eXe BLOCK

The 5050 DApp

A Decentralized 50/50 Draw

Solution by eXeBlock

Innovations in Decentralized Provable Fair Random Number Generation

V1.0

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Scope of Document

This whitepaper is intended to only serve as a general overview of the processes and operations of a DApp (Decentralized Application) along with some of the features and benefits it may provide to those that chose to use it. The graphical representations provided in this document will not reflect the final version and are provided only for illustration purposes.

This document is not intended to cover low level technical, legal, or other topics which may disclose certain competitive advantages at the early stages of this DApp development cycle. Later versions of this whitepaper will incorporate these details at later stages of testnet release prior to going live.

Introduction/Background

A 50/50 draw is simply a ticket sale event, usually for anywhere from $2 to $10 a ticket where a single winner will be selected who will then collect 50% of whatever the total amount of ticket sales were. The other 50% is usually in support of some kind of good cause, charity, church group, or nonprofit organization.

The use of 50/50 draws for raising funds for various associations and good causes has been a popular mechanism around the world. Not only do participants get to help in supporting a good cause, but play a lotto where the odds are much greater for the participants to actually win vs. a traditional lotto. From large sporting events, to small local fund raisers, the 50/50 draw has been used for generations as a fun way to help good causes.

Many organizations who have attempted to utilize 50/50 draws, however, have had problems in how they were administered. Traditionally paper tickets with numbers are handed out and cash is collected by someone. Ticket counts and cash accounting and auditing have become too onerous for many small associations attempting to raise funds. Larger organizations that do large draws are also faced with having to pay for auditing each draw offering.

Questions often surround how the selection process takes place, also where it is often left to an individual or small group of individuals to select a winner.

The capacity for the 50/50 is also limited to the current geographical location from which the operation takes place. A small town limited in its reach can only ever hope to raise little funds in doing a 50/50 for a good cause.

Many jurisdictions do not require 50/50 draws to be licensed by any gaming authorities. However, some do, and as a result the reporting requirements add often an administrative burden on small organizations who struggle to maintain compliance with the regulations.

Solution Options

Option #1 - Traditional APPs

Some game vendors have created electronic versions designed primarily for major sports events. These 50/50 applications allow for individuals to go around during a game to sell tickets. The process incorporates taking electronic payments and allows for an internal record with those companies to be kept. Thanks to these efforts some major sports events have been able to hold 50/50 draws with more reach than would have been possible in the past. Because there is little competition in this space, the cost of using the software is often as high as 12-15% of the total proceeds taken from the 50/50. This of course reduces revenues generated for the charitable organizations significantly.

These solutions however only support larger institutional nonprofits and charities which can afford the fees associated with runnings them. These solutions are not easily accessible to help the other approximate 1.8 million nonprofits and charities located in Canada, the U.S., and U.K. alone.

Option #2 - Early Blockchain Solutions

With the advent of blockchain technology there is a potential for harnessing this revolutionary new advancement in how 50/50 draws are done. Issues with auditing, fairness, distribution, and payment can all be solved in a single blockchain DApp.

A major problem with early blockchain technologies however has been their transactional capacity and speed. If a 50/50 DApp is operated on a blockchain it needs to be able to not only support one or two thousand draws concurrently, but handle thousands to tens of thousands of transactions per second (TPS) in ticket sales. Currently the most popular blockchains can only support 7 to 14 TPS, making any mass adopted usage impossible.

Further to this, the speed is necessary in order to incorporate any type of payment processing layer to this type of DApp in order to give the end users who are participating a much more seamless experience that can scale.

In order to make the process more familiar to end users a naming space is required. In other words the ability for the end user to have a username login. The use of hash code and keys in blockchain for a mass audience would make the experience look too foreign and difficult to use.

