

White Paper by TechnoL0g

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SmartHoldem
Decentralized gaming platform on BlockChain
<https://smarholdem.io>

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Overview

SmartHoldem is an independent, zoomed gaming platform with a set of protocols to ensure the integrity and reliability of data storage, where all network members do not need to trust each other or anyone. The platform is secured by a reliable distributed database with the latest encryption and data verification technologies without disclosing their identity. An original technology is developed taking into account all the advantages and disadvantages of the early systems.

This document describes the principles of the SmartHoldem platform from the social, economic and technological aspects, and provides the most accessible understanding of the unique BlockChain technologies that we create.

“Unlike other projects that offer simple slot machines with a random number generator on BlockChain, we create a decentralized multi-architectural, open, self-regulatory gaming platform that interacts with people online in real time without any restrictions.” – TechnoL0g.

Introduction

Mathematical explanation of luck

Nowadays, poker is the most popular intellectual gambling game in the world. The history of poker has more than 1000 years. According to some sources, poker appeared during the reign of the Song dynasty in China, according to other sources, poker originated in Persia in the XVI century from the game “As Nas”. Currently, researchers believe that Texas Hold'em originated from the French game, which was called “Poque”. By the XIX century the game was already known throughout America. Huge popularity poker had in the Wild West, where during the “Gold Rush”, gold miners and treasure hunters were gathered at the extemporary poker table.

At that times, poker rules were little different. The first records of the modern version of poker appeared in 1829 in the actor Joe Cowell's memoirs. In 1834, a pack of 52 cards appeared in poker. No matter how the rules change, the winner was determined by the seniority of Poker Combinations.

Nowadays Texas Hold'em, sometimes called simply Hold'em, is the most popular form of poker in the world. Playing online, with minimal costs, you can compete for a win of \$1 million and more.

The global market for online gambling is the fastest growing and promising. Along with the development of the Internet and the growing number of devices, the number of users who prefer to play online poker also increases. The main advantages of online poker are high game speed, 24/7 availability, the ability to play at multiple tables, the absence of travel costs and “lighted” cards.

According to the analysis of the TechNavio research group, the global online gambling market will grow by 11% by 2019. According to forecasts, by 2024 the world market of gambling will be estimated at about \$97 billion. Currently, the world market of online gambling is estimated at \$37 billion. Last year, the turnover of online poker rooms was about \$15 billion.

Introduction

Despite such popularity of the game, Poker-Rooms on the market that use the simple logic of slot machines with a random number generator, can not provide the user with a 100% guarantee and can not offer full transparency of card hand and prize fund distribution.

Not surprisingly, the question of honesty in poker rooms is the hottest topic for discussions on forums or in private conversations among fans trying to try their luck in Texas Hold'em.

Currently, licensed operators are periodically caught in various kinds of violations regarding the distribution of the prize fund and the fair play. Also, an important issue is also the conditions for winning the award, which also has a number of disadvantages in the form of long payments with various commission fees and sudden reasons from the operators.

With the advent of BlockChain technology, multifunctional and multilevel information technology designed for reliable accounting of various assets, we have got the possibility of a transparent solution to these acute issues in poker.

SmartHoldem is the world's first decentralized gaming platform & Poker Room on BlockChain.

The project is for qualitatively new and guaranteed honesty games between players in Poker without the intervention of a third party.

Introduction

The purpose of SmartHoldem is to create a guaranteed honesty, transparent and qualitatively new format of Poker-Room and related segments, to introduce progressive technologies of data exchange in the internet.

The platform combines the concept of BlockChain with gaming technologies:

full transparency of all processes in BlockChain;

statistics available to a particular player;

impossibility of juggling, there is a random generation of the map layout, confirmed by cryptographic algorithms from several sources;

the SmartEvents technology with built-in programming language that distributes assets between financial and game mechanics;

reliable tokens provided by the network capacity of the public BlockChain SmartHoldem.

all processes are implemented and regulated by the unique technology of consensus P2P nodes, public BlockChain, GameNet, deterministic algorithms SmartEvents and more advanced modified Proof-of-Stake.

Tickets for the tournament game, the generation of random numbers, the payment of prize money, the affiliate program, the promotion of SuperNodes, as well as the accruals in the distributed network are performed by the SmartEvents algorithm without the intervention of third parties.

After launching the platform, there can not be any unauthorized changes to BlockChain SmartHoldem. There are automatic updates for DAPP clients.

Holderes

Investment attractiveness:

- The ready working prototype GameClient & Full Wallet under all known OS
- The fast and secure Blockchain based on our own technology, provides secure storage and financial operations of SmartHoldem trade tokens and Gaming assets
- Built-in browsers for payment and game operations
- Transparency of ICO (all the information is public)
- Duplicating of the ICO Transaction Data in BlockChain SmartHoldem
- The minimum cost of tokens in Pre-Sale and favorable conditions
- At the end of the ICO, after 72 hours, the tokens are available for transactions in the SmartHoldem network

The technical implementation of the platform is at the stage of working prototypes, absolutely new technologies in the field of decentralized networks have been created and are already being tested.

Interests of the Holders

Taking into account the interests of the holders and players, the platform is completely transparent and has the following advantages:

- Annual emission: NO
- Minimum start-up investment: NO
- BlockChain efficient algorithms: Delegate Proof-of-Stake
- The independent BlockChain, developed personally for the Poker-Rooms segment and related areas, taking into account all the advantages of early systems such as BitCoin, NEM.
- Transparency of all calculations.
- A reliable, professional team, with more than 10 years of experience in IT, cryptography, business and game development
- The unique consensus of Proof-of-Stake + SuperBlocks.
- A deflationary financial model is proposed due to the absence of tokens emission.

The SmartHoldem profit formation

The main profit of any Gambling Project is a commission (reward) from each played game, hand, stake made by the player. The amount and method of charging commission fees varies depending on the type of game and rules established by the institution.

*In SmartHoldem, the commission fee is 6% of each pot played by the players. When playing with Small Blind *blinds – \$1, Big Blind – \$2, an average stack of \$100 and the number of hands played per hour is ~ 30 - 35, income from only 1 poker table is more than \$10,000 per month. This commission fee is fairly divided among holders of SmartHoldem tokens in contrast to centralized gambling businesses, where the profit is received by the organizer.*

To achieve profitability of \$1 million per month, you need 100 virtual poker tables and about 10,000 active players, which is less than 1% of the audience of popular social networks.

There is no tournament a system of “blind” stakes. Constantly rising, the blinds adjust the game. Thus, the player, having the same initial stack as the other players, can not just sit out until the end, without entering the game. The interval of stakes increase and the increase amount depend on the conditions offered by the tournament organizers.

Since there are many stake limits: from cents in a home game to thousands of dollars in a Las Vegas casino, the blinds act as a standard for expressing the amount of the pot, the player’s stack or its stakes. For the same reason, all theoretical calculations in poker are usually not in monetary terms, but in the blinds.

** The blind is the stake the player must make before he receives the cards. This is the so-called “blind” stake, which is mandatory in all types of poker, in which this type of draw is used (Texas Hold’em, Omaha, Dro-poker, Lowball and Badugi).*

Investment attractiveness

1. Poker-Room SmartHoldem players, for participating in the game, purchase in-game units “SmartHoldem chips” GameChips for SmartHoldem tokens, that are used to make a stake in the game. Thus, the cost of SmartHoldem tokens increases due to the constant demand for the platform. The more players choose fair play and use the decentralized SmartHoldem platform, the higher the value of the tokens on the exchanges.
2. To support the gaming network, we use the computers connected to the Internet. Users who support the network are encouraged by commission fees for transfers, new “coins” are not produced. The system is similar to a pot deposit, with the difference that the COINS owner stores the “money” at one’s own place. A small amount of SmartHoldem tokens is stored on the owner’s balance for at least a certain period of time, which increases the value of the token and the owner’s “profit”, as it reduces the amount of COINS in trading on exchanges. The more COINS is on the balance sheet and the longer the time, the higher the weight of the node and, accordingly, the higher the reward for network support.
3. 6% of the pot of each game is distributed between the holders of the tokens (the players’ participation according to the affiliate program, 2% gets the partner and 3% is distributed between the holders of the tokens). The winner always gets 94% from the pot of the game, 1% is taken by SuperNodes that supports the GameNet stability. At the first stage, there is no affiliate program of 2%.
4. The tournament fund is with an initial amount of 1.2 million tokens (* see Renewable tournament fund). To participate in the annual tournament, the player must buy a tournament ticket for at least \$25 in COINS coins (the amount can be changed in the final version), coins are “frozen” for at least 1 year, making up the next tournament fund, before automatically activating the next annual tournament. 20% of the tournament fund is fairly distributed among the holders in proportion to the generating balance (participating in the PoS), 80% is won by the tournament winner.

