

# Chipz: Decentralized No-limit DeFi-Based Sports Betting

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Chipz is a web-based sports gambling platform, where people can bet on different sporting events within betting rooms created by users. The initial platform launch will allow anybody to use the USDC stablecoin to participate in betting and payment of betting fees are guaranteed with smart contracts on the Ethereum blockchain using Solidity's APK. Chipz allows anybody the opportunity to facilitate a book or place bets on predictive pairs created by independent bookmakers. This document outlines the core mechanics and technical details for the Chipz Decentralized Betting Platform. Chipz as an intermediary service charges a low-cost fee for the creation of a book and a small part of winning payouts. Revenue is distributed to CHPZ holders and to the team to foster growth and further development. In order to participate in the platform users simply link their Ethereum non-custodial wallets to the platform and place betting amounts through the blockchain. User must have CHPZ tokens for the creation of the betting rooms if the user intends to host or be a dealer. The results of matches will be reported using APIs scanned by the Chipz platform and smart contract concluded by distributing the earnings.

Chipz is a web-based gambling platform for sports, where people can bet on the different sporting events within betting rooms created by users. Each betting room will have a time limit to receive the betting before starting each match and once this time is complete the smart contract will be created with the necessary parameters to fulfill proper execution. Once the game is finished and the results are concluded, the smart contract executes, closing and paying out bets by sending the users wallets their respective earnings. To establish a niche in the predictive market space, the first phase of the Chipz platform will include only events from the National Football League (NFL). Over time the system will be built in a scalable and sustainable way to incorporate betting on all types of future events, including soccer and baseball leagues.

Users must have ETH to pay the network fee so that USDC can be sent to the prize pool. The costs of creating and closing the Chipz smart contract are calculated based on the number of users per betting room. Users will have a management panel where they can view open rooms or matches for betting, transactions made, profit and loss listing, buy CHPZ tokens, validate their emails, manage their profile, register their metamask wallets, create betting rooms, and purchase bookie packages.

To become a bookmaker or bidder, the CHPZ token must be held in a user's wallet or staked for revenue distribution. Initially the only acceptable asset to set a bid with will be USDC. As mentioned previously, the Chipz platform on launch will be limited to oracles that gather data for sporting events, specifically the NFL. The goal for future versions is

for bookmakers to create pairs or multiple outcomes based on their preference, allowing bidders to stake on virtually anything that has an uncertain outcome in the sports world. Gathering real world data and displaying it on the blockchain has become more powerful with the usage of Oracles. These oracles allow outside information to get fed into the blockchain in real time to make use of the data. Once the results of the sporting event are in, the smart contracts will automatically disperse the appropriate percentages of earnings to bidders, bookmakers by rank, and CHPZ revenue stakers. The initial distribution to CHPZ revenue stakers will be 3% which are deducted from winning payouts. There is no fee taken if a proposition is unresolved, unmatched, or cancelled.

## I. Market Creation

On the Chipz platform, a portfolio is built based on sports forecasts and a return is earned if they are correct. When shares are bought in a prediction market, a person's knowledge, research, and view of the future is weighed in. Market prices reflect what traders think are the odds of future events, turning trading activity into actionable insights that help people make better decisions. If the Super Bowl is one year from the point somebody placed a bet on the winner, they will earn yield toward their bet. They can withdrawal or claim their earned USDC at a given set of time, but withdrawals of their bets will incur a penalty. This is to encourage liquidity staking and partnerships with other DeFi projects in the space. USD Coin (USDC) is a type of cryptocurrency called

a stablecoin. Since 1 USDC can be redeemed for exactly \$1.00 USD, the price is always stable. Chipz uses USDC for transaction speed, security, and transparency. You can purchase USDC directly on a centralized exchange like Coinbase or a decentralized exchanged like Uniswap.

Chipz users have two options for participation. One is as a gambler and the second option is a bookmaker who creates a betting room for a specific match by giving its terms. For gamblers, of course, there is a counterparty risk with making bets. To alleviate the risk for our users, a ranking system for bookmakers will be introduced. Below details the ranking of bookmakers. Highest risk betting rooms are those created by unranked bookmakers, users will have to agree to a waiver each time they enter a high-risk betting room. When finished users can rank their bookmakers based on how they dealt with gamblers in the betting room, moderating chat rooms, and how they set their fees. A 5-star ranking system is planned.

