Ale & Axes Ecosystem Whitepaper

Dual-Token Model: ISIR & WYRM

TAVERN STUDIOS

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Abstract

This whitepaper introduces the ecosystem of *Ale & Axes*, a blockchain-enabled browser game powered by a dual-token model: **Isirite (ISIR)**, a scarce store of value and reward-generating asset, and **Wyrmstone (WYRM)**, the in-game medium of exchange. Together, they sustain an economy where in-game activity and long-term value remain in balance.

The paper outlines token dynamics, reward mechanisms, liquidity incentives, and transparency measures that ensure fairness and long-term sustainability. It also explores the game's progression systems, which drive enduring demand for WYRM and meaningful utility for ISIR. By aligning robust economic design with immersive gameplay, *Ale & Axes* establishes a player-driven economy that is resilient and built for sustainable growth.

Legal Disclaimer

This whitepaper is provided for informational purposes only and does not constitute financial, investment, or legal advice. The ISIR and WYRM tokens are intended solely for use within the *Ale & Axes* ecosystem and should not be regarded as securities or investment instruments. Participation in the ecosystem may involve inherent risks, and players and token holders are fully responsible for their own decisions. Tavern Studios provides no guarantees regarding token value, price performance, or future development outcomes. All forward-looking statements are subject to change without notice.

Path of Knowledge

1) Introduction

*In the world of **Teya**, realms stretch from the frozen northern wastes of giants, through fertile farmlands and desolate deserts, to Mount Phyrien, a quiescent volcano sheltering the capital of the elven empire, Vai-Mar.*

It is a land of kingdoms, theocracies, tribes, and trade cities — a land that once knew a century of peace. That era ended when six adventurers — now immortalized as heroes — set forth into an uncharted Dungeon, guided by prayers to the Gods of Teya. They were not the first to enter, but they were the first to return. And what they carried back would change Teya forever.

Whispers of swift riches ignited like wildfire, drawing fortune and glory seekers from every corner of the land. Yet their triumph shattered the balance. In the depths below, ancient forces long forgotten still stir — powerful, unbound, and ever-present.

> ***Ale & Axes** is a next-generation clicker browser game where players lead fearless adventurers into the Dungeon, forging and upgrading gear to push ever deeper into its mysteries. But in the new age of instability, threats rise on multiple fronts — even the surface realms of Teya are not spared. Only those with skill, courage, and strategy can hope to prevail.*

Beneath the lore and adventure of Teya lies the economic engine that sustains the realm. In this whitepaper, we step beyond the tale and into the foundation that brings this world to life: the **Ale & Axes ecosystem**, powered by a dual-token model — **ISIR** and **WYRM** — designed to sustain in-game growth, reward participation, and enable a vibrant player-driven marketplace. This structure balances in-game utility with long-term value, ensuring the ecosystem thrives for years to come. Just as the adventurers of Teya weigh risk against reward, our tokenomics are built to balance stability, sustainable growth, and deep player engagement.

Dual-Token Model Overview

A **dual-token model** provides the optimal structural framework to support the growth and resilience of the Ale & Axes ecosystem.

Each token fulfills a **distinct, specialized role**, while remaining interconnected through a shared DEX pool, ensuring:

- A unified and intuitive ecosystem
- Avoidance of liquidity fragmentation
- Preservation of ADA liquidity efficiency

ISIR: Value Token

Role: Represents the overall value of the ecosystem and, to some extent, the game itself

Bridge Function: Acts as the intermediary between the in-game economy and real-world finances

Tokenomics:

- On-chain token only
- Limited unchanging supply
- Clear and verifiable on-chain
- Utility primarily in holding

Liquidity Pair: ISIR–ADA, ISIR-WYRM

WYRM: In-Game Medium of Exchange

Role: Primary medium of exchange for in-game transactions

Usage:

- In-game costs denominated in *Wyrmstone*
- Used in player trading via the in-game auction (marketplace)

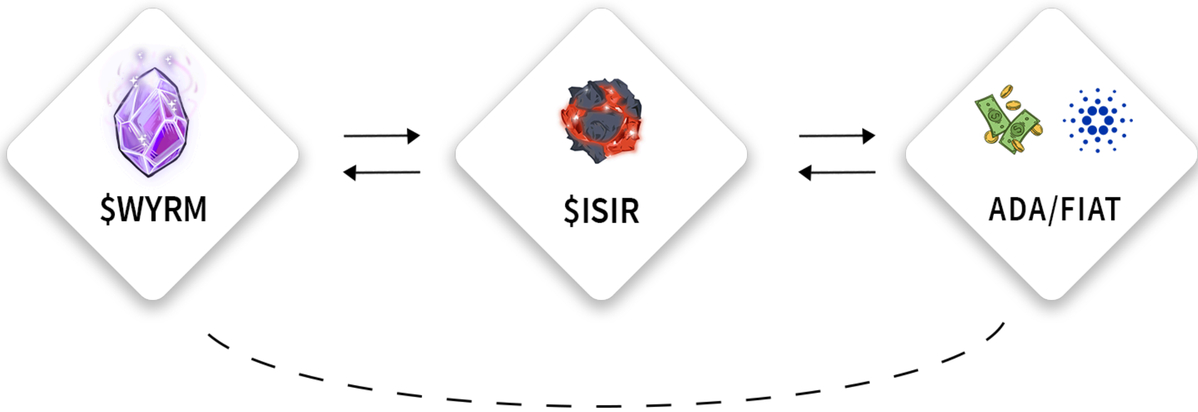
Tokenomics:

- Exists in both on-chain and off-chain forms
- Convertible between on-chain and off-chain versions
- Dynamic supply to adapt to player base size and economic needs

- Earnable via gameplay and spendable across in-game systems

Liquidity Pair: ISIR-WYRM

Graphical representation of: Wyrmstone <-> ISIRITE <-> FIAT & ADA



2) Isirite (ISIR) Token

Lore Introduction

For generations, the people of Teya have gazed toward the night sky, tracing the radiant stars and whispering prayers to the silent goddess who dwells among them. Isìr — the ever-shining — has always been there: distant, unwavering, and eternal. A presence felt, but never answered.