Early Investors

- Early investors get up to 21% (50,400,000 COINS) of all tokens.
- The Pres-Sale closing threshold of \$360,000 at the Pre-Sale stage is the fixed cost of 1 token
COINS = \$0.00715
- You can receive an access to information on project progress before official publications in information sources directly from the project organizer.
- 90% of the invested funds go to the global marketing & advertise campaign ICO, the deployment of the trusted Nodes servers primary network.
- Address participation in the Genesis Block
- After the ending of the main ICO, early participants also receive a percentage of unsold tokens.

ICO Scenarios

Token distribution scheme (escrow included):

- 62% of ICO tokens (cost of 1 token is \$0.10 in the first half of the period and \$0.12 in the second, the rest of the unsold tokens is automatically distributed among the ICO participants in a percentage ratio depending on the purchased tokens volume and players who have a balance of 3000+ tokens, including early participants who received 3000+ tokens during the Pre-Sale period)
- 21% of early tokens buyers (before ICO), pre-sale threshold of \$360,000 (~\$0.00715 / 1 token), in case of not full selling of the “early” tokens, automatically go to the general fund ICO.
- 3% – ICO advertising in a cryptosystem, bounty
- 4% – investment advisors
- 6% – the fund of developers, including future ones, is blocked for 1 year, without participation in PoS
- 3.5% – funds: SuperNodes, Stock Guarantees, Players Advisors
- 0.5% – starting balance of the first tournament fund, without participation in PoS

* crypto is tokens participating in ICO: BitCoin, LiteCoin, Ethereum

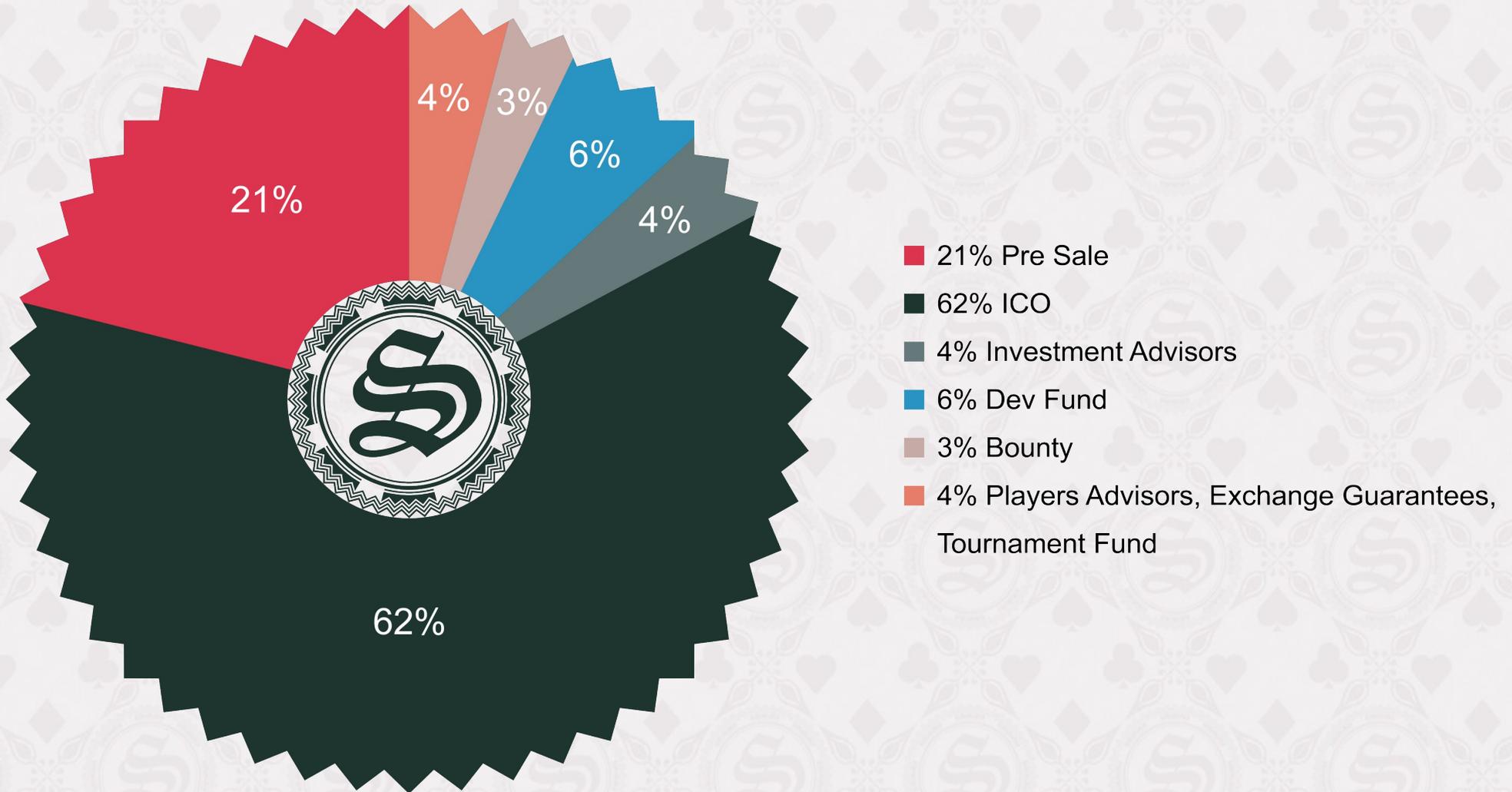
* **escrow service included**

The ICO logic

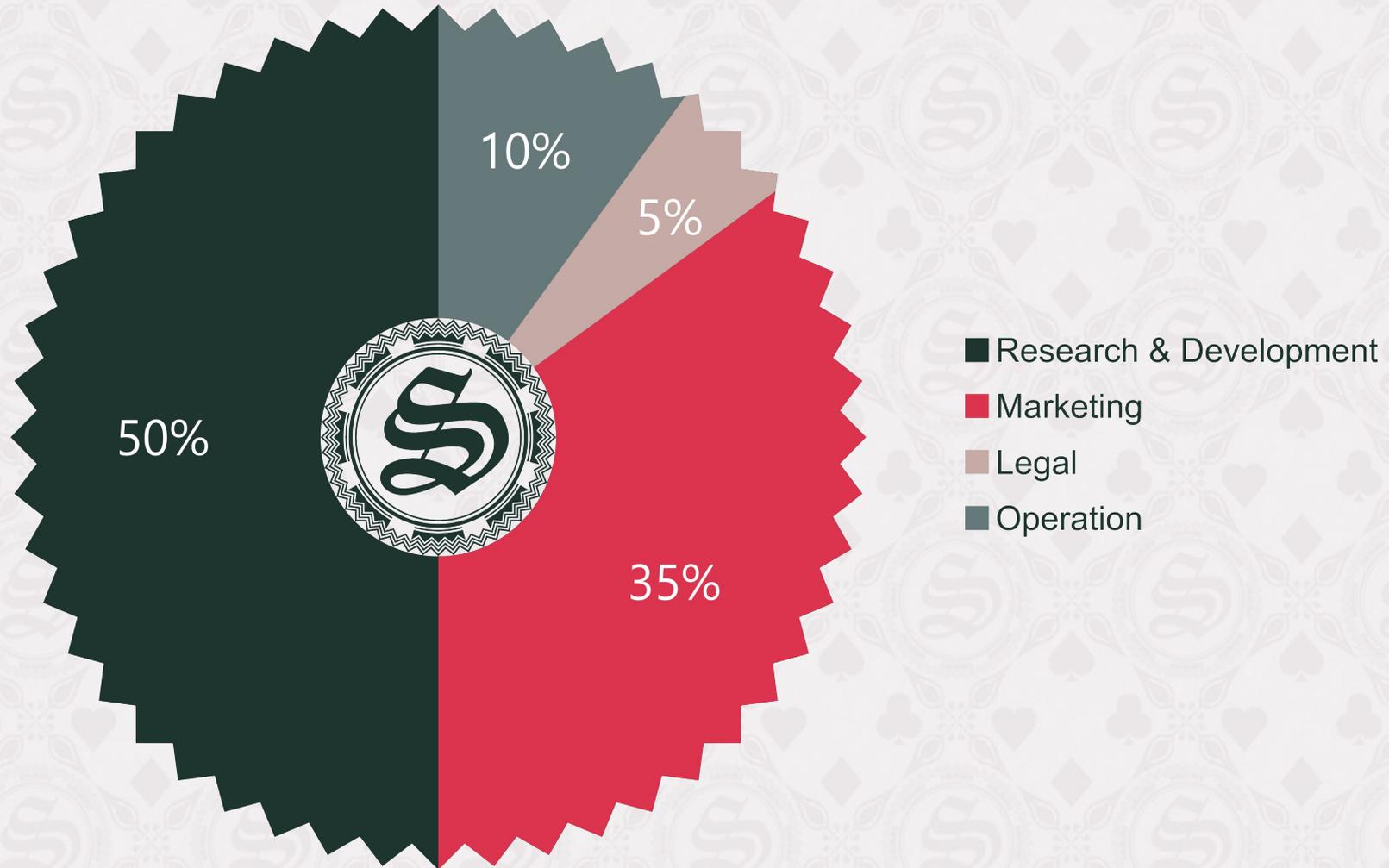
IMPORTANT * !There is no minimum investment threshold.

