Introduction

The GameFi is undergoing a shift, fueled by the rise of Al & tokenization. Peer2Play is at the forefront of this Gaming revolution, offering a platform to connect & engage gamers, developers & influencers.

Our mission is to transform the gaming ecosystem through tokenized game ownership, fair revenue sharing, and true collaboration among all stakeholders. With Peer2Play, games arent just products anymorethey become living, community-driven experiences owned and operated by the players, developers, and creators themselves.

Peer2Play leverages modular smart contracts, cross-chain capabilities, and developer tools to empower:

Game Developers to easily launch and tokenize their Web3 games, reaching global audiences and maximizing their impact.

Gamers to earn, co-own, and trade in-game assets in a transparent, reward-driven ecosystem that truly values their hustle.

Influencers to promote games, run epic tournaments, onboard fresh players, and cultivate vibrant, engaged gaming communities.

This whitepaper dives deep into the current pain points of the gaming industry, & how being a part of Peer2Play ecosystem can help different participants to tackle their problems.

Join us in forging a future where gaming transcends mere entertainment, evolving into a thriving,

community-owned economy powered by Web3 magic.

Problem Statement

The gaming world may be evolving at lightning speed, but it still has major hurdles that hold back growth for developers, gamers, and everyone else involved. Despite the industry's rapid evolution, it continues to face challenges like centralized control, web3 complexity, and engagement models that prioritize incentives over genuine player experiences.

Here's a breakdown of the main problems:

1. Game Distribution Problems

Game distribution remains a major hurdle, especially for indie devs trying to break into the market. Dominant platforms act as gatekeepers, imposing strict rules and high fees that make it tough for smaller studios to release their games. This approach limits the visibility of new and innovative titles, while players are stuck with geographic restrictions and platform exclusivity, preventing them from accessing a diverse range of games globally.

2. Centralized Control

A few large companies have massive influence on the industry, from game distribution and monetization to data control. This setup stifles creativity, forcing developers to stick to corporate guidelines that often come with hefty fees. Its a recipe for fewer risks, less innovation, and missed opportunities for unique gaming experiences.

3. Web3 Complexity

While web3 brings exciting possibilities to gaming, its complexity can be a major barrier for both gamers and developers. User interfaces for blockchain applications are often unintuitive, wallets and confusing protocols that create steep learning curves. Integrating blockchain features into games

without sacrificing performance or user experience remains a significant challenge, hindering the widespread adoption of web3 in the gaming world.

4. Community Engagement

Web3 offers a transformative edge over traditional web2 platforms by fostering more engaged and empowered communities. An open minded approach in web3 allows for more meaningful interactions, collaborative decision-making, and a sense of belonging among gamers, developers, and creators. This leads to vibrant, self-sustaining communities where every member has a stake in the ecosystem's success.

5. Revenue Generation

In many cases, the share of profits goes to publishers and platforms, leaving players and smaller creators with scraps. Devs also face high fees and rigid guidelines, making it harder for them to make money while still providing a positive experience for their audience.

6. Regional Regulatory Problems

Navigating the complex landscape of regional regulations is a significant challenge for web3 game developers. Different countries have varying laws for web3 firms and digital assets, creating compliance issues that can stifle innovation and restrict market access. These legal hurdles make it difficult to create a seamless global gaming experience, limiting the potential reach and impact of web3 gaming projects.

7. The Web3 Hype

A lot of current Web3 games are heavily focused on rewards and tokens, which can overshadow the genuine social and creative aspects of gaming. When the main draw is profit instead of player engagement, communities end up feeling shallow and disconnected.

By tackling these challenges, Web3 gaming can evolve from a niche concept into a dynamic, inclusive, and thriving ecosystem.

Solution

Peer2Play is on a mission to solve the gaming industrys biggest challenges, harnessing the power of tokenization, tech solutions & AI inclusion to create a long-term & engaging ecosystem. Our platform is changing how games are built, played, and monetized by giving gamers, developers, and influencers a real stake in the projects ,empowering gamers, developers, and influencers through tokenization and co-ownership.

Lets dive into the core components that make Peer2Play the ultimate game-changer:

Decentralized Gaming Ecosystem

Peer2Play hands control back to the community. Every transaction, ownership stake, and governance decision is managed transparently through our generic smart contracts, ensuring that power truly lies with the players and creators who fuel the ecosystem.

Game Tokenization and Co-Ownership

On Peer2Play, games are tokenized, allowing for fractional ownership among players, developers, and investors. This means everyone who holds a token shares in the games success, earning a slice of the revenue pie. Its a win-win where your hustle directly translates into real rewards.

Transparent Revenue Sharing

Peer2Play leverages customizable revenue models embedded in smart contracts for different types of game structures in-order to ensure fair, transparent & customizable distribution of earnings. Players and influencers get rewarded for their contributions, whether theyre battling it out in games, running tournaments, or building vibrant community activities.

Empowerment for Developers

Developers are the backbone of Peer2Play. We give them powerful tools, SDKs, and APIs to easily launch and monetize their games, convert web2 games to web3, without heavy fees or limiting policies. This means more creative freedom and better games for everyone.

Player-Centric Design

True ownership is at the heart of Peer2Play. Players can own in-game assets that are tokenized and easily tradable on web3 marketplaces. Our robust rewards system incentivizes active participation, fostering a thriving and engaged community where every player has a stake in the action.

Blockchain-Powered Tournaments

Peer2Play takes tournaments to the next level with transparent rules, verifiable prize pools, and outcomes recorded on-chain. Players can trust that rewards are distributed fairly and automatically once events wrap up, eliminating any room for shady practices and ensuring a legit competitive environment.

Cross-Chain Compatibility

Were all about seamless experiences. Peer2Play integrates with multiple blockchain networks,

allowing users to navigate effortlessly across different ecosystems. Peers can bring their assets and rewards from other chains into Peer2Play, creating a unified and expansive gaming universe.

Peer2Play is an ecosystem where every stakeholder has a voice and a stake in its success. By tackling the industrys pain points head-on, were paving the way for a fairer, more transparent, and community-driven future for gaming.

Mission and Vision

Vision

Peer2Play envisions a future where games are dynamic, valuable assets within a decentralized playground. In this new era, players, devs, influencers, and investors team up seamlessly, driving innovation, deep community vibes, and shared financial wins. Its all about creating a synergistic universe where everyones hustle pays off.

Mission

Our mission is to disrupt the gaming ecosystem by:

Tokenizing Games: Turning traditional games into digital assets with plug & play technical solutions.

Decentralized Co-ownership: Allowing players and investors own, trade, and profit from game success, creating true shared stakes.

Empowering Developers: Providing cutting-edge tools and frameworks for seamless game integration into the Peer2Play ecosystem, boosting revenue streams and community-driven growth for massive exposure and success.

Facilitating Community Governance: Giving the community the power to make collective decisions

that shape the games future through decentralized governance.

Rewarding Engagement: Maximizing play-to-earn mechanics and true asset ownership with P2P

Tokens and NFTs, rewarding players and incentivizing active participation like never before.

Key Features

Game Tokenization

Developer On-Boarding

Player-Driven Ecosystem

Transparent Revenue Sharing

On-chain Tournaments

Tokenized Economy

Cross-Chain Integration

Governance and Incentives

Co-Ownership Model

Game Tokenization

Peer2Play is transforming game ownership, giving players and creators true control through our

seamless decentralized tokenization approach. Distributors no longer hold all the power. With

tokenization, every game becomes a tradable asset, allowing players and investors to own a real

stake in the games they care about. These fungible tokens represent fractional ownership stakes,

letting players and investors alike become true stakeholders in the games theyre passionate about.

How It Works

Token Creation: When a game joins the Peer2Play ecosystem, we mint fungible tokens that

represent shares of that game. These tokens are your ticket to owning a piece of the action.

Ownership & Trading: Token holders can effortlessly buy, sell, or trade tokens on our secure marketplace. Its all transparent and on-chain, so you know exactly where your investments stand.

Value Generation: Earn while you play and invest. Token holders receive a slice of the revenue based on the games performance through our profit-sharing mechanisms. Your gameplay and investments translate directly into real financial returns.

What it leads to

Community-Driven Governance: Players dont just playthey shape the future. By buying tokens, you gain voting power to influence game development decisions, from new features to revenue models. Its your game, your rules.

Customizable Revenue Models: Flexibility is king. Our platform allows the community to vote on and agree to revenue distribution models that work for everyone. Whether its profit-sharing, staking rewards, or other innovative models, the power is in your hands.

Fair Financial Rewards for Developers: We ensure that developers get their fair share. Transparent profit distribution means developers receive proper financial returns, fostering a sustainable and thriving development environment.

True Gamer-Developer Engagement: Peer2Play bridges the gap between gamers and developers. Engage directly with the creators, provide feedback, and collaborate on game improvements. Its a symbiotic relationship where both sides benefit and grow together.

Through decentralized game tokenization, Peer2Play is transforming the gaming landscape into a democratized, shared economy that rewards engagement and collective investment. Join us in building a future where ownership is shared, rewards are fair, and the gaming community thrives

together.

Developer On-Boarding

At Peer2Play, were all about supercharging developers with the tools they need to thrive in a decentralized gaming universe. Rather than just tossing APIs and SDKs your way, we thrive to create a frictionless environment where our generic smart contract structure integrates with your existing game infrastructures.

Core Components

Comprehensive APIs & SDKs: Dive into our robust, well-documented APIs and SDKs that make integrating blockchain functionalities into web2 and web3 games with ease. Whether it's asset tokenization, secure in-game transactions, or interacting with smart contracts, our tools streamline the process so you can focus on what you do bestcreating epic games.