Until now.

As the world stirs with new adventurers and the gates to the underworld are opened, the heavens themselves respond. The stars burn brighter. The sky fractures with light, streaked by meteors that rain down upon Teya like a celestial hailstorm. Some cry out that the end of ages has come. Others believe the Gods have chosen a side — and that what descends from the heavens is a gift.

From this event emerges a substance unlike any known before: **Isirite**.

Each shard bears the unmistakable mark of the goddess — immutable, scarce, and unaltered by mortal hands.

This moment marks more than a mythic spectacle. It is a turning point.

In Ale & Axes, Isirite (ISIR) fulfills the role of a scarce, non-inflationary asset whose strength lies in ownership rather than use. It is not meant to be spent or consumed. Instead, ISIR represents permanence, stability, and wealth: a store of value designed to deliver continuous rewards to its holders, reflecting the goddess's ongoing presence rather than a single, fleeting blessing.

Just as Isìr's light endures in the heavens, ISIR is designed to endure within the economy — anchoring growth, rewarding long-term commitment, and standing apart from the fleeting flow of everyday medium of exchange.

ISIR as the Foundation of Value

ISIR serves as the stabilizing force of the Tavern Squad ecosystem; in this sense, it is the "Bitcoin of Teya." It is designed not as a consumable game medium of exchange, but as a scarce, long-term asset. On top of this, ISIR offers powerful continuous earnings mechanisms.

- **Scarce & non-inflationary**
  ISIR has a permanently capped supply of only 8,975,318 tokens.
- **Continuous earnings**
  Holding ISIR yields ongoing rewards and exclusive perks, making it a core value-generating asset within the ecosystem.
- **Exclusivity**
  As the player base grows while supply remains fixed, ISIR becomes increasingly exclusive to hold and generates more rewards.
- **Store of value**
  Functions as a long-term wealth anchor inside the Ale & Axes ecosystem.
- **Investment gateway**
  ISIR reflects the overall value of the Ale & Axes ecosystem and effectively provides a direct way for non-players to gain exposure to its growth and future.

ISIR Utility & Perks

The strength of ISIR lies in ownership, not spending — granting holders permanent, compounding advantages:

- **ISIR Buyback Rewards**
  5% of revenue from purchases of the in-game premium medium of exchange (ORB) is used to buy ISIR from the ISIR–ADA pool and redistribute it among eligible holders, proportional to their share. *(ISIR held by Tavern Studios in liquidity pools is not eligible.)*
- **Wyrmstone Rewards**
  Up to 15% of all Wyrmstone (WYRM) spent in-game is redistributed to ISIR

holders, at a rate of 0.000001337% per 1 ISIR held, with an additional 25% bonus for ISIR supplied as liquidity. *(ISIR held by Tavern Studios in liquidity pools is not eligible.)*

- **Liquidity Farming Incentives**
  Players who provide ISIR–ADA liquidity are rewarded with in-game items, all carrying direct or indirect WYRM value.

- **Farming Bonuses**
  Higher ISIR holdings unlock milestone-based multipliers, increasing the potential scale of farming rewards.

- **Additional Farming Options**
  Higher ISIR holdings unlock access to expanded farming choices and reward opportunities.

Together, these mechanics make ISIR a **perpetual reward generator**, designed to strengthen the benefits of long-term holding.

ISIR Reward Transparency

To ensure transparency, the Godsreach Bank UI will display a list of the latest in-game purchases of the premium medium of exchange ORB, along with a continuously updated monthly total.

> *ORB is Ale & Axes' premium medium of exchange, available exclusively through purchases with fiat currencies or ADA. It provides access to quality-of-life features, cosmetic upgrades, and other optional enhancements that do not affect core gameplay balance. ORB serves as a key revenue stream for Tavern Studios while enriching the player experience with customization and convenience.*

Revenue-based ISIR buybacks from the ISIR–ADA pool will be executed by Tavern Studios at random, undisclosed dates and times in order to prevent front-running. All accumulated ISIR will be stored transparently in a dedicated project wallet.

For holders to be eligible for rewards, they must have a game account linked to a Cardano wallet holding ISIR and/or ISIR–ADA LP tokens. Snapshots of holder balances are taken weekly, and the final monthly calculation is based on the average balance across that period. Any rewards previously distributed but not yet claimed remain assigned to the same holder and are included in the next monthly distribution. In the calculation formula, they are added to the holder's on-chain balance and thus function as compounded rewards.

Rewards for ISIR holders will be visible through the in-game Godsreach Bank UI. Additionally, an investor dashboard link will be provided, allowing investors to monitor rewards and buyback activity and withdraw rewards directly, without the need to access the in-game UI. The rewards update monthly, and holders may withdraw their accumulated rewards at any time by signing a transaction. At the same time, there is no time pressure to do so, as unclaimed rewards remain safely stored until withdrawal and count towards eligible ISIR rewards.