- *Total tokens 240 000 000 COINS*
- *83% of tokens will participate in ICO, Pre-Sale is 21% and ICO is 62%,*
- *The Pre Sale period is 21 days (504 hours), the date is published not less than 1 week before the start.*
- *The ICO period is 36 days (864 hours) starts according to the timer on the official website <https://SmartHoldem.io>.*
- *All Main ICO data are duplicated in the Public BlockChain SmartHoldem and are available in the <http://smarholdem.io:9191> block browser, as an additional security, transparency.*
- *Upon ending of the ICO, the tokens are divided into unique SmartHoldem addresses of the participants, there is an access to private keys, the first version of the wallet and import of addresses into the wallet, 72 hours after the ICO closing, the tokens are available for operations on the SmartHoldem network.*

Timetable of the ICO tokens distribution



Intended usage of investments



Players

The future of poker has come. SmartHoldem is the guarantee of an absolutely fair game. Unscrupulous Poker-Rooms are a thing of the past. Enjoy 100% of Poker!

- *Anonymity and security*
- *It is possible to activate protection against conspiracies (RandMixRoom)*
- *Constant availability of On-Line, no points of failure*
- *Absence of a third party (administrators and other interested persons) during the games. Here players and only players.*
- *Fast and convenient interface*
- *Tokens block-chain are used as game chips, that will be available on exchanges in the future.*
- *An independent mathematical algorithm without administrators stores and manages the Game .*
- *There are no delays in transactions, in contrast to conventional systems*
- *Unlimited Transaction Amounts*
- *Annual tournament is with an automated tournament fund*
- *Support for online games in two modes: Texas Hold'em Limited and Texas Hold'em Unlimited*
- *Stable GameNet game network*
- *Encrypted Live Chat*
- *Support for unique game nicknames in BlockChain*

New features of Poker-Room

- Anonymity of each player, no need in registration
- A fast and convenient gaming client with a built-in light wallet
- Personal GameChain with secure game statistics
- Minimum commission fees for transactions
- Instant and uncontested transactions
- Unlimited amounts of incoming and outgoing transactions
- Absence of restrictions from the third parties
- Decentralized DNS built-in support
- Absence of overhead costs for the integration of payment systems and support of a gaming servers centralized network
- Compact BlockChain
- PRNG with entropic Seed
- OSI encryption model + data compress in messages

SmartHoldem Game Client

The prototype of the cross-platform game client Poker-Room includes: a wallet, built-in browser GameExplorer, viewing and analysis of game statistics, fast compact GameChain, integration with GameNet protocols.

Supported OS:

- Windows Desktop
- Linux
- Mac OS
- Android
- IOS
- WinMobile

GameClient is developed with game servers support: DarkRift2, Nakama, Photon (testNet Only).

OpenSource DarkRift / Nakama integrates into SuperNodes, providing a stable gameplay. In SmartHoldem, SuperNodes c GameNet are used for really useful functions - deploying a cloud-based decentralized dual-purpose gaming network (DGNDP *).

SmartHoldem gaming unit

SmartHoldem Poker-Room uses the GameChips tokens as calculations in the gaming application.

In future versions, game assets release for the applications will be available for the user or any developer. Additional internal asset – GameChips (game chips) – are used within the gaming applications.

The current payment unit GameChips in the SmartHoldem game application is purchased for COINS and always has a fixed ratio, 1000 GameChips = 1 COINS.

Used for:

Fast non-commission fees operations in BlockChain SmartHoldem gaming applications

Automatic Atomic Cross-Chain exchange both COINS > Chips / Chips> COINS

For more details, see GameChips in the gameplay.



Renewable tournament fund

We are developing a unique tournament system with an automatically renewed tournament fund and a starting balance of 1,200,000 SmartHoldem tokens (0.5% of the total volume of tokens).

How does this work?

In the first tournament round (1 round = 1 year) developers add the amount of 1 200 000 COINS tokens, to a special address, that is publicly accessible, protected by SmartEvents system, new PoS, unavailable to anyone for the output operations.

To participate in the tournament, you need to buy a tournament ticket, the equivalent of \$25 in SmartHoldem coins, which opens access to the tournament games. Each bought ticket goes to the tournament fund of the second round, which will be played in the next tournament year.

Poker-Room standard tournament rules are used during the tournament; the game statistics are recorded in the tournament SideChain.

The winner automatically receives 80% of the tournament fund of the round onto his SmartHoldem Address from the SmartEvents system, and 20% is fairly divided between the holders of the tokens.

In a year the system returns to the point (2) and it continues endlessly. Self-renewing SmartHoldem poker tournaments are carried out without infringement of the human organizer annually.

The fund balance is available in BlockChain browser at any time.

Analytics of the games

The work flow chart shows the development of a specialized software for statistical analysis of games with the API that is necessary for professional players at Poker.

- The record and the view of your own gaming sessions (all data is stored encrypted in a decentralized network)
- The personal analysis and collection of game statistics
- Evaluation of the game results, according to the successful / unsuccessful results
- Personal diagrams of games and results dynamics
- Evaluation of games in terms of mathematics, based on probability theory and combinatorial methods
- Personal statistics of winnings / losses

This tool will add transparency to the games and will help not only poker players, but also developers in improving the RNG algorithms.

The non-interference algorithm

The non-interference algorithm is based on the built-in automated SmartEvents system with its own programming language without human input, which guarantees the unavailability of interested persons to view the “unfair shuffling” during dealing the cards.

Before each hand at Poker-Room, all the cards in GameChain (the logical area BlockChain SmartHoldem is responsible for the game statistics and games) are in an encrypted form, upon ending of the game these data become available for decryption / viewing by the game participants.

The honesty algorithm

There is the proven honesty algorithm in games.

- Before starting any hand, SmartEvents generates a public control hash- hand using cryptographic functions and records to BlockChain.
- Upon ending of the game, the decryption key is sent to players by automated SmartEvents.
- Honesty of the game is checked both by the built-in methods of GameExplorer, and by any third-party service.

Technologies

The SmartHoldem gaming platform is written entirely from scratch in C #, JAVA, C ++, with the consensus of early systems. The platform is modified with unique SmartEvents algorithms, new transaction formats and blocks.

The ultimate goal is a high-performance, scalable, fast, secure open source solution.

