

# DecentPoker Whitepaper

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# Introduction

## What Is DecentPoker?

DecentPoker Labs is about to revolutionize the online poker landscape by launching a decentralized Texas holdem poker game.

The primary objective is to ensure fairness and security in online poker offering a trustless, permissionless game with no single party dealing the cards.

The game is available to play at <https://decentpoker.org>

### DECENTRALIZED POKER

CONNECTED

#### Create Game

#### Join Game

#### Game Information

Game ID: 2  
Your Address: 0x123e710c69b6806ef32cf52e49dCC5EEec368a22  
Your Chips: 198  
Current Bet: 2  
Pot Size:  
Game State:  
Action On:

#### Player Actions

Player 0x123e710c69b6806ef32cf52e49dCC5EEec368a22 Call in game 2  
Player 0x123e710c69b6806ef32cf52e49dCC5EEec368a22 Call in game 2  
Player 0x123e710c69b6806ef32cf52e49dCC5EEec368a22 Call in game 2

## Technological Innovations

- Poker hand evaluation within a single smart contract, tested against more than one million poker games.
- First fully decentralized poker game with no 3rd party entity dealing the cards. Cryptographic commitments enable privacy for player dealt cards and shared community cards.
- Implementation of core game mechanics within smart contracts to maintain trustless game execution.

## Problem Statement

### Online Poker - A House of Cards

Since the early 2000's online poker platforms have given rise to a host of issues that undermine player trust and game integrity. These platforms act as both referee and banker, holding immense power over the games they host. This centralization creates a single point of failure, the consequences of security breaches can be devastating, with players potentially losing their hard-earned funds and personal information.

In 2007, players on Absolute Poker began to notice unusual patterns of play from certain accounts, leading to suspicions of cheating. It was discovered that a specific account had access to the hole cards, that should be hidden cards of other players during games.

Fast forward to April 15, 2011, a day that became known in the online poker world

as "*Black Friday*." The U.S. Department of Justice unsealed an indictment against the founders of Full Tilt Poker, charging them with bank fraud, money laundering, and illegal gambling offenses. **The platform owed approximately \$390 million to players worldwide but had only about \$60 million in available funds.**

Full Tilt Poker had commingled player funds with operational funds, using player deposits to cover operating expenses, pay executive salaries, and distribute dividends to owners.

Today confidence and sentiment around online poker platforms is astonishingly negative. Poker players have no option but to trust these platforms with their funds because they have never had an alternative.

## A Decent Solution

### Why hasn't peer to peer poker happened yet?

The concept of decentralized poker isn't new, the early bitcoin core included references to a poker client and there have been various attempts to create decentralized poker applications since.

None have competed at scale with the legacy online platforms and perhaps the most successful has been Virtue Poker (VPP) who have gained some traction with blockchain community events *"however the overall retention of these groups was extremely low"* <sup>\*</sup>

To the best of our knowledge Virtue Poker and all other "decentralized" games still rely on a 3rd party dealer system and many aspects of centralized gameplay.<sup>\*</sup> The web3 user experience is viable for crypto natives but is not good enough to attract a mainstream audience, restricting marketing efforts and growth.

### What comes next for poker players?

Online poker is the perfect GameFi application to bring a new wave of users to web3. The emerging technology is ideally suited to a game built around the movement of digital funds. So much so it is inevitable that sooner or later someone will publish an open, decentralized, trustless game that disrupts the current online poker ecosystem. That should be us.

Decentralization alone however is not enough, the game that disrupts the status quo will provide a better user journey than legacy platforms. In the last year we have seen advancements, such as frameworks built around account abstraction, enable developers to create seamless web3 user experiences.

The timing is optimal to release a decentralized poker game. DecentPoker has that game and is gearing up for launch.

## Technical Architecture

All code is open source and available for peer review at: <https://Github.com/DecentPokerLabs>

### Smart Contracts

There is no backend server, database or entity in charge of the games. Data is stored on a blockchain and actions are executed within smart contracts. The system is fully decentralized meaning a user could play a hand using a block explorer such as etherscan if they wished, directly interacting with the smart contracts.