Seamless Integration:Peer2Play offers familiar coding environments and documentation and support agents, allowing developer to focus on game functionality for compatibilit. Its plug-and-play simplicity that gets your game blockchain-ready in no time.

Easy Listing: Once integrated, listing your tokenized game on the Peer2Play marketplace is effortless. Instantly tap into our growing community of players and investors, giving your game the exposure it deserves and connecting you with stakeholders who are as passionate as you are.

Advantages

Reduced Time-to-Market: Our pre-built modules and dedicated support slash your development time, letting you launch faster and stay ahead of the curve. Focus on crafting engaging content while we handle the technical heavy lifting.

Ongoing Support: Never go it alone. Our dedicated support teams and agents are here to help you troubleshoot issues, optimize your integrations, and keep innovating without hitting technical roadblocks. Weve got your back every step of the way.

Enhanced Revenue Streams: Unlock multiple income sources with decentralized revenue models. From token sales, Hosting tournaments and in-game purchases to revenue sharing, Peer2Play provides diverse avenues to monetize your creations, ensuring sustainable growth and financial success.

Player-Driven Ecosystem

At the core of Peer2Play is a dynamic, player-driven ecosystem that elevates gamers from mere participants to co-owners and active contributors. Were blending hardcore gaming with smart investment opportunities, creating a sustainable economy where every players move impacts and benefits the entire community.

Key Aspects

Dual Role of Players: Players arent just here to gametheyre staking their claim by owning a piece of the digital assets they love. This deepens their connection and investment in the game, making every session more meaningful and rewarding.

Engagement & Rewards: With our play-to-earn mechanics and incentivized participation, every action you takewhether its battling in-game or contributing to the communitypays off. Its not just about the grind; its about earning real rewards for your skills and dedication.

Community Growth: Your engagement is the fuel that powers our ecosystem. By providing

feedback, participating in governance, and promoting games, you help attract more players and investors, driving exponential growth and innovation within the community.

Financial Incentives: Owning tokens means youre sharing in the financial success of your favourite games. Earn dividends from revenue streams and watch your tokens appreciate in value as the game thrives.

Influence: Have a say in the games future with our decentralized governance mechanisms. Vote on key decisions, propose changes, and shape the direction of the games youre passionate about. Your voice truly matters here.

Sustainable Economy: Our ecosystem is built for the long haul. Continuous player participation drives ongoing innovation, development, and community engagement, ensuring a vibrant and sustainable gaming environment for everyone involved.

Transparent Revenue Sharing

Transparency in revenue sharing is a core pillar of the Peer2Play model. We ensure that every stakeholderdevelopers, token holders, influencers, and the platform itselfreceives their fair share of the generated revenue without hidden fees or opaque calculations.

Mechanisms

Smart Contract Automation: Revenue from in-game purchases, token sales, and other monetization strategies is automatically distributed via smart contracts. These contracts execute predefined rules that ensure fair and transparent revenue allocation every time, eliminating the need for middlemen and reducing the risk of human error.

Customizable & Open Tokenomics: Peer2Play offers customizable and open tokenomics for game

tokens, allowing communities to design revenue models that best fit their ecosystem. Whether its profit-sharing, staking rewards, or innovative incentive structures, our platform empowers stakeholders to create and vote on tokenomics that drive mutual success.

Clear Stakeholder Slices: Each participants revenue share is defined from the start, ensuring clear expectations and consistent pay-outs. Developers receive a predetermined percentage from game sales, influencers earn from tournament fees, and token holders benefit from the overall success of the game. This transparency keeps everyone aligned and motivated.

Peer2Plays transparent revenue sharing model ensures that value generated within the ecosystem is distributed fairly, empowering all participants and driving collective success in the decentralized gaming world. Join us in creating a gaming economy where transparency, fairness, and community-driven growth are the standards.

On-chain Tournaments

Peer2Play is taking competitive gaming to the next level by harnessing web3 tools to deliver transparent, fair, and accountable tournaments. Whether you're an influencer looking to host epic showdowns or a gamer ready to prove your skills, our platform ensures every tournament is locked, loaded, and legit.

Tournament Features

Tournament Features

Transparent Entry and Rewards

Entry Fees: Dive into the action by paying entry fees in tokens. Smart contracts handle the fee collection and seamlessly allocate funds to prize pools, keeping everything on the level.

Prize Distribution: When the tournament wraps up, rewards are automatically disbursed based on predefined rules. No more disputes or delaysjust pure, unfiltered payouts.

Fairness and Accountability:

Immutable Records: Every match, score, and result is etched onto the blockchain, creating an indisputable record of the competition. Cheaters bewaretransparency is our middle name.

Reduced Cheating: With smart contracts managing outcomes and prize distributions, the chances of tampering or cheating drop to zero. Play fair, earn fair.

Customizable Tournaments:

Tailor your tournaments to fit your communitys vibe. Whether its solo battles, team frags, or special event modes, Peer2Play lets influencers and gamers design tournaments that match their unique style and preferences.

Automatic Revenue Sharing:

Revenue flows effortlessly with our automated distribution system. Influencers earn from entry fees, sponsorships, and increased platform engagement without lifting a finger. Gamers get their rewards instantly, keeping the economy buzzing.

Seamless Process for Influencers & Gamers:

Hosting and participating in tournaments is a breeze. Influencers can set up events with just a few clicks, while gamers enjoy a smooth, hassle-free experience from sign-up to prize collection. Its all about making competitive gaming effortless and rewarding.

Tokenized Economy

Peer2Play's ecosystem is powered by its native P2P token, the fuel that drives every transaction on the platformfrom grabbing game tokens and in-game gear to hosting high-octane tournaments and distributing rewards. Our P2P token is the heartbeat of a decentralized, player-first economy where every action counts.

Key Functions of P2P Tokens

Medium of Exchange: P2P tokens are the go-to currency for all activities on Peer2Play. Whether you're launching games, deploying AI agents or distributing rewards, our token ensures smooth and seamless transactions across the platform.

Economic Incentives:

Staking Rewards: Lock up your P2P tokens in staking pools for liquidity or governance and earn additional tokens as a reward for your commitment. Its all about incentivizing long-term engagement and loyalty.

Token Appreciation: As Peer2Play scales and attracts more users, the demand for P2P tokens surges, potentially increasing their value. Early adopters and active participants can benefit significantly from this growth.

Governance Participation: Holding and staking P2P tokens grants you voting rights in our community governance. Influence key decisions, propose changes, and shape the future of your favorite gamesyour stake gives you a voice.

Customizable & Open Tokenomics: Peer2Play offers flexible and open tokenomics for game tokens, allowing communities to design revenue models that best fit their ecosystems & use these tokens in

their games. Whether its profit-sharing, staking rewards, or innovative incentive structures, our platform empowers stakeholders to create and vote on tokenomics that drive mutual success.

Cross-Chain Integration

While Peer2Play is natively built on the Sei blockchain, our cross-chain integration capabilities make us the ultimate versatile platform in the decentralized gaming universe. Were not just sticking to one chainwere bridging multiple blockchains like Ethereum and Polygon, ramping up the diversity of games and supercharging our ecosystems reach.

Functionality

Interoperability: Peer2Plays cross-chain compatibility lets your assets and tokens move seamlessly across different blockchain networks. Whether your game is rocking on Ethereum, Polygon, or any other supported chain, integration is smooth without losing any of the unique features or your loyal community base.

Asset Interoperability: Players can flex their tokens from various blockchains within the Peer2Play ecosystem, boosting flexibility and utility. Developers can tap into cross-chain liquidity pools, expanding their revenue streams and attracting a broader user base. Its all about breaking barriers and maximizing opportunities.

Advantages

Expanded Market Reach: By supporting multiple blockchains, Peer2Play pulls in a wider crowd of developers and gamers, enriching our ecosystem with a smorgasbord of games and vibrant communities. More chains, more players, more fun.

Flexibility for Developers: No need to be locked into a single blockchain tech. Developers can choose the best tools and chains that fit their games needs while still being part of the Peer2Play

fam. Freedom to innovate without constraintsthats how we roll.

Seamless User Experience: Our cross-chain integration ensures that users enjoy a consistent, secure, and unified experience no matter where their game or assets originate. Whether youre gaming on Sei, Ethereum, or Polygon, the Peer2Play experience stays smooth and hassle-free.

Governance and Incentives

GameDAO

Incentives

GameDAO

Peer2Play is all about handing the reins back to the community with our epic GameDAOthe powerhouse governance body driving the Peer2Play ecosystem. Whether youre a die-hard gamer, a creative dev, or a token hustler, GameDAO lets you dive into the decision-making process through voting and proposals. Its about empowering every stakeholder to shape the future of gaming together.

Community Participation

GameDAO isnt just a buzzwordits where the real action happens. Players, developers, and token holders come together to influence major decisions like game upgrades, feature rollouts, and policy tweaks. By getting involved in GameDAO, youre not just playing games; youre actively contributing to their evolution. Its collaborative governance at its finest, where every vote you cast helps steer the direction of your favorite titles.

Voting Mechanisms

Ready to make your mark on the gaming world? Our token staking system makes it easy. The more

P2P tokens you stake, the more voting power you wield. This means your commitment to the ecosystem directly translates into influence over crucial governance decisions. Whether its introducing new game mechanics or adjusting revenue models, your staked tokens give you the clout to drive impactful changes.

Transparent Decision-Making

Transparency is the backbone of Peer2Plays governance. Every action, vote, and decision within GameDAO is immutably recorded on-chain. This ensures that all governance activities are transparent and accountable. No shady dealings or hidden agendasjust open, verifiable records that anyone can audit anytime. Track proposals, see voting outcomes, and monitor the implementation of decisions with complete confidence and trust.

