Ethos XP: Incentive Design for Decentralized Reputation

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Abstract

Incentive design in reputation systems faces a fundamental tension: rewards must be meaningful enough to motivate participation, yet structured to prevent gaming. Ethos XP Season 2 represents an experimental approach to this challenge, distributing XP across multiple pools that reward different forms of network contribution. Rather than prescribing fixed parameters, Season 2 is designed as a learning period—an opportunity to observe how incentives shape behavior in practice and iterate toward optimal design. This paper describes the philosophy, mechanisms, and open questions of the XP system, with explicit acknowledgment that parameters will evolve based on empirical observation.

1 Introduction

Reputation systems require participation to function. Without users vouching, reviewing, trading in markets, and governing disputes, the network produces no signal. Yet participation is costly—it requires time, attention, and often capital. The challenge is designing incentives that reward genuine contribution without creating opportunities for extraction.

Ethos XP serves as the network's incentive layer. Unlike speculative tokens, XP is non-transferable to external wallets and can only be earned through participation or sent peer-to-peer within Ethos. This design choice is deliberate: XP should reflect contribution to the network, not speculation on future value.

Season 2 introduces significant changes to how XP is distributed. Where Season 1 relied primarily on direct rewards for specific actions, Season 2 implements yield-based emissions that reward sustained commitment alongside activity-based rewards. The goal is creating an economy where long-term participants are advantaged over short-term extractors.

2 Design Philosophy

2.1 Learning Through Iteration

We do not claim to have solved incentive design. The 26-week season duration is chosen specifically to provide sufficient time for patterns to emerge while maintaining flexibility to adjust. Parameters described in this paper—pool allocations, multiplier curves, cost structures—are starting points, not final answers.

This iterative philosophy extends to the mechanisms themselves. Some features described here may prove ineffective or gameable. We commit to transparent communication about what we observe and how we respond.

2.2 Skin in the Game

Every action in Ethos costs XP. Voting on content, writing reviews, participating in slashing disputes—all require spending accumulated XP. This creates meaningful trade-offs: users must decide which actions are worth their limited resources.

The alternative—free actions—invites spam and gaming. When voting costs nothing, votes become meaningless. When reviews are free, review quality degrades. By requiring expenditure, we ensure that XP balances reflect genuine conviction rather than passive accumulation.

2.3 Aligned Incentives

Each mechanism is designed to reward behavior that strengthens the network. Vouching rewards users for staking capital on trusted relationships. Market participation rewards accurate price discovery on reputation. Content creation rewards valuable contributions that help others make credibility assessments.

The multiplier system amplifies these base rewards for users who demonstrate sustained commitment—maintaining activity streaks, building credibility, and participating in governance. The intent is that the most engaged and trustworthy users earn disproportionately more than casual participants.

3 XP Issuance

Each season distributes a fixed pool of XP, with total emissions decreasing over time. This deflationary schedule ensures that early participants are rewarded for taking risk on an unproven system, while later seasons maintain scarcity and value.

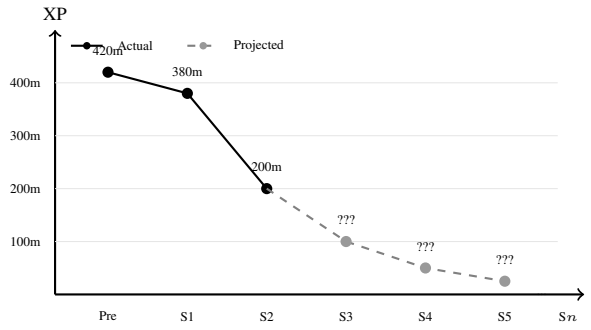

Figure 1: XP emissions by season

Season 2 distributes a fixed pool of XP over 26 weeks. This creates predictable emissions that users can plan around, while the finite supply ensures XP retains meaning throughout the season.

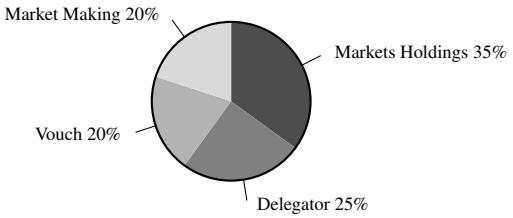

Figure 2: Weekly XP emission pool allocations

3.1 Yield on Assets

The majority of emissions flow to users who maintain positions in the network—what we call "yield on assets." This includes rewards proportional to ETH vouched for other users, rewards for holding positions in reputation markets, and rewards for active trading that provides price discovery.