#### **PokerHandEvaluator.sol**

- Compares poker hands to determine a winner
- Evaluates hand strength and ranks hands
- Tested against more than 1 million hands

#### **PokerChips.sol**

- Implements an ERC20 token for in-game poker chips
- Handles 1:1 deposits and withdrawals with USDC
- Stores USDC deposit funds transparently in the contract

#### **PokerDealer.sol**

- Manages random, private card distribution
- Ensures on-chain verifiability of card dealing
- Implements a solution for trustless card dealing

#### **PokerGame.sol**

- Contains core game logic (betting rounds, blinds, dealer rotation)
- Manages game flow and rule enforcement
- Handles split pots and side pots
- Implements timeouts for unresponsive players
- Emits events to update the frontend with user actions

## Progressive Web Application

The frontend for DecentPoker is designed to provide users with an engaging and seamless experience while ensuring compliance with local regulations.

Progressive web applications offer a native experience similar to mobile apps but are installed via a web browser. This circumvents the centralized restrictions and revenue sharing fees that Google Play and Apple Store impose.

The user journey in DecentPoker is designed to be intuitive for non crypto natives, guiding players through a smooth onboarding process and into gameplay.

1. A user visits [decentpoker.org](https://decentpoker.org) and is prompted to install the app using the mobile browser menu.
2. The app is installed on the mobile homescreen with an app icon which directly opens the PWA frontend
3. A new wallet address is generated and stored locally on the device which the user can fund and use to interact with the smart contract backend
4. The wallet can be exported, backed up, restored and the user has full custody of their private key at all times.

In the gameplay phase, users can browse and join poker tables from the lobby, which displays available games, stakes, and player counts. Once seated at a table, users experience a clean and interactive game interface, with easy to use controls. The application provides real time notifications and alerts for important events.

DecentPoker's design prioritizes both aesthetic appeal and functional clarity, ensuring an enjoyable and accessible mobile first user experience. The gameplay mechanics are designed to be engaging, with smooth animations and responsive controls that mimic the experience of playing poker in a real casino. The design also includes accessibility features, such as adjustable text sizes and color contrast options, to accommodate users with different needs.

To ensure compliance with local gambling laws and regulations, DecentPoker Labs implements geoblocking measures that restrict access to the platform based on the user's geographic location. The application uses IP address detection to determine the user's location and prevent access in areas where online gambling is banned.

## Challenges & Solutions

### Trustless Card Dealing

Trustless card dealing is technically challenging due to the requirement for hole card privacy, verification and shared community cards.

Most systems to date have used a 3rd party trusted dealer. This is inline with real life poker games where players trust the dealer to deliver a fair game.

DecentPoker doesn't have a dealer, all parties submit a unique public key for each hand. Once all players have committed a key we take the next blockhash which is a unique unpredictable value. The combination of the user's private key and the blockhash is used to generate the random shuffle. At the end of the hand, winners submit the corresponding privatekey which is

verified by a smart contract prior to payout of the pot.

Each player is dealing from their own deck and the shared community cards (flop, turn, river) are delivered from a separate deck using a combination of player keys and the most recent blockhash. This differs from traditional texas holdem poker which uses a single deck of cards and creates the possibility of having six aces in a 7 card hand.

While not a perfect solution the benefits of a fully trustless game outweigh the minor change in game play and odds presented from the multi-deck system. In the future it may be possible to deal cards from a single deck using zkSNARKs but to date this is the best solution found to the fundamental problem of delivering private data on a shared network.

### Bots & Collusion

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One of the significant challenges facing online poker, including decentralized poker, is the potential for bots. These automated programs can be designed to play near perfectly, providing an unfair advantage over human players. This undermines the integrity of the game and can deter human players from participating, as they might feel disadvantaged against impossible opposition.

Collusion is a problem for online and offline casino's alike and occurs when two or more players secretly cooperate to gain an unfair advantage over others at the table. This can involve sharing information about their hands, coordinating betting strategies, or manipulating the game to maximize their collective winnings.