The exact calculation of each holder's share is defined by the following formula:

Calculating Holder's Share

S = holder's share of rewards

A = holder's monthly average ISIR balance *(including ISIR provided in supported liquidity pools)*

U = holder's unclaimed ISIR rewards

I = Total number of eligible ISIR *(the sum of A+U across all eligible accounts)*

$$S = \frac{A+U}{I}$$

Buyback Calculation Methodology

To ensure fairness and simplicity, Tavern Studios separates premium medium of exchange (ORB) purchases into two categories for calculating the 5% ISIR buyback allocation:

1. **ADA payments** — tracked directly in ADA, with 5% allocated regardless of market price fluctuations.

2. **FIAT and stablecoin payments** — denominated in USD, with 5% of the total amount allocated.

At the time of buyback, fiat and stablecoin proceeds are converted into ADA, and together with the ADA category, the total allocation is used to purchase ISIR on the decentralised exchange on the ISIR–ADA pool for redistribution. This approach ensures that neither holders nor the project are exposed to additional volatility from ADA price movements, while guaranteeing a transparent and predictable buyback process.

Final Reward Calculation

Once the monthly ISIR buyback amount (B) has been purchased, it is distributed proportionally to holders based on their calculated share (S). The final formula is therefore:

R = holder's ISIR rewards

B = total ISIR buybacks during the month

S = holder's share of rewards

$$R = B \times S$$

This formula ensures that each participant receives rewards fairly, based on both their holdings and any unclaimed rewards carried forward.

Activation Timing

All ISIR reward distributions, buybacks, and transparency mechanisms described in this section become active only upon the official launch of the ISIR token. While Ale & Axes may launch earlier with gameplay and progression systems in place, ISIR rewards begin after the ISIR initial distribution phase, which follows the game's release. This staged rollout allows players to earn ISIR through early participation while ensuring that all on-chain reward mechanics start in a fully initialized and transparent state.

Wyrmstone Reward Transparency

To ensure transparency, the Godsreach Bank UI will display a list of the latest Wyrmstone expenditures within the game, along with a continuously updated monthly total. This information will also be accessible through the investor dashboard link.

Rewards are redistributed at a fixed rate of 0.000001337% of all Wyrmstone spent per 1 ISIR held. To be eligible, holders must have a game account linked to a Cardano wallet with an ISIR balance. Rewards are distributed monthly in off-chain WYRM, which can be freely swapped into its on-chain version at any time. The interface will also integrate a DEX swap for WYRM ⇔ ISIR, ensuring seamless conversion within the ecosystem.

WYRM Reward Formula

R = holder's WYRM rewards

W = total Wyrmstone spent in the game

A = holder's monthly average ISIR balance (including ISIR provided in supported liquidity pools)

U = holder's unclaimed ISIR rewards

E = portion of A that is supplied as liquidity (qualifying for an extra +25% bonus)

$$R = W \times (A + U + E \times 0.25) \times 0.000001337$$

This formula ensures that each ISIR holder receives their fair share of redistributed Wyrmstone, proportionate to their holdings, their liquidity provision, and any unclaimed rewards carried forward.

Farming Rewards (Liquidity Incentives)

To encourage liquidity provision and strengthen the ecosystem, Tavern Studios introduces farming rewards for players who supply liquidity to the officially supported ISIR–ADA pool. By contributing liquidity, participants support market depth, improve trading conditions, and earn DEX trading fees, while also unlocking additional in-game and token-based rewards that scale with their contribution.

Reward Options

Liquidity providers may choose from multiple farming reward options. Each option offers a different combination of in-game items, allowing participants to select the rewards that best suit their goals. Some options may require a minimum ISIR holding to unlock. Rewards are distributed once a month.

- Providers select their preferred reward option via the Godsreach Bank (or investor dashboard) interface.
- Options can be switched freely during the month, but only the option active at the monthly reset counts for reward distribution.
- If no option is selected by the end of the month, a default option is applied automatically, ensuring providers always receive rewards.

Among the available rewards are rare and highly desirable in-game items, creating strong incentives for liquidity provision. Most rewards are off-chain in-game items that can be freely traded on the in-game auction (marketplace). In addition, liquidity providers receive ISIR rewards, directly aligning liquidity support with long-term participation in the ecosystem.

Example:

Rune of Inguin's Protection

- An in-game item obtainable through farming.
- Prevents items from losing enchanting level and durability when an enchanting attempt fails.

- Highly valuable for end-game enchanting.

Measuring Liquidity Contributions

Rewards are based on the average monthly ADA value of liquidity provided. This is calculated by monitoring each user's LP (liquidity provider) tokens daily:

1. The value of 1 LP token is determined by dividing the total value of the liquidity pool (in ADA terms) by the circulating supply of LP tokens.
    - Example: An ISIR–ADA pool holds 1,000 ADA and 1,000 ISIR. The total pool value = 2,000 ADA. With 500 LP tokens circulating, each LP equals 4 ADA of liquidity.
2. Each day, the system records the number of LP tokens a user holds and multiplies this by the ADA value of 1 LP.
3. At month's end, the daily values are averaged to calculate the user's average monthly farming liquidity.