Incentives

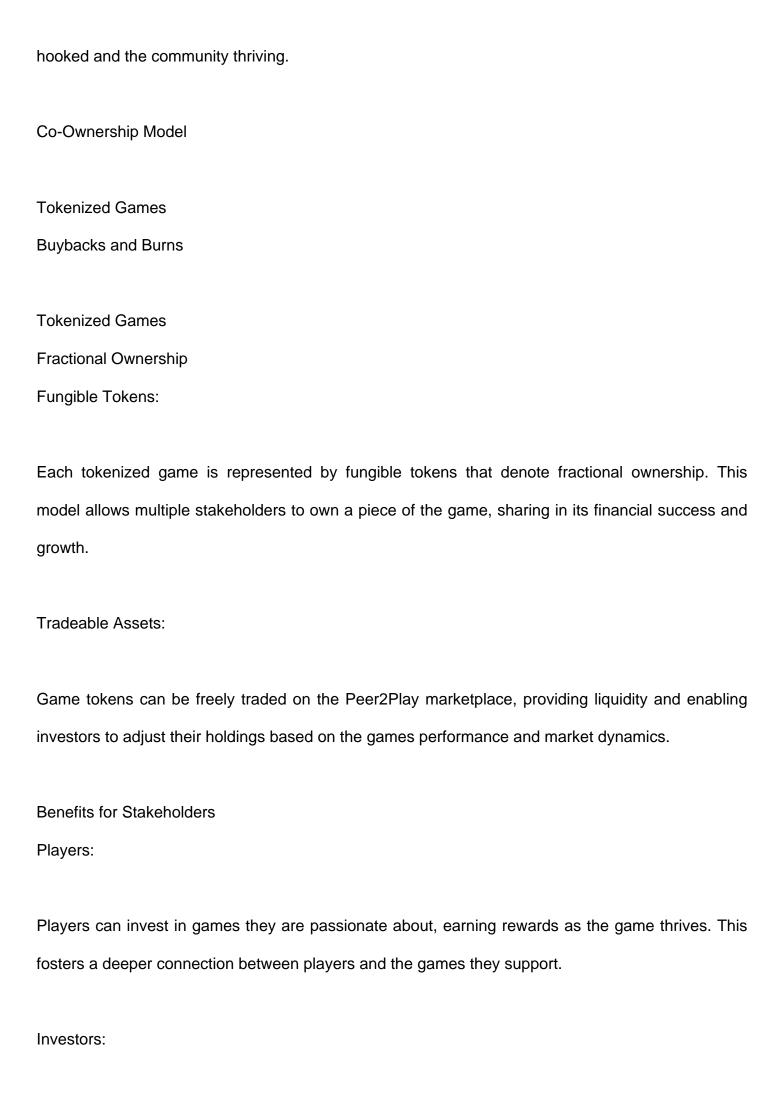
Peer2Play is all about rewarding those who hustle and invest in the ecosystem. Whether youre a player, developer, or just a passionate supporter, weve got incentives that keep you engaged and thriving in our decentralized playground.

Governance Participation

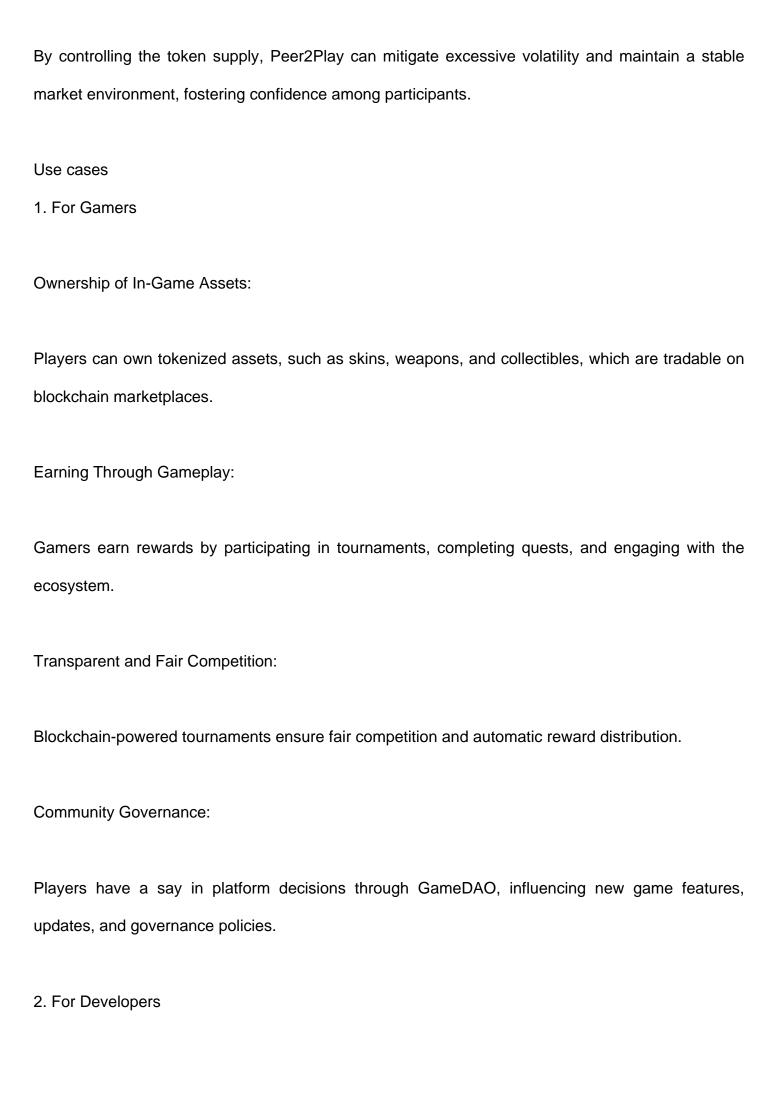
Dive into the heart of Peer2Play with active governance participation. Players and developers who stake their P2P tokens and vote on proposals earn additional tokens or exclusive benefits. Its our way of saying thanks for helping steer the future of the platform. Your votes matter, and your rewards keep the momentum going strong.

Revenue Sharing for Developers

Developers, its your time to shine and earn. Peer2Play ensures you receive a percentage of the revenue generated by your games. This alignment means your success is directly tied to the ecosystems growth, encouraging you to create high-quality, engaging content that keeps players