RANKED BOOKMAKER	UNRANKED BOOKMAKER	VERIFIED BOOKMAKER
<p>Has hosted at least 1 betting room</p> <p>Has been ranked by users</p> <p>Will contain warning that they are not verified and there is a risk associated betting with this bookmaker</p>	<p>Has never hosted a room</p> <p>Has never been ranked</p> <p>High risk warning. Users must agree to a waiver stating they understand the risks and in no way is Chipz responsible for loss of funds.</p>	<p>Has hosted 20 betting rooms</p> <p>Maintains a 4 out of 5 star ranking</p> <p>Low risk warning associated with this bookmaker.</p>

## II. Liquidity

Chipz is effective in the way it focuses on ease of use and simplicity. Anyone can create prediction markets on the platform, using Realit.io with Kleros as an arbitrator to resolve a market's outcome. Unlike other blockchain-based prediction market applications, markets on Chipz use an automated market maker to match trades and allow users to easily contribute to Uniswap-like liquidity pools. This ensures that markets optimally reflect the latest expert opinion on their topic. Chipz is built on the Gnosis open-source conditional token framework, where on-chain market share prices adjust to new information and reflect the probability of future outcomes.

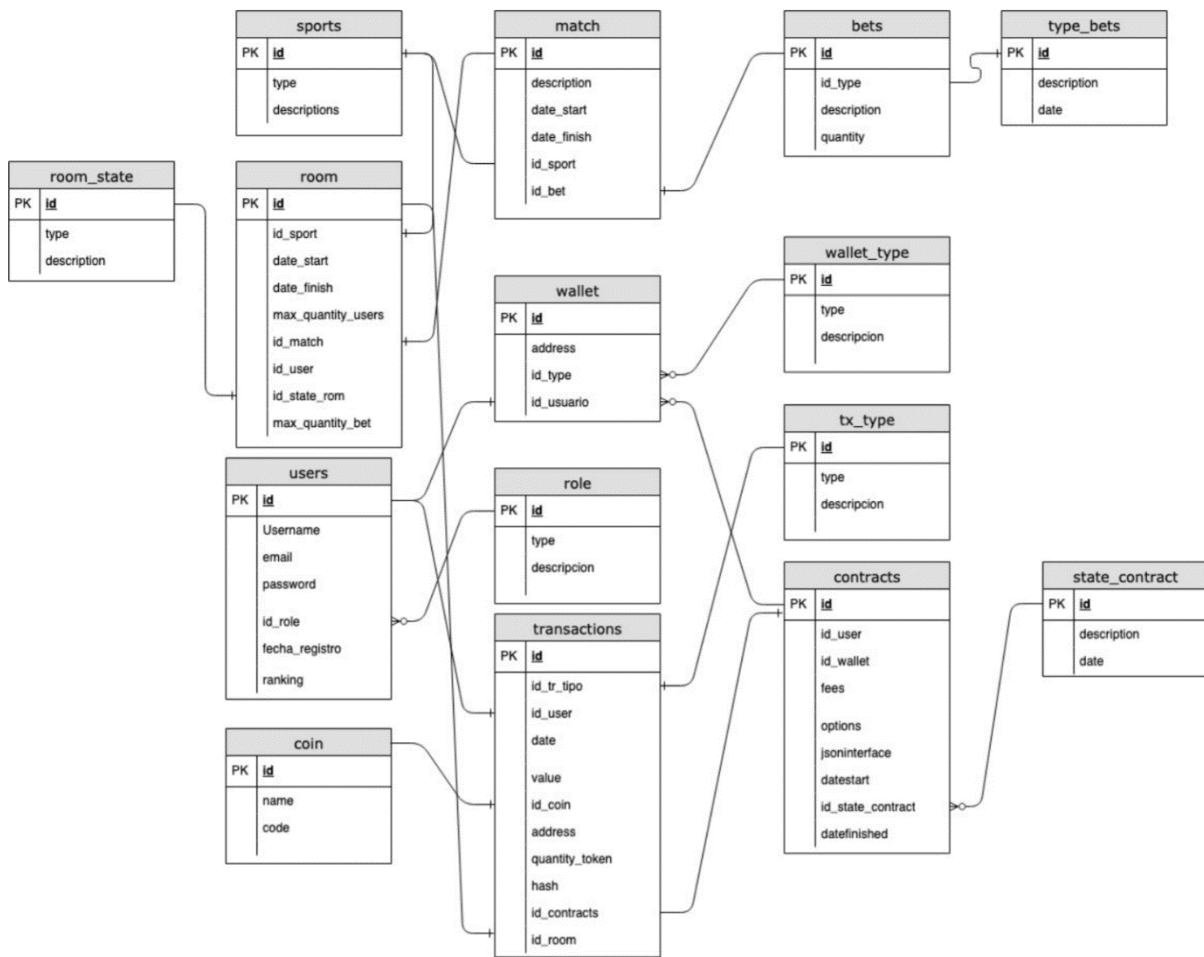
Liquidity is provided by committing USDC to a given market's liquidity pool and earn fees every time someone trades. By providing liquidity the