A key strategy is the development of a reputation system where players can create a social graph of the players they know. The reputation system could be linked to existing social graphs in a manner similar to how Friend.tech integrates with Twitter. This would enhance transparency and trust among real players. It's important to note that this reputation system would be implemented as a separate frontend

system, independent of the underlying contract code, to maintain the integrity and decentralization of the platform.

Algorithms could analyze game patterns and detect unusual betting behaviors that may indicate collusion or the presence of bots. These algorithms can flag suspicious accounts and alert other players through the frontend interface.

There are multiple benefits to encouraging users to set up home games with their friends using a private code that grants access. This approach ensures that players are competing against people they know, creating a more secure, social and enjoyable gaming experience.

No one wants to play poker against a network of AI bots colluding and employing game theory optimal strategies to extract their funds. At the same time, DecentPoker must maintain its decentralized nature, avoiding any party's ability to unilaterally ban another player. This creates a complex but crucial balance between maintaining a trustless, decentralized platform and ensuring the fairness and integrity of the game. Addressing the issue of bots and collusion will likely be an ongoing challenge as the project grows



## Economic Model

### v1 Rake Free Poker

Legacy online poker platforms charge a rake fee on each hand played. This fee ranges from 3–5% and is taken from the pot before it's paid out to the winner in cash games. These funds are used to pay for operations and provide the business model for the poker site.

DecentPoker will launch rake free and players will receive 100% of their winnings. This provides the **best chance of gaining traction and competing for market share**.

### v2 Monetization

If the project is successful there will be opportunities for monetization in the future. No details have been finalized at this stage but options include:

- Governance Token Launch
- Staking USDC holdings in treasury based DeFi products
- Introducing rake or tournament fees
- Advertising on the frontend
- Subscription model

To launch this product responsibly there are funding requirements for security audits, legal/regulatory counsel and growth marketing. This would not be possible without establishing a future return for investors.

## DPKR

### Governance Token

The DPKR token enables DecentPoker Labs to create a formal framework for collaboration between stakeholders in the project. The token will be used to raise funding, offer incentives and potential future utility within the ecosystem.

Note the following are draft tokenomics and subject to change.

Distribution	Allocation	Percentage	Price	Locked
Private Funding	20m	20%	\$0.02	Locked 12 months
Public Sale	20m	20%	\$0.05	Available at TGE
Partners	15m	15%	N/A	Minted on demand
Team Locked	15m	15%	N/A	Locked 36 months
Team Allocation	5m	5%	N/A	Available at TGE
Community Incentives	5m	5%	N/A	Minted on demand
Liquidity Provision	20m	20%	N/A	Available on Uniswap

#### Private Funding Round

Conducted with SAFT with a funding target of \$400,000 USD. Tokens acquired in the private sale will be subject to a four year linear vesting schedule.

Team tokens will be subject to the same conditions aligning incentives for all stakeholders.

#### Public Tokensale

Will be held over a 30 day period, with a daily price increment between \$0.04 and \$0.06 targeting a \$1,000,000 raise.

Token transfers are locked until the tokensale is complete.

#### Exchange Listing

Launch on Uniswap following the tokensale with a starting price of \$0.08

20% of any funds raised will be put aside to set up support for liquidity pools. If targets are achieved this will provide \$260,000 in for liquidity provisions.

## Growth Strategy

### Performance Marketing

DecentPoker will quickly grow a core set of users through paid advertising on targeted websites. The team will utilize data driven advertising, A/B split testing and retargeting campaigns to optimize user acquisition. By continuously improving ad creatives and leveraging analytics, we aim to create an efficient marketing funnel to gain an initial pool of players.

### Key Partners

Strategic partnerships are vital for long term growth. DecentPoker will seek out partners from both the poker and blockchain communities. These partnerships will expand our reach beyond advertising and engage a perfect target audience, while building trust and credibility.

### Community

Our community strategy focuses on creating engaging content, offering incentives, establishing a transparent feedback loop, and providing robust support. By fostering a strong, loyal user base, we aim to keep the community informed, involved, and satisfied, ensuring long-term engagement and growth.