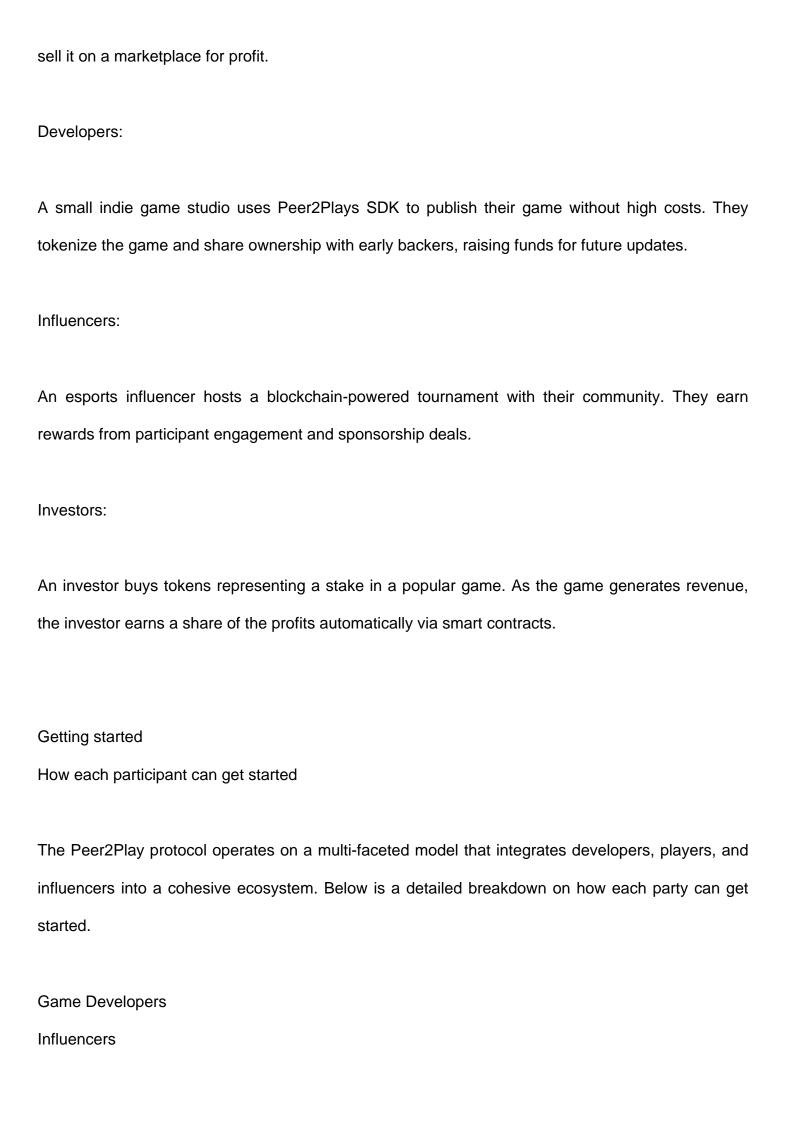


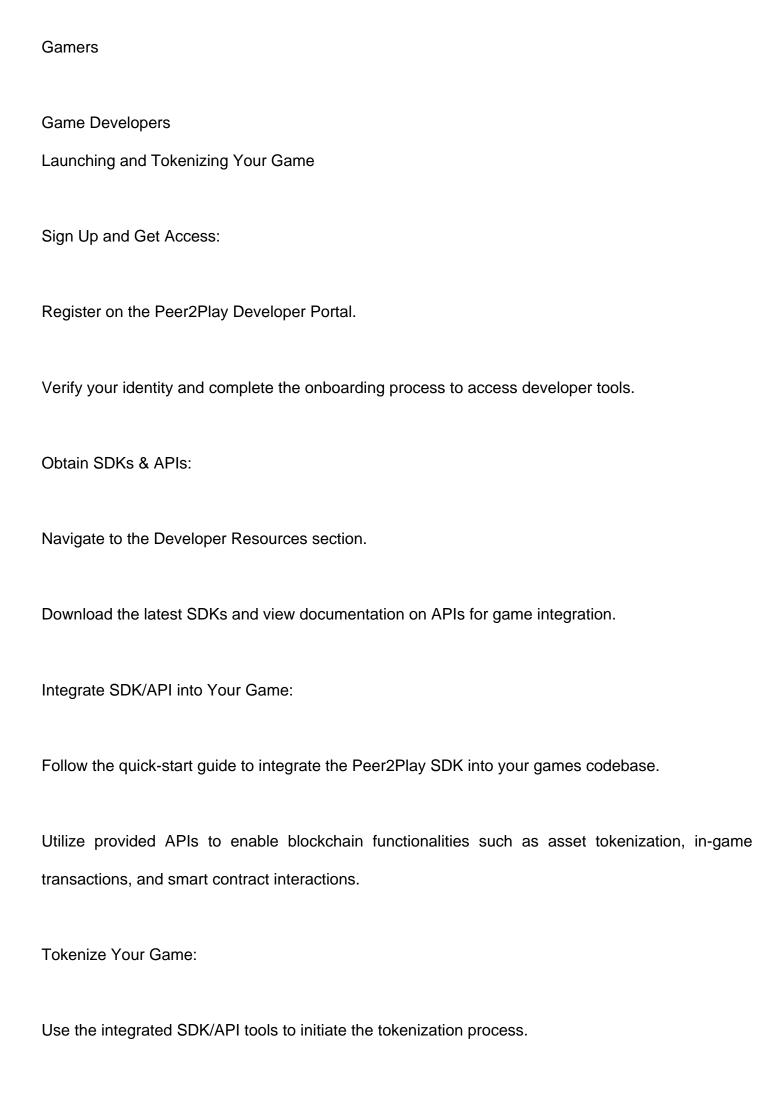
Investors gain access to a diversified portfolio of tokenized games, spreading risk and capitalizing on the success of multiple titles within the ecosystem. **Buybacks and Burns** Scarcity Creation Token Supply Reduction: A portion of the revenue generated by each game is allocated to buyback tokens from the marketplace and subsequently burn them. This process permanently removes tokens from circulation, decreasing the overall supply. Value Enhancement: By reducing the token supply, buybacks and burns help to create scarcity, which can lead to an increase in token value over time. This benefits existing token holders and incentivizes long-term investment. Sustainable Economic Model Continuous Value Support: The ongoing buyback and burn mechanism ensures that token value is actively supported, creating a sustainable economic model that benefits both developers and token holders. Market Stability:

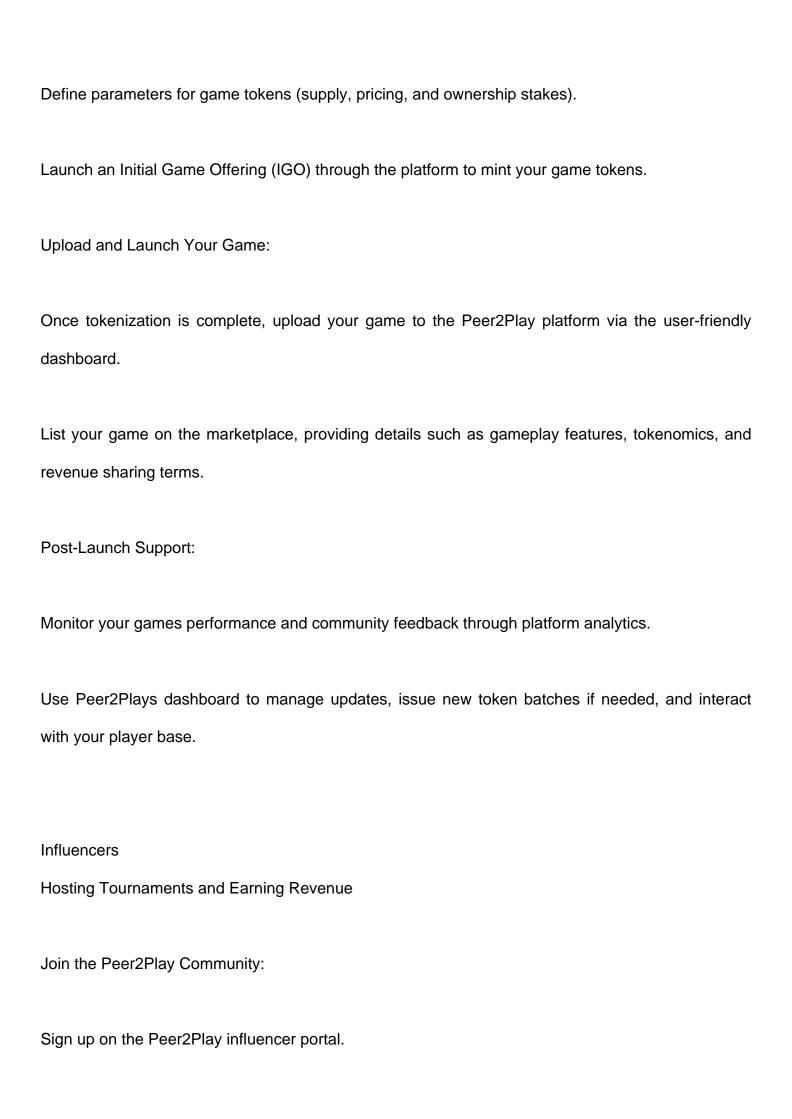


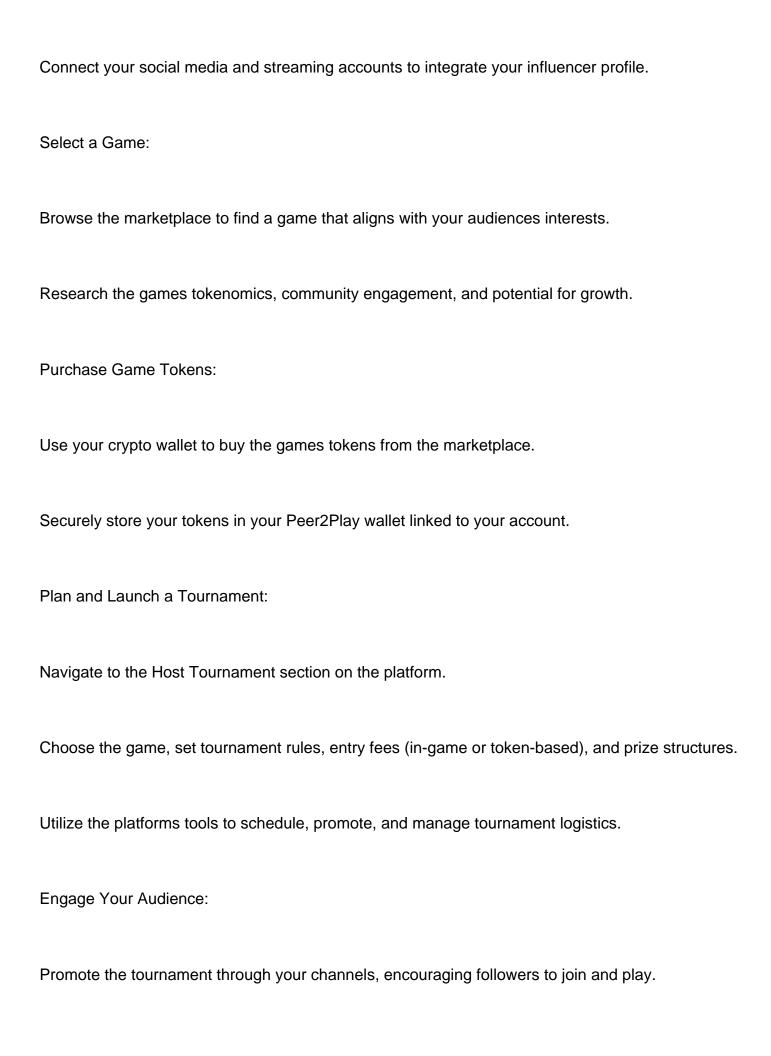
Efficient Game Publishing:
Peer2Play provides tools, SDKs, and APIs to help developers publish games quickly and affordably.
Revenue Sharing:
Developers earn a fair share of revenue from their games, distributed transparently via smart contracts.
Access to a Global Audience:
The platforms cross-chain integration ensures global reach and engagement with players from various ecosystems.
Fractional Game Ownership:
Developers can tokenize their games, raising funds and sharing ownership with stakeholders.
3. For Influencers
Hosting Tournaments:
Influencers can create and host tournaments on the platform, engaging their audiences and building their brand.
Earning Rewards:

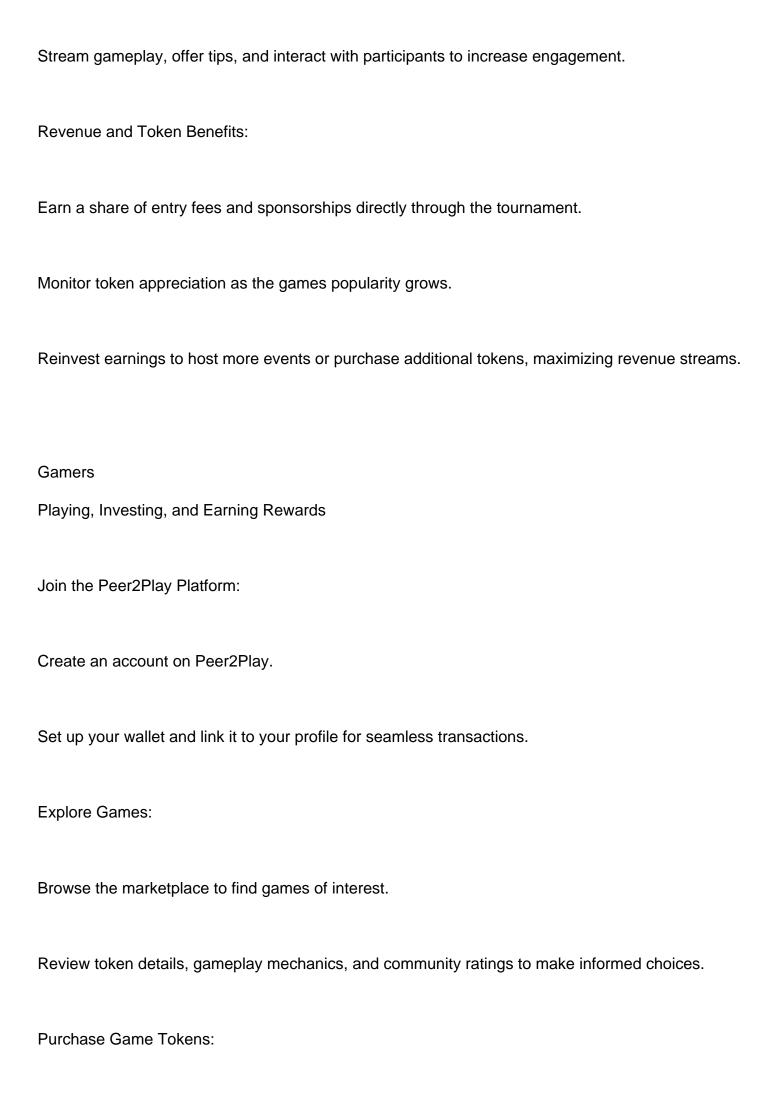
By driving user engagement and onboarding new players, influencers earn tokenized rewards.
Collaborative Opportunities:
Partner with developers to promote games and participate in co-ownership of successful projects.
4. For Investors
Fractional Ownership of Games:
Investors can buy tokens representing fractional ownership in games, earning returns as games generate revenue.
Participation in Governance:
Investors influence the platforms direction by voting on proposals and contributing to GameDAO.
Diversified Portfolio:
The tokenized economy allows investors to diversify across multiple games and assets within the ecosystem.
Example Scenarios
Gamers:
A player purchases a rare tokenized sword in a fantasy game. They use it during gameplay and later











Select a game youd like to support or invest in.
Purchase its tokens using P2P Tokens or supported cryptocurrencies through the integrated marketplace.
Play the Game:
Launch the game either through the Peer2Play app or via your preferred gaming platform integrated with Peer2Play.
Enjoy the gameplay, knowing you own a stake in the games success.
Participate in Tournaments:
Check for upcoming tournaments within your favorite games.
Register for tournaments using your game tokens or P2P Tokens as entry fees.
Earn Rewards:
Gain in-game rewards, NFTs, or additional tokens for completing challenges or winning tournaments.
Accumulate rewards over time to reinvest in more tokens, enhancing your stake and potential rewards.

Manage Your Assets:
Use your Peer2Play dashboard to track token value appreciation, view earned rewards, and monitor
tournament outcomes.
Stake tokens or participate in governance to earn additional benefits.
Technical Architecture
MPC Wallet
Smart contract Architecture
SDKs & APIs
MPC Wallet
Overview of working of MPC Wallet
The Multi-Party Computation (MPC) wallet enhances security by decentralizing key management.
Using Shamir's Secret Sharing (SSS) and AWS Key Management Service (KMS), the wallet
ensures robust encryption, secure storage, and reliable key recovery.
Key Features:
Secure Key Generation: Uses Web3py with Python to create public/private key pairs.
Key Splitting with SSS: The private key is split into four shares, requiring all shares for
reconstruction, enhancing security.
Secure Storage:

Backend Share: Stored encrypted in PostgreSQL, backed up with AWS KMS.

User Share: Encrypted with a 12-word BIP-39 recovery phrase.

Key Recovery: Combines user-provided recovery phrase and backend shares using Lagrange interpolation to reconstruct the private key.

Key Processes:

Encryption: Backend shares are encrypted with a data key from AWS KMS.

Decryption: Recovery involves decrypting the user key (via the recovery phrase) and backend key (via AWS KMS) to reconstruct the private key.

Security and Reliability:

Four shares are required, preventing unauthorized access if a single share is compromised.

Encrypted storage and AWS backups ensure data resilience and security.

Smart contract Architecture

The Peer2Play generic staking and non-staking smart contracts offer a versatile framework for building blockchain-based games. These contracts include robust game and player management features, secure access controls, and pausing capabilities to ensure operational integrity. By accommodating both staking and non-staking models, Peer2Play facilitates diverse game dynamics and monetization strategies.

Peer2PlayGenericStakingContract

Peer2PlayGenericNonStakingContract

Tokenization & Revenue distribution

Peer2PlayGenericStakingContract

The Peer2PlayGenericStakingGames contract provides a flexible framework for managing

staking-based multiplayer games. Key features include game and match lifecycle management,

customizable fee structures, and support for private and public matches. The contract ensures

security, scalability, and ease of integration into decentralized ecosystems.

2. Imports Used & Their Significance

ReentrancyGuard: Prevents reentrancy attacks.

Ownable: Grants admin privileges for sensitive functions.

Pausable: Enables emergency stops for games or the entire platform.

SafeERC20: Ensures secure interactions with ERC20 tokens.

3. State Variables

Protocol-Level Variables

matchCounter: Ensures unique match IDs.

protocolFee: Fee percentage applied to all matches.

drawFee: Fee percentage for drawn matches.

FEE_DENOMINATOR: Denominator for basis point calculations.

Game & Match Mappings

gameUids: Links game UIDs to their metadata.

matches: Stores match details by ID.

allowedTokens: Defines eligible ERC20 tokens and their minimum stakes.

4. Function Descriptions

Game Management

addGame: Adds a new game to the platform.

updateGameFee: Allows game owners to adjust their game fee.

pauseGame: Temporarily halts a game for maintenance or issues.

unpauseGame: Resumes operations for a paused game.

removeGame: Deletes a game from the platform.

Fee & Token Management

setProtocolFee: Sets platform-wide fees for matches.

setDrawFee: Defines fees for matches that end in a draw.

allowToken: Adds or updates eligible staking tokens.

Match Lifecycle
createMatch: Initializes a new match with customizable parameters.
joinMatch: Enables players to join matches, verifying authorization for private matches.
submitMatchResult: Submits results and distributes rewards or refunds.
cancelMatch: Cancels a match and refunds participants.
Internal Utilities
_handleDraw: Handles refunds for drawn matches.
_amountAfterCut: Computes net amount after deducting fees.
_transferFunds: Handles secure token and native currency transfers.
Peer2PlayGenericNonStakingContract
The Peer2PlayGenericNonStakingContract is a modular and extensible platform for simulation games.
It allows:
Protocol admins to manage games and token standards dynamically.
Game owners to deploy token contracts, register players, and manage game-specific functionalities.

Players to register, participate, and interact with game assets.
The platform supports multiple token standards, efficient game management, and seamless integration of on-chain and off-chain data.
Imports Used & Their Significance @openzeppelin/contracts/access/Ownable.sol:
Provides ownership functionality for access control using onlyOwner.
@openzeppelin/contracts/utils/Pausable.sol:
Enables pausing and unpausing of contract operations during emergencies.
3. State Variables games:
Stores game-specific data using the Game struct.
tokenStandardFactories:
Maps token standards to their respective factory contracts.
gameCounter:
Auto-incrementing counter for assigning unique game IDs.

4. Functions & Their Significance
Protocol Admin Functions
addTokenStandard: Registers a new token standard with its factory.
addGame: Adds a new game with metadata and fee configuration.
pauseGame: Temporarily halts operations for a game.
unpauseGame: Resumes operations for a paused game.
removeGame: Deregisters a game from the platform.
Game Owner Functions
updateGameFee: Updates the fee percentage for a game.
deployTokenContract: Deploys a token contract using a registered factory.
Player Functions
registerOnGame: Allows players to register for a specific game.
Tokenization & Revenue distribution
Tokenization:

Smart contracts automate the creation and management of game tokens, ensuring each token

accurately reflects a fractional ownership stake in its corresponding game.

Revenue Distribution:

Automated smart contract mechanisms manage transparent and fair revenue sharing among

developers, token holders, influencers, and the platform.

Governance:

Decentralized governance is enabled by smart contracts that handle voting processes, proposal

submissions, and execution of approved decisions.

Peer2PlayGenericStakingContract

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pauseGame: Temporarily halts a game for maintenance or issues.

unpauseGame: Resumes operations for a paused game.

removeGame: Deletes a game from the platform.

Fee & Token Management

setProtocolFee: Sets platform-wide fees for matches.