The philosophy here is straightforward: users who commit capital to the network should be rewarded for that commitment. Vouching ETH on another user's reputation represents real risk; market positions represent capital that could be deployed elsewhere. Yield compensates for this opportunity cost.

3.2 Periodic Rewards

A portion of emissions is distributed through periodic mechanisms—weekly lotteries and daily distributions based on content performance. These rewards introduce beneficial variance: users cannot perfectly predict their earnings, which maintains engagement and rewards serendipitous contribution.

The weekly validator lottery exemplifies this design. Each week, one validator and their delegators share a prize pool. Selection probability weights toward more active communities, but any delegated validator can win. This creates sustained engagement rather than optimizing for a single moment.

3.3 Self-Funded Pools

Not all XP distribution comes from emissions. When users spend XP on actions—voting, commenting, reviewing—that XP flows into pools distributed to content creators. This creates a circular economy: spending XP on engagement funds rewards for those who create valuable content.

The mechanism ensures that high-quality contributions are rewarded even without direct protocol subsidy. If many users find a review valuable enough to upvote, the reviewer earns from the accumulated vote costs. Quality surfaces organically through revealed preference.

4 Multipliers

Base earnings from yield and periodic rewards are modified by multipliers that reflect a user's standing in the network. The intent is creating compounding advantages for sustained, trustworthy participation.

4.1 Credibility Multiplier

Users with higher credibility scores earn more XP. This creates a virtuous cycle: trustworthy behavior improves credibility, which increases XP earnings, which enables more participation, which further builds credibility.

The multiplier ranges from zero for untrusted users to a significant bonus for the most reputable. New users start with modest multipliers that grow as they establish track records. This design advantages long-term participants over newcomers attempting to extract value quickly.

4.2 Streak Multiplier

Consecutive days of meaningful activity earn increasing multipliers. Missing a day resets the streak, though users may pay a substantial XP cost to preserve their multiplier despite an absence.

This mechanism rewards consistency. Reputation networks benefit from regular participation—users who check in daily contribute more to collective knowledge than those who participate sporadically. The streak multiplier compensates for this ongoing attention cost.

4.3 Validator and Delegation Bonuses

Validator NFT holders receive earning bonuses proportional to their holdings. Users who delegate their earning potential to validators receive bonuses as well. These multipliers create economic relationships between validators and their communities.

Validators are incentivized to attract and retain delegators; delegators are incentivized to choose active, trustworthy validators. The weekly lottery amplifies this dynamic—validators with engaged delegators have better odds of winning.

4.4 Combined Effect

Multipliers combine multiplicatively. A user with strong credibility, a long streak, validator holdings, and active delegation can earn several times more than a user with identical base positions but no multipliers.

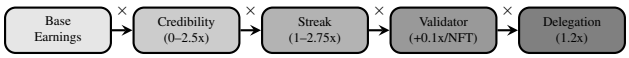

Figure 3: Multipliers stack multiplicatively on base earnings

This is intentional. We want the most committed participants to earn disproportionately. The alternative—flat rewards regardless of commitment—advantages extractive behavior over genuine contribution.

5 Spending XP

XP is not merely earned; it is spent. Every substantive action in Ethos requires XP expenditure, creating an economy where participation has cost.

5.1 Content and Governance

Voting on content, leaving comments, and writing reviews all cost XP. The amounts are calibrated to be meaningful but not prohibitive—small enough that active users can participate freely, large enough to prevent spam.

Participating in slashing disputes costs more, reflecting the seriousness of governance decisions. Users who vote on whether another user should be penalized are spending significant XP to express their judgment.

5.2 Invitations

Inviting new users requires substantial XP, but this cost is transferred to the invitee rather than burned. The mechanism creates investment relationships: inviters have economic incentive to bring valuable participants rather than farming invites indiscriminately.

This transfer model means inviters are effectively "vouching with XP" for their invitees. The inviter bears real cost, but that cost becomes the invitee's starting capital in the network. Good invitations thus benefit everyone: the inviter brings a valuable community member, the invitee starts with resources to participate meaningfully, and the network gains a new contributor who arrives through a trusted relationship.

The substantial cost also serves as natural rate limiting. Users cannot invite faster than they can accumulate XP, which bounds network growth to sustainable rates while ensuring each invitation represents genuine belief in the invitee's potential contribution.

