Chainship

1 Introduction

The project involves creating an application that allows playing Battleship, utilizing blockchain technology to create a secure, transparent, and engaging experience for players. Using JavaScript and integration with the Metamask wallet, Chainship offers a game accessible directly in the browser, with the possibility of running it locally, eliminating the need to trust a centralized server. All aspects of the game – from creating a room, through setting up ships, to recording shots and results – are secured by smart contracts operating on Ethereum. Chainship is not just a game; it's a demonstration of the future of gaming, where fairness, decentralization, and security are priorities.

2 Game Description

Players will compete for a prize pool, deposited before the start of the game, and the winner takes the entire pool (minus any potential commission for the contract owner).

The game will take place between two players. Key gameplay elements include:

- **Creating a game room:** Players can create private rooms and invite friends or join random opponents based on ranking.
- **Ship placement phase:** An intuitive graphical interface allows players to strategically place their ships on the board.
- **Shooting phase:** Players take turns firing shots, and the results are immediately recorded on the blockchain, ensuring transparency and eliminating cheating.
- **Proof of Victory:** The winner must prove the correctness of their responses by revealing their board only after the game ends, guaranteeing fair play.
- **Player Ranking:** A ranking system, based on games won and prizes earned, adds an element of competition and prestige.

3 Benefits of Implementing the Project on the Blockchain

Implementing this game on the blockchain brings several benefits that distinguish it from traditional online games. Here are the key arguments why blockchain is the ideal solution in this case:

3.1 Decentralization and Security

Blockchain ensures that the game is completely decentralized, eliminating the need for a central server. Players do not need to trust any single party or organization, as all game-related data (such as ship placement, shots, game results) is stored in a distributed manner on the blockchain. Each player's move is recorded and verified by the entire system, ensuring transparency and security. Furthermore, the absence of a server also means that no one other than the player knows the arrangement of ships on their board before the end of the shooting phase, so collaborating with the application developer could not provide any advantage to the player. The lack of a central server also means there is no single point of failure. The game is completely distributed, meaning that even in the event of infrastructure problems, the game can still function, and the data will remain intact.

3.2 Transparency of Results

Thanks to the use of blockchain, all game results are recorded openly, and every change in the game state (e.g., hitting a ship) is publicly accessible. The winner of the game not only receives the pool but also has the full ability to prove their victory by verifying the transactions recorded on the blockchain. This eliminates the risk of fraud or manipulation. Moreover, the ranking system is fully transparent and deterministic, so players can be sure that user positions in the ranking are earned fairly.

3.3 Commissions and Monetization

The use of blockchain allows the contract owner to collect commissions from winnings. This system is secure and automatic, eliminating the need for any external control over the payout process. The commission will be set transparently, and users can be confident that the rules are clearly defined and enforced.

4 Project Advantages

Chainship is a project with enormous potential that will attract both players and investors.

4.1 Innovation

Combining the classic game of Battleship with blockchain technology makes the project stand out from traditional online games. This innovative approach allows players to enjoy entertainment while being assured that their data is stored securely and transparently.

4.2 Competition

The player ranking and competition for a prize pool create elements of gambling, but in a safe, transparent, and decentralized form. This will certainly attract people looking for new challenges and those who enjoy competing in online games.

4.3 Potential in the Blockchain Market

Due to the growing interest in blockchain games and decentralization, the project has great potential in the market. Blockchain-based games are becoming increasingly popular, and this project can attract both blockchain enthusiasts and fans of classic computer games.

4.4 Automated Monetization

The ability to collect commissions from winnings combined with an automated payout process provides a solid foundation for monetization. The game will be able to generate steady revenue for the contract owner, ensuring the long-term viability of the project.

4.5 Potential for Development

The project can be expanded with additional functionalities, such as new types of games, based on the existing player ranking. The possibility of adding new gameplay options means the project has huge potential for growth and adaptation to user needs.

5 Summary

Chainship is a groundbreaking application that combines classic entertainment with revolutionary blockchain technology. It is a project that has the potential to change the way we think about online games, offering security, transparency, and fairness that are impossible to achieve in traditional games. Chainship is not just a game – it's an investment in the future of gaming.