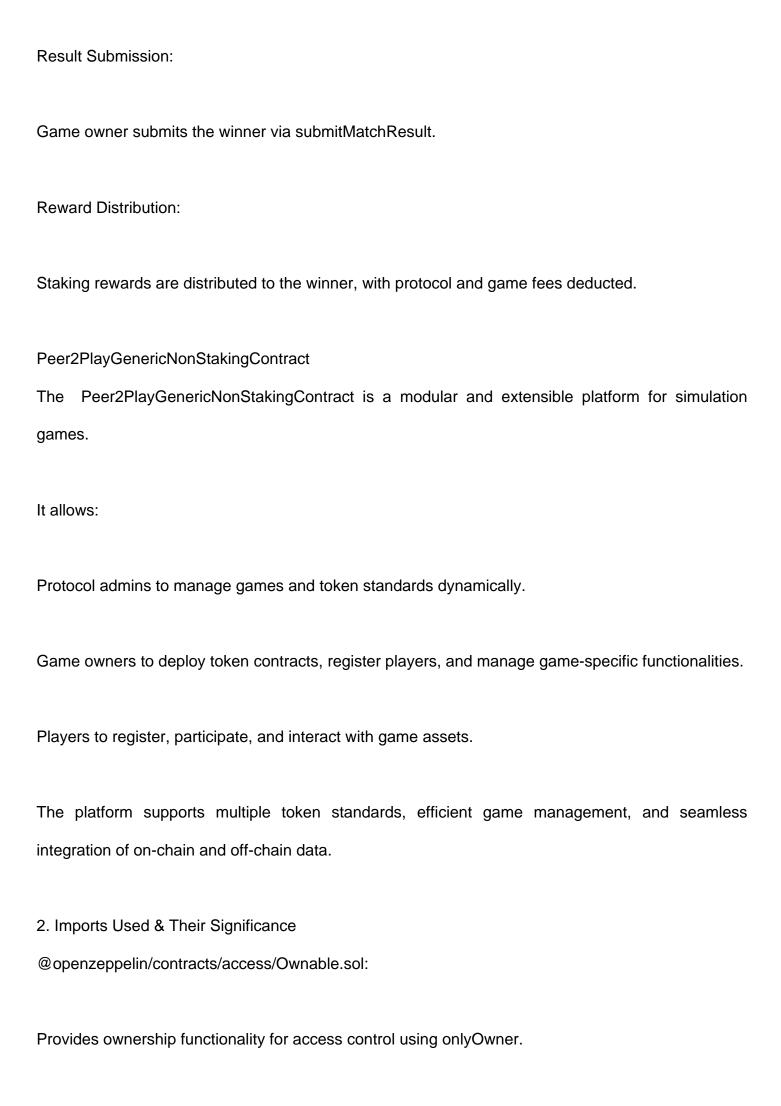
setDrawFee: Defines fees for matches that end in a draw.
allowToken: Adds or updates eligible staking tokens.
Match Lifecycle
createMatch: Initializes a new match with customizable parameters.
joinMatch: Enables players to join matches, verifying authorization for private matches.
submitMatchResult: Submits results and distributes rewards or refunds.
cancelMatch: Cancels a match and refunds participants.
Internal Utilities
_handleDraw: Handles refunds for drawn matches.
_amountAfterCut: Computes net amount after deducting fees.
_transferFunds: Handles secure token and native currency transfers.
Peer2PlayGenericStakingContract
Chess
(2 Players)
Match Flow:
Game Creation:

Admin calls addGame with gameUid and metadata.
Game owner sets gameFee using updateGameFee.
Match Creation:
Player 1 calls createMatch with game UID, stake amount, and max players = 2.
Player Join:
Player 2 calls joinMatch, providing the staking amount.
Game Execution:
Players compete in an off-chain chess match.
Result Submission:
Winners address is submitted by the game owner via submitMatchResult.
Reward Distribution:
Winner receives stake minus protocol and game fees.
2. Poker (4 Players)
Match Flow:

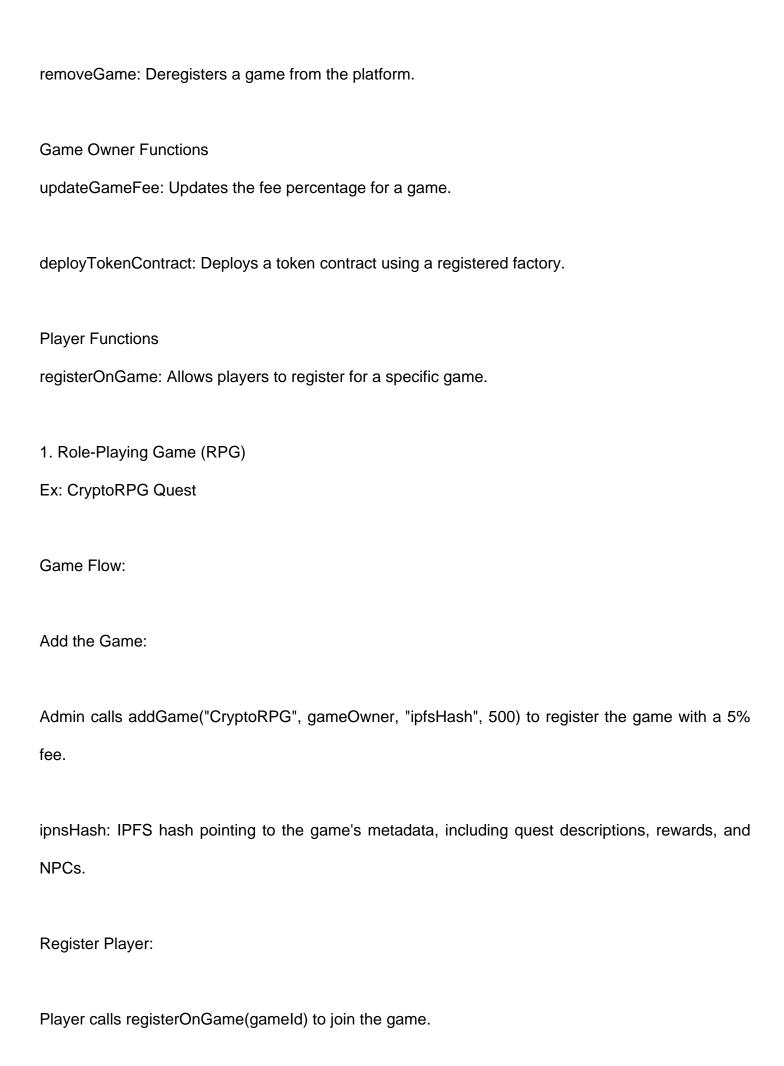
Game Creation:
Admin adds Poker as a game via addGame.
Game owner sets a 5% fee using updateGameFee.
Match Creation:
Player 1 calls createMatch with game UID, stake amount, and max players = 4.
Player Join:
Players 2, 3, and 4 join sequentially by calling joinMatch.
Game Execution:
Off-chain Poker match is conducted with all players participating.
Result Submission:
Game owner submits the result via submitMatchResult, specifying the winner or winners for tiered rewards.
Reward Distribution:
Staking rewards are distributed among winners, with protocol and game fees deducted.

3. Ludo (4 Players, Private Match)
Match Flow:
Game Creation:
Admin registers Ludo via addGame.
Game owner sets metadata and fees.
Match Creation:
Player 1 creates a private match using createMatch and provides a cryptographic hash of authorized
player addresses.
Player Join:
Diavers 2.2. and 4 cell is in Metabon and provide matching outboring tion date
Players 2, 3, and 4 call joinMatch and provide matching authorization data.
Game Execution:
Came Excedition.
The Ludo match is conducted off-chain among the participants.
Result Submission:
Game owner submits the winner via submitMatchResult.
Reward Distribution:

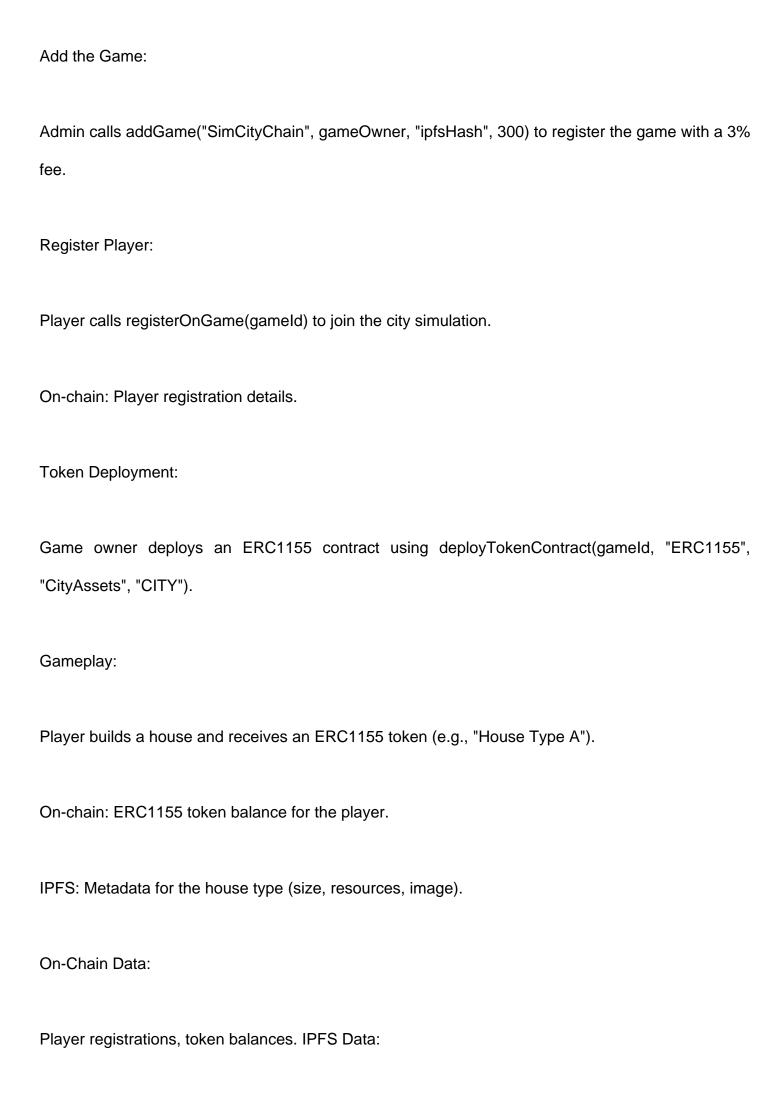
Reward Distribution:
Staking rewards are distributed among winners, with protocol and game fees deducted.
Peer2PlayGenericStakingContract
Ludo
Match Flow:
Game Creation:
Admin registers Ludo via addGame.
Game owner sets metadata and fees.
Match Creation:
Player 1 creates a private match using createMatch and provides a cryptographic hash of authorized
player addresses.
Player Join:
Players 2, 3, and 4 call joinMatch and provide matching authorization data.
Game Execution:
The Ludo match is conducted off-chain among the participants.