5.3 Streak Preservation

Users may pay to preserve their streak multiplier despite missing a day of activity. The cost is deliberately high—streak preservation should be an emergency measure, not routine practice. The intent is rewarding genuine consistency while providing flexibility for exceptional circumstances.

Life occasionally interferes with even the most dedicated participants. Travel, illness, or simple forgetfulness should not completely erase weeks of accumulated streak progress. The preservation mechanism provides a release valve for these situations without undermining the streak system's purpose.

The high cost ensures preservation remains a conscious decision rather than an automatic safety net. Users must weigh whether their accumulated streak is worth the XP expenditure to preserve. For long streaks with high multipliers, preservation may be worthwhile; for newer streaks, the math may favor simply starting over. This economic calculation is intentional—it forces genuine evaluation rather than reflexive preservation.

6 XP Slashing

Season 2 introduces XP slashing alongside traditional credibility slashing. Where credibility slashes affect reputation scores, XP slashes transfer XP directly between parties.

6.1 Mechanism

When initiating an XP slash, users specify a stake amount. Both parties commit their staked XP to escrow. Upon resolution, the winner receives the loser's stake—a zero-sum transfer of conviction.

XP slashes also affect credibility scores, creating real stakes beyond the XP transfer itself. Losing an XP slash means both forfeiting your stake and taking a reputation hit. This dual consequence encourages users to initiate slashes only when they have genuine conviction—the cost of being wrong extends beyond mere XP loss.

The escrow mechanism ensures both parties have genuine commitment before resolution begins. Neither party can initiate a slash and then withdraw when the evidence turns unfavorable. Once committed, the dispute must play out to conclusion, which encourages careful consideration before initiation.

6.2 Use Cases

XP slashing suits disputes where parties want to "put their money where their mouth is" without the severity of credibility consequences. Disagreements about factual claims, predictions, or assessments can be resolved through XP stakes rather than reputation damage.

Consider a disagreement about whether a particular event occurred, or whether a prediction will come true by a certain date. Traditional credibility slashing feels disproportionate for such disputes—being wrong about a specific prediction shouldn't necessarily damage one's overall reputation. XP slashing provides an alternative: stake XP, let the community adjudicate, and transfer value based on the outcome.

This mechanism also enables productive disagreement. Two users with genuine uncertainty can stake their positions and let resolution clarify who was correct. The XP transfer acknowledges who held the more accurate view without requiring either party to suffer lasting reputation consequences.

7 Schelling Point Voting

Voting on slashing disputes uses a Schelling point mechanism that aligns voter incentives with truthful reporting.

7.1 The Coordination Game

When users vote on slashes, they stake XP on their position. After voting closes, the winning side splits the losing side's stakes proportionally. Voters are thus incentivized to vote with the expected majority—and since most rational voters will assess evidence honestly, the mechanism tends toward truthful outcomes.

This is not voting on what *should* be true, but coordinating on what the community *will conclude* is true. The distinction matters: voters who consistently assess evidence accurately accumulate XP from less accurate voters over time. Accuracy becomes a skill that compounds.

The proportional split rewards larger stakes on the winning side. A voter confident enough to stake heavily earns more than a voter who hedges with a small stake. This rewards conviction when that conviction proves correct, while penalizing overconfidence when wrong. The mechanism thus encourages calibrated confidence—staking in proportion to genuine certainty about the outcome.

Over time, this system identifies and rewards users who consistently assess disputes accurately. These users accumulate XP from less accurate voters, creating a reputation layer for judgment quality distinct from general credibility scores.

7.2 Resolution Thresholds

Slash outcomes are determined by weighted voter consensus, where votes are weighted by participants' credibility scores. This weighting ensures that more reputable community members have proportionally greater influence on dispute resolution.

Three outcome bands exist. When consensus exceeds sixty percent in favor of the slash, the slash passes—the target loses both the staked XP and suffers credibility damage. When consensus falls below forty percent, the slash is defended—the slasher themselves loses credibility and forfeits their stake, penalizing frivolous or malicious accusations. The middle band, between forty and sixty percent, represents genuine ambiguity where reasonable community members disagree. In this range, the slash fails to resolve and stakes are returned.

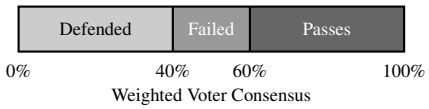

Figure 4: Slash resolution thresholds

This tri-band design acknowledges that not all disputes have clear answers. Rather than forcing binary outcomes on ambiguous cases, the system admits uncertainty and avoids penalizing either party when the community itself is divided.