Effective Cap and ISIR Holder Multipliers

To ensure fair participation and prevent disproportionate dominance by large holders, rewards are subject to an **effective cap**:

- Up to the cap, liquidity contributions yield full rewards.
- Contributions above the cap earn reduced rewards (25% of the normal rate).
- The effective cap is not fixed and may be adjusted over time to reflect ecosystem needs and balance.

The effective cap increases with ISIR holdings, allowing dedicated holders to extend their earning potential.

ISIR Holdings Milestones:

Holdings	**Multiplier for Effective Cap**
18,000 ISIR	*1.25×*
36,000 ISIR	*1.5×*
72,000 ISIR	*2×*
144,000 ISIR	*3×*

288,000 ISIR	*5×*
576,000 ISIR	*9×*

Example: if the base effective cap is 200 ADA worth of liquidity:

- With no milestone ISIR holdings met, the effective cap remains at 200 ADA.
- With 72,000 ISIR, the effective cap doubles to 400 ADA.

This design ensures smaller holders remain competitive, while still creating an incentive for larger ISIR holdings to raise effective caps and unlock higher potential rewards.

Monthly Distribution

At the end of each monthly cycle:

- Rewards are calculated according to the chosen option, the player's average monthly liquidity, and the effective cap.
- Players can view their accumulated farming rewards directly in the **Godsreach Bank** interface.
- Rewards are claimed at any time via a simple button.

Beyond ISIR–ADA

In the future, Tavern Studios may introduce farming options for the ISIR–WYRM pool as an additional avenue for liquidity providers. These would operate under a separate, non-overlapping effective cap, ensuring that contributions to ISIR–ADA and ISIR–WYRM are rewarded independently. However, the ISIR–ADA pool will remain the primary focus of incentives, with the strongest rewards reserved for it, reflecting its central role in anchoring the ecosystem.

Token Dynamics & Stabilization

The dual-token structure creates a self-regulating effect that potentially benefits ISIR's value by mitigating selling pressure. Consider the case of two potential Play-to-Earn players consecutively selling WYRM into ISIR before eventually converting ISIR into ADA:

1. **Player A** sells WYRM → ISIR: the price of WYRM in ISIR terms decreases.

2. **Player B** then sells WYRM → ISIR: they receive ISIR at a worse rate, i.e. fewer ISIR per 1 WYRM.

The result is a **reduced impact on ISIR's price in ADA**, meaning ISIR retains stronger value protection compared to a single-token model.

Additional downward pressure on WYRM arises when:

1. ISIR holders swap their WYRM rewards to accumulate more ISIR.
2. Players convert WYRM into ISIR to access the benefits and value of the ISIR token.

Conversely, upward pressure on WYRM occurs when players purchase it to advance their in-game progress. Over time, the **free market naturally stabilizes WYRM's price** according to supply and demand, ensuring sustainable economic balance.

For seamless trading, the **Godsreach Bank UI** will integrate the following DEX swap pairs:

- **ISIR ⇔ WYRM**
- **ISIR ⇔ ADA**
- **WYRM ⇔ ADA** (executed as two trades within one transaction: WYRM–ISIR–ADA)

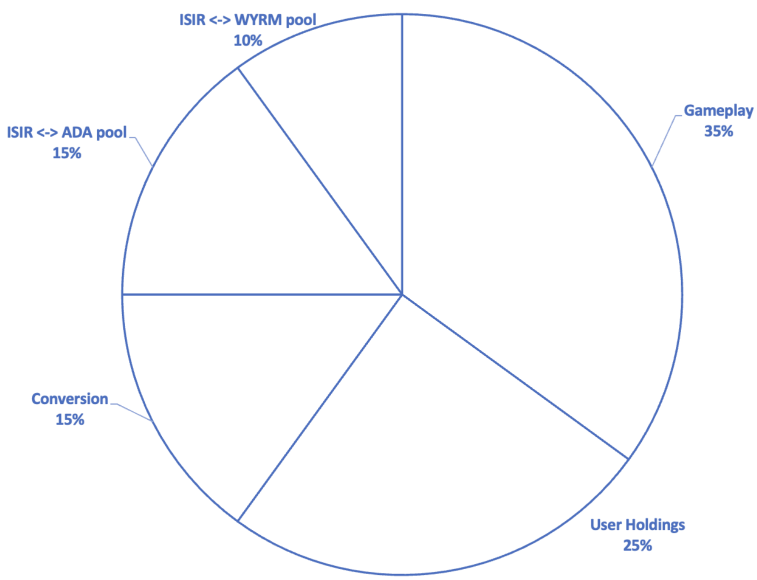
Current WYRM Supply Context

At present, approximately 8,000,000 WYRM exist across both off-chain and on-chain balances held by players. Holders will have the opportunity to exchange WYRM for ISIR as part of the initial ISIR distribution, which will also reduce the circulating WYRM supply, ensuring alignment between early supporters and the ecosystem's launch. For comparison, the initial ISIR–WYRM liquidity pool will be seeded with 897,532 ISIR (10% of the total supply) and 100,000,000 WYRM. In this context, the theoretical impact of the existing WYRM supply on ISIR's value is expected to be minimal.

