailer
  - ○ Create Website

Beta phase ends when the community and Axie Raids team concurs that the game is balanced in its current form. Undoubtedly, different combinations of cards and Axies will require additional balancing further down the road.

Full Launch

When the Beta testing phase successfully ends. The game will launch and a new Prize Pool reward system will be set in a seasonal way, very much akin to Axie: Origins. Additionally, new goals and milestones will be set. As mentioned in this text, the focus will first lie in additional settings and game modes for Axie Raids. Further down the line, other games including more traditional tower defense games will be created in the same framework.

The following list is a list of ideas that may be implemented in the futures

- Additional game-modes for Axie Raids
  - Co-op vs computer, use enemies from Origins' adventure mode
  - Up to 8-player mode (FFA, 4v4?)
  - Adjustable parameters
    - Size of the placement platform
    - Speed of the cloning
    - Accruing speed of Energy
    - etc...
- Incorporate Land, Mystic and other special breed Axies
  - In-game bonuses
  - Cosmetics
- Incorporate Runes and Charms
- More games
  - Single player tower defense
  - Tower wars (think Tetris vs mode)
  - ...
- Moon shots
  - Community Tower Defense Map builder

Milestones

- **Artwork**
  - November 2022 → 3D models of Bubba, Puffy and Olek
  - December 2022 → 3D models of all starters
  - Q1 2023 → 3D models of all body parts
  - Q1 2023 → Other 3D assets for game map
  - Q2 2023 → Animations for different cards

- **Web app**
  - Q4 2022 → Modeling Axie TD Hub V1
  - Q4 2022 → Security measures V1
  - Q1 2023 → Hosting Axie TD Hub V1
  - Q1 - Q2 2023 → Integrating Ronin Wallet

- **Server**
  - Early Q4 2022 → Core mechanics of Axie Raids
  - Q4 2022 → Database Management
  - Q4 2022 → Security
  - Q1 2023 → Hosting Axie TD Hub Server V1

- **Axie Raids**
  - Q3 - Q4 2022 → Core Concepts
  - Q4 2022 → Testing, refactoring
  - Q1 2023 → Security
  - Q2 2023 → Different Game modes, settings

- Ronin Wallet & Smart Contracts
    - Q1 2023 → Sync Axies
    - Q2 2023 → bridging SLP to Axie TD Hub

Marketing Strategy

Below we roughly outline our marketing approach. Depending on availability and funds, an external marketing strategist will be hired to take ownership over the following aspects.

Phase 1: Development (Audience Discovery phase)

Target: defining and understanding our audience, optimize gameplay to audience

1. Target people interested in game development (useful feedback, initial word of mouth)
   a. Create Youtube devlogs, focus on tech & concept
   b. Create reddit posts on game dev channels
   c. Use Twitter, youtube comments and reddit to engage with the audience
2. Target gamers / crypto / axie / nft enthusiasts
   a. Create Youtube devlogs, focus on roadmap, functionalities and demo content
   b. Create reddit posts on crypto and gaming channels
   c. experiment with platforms (Ig, Facebook, Discord, Reddit, Twitter,...) to see which platforms are most popular for our target audience

Phase 2: Pre Beta launch (Strategy testing phase)

Target: discovering which platforms and marketing strategies work best for our game.

1. Create a beta trailer
   a. release on devlog youtube channel
   b. share on reddit, twitter, ig, facebook,...
2. Launch Website
3. Create a beta subscription list to estimate initial userbase
4. Post devlogs on website
5. more focus on community building and community management

Phase 3: Post beta Launch (Hype Phase)

Target: Getting the word out, generate and measure interest

1. Create Launch trailer
2. Experiment with Ads on different platforms, focus on views, not conversions
3. Communicate launch date
4. Create a Launch subscription list to estimate initial userbase
5. Setup ads for launch
6. Try to get featured on Axie Website, Crypto news websites, gaming websites

Phase 4. Launch (Retention Phase)

Target: Grow and nurture the playerbase**,**

1. Run ads, focus on conversions (visits to website)
2. Listen to feedback from playerbase

Phase 5 Post Launch (Stability Phase)

Target: Keep the userbase and game alive, optimize, create new content,…

1. Reinvest revenue in ads and customer acquisition to build or keep momentum
2. Optimize website conversions (See – Think – Do), Tracking & Analytics optimization, creating a lead funnel
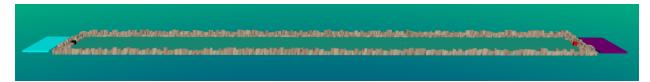
Appendix

A) Proof of Concept - Axie Raids

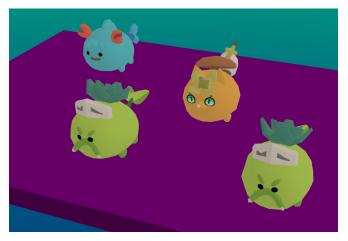

Battle Map with drop zones

1. On the bottom of the screen you can see your selected team. When initializing, each Axie is generated and placed in a 3D viewer. An image is then taken from this viewer

and placed as a button on the screen. When a player selects an Axie, the attack menu (2) becomes visible.

2. The attack menu shows the available body parts (or cards) for the selected Axie. For an Axie to be able to use a card, it must be unlocked (white outline) with energy. When not enough energy is available, cards are greyed out.
3. When an Axie is selected and it has one or more cards unlocked, it can be placed on the drop zone. Periodically, the Axies on the drop zone will be cloned to the battle map (5) to protect the bunker (5, black box).
4. In the upper left corner, the current energy is shown.
5. The battle map with the player's bunker (black). Axie are cloned here and automatically run towards the enemy bunker.
6. Power plant. It can be activated for 50 energy to speed up energy production. Stops energy production for 10 seconds first though.

Drop zone close-up with Axies

Cloned Axies on the battle map with health bars close-up