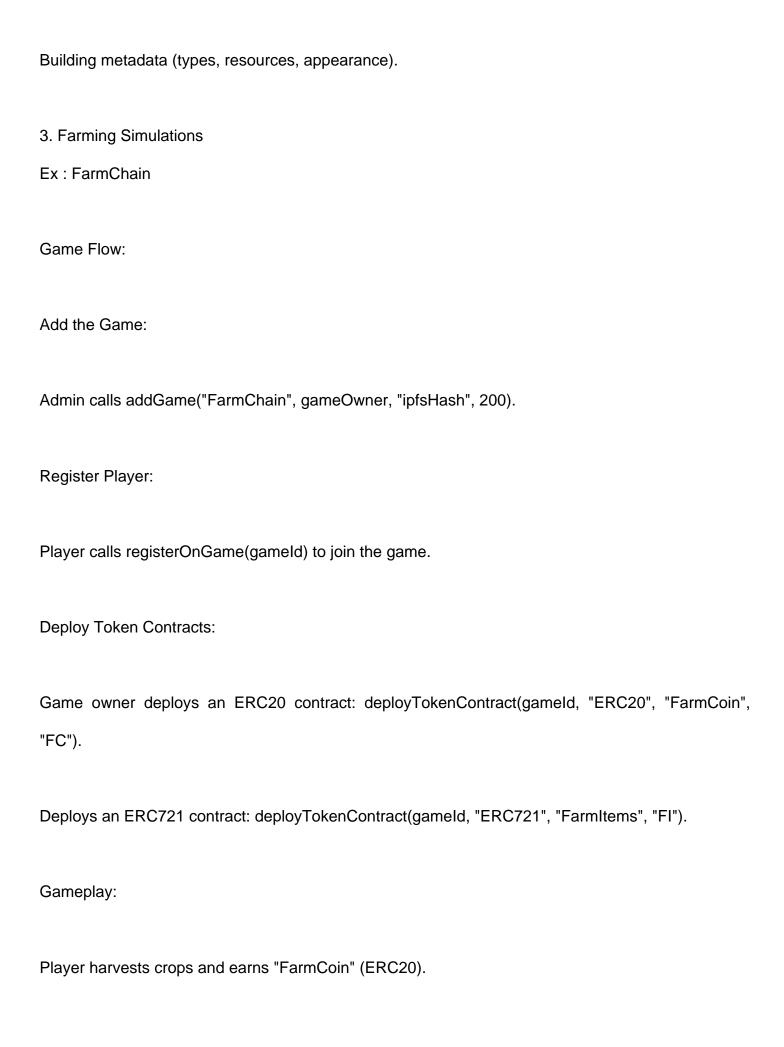


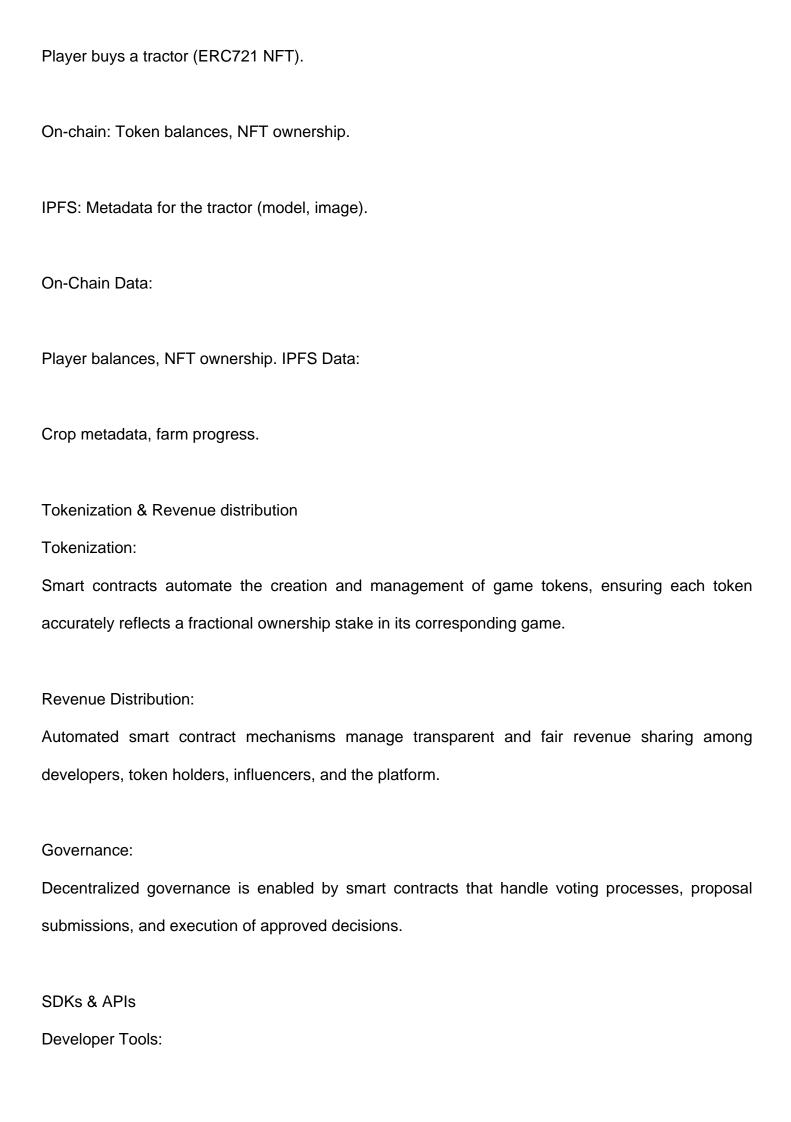
@openzeppelin/contracts/utils/Pausable.sol:
Enables pausing and unpausing of contract operations during emergencies.
3. State Variables
games:
Stores game-specific data using the Game struct.
tokenStandardFactories:
Maps token standards to their respective factory contracts.
gameCounter:
Auto-incrementing counter for assigning unique game IDs.
4. Functions & Their Significance
Protocol Admin Functions
addTokenStandard: Registers a new token standard with its factory.
addGame: Adds a new game with metadata and fee configuration.
pauseGame: Temporarily halts operations for a game.
unpauseGame: Resumes operations for a paused game.



On-chain: Player address stored in the players array for the game.
Token Deployment:
Game owner calls deployTokenContract(gameId, "ERC721", "QuestItems", "RPGI") to deploy a token contract for in-game items.
Game Play:
Player completes a quest and earns an NFT item (e.g., "Sword of Valor").
On-chain: NFT is minted and transferred to the player.
IPFS: The token's metadata (name, description, image) is stored.
On-Chain Data:
Player addresses, token contracts, and NFTs. IPFS Data:
Quest details, item metadata, and game storyline.
2. City-Building Game Ex : SimCityChain
Game Flow:







Comprehensive SDKs:

Peer2Play provides SDKs that include pre-built modules, simplifying integration, reducing development time, and lowering technical barriers.

Robust APIs:

A suite of APIs allows developers to seamlessly integrate blockchain functionalities into their games.

These APIs handle token transactions, asset management, smart contract interactions, and more.

API Workflow for Transactions:

Web3 Call Handling:

APIs accept user keys from the MPC wallet stored in cookies, combine them with the backend share to reconstruct the private key, and sign transactions.

Transaction Signing:

Once the private key is reconstructed, APIs execute transaction signing and return transaction hashes as responses.

Documentation and Support:

Extensive guides, tutorials, and reference materials help developers effectively utilize SDKs and APIs.

A dedicated support team is available to troubleshoot issues, optimize integrations, and ensure best practices.

Roadmap

The Peer2Play roadmap provides a clear vision of the platforms progress and future development milestones. It demonstrates the strategic steps taken to build a decentralized gaming ecosystem and highlights upcoming innovations that will further enhance the platform.

1. Past Achievements

Platform Conceptualization:

Ideation and research into the challenges and opportunities in the gaming industry.

Identifying blockchain and decentralization as the core technologies to drive innovation.

Testnet Launch:

Deployment of the Peer2Play platform on the Sei testnet.

Testing key features such as wallet integration, tokenization, and gameplay mechanics.

SDK and API Development:

Creation of tools for developers to easily integrate their games into the Peer2Play ecosystem.

Strategic Partnerships:

Collaboration with gaming projects like Sunflower Land to explore cross-platform integration and community engagement.