ISIR Tokenomics

- **Type:** Cardano native asset
- **Policy:** Locked
- **Policy ID:**

  981523953aaa76c24018941d8b0ae09001c236781b79eebb1deed514
- **Total Supply:** 8,975,318 ISIR
- **Initial Distribution:**
  - 35% — Allocation earned through gameplay during the initial launch phase
  - 25% — Allocation based on eligible user holdings
  - 15% — Allocation via initial WYRM → ISIR conversion
  - 15% — ISIR–ADA liquidity provisioning and incentives
  - 10% — ISIR–WYRM liquidity provisioning



- **Versions:** Only on-chain (no off-chain version of ISIR)
- **Liquidity Pairs:** ISIR ⇔ ADA, ISIR ⇔ WYRM *(liquidity from Tavern Studios, complemented by in-game reward incentives for liquidity providers)*

ISIR Token Initial Distribution

The initial distribution of ISIR marks the completion of the Ale & Axes ecosystem's foundational design. With a fully developed, player-driven and sustainable economy ready for activation, ISIR represents the final layer of *Ale & Axes: Beyond God's Trench*, playing a central role in supporting the official v1 launch and long-term ecosystem alignment.

Distribution Overview (75% of the total ISIR supply)

- **Round 1** — Allocation via Existing Broader Ecosystem Participation (40%)
- **Round 2** — Allocation via Gameplay (35%)
- **Round 3** — Token Claim & Self-Custody

Round 1 — Allocation via Holdings (40%)

Round 1 rewards early supporters, contributors, and aligned communities through three distinct allocation sections. All allocations in this round are distributed proportionally within each section.

Section 1: WYRM → ISIR Swap (15%)

Participants may exchange existing Wyrmstone (WYRM) earned during earlier versions of the game (except Public Beta) for an ISIR allocation at a favorable rate.

- The process is executed on the project website using off-chain WYRM.
- Allocations are distributed proportionally based on the amount of WYRM contributed.
- This mechanism both rewards early players and partially absorbs existing WYRM supply.

Section 2: Allocation for Eligible External Projects (15%)

Holders of assets from selected, eligible external projects may claim ISIR allocations.

- Eligible assets may include NFTs, fungible tokens, or stake pool participation, depending on the project category.
- Allocation size is determined by multiple factors, including:
  - The category of the external project
  - The number of eligible assets held
  - The total number of claim participants
- Participation requires an active action.
- A snapshot of eligible assets is taken prior to allocation assignment.

Section 3: Allocation for Tavern Squad Collections (10%)

This section is reserved for holders of core Ale & Axes NFT collections:

- **Tavern Squad** *(adventurers)*
  Policy: 2d01b3496fd22b1a61e6227c27250225b1186e5ebae7360b1fc5392c
- **Tavern Squad – Shrines**
  Policy: 4cbd11e94241808aa2f4b93bf22a8d8a93fcd4326985c87e0c73d651
- NFTs carry non-uniform weights based on publicly known rarity.
- Allocations are distributed proportionally according to each participant's total weighted holdings.

Round 2 — Allocation via Gameplay (35%)

Round 2 distributes ISIR allocation based on active gameplay during the initial period following the official launch, ending on 31 March 2026.

- Every active player accumulates “weight” (points) by playing the game during this initial phase.
- Point generation is directly tied to the account-wide XP system, which reflects engagement across all gameplay features.
- Higher progression (XP level) results in a larger ISIR allocation.

Bonus Multipliers

Additional bonuses apply to point accumulation:

- **Ownership of Tavern Squad or Tavern Squad – Shrines NFTs:** Each asset provides an absolute bonus to point generation.
- **Activation of a 1-Year Battle Pass:** +50% bonus
- **Participation in the BETA version:** +10% bonus
- **Referral Purchase Bonus:** For each referred player who purchases Orbs (premium medium of exchange) for the first time, the referrer receives an additional +5% bonus to point generation. This bonus is stackable up to a maximum of +50%.

Round 3 — Token Claim & Self-Custody

Following the conclusion of the initial gameplay phase on 31 March 2026, Round 3 opens.

- Participants may **claim and withdraw** the ISIR tokens corresponding to their allocations from Rounds 1 and 2
- Tokens are transferred directly to the participant's self-custodial wallet
- There is **no vesting** — the full allocated amount is claimable immediately
- Unclaimed ISIR allocations after a three-month period will be redirected to ISIR–ADA liquidity provisioning and incentive mechanisms.

3) Wyrmstone (WYRM) Token

Lore Introduction

Legends once spoke of a hidden Dungeon from which few ever returned. That mystery ended when six adventurers emerged carrying a strange new material: **Wyrmstone**. Infused with the Dungeon's otherworldly essence, this crystal revealed a power to shape and sustain reality itself. Guided by the influence of the Bloodrose House, expeditions soon grew more organized, and Wyrmstone spread across Teya — transforming from a rare curiosity into a coveted resource and the trusted medium of exchange.

Wyrmstone as the Medium of Exchange

A medium of exchange is traditionally defined as a standardized form of money — such as banknotes or coins — used to facilitate trade within an economy. In the world of Teya, **Wyrmstone** fulfills this role as the primary medium of exchange across the in-game ecosystem.

Wyrmstone enables seamless trade between players, replacing barter with a reliable and universal standard of value. All in-game expenses — including purchases from vendors, equipment enhancements, marketplace fees, and other activities — are denominated in Wyrmstone.

The true utility of Wyrmstone lies not in hoarding or passive holding, but in its active use and circulation. By encouraging players to spend and trade, Wyrmstone sustains a vibrant, player-driven economy that rewards participation and fuels long-term ecosystem growth.