A number of unique functions are being developed and tested, such as:

- High scalability and design, based on a multilevel Internet architecture.
- Introduction of high-performance and highly scalable integration supernodes
- High capacity of game events in accordance with their order for real-time processing and processing of a large amount of data in transactions
- Using NoSQL database, more suitable for high-speed information exchange
- Built-in deposit service for exchange of assets on a block-chain – a special transaction event
- Secure access to your account, i.e. everyone can access only their own account
- Ability to interact with external applications and centralized Internet for transactions in BlockChain
- The Smart Event algorithm provides for transition of an event to a new state as a result of certain and convincing actions, in particular, based on the results of calculations of transaction costs based on a pre-established set of irrevocable and unchanging criteria
- Transactional metadata are descriptive metadata that are used by automated workflows. These are structured data representing the characteristics of the facts described for their identification purposes.
- There is built-in messaging solution, including gaming encrypted chat
- Each account contains assets and statistics from multi-registers in BlockChain, thus the SmartHoldem platform completely blocks any interference in the game process from outside.
- One can view transaction history with the formation of a complete accounting journal
- There is the decentralized DNS – access to the system is not subject to restrictions
- A self-renewing periodic tournament fund is regulated by players *
- Our algorithm developed to fix the Signatures of BlockChain's improves the resistance to "attacks from afar"

Technologies: BlockChain

Public BlockChain SmartHoldem is designed all-new, providing the maximum stability, security, scalability and transparency of the Poker-Room with support of the built-in SmartEvents event language, API.

Why BlockChain SmartHoldem?

We intentionally created from the ground up a stable, progressive BlockChain to generate SmartHoldem tokens, eliminating the problems of Bitcoin & Later systems and getting additional native functions of the decentralized GameClient, P2P gaming network and new technologies in this area.

BlockChain characteristics:

- Block generation time ~5 sec
- New 2DPoS algorithm
- DNS decentralized names
- Support for internal assets calculation in games (currently Game Chips)
- AES256 encrypted messages
- Automated operations / transactions with built-in SmartEvents
- Ed25519 DSA signatures

Main Features of BlockChain

The SmartHoldem platform is designed to meet the basic requirements of the Poker-Rooms industry, and is a universal solution, suitable for both the financial sector and general applications. SmartHoldem features provide solutions that are not available in most blockchains.

SmartHoldem has a number of innovative features, such as: a decentralized names repository, a specialized API, multi-signature, randomseed of game objects, game chips, SmartEvents with built-in execution language for automated tasks without third-party intervention.

The chain is perfectly secured from spam transactions, ignores malicious or faulty nodes, and has a new consensus – Proof-of-Stake without emission, which is more environmentally friendly and efficient than Proof-of-Work.

All these features make the SmartHoldem network high-speed and easy to maintain with all the in-built features.

In order to provide better security in interaction with quantum computers, there are studies in the field of consensus based on neural networks and acyclic graphs.

At the moment, no public blockchain provides such technologies, and no other chain is ready for large-scale use in the Poker-Room segment.

GameChain

Decentralized Gamechain database, is designed to ensure the honesty and non-interference in the ongoing games from third parties. Players and only players (PoP).

The GameChain block browser is integrated into the wallet and gaming client, provides secured statistical information to specific players. Extended game statistics are available only to participants of the completed game. Statistics is used to obtain analytical information with subsequent analysis of professional players, as well as to improve future versions of RNG algorithms by developers.

It is created as a separate database. GameChain is the most compact, protected from “bad” chains and “attacks from afar”, a new technology developed within SmartHoldem. BlockChain is used in the initial stage:

- The block generation time is 5 seconds, Atomic Cross-Chain Exchange, MultiSig, Stream Confidentiality, Commission fees: NO

With enough transaction volume, it comes to the 2 stage and does not use blocks. The concept of a directed acyclic graph, the speed of processing transactions increases with the number of players:

- Atomic Cross-Chain Exchange, Stream Confidentiality, Commission fees: NO, Blocks: NO

GameChips in the gameplay

GameChips are fast calculating units in games and are cryptographically safe. They have a fixed exchange ratio: 1 SmartHoldem token = 1000 GameChips. The process of obtaining GameChips partially resembles trading in decentralized exchanges, but with some differences.

- There is no waiting for execution of the order (application) for the exchange, everything happens automatically
- There is a conditional deposit
- The fixed exchange rate is 1 COINS to 1000 GameChips in two directions
- Speed of execution
- Friendly exchange is reduced to 1 click
- Cross-Chain Atomic Exchange technology is involved in the exchange operations. All gaming operations are recorded in BlockChains

GameChips properties

- Absence of commission fees
- Fast / instant operations
- Stored in a separate Game BlockChain and do not overload the main BlockChain Smartholdem
- Cryptographically safe
- Exchange between BlockChains in 2 sides at a fixed ratio of 1:1000
- Participate in Automatic Atomic Cross-Chain Exchange transactions
- In the making they can be moved into the DAG format (NoBlockChain transactions on acyclic graphs), in this case the signature of the GameChain last block will be the beginning of the graph.

Technologies: SmartEvents

SmartEvents is a new technological protocol developed in the SmartHoldem Platform, it is the heart of the system, the guarantor, the arbiter in games and the betting bank. SmartEvents also provides a number of other innovative features related to events.

Within the SmartEvents protocol, a programming language is used that supports the Turing constructions, with the functions necessary to automate the execution of intelligent events:

- Storage and distribution of game pots
- Renewable tournament fund
- Affiliate program
- Determination of the winners
- Dealing of the cards and other game objects
- Interaction between the calculation and game modules
- Fair game validation
- Division of Poker-Room bank payments
- MultiSig addresses with event support (freeze the balance before the date with conditions, divide the balance provided X, operations with the balance of the address Y with the participation of N-signatures, freeze the management of the balance of the address Y up to the date D and divide the earned coins to NYX addresses, joint management of capital, send the encrypted message and the amount to the Y address under the condition of X etc ..). Currently, the integration of MAST (BIP-0114)

BlockChain: Use Cases

- Multi-purse with unlimited account addresses
- SmartEvents & MultiSig SmartHoldem as the basis of the Decentralized Standalone Platform;
- Protection against wrong large commission fees when transferring funds
- Support for any platforms and operating systems, including future ones
- Storage of information in non-typical form (statistics and achievements of players)
- Exchange of messages, both encrypted and not;
- Built-in Transaction Block Browser
- Built-in browser of game statistics blocks (* RoadMap)
- Alternative sending of coins on a unique registered name in BlockChain (Name Service)
- Password protection of the wallet
- Restoring a complete wallet from BlockChain with a private key
- The function of removing unnecessary addresses from the wallet
- JSON RPC Wallet Management API
- Decentralized DNS. No need to install VPN / Proxy. (* RoadMap)
- Paper wallet (* RoadMap)
- Voting of Holders (1 token = 1 vote) (* RoadMap)
- Identification / authorization systems without declaring identity (* RoadMap)
- GameNet

Technologies: Random Number Generator

The Random Number Generator (RNG) is a device, or a special computer program, that is used to provide “honesty” in a poker game. The RNG generates a sequence of numbers that correspond to certain results in the game. No one can predict in the P2P network what the next number in the series will be, no matter how many previously generated numbers are known. Generally, such generators are used to create unique symmetric and asymmetric encryption keys.

Most Poker-Rooms receive special certificates confirming the viability of their RNG and software. Cigital, one of the largest companies in this field, is engaged in software certification for poker and RNG. Certificates of this company are the largest Poker-Rooms Full Tilt Poker, Poker Stars. The basis of any testing is a set of tests NIST (National Institute of Standards and Technology), based on the US standard FIPS 140-2 (Federal Information Processing Standard).

As Seed of RNG, SmartHoldem uses real entropy components in combination with PRNG:

- Random technical data of the SmartHoldem network (speed, ping, peers)
- Random data blocks (number, amount, transaction)
- CPU temperature, device noise
- Dev/urandom generates cryptographically safe values with high entropy by combining noise values from different parts of the operating system (for example, device drivers) for RNG. A random number comes directly from the kernel by reading the file `/dev/urandom`. `/dev/urandom` has access to the RNG hardware, if any.

A cryptographically strong random number generator (RNG)

The SecureRandom class is combined with the entropy seed. A cryptographically strong random number minimally performs statistical tests of the random number generator defined in FIPS 140-2, Security requirements for Cryptographic Modules, section 4.9.1. Additionally, SecureRandom must produce nondeterministic output. Therefore, any seed material that is passed to the SecureRandom object must be unpredictable, and all SecureRandom output sequences must be cryptographically strong, as described in RFC 1750: Accidental Recommendations for Security.