2. Current Progress
Community Engagement:
Building a community of gamers, developers, and influencers to actively participate in the ecosystem.
Educating stakeholders about the benefits of decentralized gaming.
Token Development:
Finalizing the utility and distribution model for P2P tokens, ensuring they align with platform incentives and sustainability.
Enhanced Features:
Refining smart contracts for game tokenization and transparent revenue-sharing mechanisms.
Improving tournament systems for real-time blockchain-powered competitions.
3. Future Milestones
Quarter
Milestone
Q1 2025

- Launch the Peer2Play mainnet on the Sei blockchain.
- Onboard the first batch of developers and games.
Q2 2025
- Host the first blockchain-powered tournament.
- Expand cross-chain compatibility to support more blockchain ecosystems.
- Begin partnerships with major influencers to boost platform visibility.
Q3 2025
- Launch advanced SDKs for developers to integrate more complex games.
- Introduce a marketplace for tokenized in-game assets.
- Begin staking rewards for P2P token holders.
Q4 2025
- Expand the ecosystem with high-profile game partnerships.
- Enhance Al-driven features for matchmaking and gameplay analytics.
Beyond 2025

- Scale the platform globally with millions of active users.
- Introduce innovative features like VR/AR gaming integration.
- Establish Peer2Play as the leading decentralized gaming platform.

4. Commitment to Innovation

Peer2Play is committed to continuous innovation, ensuring the platform remains at the forefront of decentralized gaming. The roadmap reflects this commitment, outlining steps to enhance the user experience, expand the ecosystem, and provide long-term value to all stakeholders.

By adhering to this roadmap, Peer2Play aims to establish itself as the go-to platform for decentralized, tokenized, and community-driven gaming.

Compliance & Security

At Peer2Play, compliance and security are foundational pillars that guide every aspect of our protocol. We recognize that a robust decentralized gaming ecosystem must not only innovate but also adhere to regulatory standards and prioritize the safety of user assets and data. Our commitment to compliance and security ensures trust, transparency, and a resilient platform for all stakeholders. Regulatory Compliance

Security Measures

MPC Wallet & Encryption:

Multi-Party Computation (MPC) Wallet: Our MPC wallet system splits private keys using Shamir's Secret Sharing, making it nearly impossible for a single attacker to compromise user funds. The

wallets architecture ensures that sensitive key components remain distributed and encrypted. Advanced Encryption Practices: All user data and sensitive wallet information are protected by state-of-the-art encryption protocols during transmission and storage. The use of a 12-word recovery phrase adds an additional layer of security for key recovery, safeguarding against unauthorized access.

Data Security and Storage:

Secure Storage Solutions: User credentials, key shares, and other sensitive data are stored in secure databases with multi-layered encryption. Backend key shares and backups are managed using AWS Key Management Service (KMS) for robust security and disaster recovery. Regular Security Audits: Beyond smart contracts, our entire infrastructureincluding APIs, SDKs, and frontend applications is regularly tested for vulnerabilities. Penetration tests, code reviews, and security audits are standard practice to stay ahead of emerging threats.

Continuous Monitoring and Incident Response:

Real-Time Monitoring: We employ sophisticated monitoring tools that observe platform activities in real time, detecting suspicious patterns or potential breaches swiftly. Incident Response Plan: Peer2Play maintains a detailed incident response plan designed to mitigate and manage security incidents effectively. This plan includes immediate isolation of affected components, transparent communication with users, and a structured recovery process to restore normal operations while preserving user trust.

Community Trust and Transparency

By integrating compliance and security into the core of our operations, Peer2Play not only meets regulatory requirements but also builds community trust. Transparent reporting on audits, security enhancements, and regulatory compliance updates reinforces our dedication to a safe and legally sound environment where developers, players, influencers, and investors can confidently engage in

the decentralized gaming economy.

FAQ & Troubleshooting

FAQ & Troubleshooting

The Peer2Play platform is designed with user-friendly interfaces and robust technologies to ensure a seamless experience. However, as with any advanced system, users may occasionally have questions or encounter issues. This section provides answers to frequently asked questions and troubleshooting guidance to help developers, influencers, and gamers navigate common challenges. Frequently Asked Questions (FAQ)

Q1: How do I begin tokenizing my game on Peer2Play?:

Sign up on the Peer2Play Developer Portal and complete the onboarding process. Download and integrate the provided SDKs and APIs into your game. Follow the guided steps for token creation, setting parameters for your game's tokens, and launching the Initial Game Offering (IGO). Upload your tokenized game to the Peer2Play marketplace and begin interacting with the community.

Q2: What security measures protect my assets and data?

A: Peer2Play implements Multi-Party Computation (MPC) wallets, advanced encryption, and regular smart contract audits to ensure the security of assets and data. Compliance with AML/KYC and data protection regulations also safeguards user information, while continuous monitoring and incident response plans address emerging threats.

Q3: How does revenue sharing work?

A: Revenue from various streamssuch as in-game purchases, token sales, and tournament feesis automatically distributed via smart contracts. Each participants share is predefined, ensuring transparency and fairness. You can review distribution details in your dashboard or through

blockchain explorers for real-time insights.

Q4: What if I forget my 12-word recovery phrase?

A: Your 12-word recovery phrase is critical for wallet recovery. Peer2Play recommends securely

storing this phrase offline. If lost, and if you haven't backed up your encrypted key elsewhere,

account recovery will be challenging. Always safeguard your recovery phrase; Peer2Play does not

store the original phrase to ensure maximum security.

Q5: How can I participate in governance?

A: Hold and stake P2P tokens to gain voting rights in the GameDAO. Propose changes, vote on

proposals, and monitor outcomes directly through your Peer2Play dashboard. All decisions are

transparently recorded on the blockchain. Troubleshooting Guide

Issue 1: API/SDK Integration Problems

Symptoms: Errors during SDK integration, failed API calls, unexpected behaviour in smart contract

interactions.

Solutions:

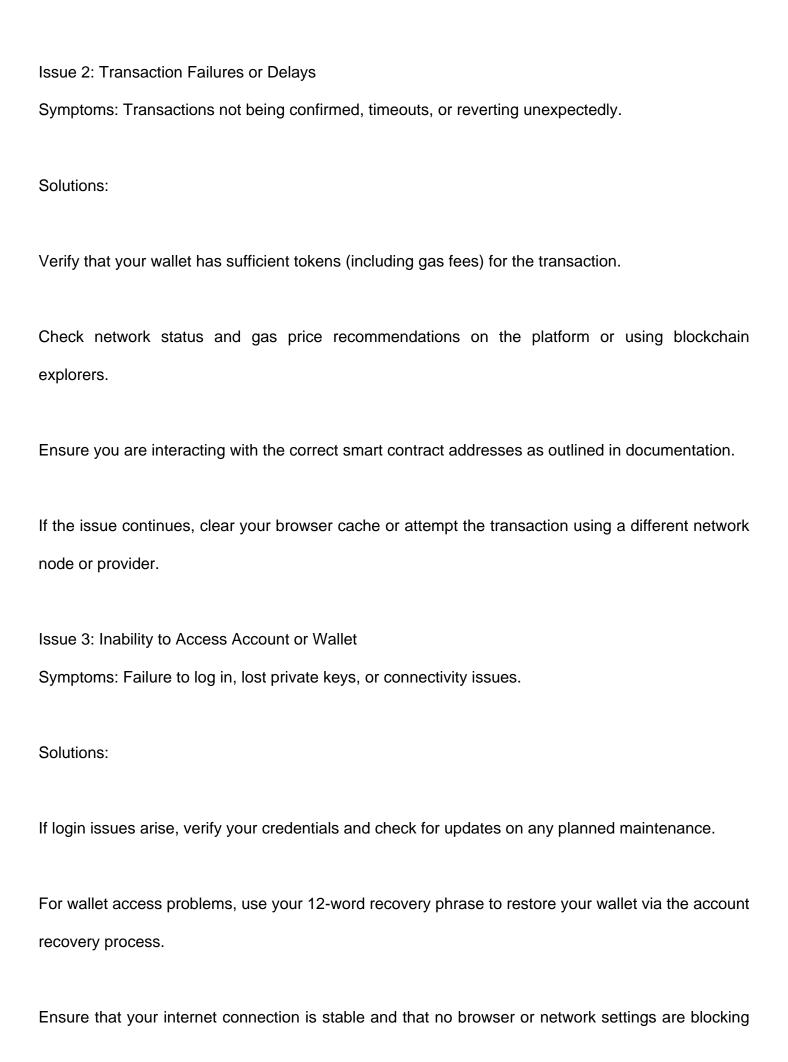
Double-check the documentation for correct setup instructions.

Ensure your development environment meets the required dependencies and versions.

Review error logs for specific messages and consult the troubleshooting section of the

documentation.

Contact developer support via official channels if issues persist.



platform functionalities.

Issue 4: Discrepancies in Revenue or Rewards Distribution

Symptoms: Mismatches between expected and received token distributions or rewards.

Solutions:

Reconcile transaction records using blockchain explorers to verify on-chain activity.

Check the revenue sharing and reward distribution schedules on the Peer2Play dashboard.

Contact support with transaction hashes and relevant details for further investigation if inconsistencies persist.

Need Further Assistance? If you encounter issues beyond the scope of this FAQ and Troubleshooting guide, please contact our support team via:

Email: support@peer2play.io

Join our community channels for real-time assistance.

Connect with Peer2Play

Stay updated with the latest news, tournaments, and announcements from Peer2Play by joining our communities across social platforms.

Email: contact@peer2play.ai

 ${\sf X}$ (formerly Twitter): Follow us on ${\sf X}$

Telegram: Join our Telegram Community

Discord: Join us on Discord