7.3 Refund on Ambiguity

If a slash is cancelled or deemed inconclusive, all voters receive their stakes back. This protects against situations where the "correct" answer is genuinely unclear—voters are not penalized for participating in ambiguous disputes.

This refund mechanism is crucial for encouraging participation in edge cases. Without it, rational voters would avoid disputes where the outcome seems uncertain, even if their participation would help resolve important questions. The refund ensures that voters are only penalized for being wrong when there is a clearly identifiable correct answer—not for engaging with genuinely difficult questions.

The ambiguity determination itself follows defined criteria. Slashes may be deemed inconclusive if evidence is insufficient, if the claim was malformed, or if community consensus fails to emerge within reasonable bounds. This prevents indefinite limbo while ensuring neither party is unfairly penalized when the system itself cannot reach resolution.

8 Delegation and Validators

The validator ecosystem creates a delegation market where users can amplify their earnings by choosing validators to support.

8.1 Validator Incentives

Validators benefit from attracting delegators: larger delegator pools improve lottery odds, and validators receive a percentage of delegator earnings as a tax. This creates incentive for validators to build engaged communities and maintain active participation.

The validator role extends beyond passive token holding. Successful validators curate their communities, provide guidance to delegators, and often serve as trusted voices in governance discussions. The economic relationship between validators and delegators mirrors traditional investment management—validators compete for delegator attention by demonstrating competence and commitment.

This competition benefits the network as a whole. Validators who neglect their communities lose delegators to more attentive alternatives. The market for delegation creates accountability without requiring explicit enforcement mechanisms—community quality emerges from competitive dynamics rather than top-down rules.

8.2 Delegator Benefits

Delegators receive earning bonuses and eligibility for weekly lottery prizes. By delegating, users gain exposure to potential lottery winnings proportional to their stake, while receiving steady earning multipliers regardless of lottery outcomes.

Delegation offers a path for users to participate in the validator economy without the capital requirements of holding validator NFTs directly. Delegators effectively pool their earning potential, trading some autonomy for the benefits of community membership and lottery exposure. This democratizes access to validator-tier rewards.

The delegation multiplier applies to all earning activities, not just lottery participation. Delegators benefit from enhanced returns on their vouching, market positions, and content contributions. For active participants, the compounding effect of delegation bonuses can significantly amplify total XP earnings over time, making delegation particularly attractive for users who engage consistently across multiple network activities.

8.3 The Delegation Tax

A small percentage of delegator earnings flows to validators. This tax funds validator operations and creates sustainable economics for those who invest in building communities. The rate is set low enough that delegation remains attractive while providing meaningful validator compensation.

The tax mechanism aligns long-term incentives between validators and delegators. Validators earn more when their delegators earn more, creating natural motivation for validators to help their communities succeed. This stands in contrast to systems where validators extract fixed fees regardless of delegator outcomes—here, validator success is directly coupled to delegator success.

The tax rate itself represents a parameter subject to adjustment. Too high a rate discourages delegation; too low a rate fails to adequately compensate validators for their community-building efforts. Season 2's initial rate reflects our current best estimate, with the understanding that observation may reveal the need for calibration.

9 Epoch Rewards

Each week, the network distributes a substantial XP pool to one validator community through a weighted lottery. This mechanism creates recurring moments of excitement while rewarding validators who build active, engaged communities.

9.1 Epoch Cadence

Every seven days marks an epoch boundary. At each boundary, one validator is selected to receive that epoch's reward pool. Selection is not purely random—validators with more active communities have proportionally higher odds of winning. This weighting ensures the lottery rewards genuine community building rather than passive token holding.

To be eligible, validators must demonstrate activity during the epoch. A validator who holds NFTs but contributes nothing to the network cannot win. This requirement filters out dormant validators and concentrates rewards among those actively participating.

9.2 Eligibility Weighting

A validator's lottery weight reflects both their own engagement and the collective activity of their delegators. The formula combines activity metrics with the validator owner's XP multipliers, creating compounding advantages for validators who are both personally active and successful at attracting engaged delegators.