Option #3 The eXeBlock Solution

Consensus

In order to facilitate a global scaling solution, utilizing a DPOS consensus mechanism is necessary. DPOS (Delegated Proof of Stake) has been used in blockchains such as Bitshares, Steem, Golos, and Peerplays. There is no mining in DPOS, but rather a voting mechanism which is used to delegate the stake power of token holders in the blockchain to specified node operators which are often called 'Witnesses'. These witness operators are responsible for generating the blocks in the blockchain, and occasionally acting as an "oracle" or provider of true data from outside the blockchain to bring into it. The transactional capacity of DPOS blockchains are several thousand times faster than well known blockchains in the industry. The flexibility of DPOS with its witness node operators allows for more advanced mechanisms to be incorporated into blockchain operations.

For the 50/50 DApp it was necessary to utilize a blockchain that had these mechanisms in order to facilitate thousands of draws happening around the world at the same time with hundreds of thousands if not millions of participants every hour.

Incentives

In order for the economics of a decentralized application to work, the incentives of the application need to align with the users of it. The 50/50 DApp runs on a profit sharing mechanism which is built into the blockchain itself. Every token holder of the blockchain is automatically included in distributions of fees which are collected in the operations of DApps. By having the blockchain token as the core operating token of the DApp, anyone who is a holder of the blockchain tokens will be able to derive the revenue from its ongoing operations. This means that regardless of what happens within the game, win or lose, the blockchain holders always collect revenue.

The code and how things operate are completely transparent. The tens of thousands token holders of the blockchain all have an interest in ensuring that the blockchain is viewed as a trustworthy medium of transacting in order to continue to derive profits. The various delegations within a DPOS blockchain including the token holders, Witnesses, and Advisors, enable the network to operate in a self-regulating manner where checks and balances are built into the design of the blockchain itself. The incentive structure plays an important part in ensuring this self-regulating capabilities stay in check.

Decentralized/Distributed Ledger

The 50/50 DApp has all transactions and game play recorded to the blockchain ledger. There are no components to the game that are controlled by or operated by a single operator, and thus all data always exists on the blockchain. This is important for two reasons. The details of the draw that include the distribution of tickets, and the settlement of its benefactors are all recorded to a decentralized blockchain making the data near impossible to manipulate or change. Using a reporting tool which will be provided in the 50/50 DApp in later versions, this data can be easily exported into a reporting format which can enable operators to have a fully audited record of all games which they had created.

Smart Contract

The basis of the 50/50 DApp utilizes a series of functions and operations that can be incorporated into the the blockchain via a protocol update. These are often referred to as the 'smart contract' of the blockchain. The process for deploying these smart contracts to the blockchain is rather different compared to platforms like Ethereum. In order for the contract to run on the blockchain it must be accepted by the node operators of the blockchain; the witnesses. Because the witnesses need to ensure the blockchain is going to run properly and continue generating blocks, there is a process to review new code prior to the protocol update. It is anticipated once the 50/50 code becomes public, it will run in a testnet for a period of a few weeks in order to allow the witnesses to review and ensure no conflicts or bad code may get into the blockchain code.
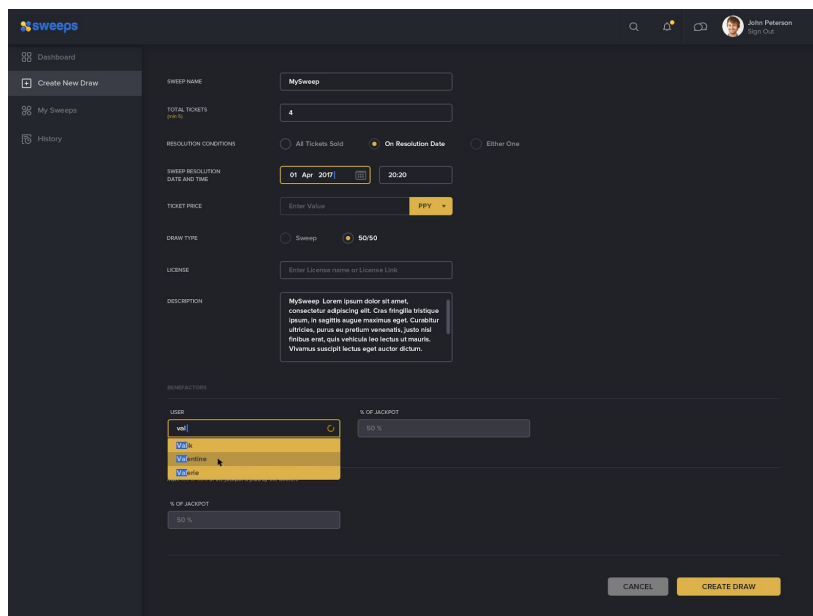
The 50/50 DApp smart contract has a very broad range capability. At its core, 50/50 utilizes a series of functions that are called Sweeps. This smart contract essentially allows for the operation of sweepstakes functions that can be applied in various ways via the interface to the blockchain. These smart contracts can extend to operate other games such as a general sweepstakes lotto, bingo, scratch and win, and potentially even a crowdfunding platform and other fundraising schemes. This economizes the need for future protocol updates to the blockchain in the future, and makes it easier and faster for us and others to develop additional games utilizing the same smart contract.