To optimize the infinite reshuffling of cards, an experimental “static” deck is programmatically created, in which the cards are always arranged in order – starting with ace of spades, then two, etc.

Instead of shuffling the pack, cards are taken from the pack in a random way, based on the data that the RNG supplies. This solves two problems.

First, you can not use the shuffle algorithm.

Secondly, this method makes it absolutely impossible to predict the next card in the pack. The defines just before the moment it is necessary for the game, and “peep” the next card is simply impossible, because it is unknown! There are many tables involved in the game, and each table randomly accesses different sources of generators, so it is impossible to predict what data will be delivered for a particular “table”.

Technologies: **Affiliate Program**

Decentralized affiliate program in GameChain is designed for information resources. The affiliate program protocol is unique and is developed by the SmartHoldem team.

How it works on the part of the user (simplified scheme):

- Information resource, hereinafter (IR), pays generation of affiliate code for N-coins, receives a unique one-time affiliate code (hash-key). Affiliate code can be passed to any affiliate using public Internet methods.
- Affiliate goes into the game, activates the affiliate code, gets the amount of the affiliate code to the account in the form of N-coins
- IR receives a record in the blockchain with the identifier of the involved affiliate
- IR receives 2% of the winnings of the attracted affiliate during the games
- The player does not lose anything, because he always gets 94% of the winnings in the room.
- 2% for the affiliate is formed from commissions of the room

As the start-up technology, BitCoin BIP-0047 is used. Reusable Payment Codes for Hierarchical Deterministic Wallets, BIP32 - Hierarchical Deterministic Wallets, BIP43 - Purpose Field for Deterministic Wallets, BIP44 - Multi-Account Hierarchy for Deterministic Wallets

Super Blocks

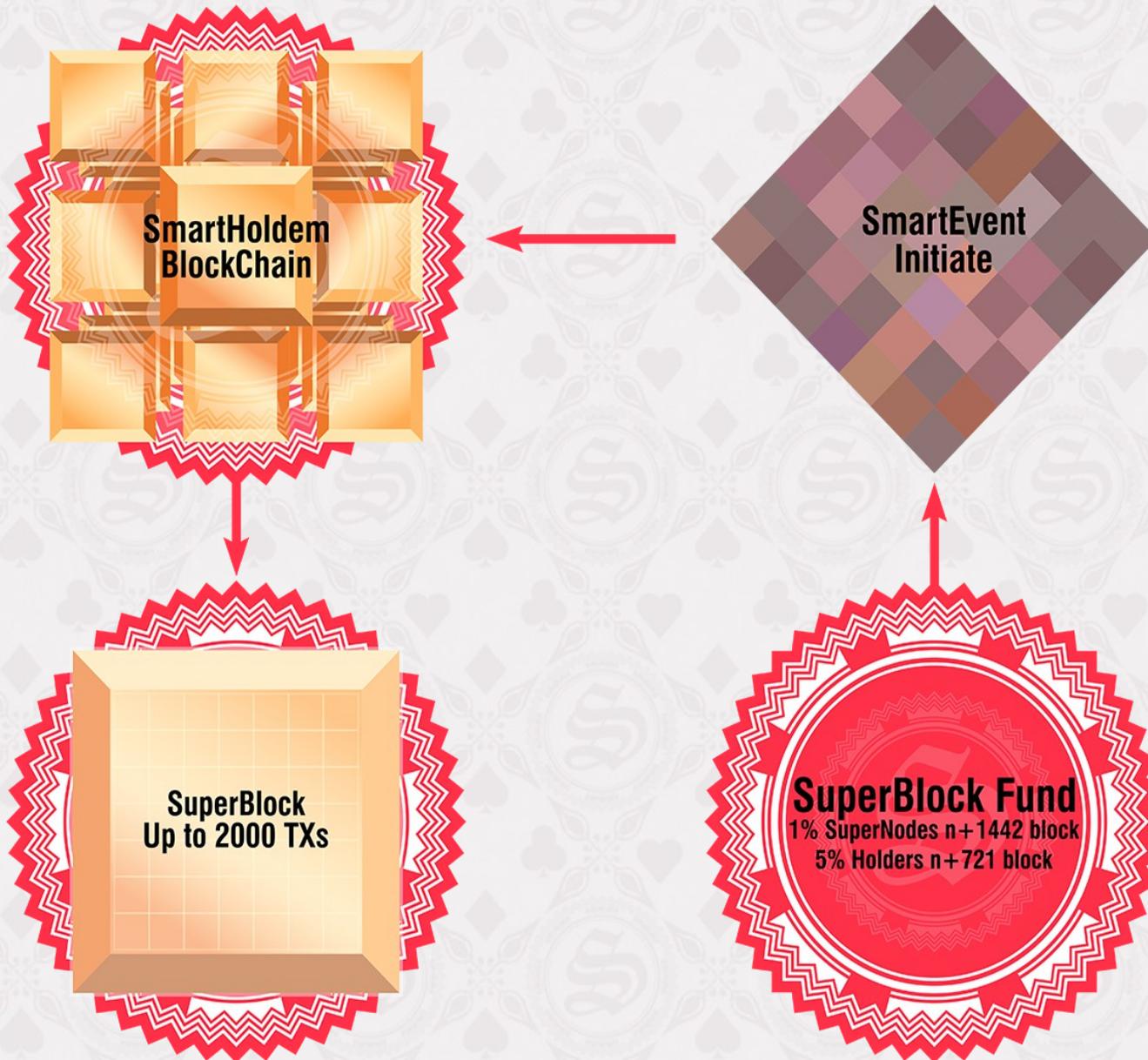
SuperBlocks are specialized blocks of BlockChain SmartHoldem, generated by rules other than the standard ones and intended for equitable distribution of funds.

In contrast to the standard blocks, where the entire amount is taken by one user who found the block, SuperBlock divide the capital between a large number of users that are suitable for casual conditions.

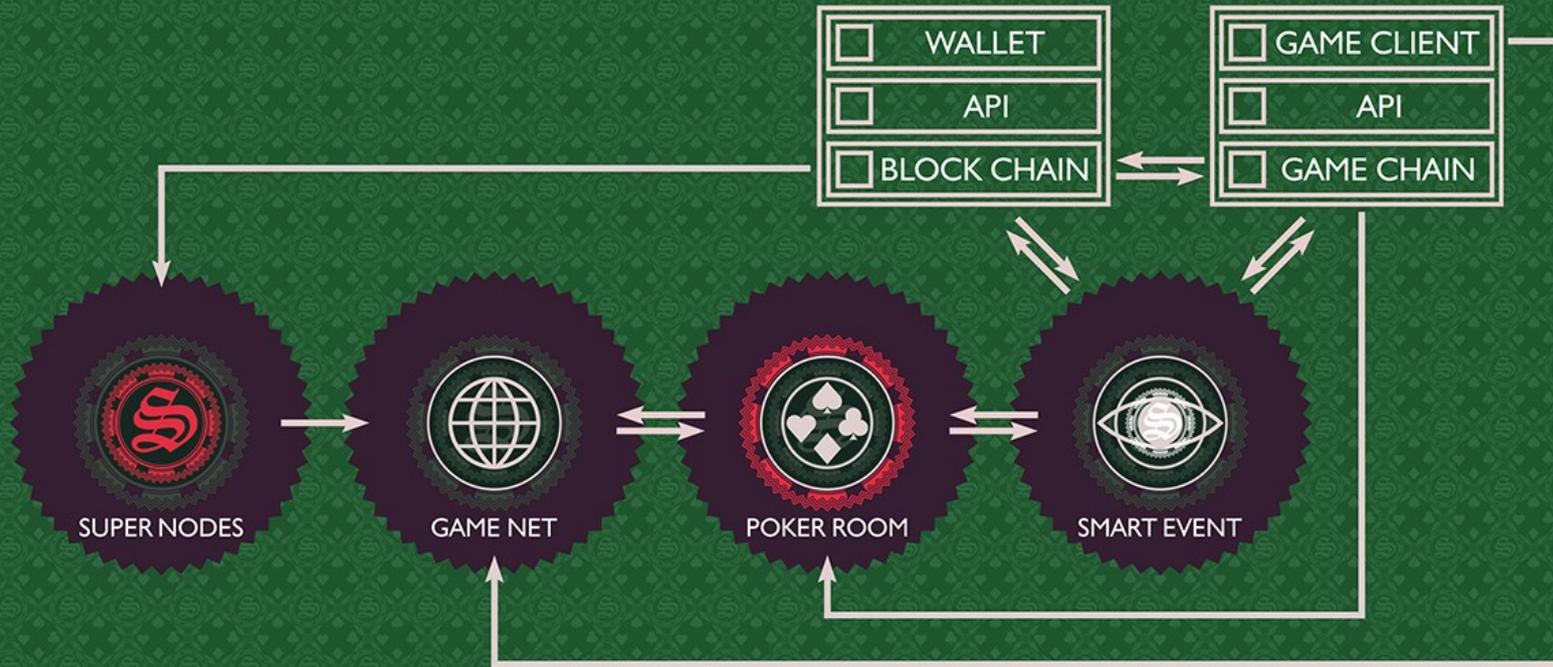
There are 2 types of SuperBlocks in SmartHoldem:

1. Holders Block – it is generated every 721th block and is designed to divide funds accumulated for 720 blocks between the holders of tokens in the Poker Room games (up to 5% from each game for the previous 720 blocks).
2. SuperNodes Block – it is generated every 1441th block and is designed to divide funds between SuperNodes, ranked by Trust Level (1% of each game for the previous 1440 blocks).

Scheme of work of SuperBlocks



ARCHITECTURE SMARTHOLDEM





SMART HOLD'EM Proof-of-Stake



The SmartHoldem Team

The SmartHoldem team consists of qualified developers, designers, marketing consultants, analysts, managers with extensive experience in the IT industry.

- TechnoL0g - Full-Stack Developer. Lead developer of the project, GameNet, SuperNodes, DAPP, IPFS, Blockchain, P2P, SmartEvents. Control and integration of the whole process
- Walter A. - Investment Advisor (in the team since 2009)
- Greek – Cryptoanalyst, Information support, Responsible for Bounty (in the team since 2008)
- Europa – PR. Marketing and promotion. (in the team since 2014)
- Mystericon - Art and design of the project (in the team from 2015)
- Viliam Volos V - Prototyping of the game client and mechanics (in the team since 2012)
- Denis – JAVA, mobile platform and automated game tests (in the team since 2017)
- Ilya D. - Web, CMS и *nix administration (in the team from 2013)

!Guided by the interests of investors and players, the SmartHoldem team retains the right to use even more advanced technologies, if developed. SmartHoldem team mission includes perfect technological solutions, usability and faultless code.

The SmartHoldem Team:TechnoL0g

Full-Stack Developer. Lead Developer, DAPP-clients, BlockChain, P2P. Control and integration of the whole process.

Skills:

My Develop Tools: Unreal Engine v4, Unity 3D v5, QT5, Android Studio, Xcode, IntelliJ Idea / NetBeans / Eclipse, GitLab, Visual Studio, Mono, notepad;)

Programming Languages & Frameworks: JAVA 2+ yrs, JS 10+ yrs, C++ 10+ yrs, C# 3+ years, Assembler 15+ yrs, JQuery, Fabric JS, CSS3, Drupal 7, PHP, Sql

Developers Segments: WEB-Dev, 3D Games, Augmented Reality & Virtual Reality, Brain Neuro-Interfaces (EMOTIV Epoc SDK), Private Search Engines, Parsers, BigData, Artificial Intelligence Networks, Blockchain, Crypto Currency, P2P Services & Networks, Development of new algorithms of compression and research in this area, Private Trade Bots Crypto Currency Exchange, System Administration OS *nix, Billing Systems, Finance Platforms.



The SmartHoldem Team:TechnoL0g

2000-2003

- Development of the best compression algorithms
- Research in the area of information theory
- Systems APPs, Encryption

2006

- Development of mod software for controllers of automobile engines Germany Manufacturers
- Low-level programming of microcontrollers

2007

- Development and implementation of an accounting CRM & ERP system for a private network of campaigns

2007-2011

- Programs for the security of banking systems
- Development of multipoint video conferencing software
- Deploying the Secure City system
- Deployment of monitoring and safety systems for oil production stations
- Deployment and support of security systems and video surveillance of power plants
- Development of the prototypes software for a robotic security complex

2010-2011

- Teacher of computer science courses

2011-2014

- Web Developer
- Development Search Engine Real Estate
- BigData Search Engines
- Founder of the company for software development

2014-2015

- Game developer for the PC AAA class

2015-NOW

- Developing your own interesting projects with a qualified reliable team

The SmartHoldem Team: **Europa**

Marketing, Management, Game Dev, CEO More than 10 years

Skills:

PR, Management, GameDev (3D big worlds), Professional videographer, Communication with the press, Organization of presentations, Development of investment projects and presentations

** In the team since 2014*



The SmartHoldem Team: **Mystericon**

ART & Design Projects More than 20 years

Skills:

Painting, Illustration, Comics, Graphic Arts, Design,
Industrial Design, Game Design, Game Scenary

** In the team since 2015*



The SmartHoldem Team: Viliam Volos V

*Programmer more than 10 years. Game Prototyper,
Game Network Developer, Mobile programmer.*

Skills:

C#, C++, JAVA, PHP, Other Frameworks,

** In the team since 2012*



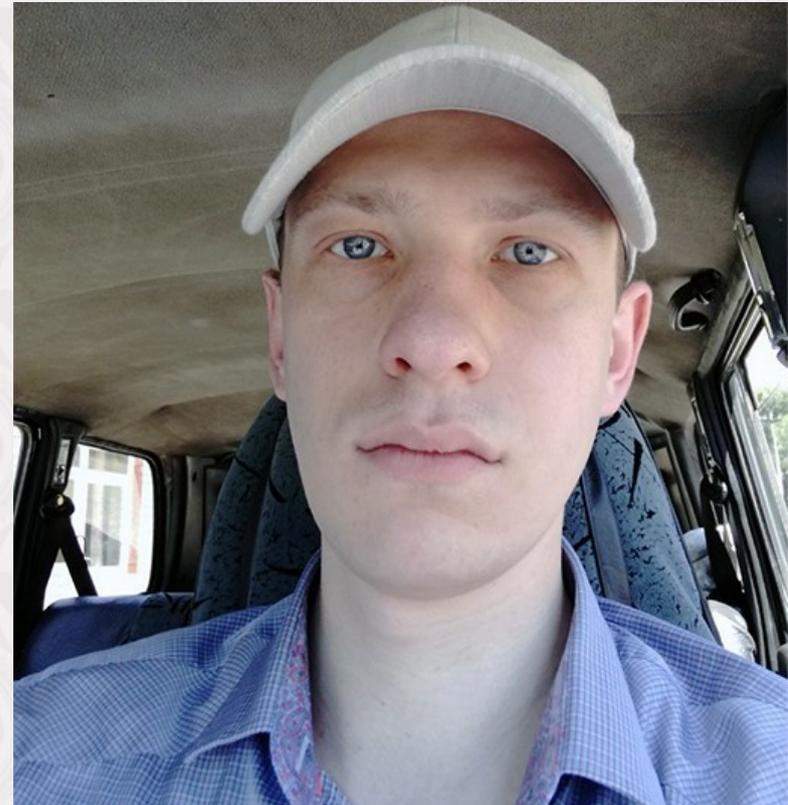
The SmartHoldem Team: Ilya D.

*Development, administration of Web-sites.
Administration of servers. Layout of graphic
materials. FrontEnd/Backend Web.*

Skills:

C++, Drupal 7, JS, JQuery, Bootstrap, *Nix Admin,
Billing Systems & CRM Dev

** In the team since 2013*



The SmartHoldem Team: Vlad

Bounty Manager

** In the team since 2017*

** <https://twitter.com/CrhLmQSPNRntDIt>*



Terms and Conditions

This document is only for information purposes and is not an offer or an appeal to sell shares or securities of SmartHoldem platform or with any other related or associated company.

SmartHoldem tokens do not grant the right to control.

Owning SmartHoldem tokens does not grant its holder the right of ownership or the right for property in SmartHoldem. While the community's opinion and feedback can be taken into account by the automated SmartEvents system, SmartHoldem tokens do not give any right to participate in decision making or any direction of business development related to SmartHoldem. SmartHoldem tokens can be used to play On-Line SmartHoldem Poker-Room.