Key Properties of Wyrmstone

- **Inflationary by Design, Balanced by Spending**
  Wyrmstone is earned through gameplay, making it naturally inflationary. However, since it is also constantly spent in-game, its circulation supply rises and falls with player activity rather than expanding unchecked.

- **Dual Versions for Seamless Use**
  Wyrmstone exists in two forms: an off-chain version for seamless in-game use and an on-chain version for trading and liquidity, with free conversion between them.
- **Adaptive Operational Supply**
  Wyrmstone's supply is not fixed. Instead, it adjusts automatically based on ecosystem needs — expanding or contracting in response to two factors: the number of active players and the market capitalization of ISIR.
- **Dynamic Raid Rewards**
  A balancing mechanism automatically adjusts reward rates depending on whether circulating supply trends too high or too low, while in-game costs remain fixed. This ensures long-term economic stability and preserves Wyrmstone's role as a functional medium of exchange.

Inflationary by Design, Balanced by Spending

Wyrmstone is the lifeblood of gameplay — de facto required for progression and participation in nearly all activities. Players earn WYRM through raids, competitions, and other in-game features, but they also continuously spend it on vendors, enchantments, marketplace fees, and other sinks.

This makes Wyrmstone inherently **inflationary by design**: new tokens enter circulation as players earn them. However, because those tokens are constantly being spent and recycled, the circulating supply rises and falls with player activity rather than expanding unchecked. In practice, this creates a healthy cycle of **earn–spend–earn** that sustains a vibrant economy.

Dual Versions for Seamless Use

Wyrmstone exists in two complementary forms:

- **Off-chain WYRM**: Used for all gameplay-related transactions to ensure speed, zero cost, and a smooth user experience. This is the version players interact with in the game when raiding, trading on in-game auction, upgrading gear, etc.

- **On-chain WYRM ($WYRM)**: A blockchain-native token that provides true ownership and increased transparency. It enables interaction with decentralized exchanges and supports liquidity pools, ensuring tradability and market access for players.

Players can freely convert between the two versions at any time.

The off-chain token does not support decimals, and the in-game UI represents fractions through **Wyrmstone Fragments** instead (1 WYRM = 100 fragments). By contrast, the on-chain version supports decimals natively.

This dual structure ensures the best of both worlds: seamless gameplay and relatively transparent, tradable asset on-chain.

Adaptive Operational Supply

Definition of Operational Supply: Total supply minus WYRM provided as liquidity from the project's wallets.

Unlike ISIR, Wyrmstone does not have a fixed supply. Instead, its **operational supply adjusts dynamically** to match ecosystem needs, with changes executed transparently through the project's wallet. Adjustments occur on a scheduled monthly basis, and result in one of three outcomes:

- **Decrease** — tokens are burned
- **No change** — supply remains stable
- **Increase** — new tokens are minted

Two factors determine these adjustments:

1. **Number of Active Players**
    - Base supply: **300,000,000 WYRM** (covers up to 1,000 active players).
    - For each additional 1,000 active players, +30,000,000 WYRM is added.
    - Conversely, if the active player count falls below a threshold, 30,000,000 WYRM is removed for each missing 1,000 players.

Example:

- 1–1,000 players → 300,000,000 WYRM
- 1,001–2,000 players → 330,000,000 WYRM
- 2,001–3,000 players → 360,000,000 WYRM

The relatively high base supply exists to account for the Tavern Squad NFT collection (Policy ID: 2d01b3496fd22b1a61e6227c27250225b1186e5ebae7360b1fc5392c). Each NFT represents a playable adventurer with an increased revenue rate, effectively functioning as an additional character within the ecosystem alongside free-to-play characters. Since the collection is finite and its relative ROI unchanging, it must be fully integrated into the economic model from the start. By contrast, new players can join the game without limit, and their impact on supply is handled through incremental adjustments. In short, the base supply anchors the Tavern Squad collection, while the scalable component ensures sustainability as the player base grows.

2. **Market Capitalization of ISIR**
   - Supply also scales with ISIR's market capitalization (measured in WYRM terms). 20% of ISIR's market cap held outside DEX pools (i.e., available supply), denominated in WYRM, is added to WYRM's total supply in WYRM tokens.
   - Adjustments occur at hundred-million thresholds of this calculated portion. In other words, for every additional 100,000,000 WYRM equivalent of the eligible ISIR market cap, +100,000,000 WYRM tokens are added.

Example:

- 200,000,001–300,000,000 $ISIR mcap → + 200,000,000 WYRM
- 300,000,001–400,000,000 $ISIR mcap → + 300,000,000 WYRM
- 400,000,001–500,000,000 $ISIR mcap → + 400,000,000 WYRM

Note: These examples already account for the 20% eligible portion of ISIR market cap.

This system ensures sufficient liquidity to meet the demands of a growing or fluctuating player base, while reducing the risk of shortages that could disrupt off-chain ⇔ on-chain swaps. It also eliminates the need for unplanned manual adjustments to total supply — which would lack transparency and could potentially cause controversy.

It is important to note that **these adjustments affect only the project wallet's balance and do not change the circulating supply directly**, meaning they have no immediate impact on market price.