The 50/50 DApp in the current testnet interface simply limits the end user to only have the capabilities to assign one benefactor 50% of the winning balance, and the remaining 50% to be distributed to only one winner.

Solution Description - eXeBlock

Using the 50/50 DApp takes place through a graphical user interface (GUI) that organizers and players can download to their desktop or smartphones. The interface operates with REACT/Redux making calls to the blockchain via an API.

Interface for creating a 50/50

Name - Provide a public facing name for the draw. Eg. Hometown Charity 50/50

Licensing and Description - This field will allow for a URL to be entered by the organizer which will provide details about them and licensing info if it applies, as well as a short introduction to what the draw is all about. Organizers should include info on their own websites verifying they are the operators of the 50/50 draw running on the blockchain.

Within this area there will be terms and conditions to ensure that the charities and participants verify they are fully compliant with any licensing and regulatory requirements.

Total Tickets - The maximum number of tickets for the draw. Minimum of 5 tickets required.

Resolution Conditions - Depending on how you wish to run your 50/50 you may set which conditions by which it should end.

- All Tickets Sold - The 50/50 will only end once all the tickets that have been specified are sold. This may be ideal for fundraisers that require reaching a specific goal. Other methods are available however to avoid having a draw where a total ticket sellout does not happen in a timely fashion and all parties involved have to wait for the buyout of total tickets before resolution can occur.

- On Resolution Date - A specific date and time is specified for when the 50/50 will end. This may be in circumstances where a certain event is happening and the declared winner is done at the end. Resolution will occur on this date even if all tickets are not sold. Instead resolution is held between those who have participated in the draw.

- Either One - This means that whichever condition comes first. If all the tickets are sold the resolution is held immediately regardless of the date set. If the date set arrives and all tickets still are not sold then the resolution is done then.