Absence of income or profit security.

All examples of income and profit calculations used in this document were provided for demonstrative purposes only or for demonstrating the average indices of the Poker-Room industry and do not guarantee that these results will be achieved according to the road map.

Terms and Conditions

Technologies related to blockchain are subject to supervision and control by various regulatory bodies around the world.

SmartHoldem tokens may fall under one or more requests or actions on their part, including but not limited to imposing restrictions on the use or possession of digital tokens such as SmartHoldem that can slow or limit the functionality of SmartHoldem tokens in the future.

SmartHoldem tokens are not an investment.

SmartHoldem tokens are not a “surrogate currency”.

SmartHoldem tokens are not official or legally binding investment. Due to unforeseen circumstances, the objectives described in this document may be amended. Despite the fact that we intend to reach all the points described in this document, all persons and parties involved in the purchase of SmartHoldem tokens do this at their own risk.

The risk of using new technologies.

Cryptographic tokens, such as SmartHoldem, are a new and experimental technology. In addition to the risks mentioned in this document, there are additional risks that the SmartHoldem team can not foresee. These risks can materialize in other forms of risk than those specified here.

Disclaimer of Warranties

You agree that your use or inability to use SmartHoldem tokens is carried out solely at your own risk and you don't put any responsibility on SmartHoldem Team.

You agree that your use or inability to use SmartHoldem tokens is carried out solely at your own risk and you don't put any responsibility on SmartHoldem Team.

Official Resources SmartHoldem

- <https://smarholdem.io> - official website of the platform
- <https://member.smarholdem.io> - ICO multilingual office
- <https://forum.smarholdem.io> - Multilingual forum of SmartHoldem community
- <https://bitcointalk.org> - basic information resource of the crypto-currency community
- <https://twitter.com/smarholdem>
- <https://www.facebook.com/smarholdem/>
- <https://www.youtube.com/channel/UC5m98uMBjEQeFSfKag8X4-Q>
- <https://plus.google.com/u/0/b/104279795078336051257/>
- <https://golos.io/@technolog/>
- <http://smarholdem.io:9191/index/explorer> - BlockExplorer SmartHoldem
- <https://github.com/smarholdem> - GitHub

Abbreviations

- **COINS** - The SmartHoldem coin, the designation of the unit of account on exchanges and in a wallet, this real name is published after entering the stock exchanges.
- **CPH** - Smartholdem Chips. Gaming chips are used as an internal unit of account in Poker-Rooms
- **IR** – Information news Resource
- **SmartEvents** - A system of automatic intelligent events with its own turing-complete programming language, designed specifically for BlockChain SmartHoldem
- **GameChain** – Logical part BlockChain SmartHoldem
- **P2P** - Peer-to-Peer Network (<https://en.wikipedia.org/wiki/Peer-to-peer>)
- **API** - application programming interface (<https://ru.wikipedia.org/wiki/API>)
- **BlockChain** - distributed database (<https://en.wikipedia.org/wiki/Blockchain>)
- **Turing completeness** - Turing complete or computationally universal if it can be used to simulate any single-taped Turing machine. (https://en.wikipedia.org/wiki/Turing_completeness)
- **DGN** – (Decentralized gaming network) The decentralized gaming network is developed by the SmartHoldem team, designed for many online games. The game protocol is integrated with BlockChain technologies.
- **DAG** - Directed acyclic graph (https://en.wikipedia.org/wiki/Directed_acyclic_graph)
- **ACC** - Atomic cross-chain trading (https://en.bitcoin.it/wiki/Atomic_cross-chain_trading)

References

- [1] W. Dai, «b-money», <http://www.weidai.com/bmoney.txt>, 1998.
- [2] «Hashcash — a denial of service counter-measure», <http://www.hashcash.org/papers/hashcash.pdf>
- [3] R.C. Merkle, «Protocols for public key cryptosystems»
- [4] On Stake and Consensus <https://download.wpsoftware.net/bitcoin/pos.pdf>
- [5] Merkle tree. In: English Wikipedia URL: https://en.wikipedia.org/wiki/Merkle_tree
- [6] Thin client security. In: Bitcoin Wiki https://en.bitcoin.it/wiki/Thin_Client_Security
- [7] Decentralized Applications. Harnessing Bitcoin's Blockchain Technology, by Siraj Raval, 2016
- [8] BitCoin Bips <https://github.com/bitcoin/bips>
- [9] MultiChain <https://www.multichain.com/download/MultiChain-White-Paper.pdf>
- [10] FIPS PUB 140-2 <http://nvlpubs.nist.gov/nistpubs/FIPS/NIST.FIPS.140-2.pdf>
- [11] RFC 1750 <http://www.ietf.org/rfc/rfc1750.txt>
- [12] Base58 <https://en.wikipedia.org/wiki/Base58>
- [13] Lightning Network <https://lightning.network/lightning-network-paper.pdf>
- [14] IOTA https://iota.org/IOTA_Whitepaper.pdf
- [15] bitcoinj. <https://bitcoinj.github.io/>.

GameClient Prototype

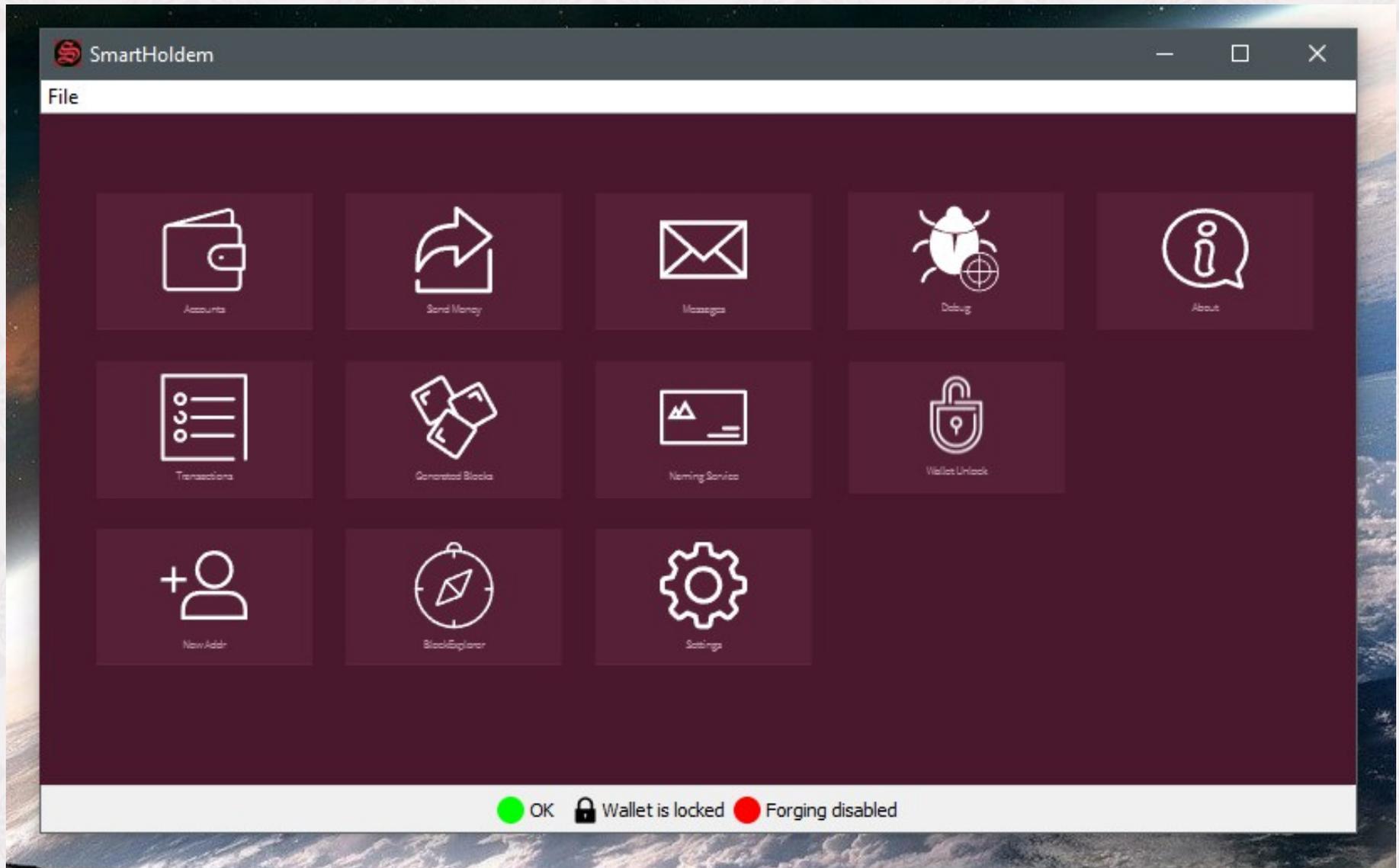
The image shows a virtual poker table interface with the following elements:

- Top Left:** A back arrow and the word "LOBBY".
- Top Center:** A "SIT HERE" button with a green chevron icon.
- Top Right:** A circular "CHIPS" icon.
- Players:** Six players are seated around the table:
 - Liv Boeree:** American flag, "ALL IN", 0 chips, 2.260 pot.
 - Daniel:** Canadian flag, 20.845 chips, "D" button.
 - Vanessa:** Australian flag, 105.200 chips, "I like Poker!" chat bubble, 120 pot.
 - Alex:** Russian flag, 20.845 chips, 240 pot.
 - Vitali S:** British flag, 58.325 chips, 4.520 pot.
 - Phil I:** American flag, 20.845 chips, 5.360 pot.
- Center:** A "Phil Ivey, Raise 5.360" notification. The community cards are 10♦, J♦, A♦, Q♠, and K♣.
- Bottom Left:** A chat bubble icon.
- Bottom Center:** A "SIT HERE" button with a green chevron icon.
- Bottom Right:** A settings icon.
- Bottom Bar:** Action buttons for "FOLD" (with a red X), "CALL" (with a checkmark and "120"), and "RAISE" (with an up arrow and "240"). A "Please, wait next hand." message is displayed. To the right are a "120" chip indicator, a minus sign, a menu icon, a plus sign, and a "HIGH LOW" slider.

Mobile Wallet Prototype



Full Wallet Prototype



BlockExplorer Prototype

SMART HOLD'EM

Block Explorer

Blocks | Top 100 Richest | Polls | Assets

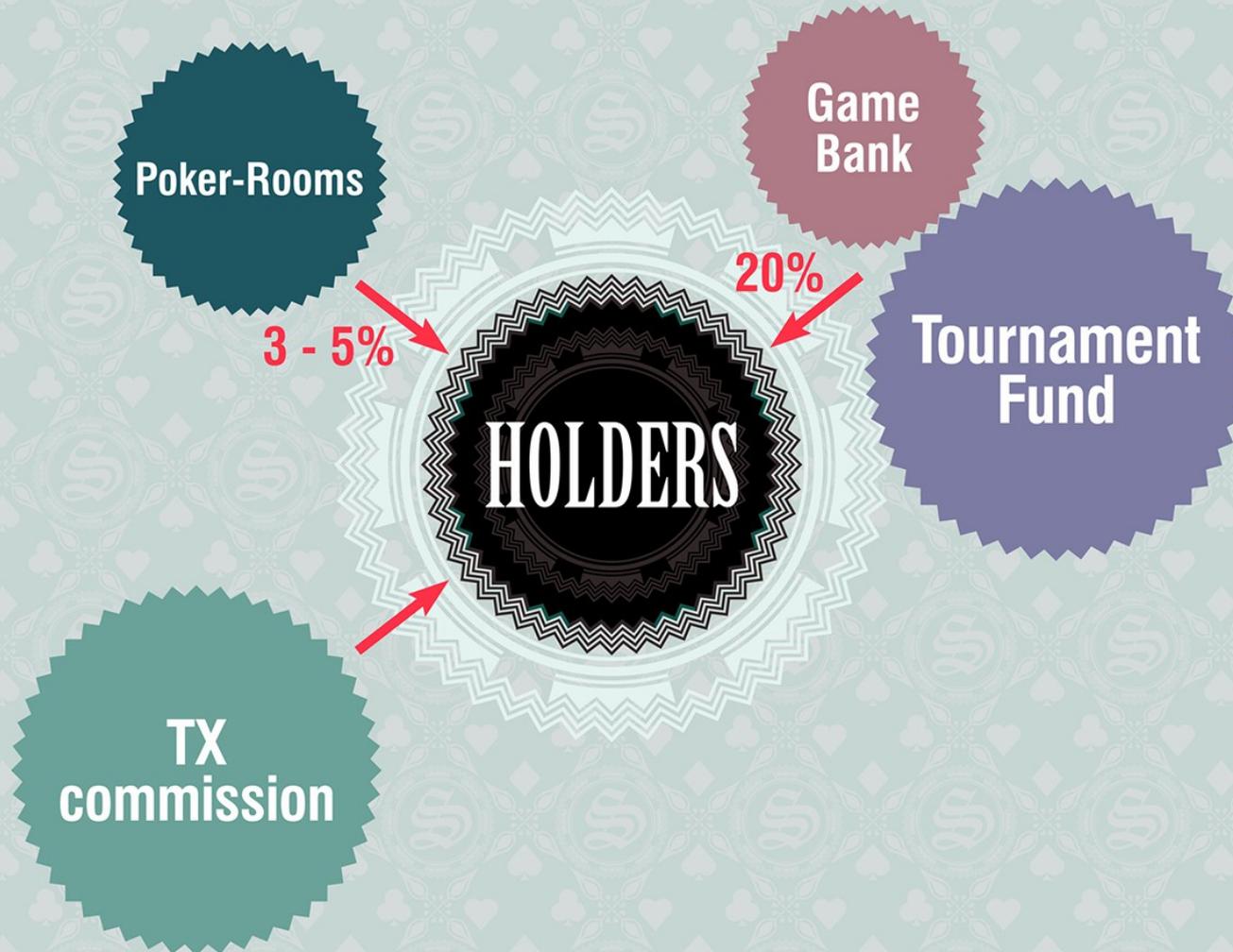
Last processed block: 2911 (08.08.2017 21:14:08, 7 mins 30 secs ago)

Unconfirmed Transactions: 0.

Height	Time	Generator	Gen.Balance	TX	Fees	Amount
2911	08.08.2017 21:14:08	SMXyAtMIQPE3qsFtPgchDMHL1P4EG62ZUH	22,768,511	0	0.00000000	0.00000000
2910	08.08.2017 21:02:16	SMXyAtMIQPE3qsFtPgchDMHL1P4EG62ZUH	7,178,676	0	0.00000000	0.00000000
2909	08.08.2017 21:01:05	SPx9vdAdWuEednTGNMHYgCHzC5kf5HEhZD	7,178,676	0	0.00000000	0.00000000
2908	08.08.2017 20:59:34	SPx9vdAdWuEednTGNMHYgCHzC5kf5HEhZD	7,178,676	0	0.00000000	0.00000000
2907	08.08.2017 20:56:15	SMXyAtMIQPE3qsFtPgchDMHL1P4EG62ZUH	7,178,676	0	0.00000000	0.00000000
2906	08.08.2017 20:54:14	SMXyAtMIQPE3qsFtPgchDMHL1P4EG62ZUH	7,178,676	0	0.00000000	0.00000000
2905	08.08.2017 20:51:12	SMXyAtMIQPE3qsFtPgchDMHL1P4EG62ZUH	7,178,676	0	0.00000000	0.00000000
2904	08.08.2017 20:49:50	SMXyAtMIQPE3qsFtPgchDMHL1P4EG62ZUH	26,494,308	0	0.00000000	0.00000000
2903	08.08.2017 20:10:48	SPx9vdAdWuEednTGNMHYgCHzC5kf5HEhZD	26,494,308	0	0.00000000	0.00000000
2902	08.08.2017 19:41:56	SPx9vdAdWuEednTGNMHYgCHzC5kf5HEhZD	26,494,308	0	0.00000000	0.00000000
2901	08.08.2017 19:38:19	SPx9vdAdWuEednTGNMHYgCHzC5kf5HEhZD	26,494,308	0	0.00000000	0.00000000



Finance and stake holders





THANK YOU
FOR YOUR ATTENTION!