Bringing these mechanics together, the operational supply and the project's wallet balance can be expressed as:

$$\text{OperationalSupply} = \text{Supply}_{\text{PlayerBase}} + \text{Supply}_{\text{ISIRmcap}}$$

$$\text{ProjectWalletBalance} = \text{OperationalSupply} - \text{OnChainWYRM}_{\text{Users}}$$

Dynamic Raid Rewards

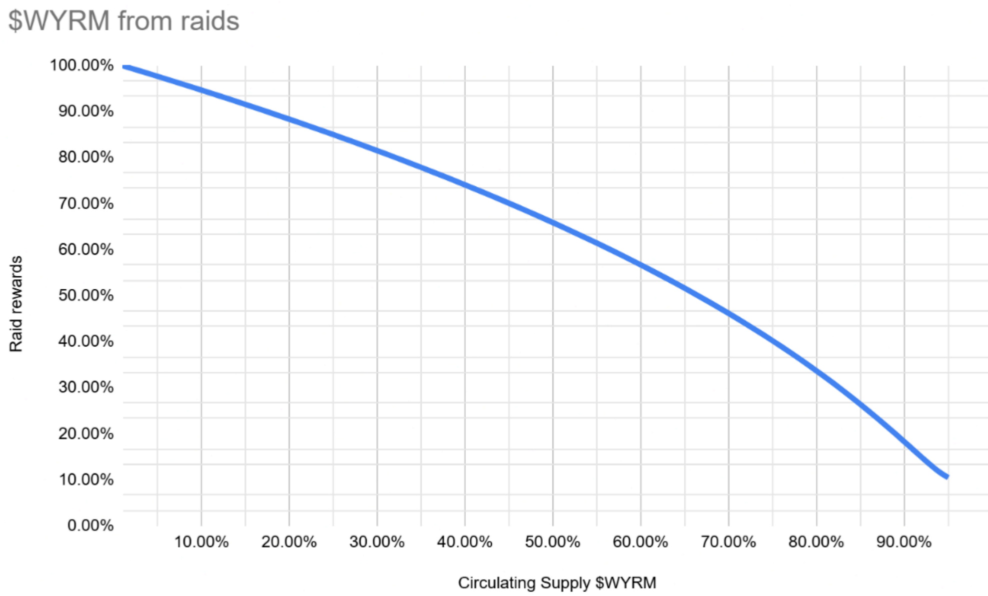
Raiding within the game is the primary way to earn Wyrmstone. However, since both earning and spending behavior is in the hands of players, the economic system should ideally be able to **self-balance** against unfavorable long-term trends.

To maintain balance between earning and spending, raid rewards in WYRM are adjusted by a **variable multiplier** that depends on the ratio of circulating supply to operational supply.

Definitions:

- **Circulating Supply**: All on-chain + off-chain WYRM held by users, including liquidity provided by players on DEX.
- **Operational Supply**: Total supply minus WYRM provided as liquidity from the project's wallets.
- **Total supply:** All existing on-chain WYRM

The curve of WYRM raid rewards, adjusted by the variable multiplier, based on the percentage of circulating supply relative to operational supply:



When circulating supply is within healthy levels, the multiplier stays near its maximum and rewards remain largely unchanged. As circulating supply trends too high from excessive saving, the multiplier decreases, reducing WYRM issuance. The adjustment curve is non-linear: changes remain moderate through most of the range but grow sharper as savings increase, applying stronger corrective pressure.

Importantly, while rewards adjust dynamically, in-game costs remain fixed — so if circulating supply becomes too high, the combination of lower raid rewards and unchanged costs naturally stop or reverse the trend.

This ensures that WYRM's economy remains sustainable without manual intervention, while preserving transparency.

WYRM Tokenomics

- **Type:** Cardano native asset
- **Policy:** Unlocked
- **Policy ID:** 4ffaa4ef3217df37c4995bb96066af4cb68dfcc66b9f2a10e0c333b9
- **Total Supply:** Dynamic
- **Versions:** On-chain and off-chain
- **Liquidity Pair:** ISIR ⇔ WYRM

Tavern Studios commits not to sell Wyrmstone or manipulate its supply for financial gain. All handling of WYRM by the studio serves solely to maintain the smooth functionality of the in-game economy, in accordance with the logic and rules described in the preceding subchapters. Beyond the operational supply, Tavern Studios will also provide an initial 100,000,000 WYRM as liquidity in the ISIR ⇔ WYRM pool and reserves the right to contribute additional liquidity as it sees fit to further the ecosystem's development.

4) Ale & Axes Ecosystem

Lore Introduction

Godsreach — a place that gathers the bravest of the brave, the greediest of the greedy, and the most devout of the faithful. Despite lying at the very entrance to the Dungeon, it is perhaps the safest town in the world, precisely because of those who dwell there.

Here, adventurers found allies from an unlikely source: the Gods of Teya themselves. Strangely united in this one place, they answer through the great altar at the edge of town. There, offerings are made — and in return, the gods bestow items of rare utility and power. These gifts soon proved indispensable, enabling adventurers to delve ever deeper into the underworld.

Progression System

Items and the Altar Mechanic

Ale & Axes features hundreds of items, including equippable gear such as weapons, armors, rings, and relics. These items exist across multiple rarities, with rarer tiers becoming accessible as players progress further into the game — a design familiar to fans of RPGs.

Naturally, as players craft higher-rarity items, their older, lower-rarity equipment becomes obsolete. In a traditional game, these items are either discarded or listed on the marketplace at very low prices. But in a blockchain-powered ecosystem, such an unchecked surplus of unwanted items can quickly devalue them to near worthlessness, flooding the marketplace and creating an overall undesirable situation. And if simply discarded, players are left with the sense that their original effort to acquire the item has been wasted. In both cases, they lose the actual value embedded within it — since its creation and enchantment required spending Wyrmstone.