Ticket Price - The cost of each ticket for the draw is specified here. The token within the blockchain is currently supported. As more types of currencies are made available, a dropdown allows for BTC, and possibly other market pegged assets to fiat like USD/EUR/CNY/CAD.
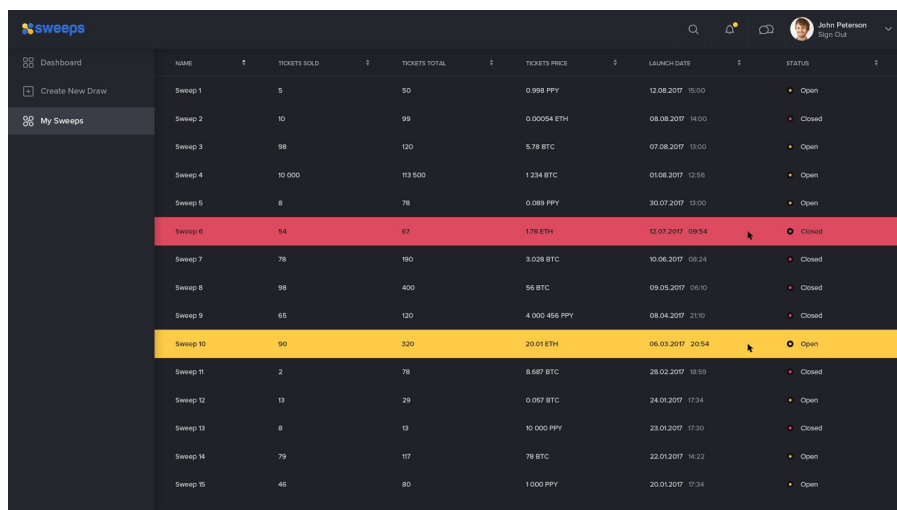
Draw Type - This allows for the specification of Sweeps of a 50/50. This is only for testing purposes and would not be part of the final release. If Sweeps is selected then it would allow for the benefactor options to be open, while 50/50 sets them specific to a 50/50 draw. This only illustrates the additional functions beyond 50/50 which the protocol can support.

Benefactors - This section specifies who the benefactors of the draw will be, and what percentage of jackpot they will receive. Any user account in the blockchain may be specified here. Generally a charity or nonprofit organization holding an account would be specified and information pertaining to any licensing or regulatory requirements will be documented for all users to review..

Winners - This section specifies percentage of jackpot to win. In 50/50 this is set to only be 50%

With all of these parameters completed, an organizer can then confirm and create a 50/50 draw that instantly publishes to the blockchain and goes live globally.
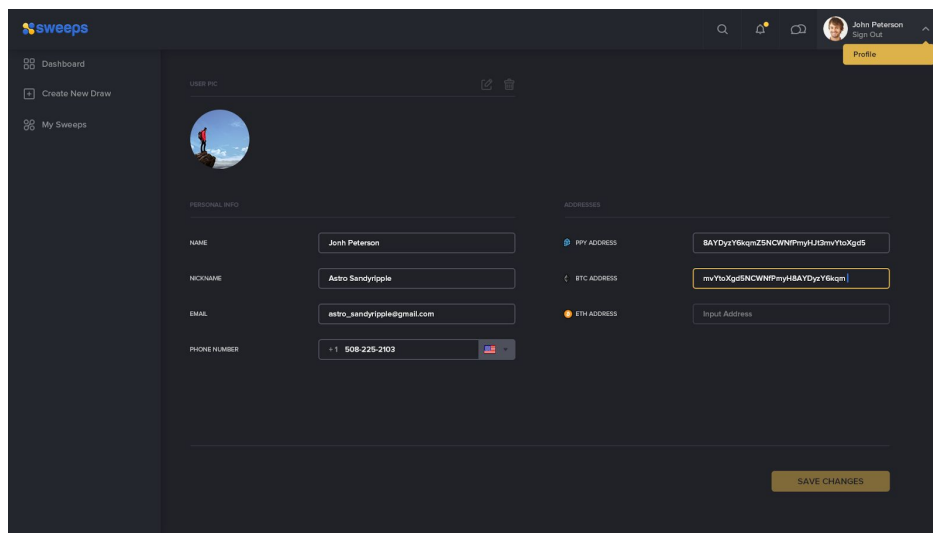
Dashboard of Draws Created

Following creation of a 50/50 draw you are able to view the status in the dashboard among other available draws.