market is assisted in producing more accurate information. Chipz's design will respond to a perceived flaw in early prediction markets predicated on lack of liquidity. Unlike other blockchain-based prediction markets that use traditional orderbooks which result in high spreads due to insufficient liquidity, markets on Chipz use an automated market maker to match trades and allow users to easily contribute to Uniswap-like liquidity pools. Enhanced liquidity means that a prediction market's pricing can always reflect the latest expert opinion on its topic. Every trade incurs a fee paid out directly to liquidity providers (LPs) because facilitating trades in a market requires liquidity. More liquidity in a market reduces slippage for users when they purchase shares. Without liquidity, there would be significant price slippage.

Having many options for bookmakers will allow liquidity providers to favor pools that have not become oversaturated with bidders. Each event presents itself with more bookmakers. Becoming a bookmaker or a bidder has their own advantage. As a bookmaker with good attendance of bids, you can set your fees, set a maximum number of bidders, and in the end, earnings are guaranteed from fees when the smart contract finalizes. As a bidder, finding the appropriate bookmaker with a friendly-sized pool is best, as the percentage of the pool drives earnings at the end of the event. Chipz Event Explorer can easily be used to navigate through bookmakers.

## III. Market Results

The price of a market share corresponds to the probability of an outcome occurring. If "Patriots Winning" share on an event is trading at \$0.60, then the market believes the probability of that event occurring is 60%. Shares can be bought and sold at any time before the market resolves. If shares have risen in value since their buy time, they can be cashed out for a profit, but with an early termination fee. When the



market resolves, "Patriots Winning" shares will be worth \$1 and the respective shares of the opponent (assume it is "Browns Winning") will be worth \$0.

A market closes within 3 days of resolution criteria. This can be based on a date or a specific event occurring or not occurring. Market topics use an external source to verify the correct resolution. If the market outcome is ambiguous, the market will be resolved at the sole discretion of the admins in charge of Chipz rooms. When the market resolves, correct shares are worth \$1.00 while incorrect shares are worth nothing. If you have shares on the correct outcome, visit the market page to redeem your winnings. Redeeming shares does not incur the liquidity fee. You can own "Patriots" shares and "Browns" shares in the same market. Holding 1 "Patriots" share and 1 "Browns" share is equivalent to having \$1.00 (minus trading fees). As a result, Chipz allows you to merge these shares back into USDC. When a market resolves, correct shares can be

redeemed for \$1.00 each. All other shares will be worth nothing. If the market outcome is ambiguous, the market will be resolved at the sole discretion of the admins.

Outcomes are determined via decentralized oracles. Oracles are predefined data sources for bringing real-world information onto the blockchain and verifying a prediction market's outcome. Whereas most prediction markets have a single platform-locked oracle system, Chipz is oracle-agnostic, meaning technically a custom data source can be used as an oracle. On the other hand, Chipz uses the decentralized tool Realit.io as the main oracle with Kleros dispute resolution as the final arbitrator. In the future, potential Chipz oracles could include Chainlink, Aragon Court, and traditional legacy news outlets. Chipz is designed to be open and modular to allow different norms and best practices around prediction markets to arise organically within the broader ecosystem. When a prediction market reaches its resolution date, the

outcome is determined by Realitio. Users on Realitio post bonds for their chosen outcomes, and they can be challenged by someone posting a new answer, doubling the bond. This may happen for several cycles until the posting stops, and the answer is determined by the last one to post their bond. If someone doesn't agree with Realitio's outcome as a market reporter, they can dispute it through arbitration via Realitio or Kleros.

#### IV. Role of the CHPZ Token

Chipz will circulate CHPZ, an ERC-20 token on the Ethereum blockchain. CHPZ will be used to create booking instances and furthermore CHPZ will be staked to receive a share of platform revenue in USDC which may reach as high as 20-100% APY, similar to other revenue generating coins such as SUSHI. CHPZ will eventually also serve as a governance token to let the community of bookmakers and gamblers decide on key issues. CHPZ will initially be available on Uniswap and the token distribution is shown below. CHPZ tokens are functional utility tokens within the Gnosis platform. CHPZ tokens are non-refundable and are not for speculative investment. No promises of future performance or value are or will be made with respect to CHPZ, including no promise of inherent value, no promise of continuing payments, and no guarantee that CHPZ will hold any particular value. CHPZ tokens are sold as a functional good and all proceeds received by Chipz Company may be spent freely by Company absent any conditions. CHPZ tokens are intended for experts in dealing with cryptographic tokens and blockchain-based software systems. The supply and distribution are shown below:



#### V. DeFi within the Chipz Platform

Chipz is built on the conditional token framework, which allows for the creation of a new crypto asset class—called conditional tokens—which enable higher-resolution information discovery for

prediction markets. Since conditional tokens are ERC-1155 compliant and can be easily wrapped in the Ethereum standard ERC-20, outcome tokens created on Chipz are be traded on external DEXs like Gnosis Protocol. This paves the way for prediction market assets to access a global liquidity pool and cross-platform interoperability, even among different prediction market providers such as Augur or Polymarket.

Using conditional tokens, Chipz will be the first to introduce DeFi-backed solutions for betting situations, allowing gamblers to stake assets and earn yield over time based on the result of major sporting events. These major staking pools will be managed by Chipz and hosted by Chipz for security purposes. At platform genesis, there will be no independent bookmakers involved in these DeFi-backed events. In the future ETH or other tokens will be allowed to be used as collateral to take out loans for betting on the Chipz platform. A certain amount of USDC or CHPZ is loaned based on a set percentage and fixed interest rate. This will allow users to maximize their profits and use their current assets to play. Borrowing against tokens will be initiated in a smart contract. The loan request will execute a smart contract that will enable the bidder to receive the funds necessary for bidding. The first iteration of the lending protocol will allow to set a bid for only one outcome at a time, but in future iterations of the platform, bidders will be able to take a loan and use it to bid on multiple outcomes. The process will play out on the platform, beyond the bidder's wallet. USDC or CHPZ will be loaned at the equivalent amount of the collateral in place. Those funds can be set onto any outcome for bidding. The outcome determines how the smart contract functions. If the bid successfully predicts the outcome, earnings will cover the loan payment, and the bidder will receive their share of the prize pool. Otherwise, the loan will initiate, and the loan will be paid out to the other winners.

#### VI. Comparison with Augur

How are the sports prediction markets on Chipz different from the markets on Augur? Both Chipz and Augur embrace decentralization as a core value but approaches to building prediction market infrastructure have a few core differences. Augur's

approach has fundamentally tackled prediction markets from another angle: the oracle problem. Central to Augur's design is its focus on having a decentralized oracle. All holders of Augur's \$REP token, referred to as "Reporters," have the ability to influence any Augur prediction market's resolved outcome. After a market passes its resolution date, an Initial Reporter—who is a \$REP token holder and usually the market's creator—sets the market's "Tentative Winning Outcome," which other \$REP token holders can then dispute by staking \$REP on another outcome. A combination of financial incentives and windows for dispute in the Augur oracle system creates a decentralized reporting tool to bring real-world events onto the Ethereum blockchain. This is an incredibly useful facet of Augur's design, and in fact, its oracle system could be specified as the arbitrator to resolve market outcomes on Chipz.

In consideration of liquidity, markets on Augur v2 use an off-chain orderbook powered by 0x protocol. In this orderbook implementation, orders are collected off-chain, with on-chain order settlement. While orders are shared across the peer-to-peer network with more efficient discovery mechanisms in 0x protocol v3, the system still relies on synchronous token pair orders, whereas automated market makers like Chipz create larger Uniswap-like liquidity pools for token pairs. Ultimately, Chipz and Augur both approach developing decentralized prediction markets through

delivering core infrastructure and tooling. While Augur focuses on designing an oracle and market resolution system, while Chipz prioritizes building a global liquidity pool for crypto assets generated by sports prediction markets. With this aim in mind, as mentioned previously, Chipz conditional token framework can create ERC-1155 standard tokens that represent complex prediction market outcomes. Furthermore, using conditional tokens, a unique prediction market that focuses on interdependent events can be created.

## **Conclusion**

In this paper, the Chipz platform and its corresponding CHPZ token were described. The Chipz platform intends to fill the niche of decentralized sports prediction markets and CHPZ tokens are distributed for revenue sharing and eventually governance. Chipz is built on a conditional token framework which allows for deep liquidity for predictions and furthermore the first-of-its-kind application of decentralized finance for lending and borrowing money against bets as collateral. The hallmarks of blockchain and cryptocurrencies are access and privacy and the Chipz platform will never require KYC or personal information. The only thing need to participate is an ERC-20 wallet such as MetaMask and Trust Wallet to connect to Chipz.