To address this, Ale & Axes introduces the Altar, a mechanic that combines progression and cleanup in one system. Players may offer outdated equipment and other items at the altar, where the Gods of Teya accept them as tribute. In return, players receive utility items — resources that are always useful for enchanting, crafting, or repairing durability. In other words, even unwanted items can be transformed into meaningful progress toward the equipment players truly desire. And since these utility items are inevitably required for progression, they naturally hold intrinsic value.

Professions & Crafting

The professions system is one of the cornerstones of Ale & Axes' player-driven economy, enabling the collection of resources and the creation of weapons, gear, consumables, and other items. Crafted items can be freely traded for Wyrmstone on the in-game auction house, reinforcing a vibrant cycle of play and exchange. Since no player can master all crafting professions at once, cooperation and trade become essential — driving players to exchange resources and items with one another to progress.

Professions fall into two main categories:

- **Gathering Professions** — such as Mining, Herbalism, Skinning, and others — allow players to collect raw resources during raids, which can then be refined into usable materials.
- **Crafting Professions** — including Engineering, Tailoring, Witchcraft, Jewelcrafting, and more — transform these materials into equipment, consumables, and utility items essential for progression.

Progression in both gathering and crafting is account-wide and tied to Skill Points, earned by successfully gathering, processing resources, or completing crafting recipes. Advancing through experience tiers unlocks access to rarer resources and higher-rarity items, ensuring that long-term commitment is continuously rewarded.

Items currently exist across six rarities: Basic, Common, Uncommon, Rare, Epic, and Legendary, with Mythic planned for the future. Crafting recipes up to Rare can be purchased from vendors, while Epic and above can only be obtained as drops from powerful bosses — reinforcing the link between progression, raiding, and the player-driven economy.

By combining professions, players can specialize their accounts, contribute to the in-game economy, and create items of real value for trade or personal use. This system ensures that every raid, recipe, and resource gathered contributes meaningfully to both individual progression and the wider Ale & Axes ecosystem.

Item Quality

Item Quality adds an extra layer of depth to the crafting system, ensuring that equipment creation is defined not only by quantity but also by outcome. Every equippable item is crafted with a quality rating that determines its base stats. This mechanic transforms the natural surplus of crafted equipment into a source of excitement and opportunity rather than waste. High-quality items are more powerful and sought after on the marketplace, while even lower-quality results remain useful through the Altar, where they can be offered in exchange for valuable utility items.

There are four possible quality outcomes, applicable across all rarities:

- Flawless
- High
- Average
- Low

Quality probabilities can be improved through special consumables or by attaining Grandmaster status. Grandmaster is a monthly competitive rank: players who finish within the top 1% of a given profession earn this title for the following month, gaining higher chances of crafting superior-quality items.

Enchanting System

Every equippable item in *Ale & Axes* can be enhanced through enchanting, a progression mechanic that increases an item's base stats. Newly crafted equipment begins at enchant level 0, and players may attempt upgrades step by step — each attempt balancing the promise of greater power against the risk of loss.

Enchanting Categories

Enchanting is divided into two categories, each with its own progression path and risk profile:

- **Bound Items** — Weapons, armors, and trinkets belong to the Bound category. These can be enchanted up to PEN (level 15) through incremental stages (0–10, PRI, SEC, TER, QUA, PEN). Failed attempts consume the required materials and reduce item durability by 5–10 points. From SEC (12) onward, an unsuccessful attempt also decreases the current enchantment level, making late progression especially challenging.
- **Unbound Items** — Rings, relics, and runestones fall into the Unbound category. Unlike Bound items, Unbound equipment skips the 1–10 stages and can only be enchanted up to PEN (level 5), creating a shorter but riskier upgrade path. A failed attempt resets the item to level 0, reduces its maximum durability by **100**, and consumes the required materials used in the attempt.

This dual structure creates a variety: Bound items reward steady, resource-intensive progression, while Unbound items embrace volatility, offering the chance for faster power gains at greater risk.

Fortune's Favor (FF)

Base enchantment success rates are intentionally challenging, preserving the value and rarity of high-level items. To enhance progression, the game introduces Fortune's Favor (FF) — a stacking system that increases success chances and ensures that even failed attempts generate future benefits.

- **Stacking Chance:** Each failed enchant attempt adds FF stacks, raising the probability of success in the next attempt. Stacks have no hard cap and can accumulate into the hundreds.
- **Purchasing Stacks:** Players can also acquire up to 40 FF stacks directly by spending Wyrmstone at in-game vendor.
- **Consumption on Success:** When an enchant attempt succeeds, the FF stacks applied to it are consumed, resetting the counter.

This mechanism transforms enchanting from a simple win/lose gamble into a strategic progression system — where even failed attempts add value by generating Fortune's Favor stacks that improve future success rates.

Enduring Progression

Together, the crafting and enchanting systems — both of which become highly challenging at higher rarities and levels — ensure that Wyrmstone retains virtually endless utility. Coupled with its role as a requirement for nearly every activity, this creates consistent, meaningful demand that underpins Wyrmstone's long-term value. By establishing a sustainable progression framework, Ale & Axes avoids the content bloat common in traditional MMORPGs and enables Tavern Studios to direct future development toward enriching gameplay experiences — such as cooperative modes, PvP features, and new content — rather than endlessly producing additional progression layers or expansions.