### Viral Coefficient

Optimizing our viral coefficient will create rapid growth through the social aspect of poker. Users will be encouraged to invite their friends along for a home game via shareable links. Social strategies encourage word of mouth marketing, increase visibility, and attract new users, driving organic growth and expanding the user base.

## Roadmap

### 2024

Complete MVP prototype  
Finalize whitepaper & growth plan  
Seek partnerships and funding  
Smart contract security audit  
Alpha private release & testing  
Establish crypto native seed community  
Collect feedback and improve UX  
Close Private Funding Round  
DPKR Public Token Sale

### 2025

DecentPoker official launch  
Marketing

- Crypto native growth strategies
- Mainstream marketing campaigns
- Establish and monitor viral coefficient

DPKR TGE & DEX Launch  
Explore global regulatory compliance to open new regions  
Support multiple languages & currencies  
Collect user feedback for platform improvements

### 2026

Introduce new game variations & features  
Initiate monetization strategy  
Plan for long term growth & innovation  
Build team and create sustainable work environment

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## Legal

### Regulatory Compliance

DecentPoker Labs is deeply committed to regulatory compliance across all jurisdictions. This commitment is essential for building trust and credibility among players, investors, and partners. Adhering to global standards demonstrates maintaining legal and ethical practices, which is crucial for establishing a solid reputation in the online gaming industry.

Ensuring compliance with local regulatory frameworks for a global product is challenging but essential. Adhering to legal requirements will secure the platform's long term stability and growth. Establishing global regulatory compliance will require time, and initial growth may be achieved in

countries that are receptive to legacy online poker platforms.

Compliance facilitates DecentPoker to be accessed legally in various regions with specific online gambling regulations. This expands the platform's user base and increases its global reach. In contrast, non-compliance could result in bans or restrictions, limiting growth opportunities.

Strategic partners, such as investors, payment processors, technology providers, and marketing affiliates, also benefit from a robust legal framework. It assures them that their collaboration will not expose them to legal risks, promoting mutual growth and collaboration.

## Disclaimer

The DecentPoker Whitepaper (“Whitepaper”) is for informational purposes only. This document does not constitute an offer to sell, a solicitation of an offer to buy, or a recommendation of any securities or any other financial instruments. The content within this Whitepaper is not intended to be financial, investment, legal, tax, or any other professional advice. You should consult with your own professional advisors before making any decision based on the information provided herein.

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This Whitepaper may contain forward-looking statements that are based on current beliefs, assumptions, and expectations of the management of DecentPoker Labs. These statements are subject to risks, uncertainties, and other factors that could cause actual results to differ materially from those expressed or implied in these statements. Forward-looking statements include, but are not limited to, projections, goals, plans, and estimates of future developments and performance.

Participation in decentralized platforms like DecentPoker involves significant risks, including but not limited to the risk of loss of funds, regulatory risks, technological risks, and market risks. DecentPoker Labs does not guarantee the functionality, security, or availability of the platform. Participants should conduct their own thorough research and understand the risks before engaging with the DecentPoker platform.

DecentPoker Labs intends to comply with all relevant laws and regulations in the jurisdictions

where it operates. However, due to the rapidly evolving nature of blockchain and cryptocurrency regulations, it is not guaranteed that the DecentPoker platform will be compliant in every jurisdiction at all times. Users are responsible for ensuring their own compliance with applicable laws and regulations before participating in the platform.

DecentPoker Labs, its affiliates, and their respective officers, employees, or agents shall not be liable for any direct, indirect, incidental, special, or consequential damages arising out of or in any way connected with the use or performance of the information in this Whitepaper or the DecentPoker platform. This includes, but is not limited to, damages for loss of profits, business interruption, loss of data, or other intangible losses.

The success of the DecentPoker platform is subject to numerous factors beyond the control of DecentPoker Labs, including market conditions, user adoption, and technological advancements. There is no guarantee that the DecentPoker platform will achieve its goals or that the value of any tokens or digital assets associated with the platform will increase.

Full and most up to date legal documentation at <https://decentpoker.org/DecentPoker-Legal.pdf>