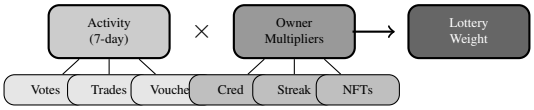

Figure 5: Epoch eligibility weight calculation

Activity is measured across multiple dimensions over a rolling seven-day window: XP spent on governance actions like voting, commenting, and reviews; trading volume in reputation markets; vouch stake amounts; and market position values. Each form of participation contributes to the activity score, rewarding validators and delegators who engage across the full breadth of network features.

The owner's multipliers—credibility score, contribution streak, validator NFT holdings, and delegation status—further amplify this activity score. A highly reputable validator with a long streak and multiple NFTs gains significant advantage over a less established competitor with similar raw activity levels.

9.3 Distribution

When a validator wins, the epoch pool splits between the validator owner and their delegators. The majority flows to delegators, distributed proportionally by each delegator's staked XP amount. The validator owner receives a smaller but meaningful share as reward for building the community that enabled the win.

This split incentivizes validators to attract delegators—more delegators means higher activity scores and better lottery odds—while ensuring delegators receive the bulk of winnings. If a validator has no delegators, the owner receives the entire pool, but such validators are unlikely to win given their lower activity scores.

9.4 Design Intent

The epoch reward mechanism serves multiple purposes. It creates weekly moments of collective anticipation that maintain engagement between other reward cycles. It rewards validators for community building in a way that complements the steady delegation tax. And it introduces beneficial variance—even smaller validator communities have a chance to win, preventing complete consolidation around the largest validators.

The activity requirements ensure that epoch rewards flow to genuinely engaged communities rather than passive holders. A validator cannot simply accumulate NFTs and delegators then coast; they must continuously participate to remain eligible for the weekly lottery.

10 Open Questions

We present this system with honest acknowledgment of unresolved challenges.

10.1 Parameter Tuning

Pool allocations, multiplier curves, and cost structures are educated guesses. Real usage will reveal whether these parameters achieve intended outcomes or require adjustment. We commit to transparency about what we observe and why we make changes.

The challenge is that parameters interact in complex ways. Adjusting multiplier curves affects the relative attractiveness of delegation; changing pool allocations shifts incentives between vouching and trading. We anticipate needing to make adjustments as these interactions reveal themselves through real usage patterns.

Our approach will be conservative: make changes incrementally, observe effects before further adjustment, and communicate rationale publicly. Sudden large parameter shifts would undermine user trust and make it difficult to understand what's working. Season 2's length provides runway for multiple small iterations rather than requiring dramatic interventions.

10.2 Gaming Vectors

Any incentive system can be gamed. We have attempted to anticipate obvious attacks, but sophisticated actors will find approaches we haven't considered. Season 2's iterative design allows us to respond to gaming as it emerges.

Some gaming is acceptable or even beneficial. Arbitrage that improves market efficiency, for instance, serves network goals even if individual arbitrageurs are motivated purely by profit. The concerning vectors are those that extract value without contributing signal—wash trading, sybil attacks, or collusion that games governance mechanisms.

We will monitor for anomalous patterns and respond proportionally. Minor gaming may warrant parameter adjustment; egregious exploitation may warrant more direct intervention. The goal is maintaining an environment where honest participation remains the most effective long-term strategy, even if sophisticated gaming can achieve short-term gains.

10.3 Fairness Across User Types

The multiplier system advantages long-term participants, which may disadvantage newcomers. We believe this tradeoff is correct—reputation networks should reward tenure—but acknowledge reasonable disagreement. Feedback from new users will inform whether onboarding paths need adjustment.

The tension is real: too much advantage for incumbents and the network becomes a closed club; too little and there's no reward for sustained contribution. Different users have different views on where this balance should fall, and their views often correlate with their own tenure in the network.

We will pay particular attention to new user retention and the time required for newcomers to become productive participants. If talented potential contributors are leaving because the path to meaningful participation feels impossibly long, that represents a failure worth addressing—even at the cost of some incumbent advantage.

11 Conclusion

Ethos XP Season 2 represents an experiment in incentive design for reputation networks. We have attempted to create mechanisms that reward genuine contribution, punish extraction, and compound advantages for sustained commitment.

The system is not finished. Parameters will change. Mechanisms may be added or removed. What remains constant is the underlying philosophy: that reputation networks require participation to function, that participation requires incentives, and that incentive design is an iterative process requiring humility about what we don't yet know.

We invite the community to participate not just in earning XP, but in shaping how XP should work. The best incentive designs emerge from collective intelligence, not top-down prescription.

References

[1] Ethos Network, "Ethos Whitepaper." https://whitepaper.ethos.network/