Creating a User Profile
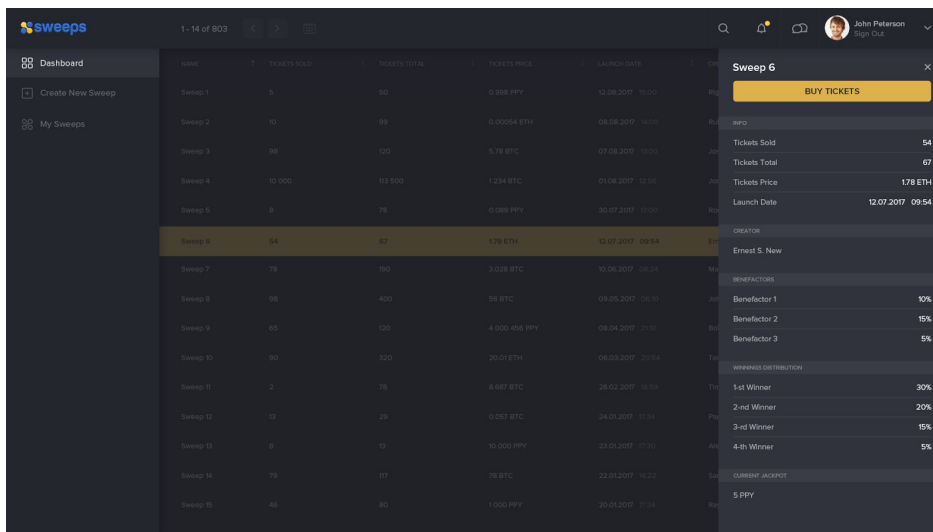
End users of the 50/50 app create a user account on the blockchain in order to buy a ticket. The organizer of the 50/50 will be able to supply a URL or reference name of their 50/50 to specify their game.

Buy Tickets

Within the dashboard that lists all the 50/50 draws, it is possible to bring up any draw and view all the details of its current status and parameters. You can then click 'Buy Tickets' to join in the 50/50 instantly.

Other Features

White label use of the application by organizations is possible thanks to the design that will be ubiquitous and the branding that will allow organizations from around the world to use the application while maintaining their own identity.

While details have not been made public yet, there has been reference to a new Referral Program to be integrated into the Blockchain. This program will be something that will help operators of 50/50 draws to boost promotion of their draws to raise funds.

Business Benefits

The 50/50 draw will enable charitable organizations worldwide to harness this new blockchain tool to increase their level of success in fundraising. The ability for charities to run new and fun types of draws are sure to help increase the funding to these good causes.

With over 1.8 million nonprofits and charities across Canada, United States of America, and the United Kingdom alone, the market potential is substantial without even considering the rest of

the markets worldwide which also will be served by this DApp.

The technology behind the 50/50 DApp has the scalability to run tens of thousands of draws simultaneously every hour of every day with millions of ticket sales a day.

The issues of running and auditing draws like this will become a thing of the past as more organizations move to this blockchain solution that solves all the previous issues in running 50/50 draws.

There are no operators of the software, and all profitability derived from its operations are shared with all token holders according to the terms of the blockchain. This means the 2-5% derived from each draw will be retained as revenue .

This provides a recurring ongoing revenue stream to the blockchain and in turn to eXeBlock and ensures the ongoing operations will be reliable and responsive to the needs of the market.

Roadmap

This whitepaper release will be followed up with the launch of the testnet of 50/50. This will serve as a working Dapp that is hosted on a private network for testing purposes to gather user feedback. It will operate for a period of time as further enhancements are integrated into it.

By early next year in Q1 following private testnet the code will be made public and the operators of the blockchain can then start to test the Dapp themselves for consideration of including it into the blockchain.

Following this review of approximately two to six weeks a protocol update will be done by the witnesses of the blockchain and the 50/50 Dapp will go live and be available globally.

To get the latest updates on the development of 50/50 DApp follow us on **Twitter @exeblock**

If you or an organization you know may wish to use the 50/50 DApp in fundraising, please **email info@exeblock.com** to learn more.

Visit www.exeblock.com for further company information and investor relations.