



FTW

(For The Win)

The first purely decentralized blockchain lottery

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Latest publication date: July. 28 2018

<https://www.ftwcoin.io>

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FTW - For The Win

Abstract: The future of the lottery

The lottery industry, which has over 5 billion players worldwide is undergoing profound change due to the internet and other technological developments. Distribution of lottery tickets has shifted from physical to digital, changing the face of the whole market and significantly expanding the lottery's potential reach towards masses. Recognizing the opportunity and the fit, currencies enabled by blockchain technology have become the most popular means of payment among gambling sites. Utilizing the most promising features of blockchain, FTW is creating a global lottery that removes geographical limitations and brings full transparency to the process offering unprecedented trust and quality. FTW will issue 100 million utility tokens that can be used to participate in a lottery hosted on the NEO blockchain and smart contract.

1. Introduction

There's never been a better time to enter the gambling industry. The advent of online gambling through digital technology has made it a stable, lucrative and ambitious investment that is projected to grow by 51% over the next several years. A Juniper Research study shows that the value of all wagers placed through online gambling will approach [\\$1 trillion by 2022](#). The lottery CAGR (compound annual growth rate) is between 2016-2020 in the US alone, with American consumers already spending nearly \$70 billion on lottery ticket sales annually.

Nevertheless, gambling, both traditional and digital, suffers from a number of problems:

Geographic limitations. The most lucrative lotteries are traditionally hosted by the states, where participation is often restricted by one's geographical location. Even though online gambling has expanded the consumer base, many states and countries have enacted legislations limiting or restricting their scope of operations. Some countries, including Singapore, UAE, Poland and Cambodia have even banned online gambling altogether.

Lack of consumer trust. Centralized authority means the organization controls the amount of information and funds released to the public creating a system rife with the potential for abuse, fraud, and rigging. As for-profit businesses, online gambling sites especially have an incentive to prevent people from collecting earnings.

Poor autonomy over jackpot and overall earnings. In a traditional state-run lottery, no more than 50% of the profits from lottery ticket earnings are included in the jackpot pool. Part of the remaining funds are distributed to bloated overhead and administrative costs. Winnings are also subject to an exorbitant amount of taxes in most states and countries.

The Value of FTW & Blockchain Technology for the Lottery

The features of blockchain technology contain enormous promise for resolving these challenges. Utilizing this potential, we are creating a lottery wherein all entries and payouts are managed by a blockchain-based ledger. Additionally, we are creating a utility token called For the Win (FTW) built on the [NEO blockchain](#), that can be used to participate in a lottery hosted on the smart contract.

The advantages are:

1. **Global participation.** The decentralization of the blockchain allows individuals from all over the world to participate in a fun, rewarding, low-risk entertainment activity.
2. **Fast transactions.** Winnings are paid out minutes after a drawing has been completed and reflect accurate earnings from one's share of the pool, minus fees.
3. **Complete trust in the system.** Ledger information includes deposits, transaction IDs, and payouts. All this information is open to and verifiable by the public.

Players will be incentivized to play the FTW lottery for the following reasons:

- All transactions can be verified by the public ledger for complete transparency and trust.
- The increased number of participants along with reduced administrative fees means additional revenue can be allocated to the prize pool.
- The rules and structure are simple, easy to understand, and supported by an intuitive, user-friendly interface.
- Overall odds are 1 in 10 making the FTW lottery an attractive and low-risk option for even a casual gambler. The return on investment is also highly favorable. Hitting just the FTW number recoups the value of a participant's lottery entry, and increases exponentially from that point.

- Winners can maintain full autonomy over their earnings.

2. Background

2.1 Blockchains

A blockchain is a digital ledger in which transactions made in Bitcoin or another cryptocurrency are recorded chronologically and publicly. The simplest way to think of a blockchain is as a large distributed ledger that stores records of transactions. This “ledger” is replicated hundreds of times throughout the public network so it is available to everyone. Everytime a transaction occurs, it is updated in all of these replicated ledgers, so everyone can see it.

As blockchains are shared and everyone can see all transactions, the system becomes transparent, allowing trust to be established. Because of the nature of its architecture, transactions in the blockchain are nearly impossible to alter once they are added. This is more relevant in scenarios such as the disbursement of funds or benefits where personal discretion should be restricted. This is seen as a benefit to maintaining an immutable ledger of transactions.

2.2 Smart Contracts

Smart contracts are self-executing contracts with the terms of the agreement between buyer and seller being directly written into lines of code. The code and the agreements contained therein exist across a distributed, decentralized blockchain network. Using the smart contract we are able to render lottery transactions traceable, transparent, and irreversible.

2.3 The NEO Blockchain and NEP-5 Token

The NEO Blockchain was founded in 2014 and became a [real](#)-time open source software on GitHub in June 2015. It aims to develop a "smart economy" with a distributed network by utilizing blockchain technology and digital identity to digitize assets and by automating the management of those assets using smart contracts. Smart contracts are binding agreements written in code and uploaded to the blockchain. The blockchain holds the item of value - currency or something else - until specific, recorded transactions have been made by one or more parties involved in the contract.

NEO offers up to 10,000 transactions per second, plans to incorporate quantum-resistant cryptography (NeoQS), utilizes several smart-contract developing programming languages, is

extremely scalable and eco-friendly and witnesses physical assets identified as digital assets on the NEO blockchain. The FTW token will be an NEP-5 token, compatible with existing NEO-related infrastructure.

2.4 Real-time updates

Websockets represent a long-awaited evolution in client/server web technology. They allow a long-held single TCP socket connection to be established between the client and server which allows for bidirectional, full duplex messages to be instantly distributed with little overhead, resulting in a very low latency connection. Using those benefits, all lottery tickets are going to be listed on the FTW website in real-time. This allows people the ability to monitor all the lottery tickets 24 x 7.

2.5 User experience

Despite blockchain gaining its popularity and people started having a better knowledge of using blockchain most people have not been able to grasp many of these new concepts. In order to engage those people, the term “User Experience” has become a keyword of the blockchain projects. FTW aims to find the easiest and safest way to play the global lottery with its minimal cryptocurrency knowledge with providing user friendly web and mobile apps.

3. FTW Lottery

Source code at:

<https://github.com/ForTheWinn/smart-contract/blob/master/main.py>

3.1 Ticket

Users pick numbers from 1 to 39, just like traditional lotteries. There are two different ways that users can buy tickets.

1. Sending 1 FTW to the pool address (AMGqV7HJFrvxnXxVCzUjEcw4Gv3mdGReiF). This way user accepts playing everywhere including exchanges but it supports only auto-pick numbers.
2. Trigger buy (hash, no1, no2, no3, no4, no5) method of the smart contract with wish numbers.

All tickets will be stored in the smart contract and can be seen on the NEO blockchain explorers. Users can monitor and export lottery tickets 24 x 7 via the blockchain, ensuring that tickets cannot be modified or manipulated.

3.2 Drawing

Users who purchased tickets in the current game can participate in draws. After 12 hours from the last drawing, users will trigger the smart contract to generate winning numbers. Only one submission will be accepted by the smart contract and the others are rejected. The user who generates winning numbers will be awarded 5% of the total ticket sales of the current game. There are two different ways that will enable user to submit his/her bid.

1. Sending 2 FTW to the pool address (AMGqV7HJFrvxnXxVCzUjEcw4Gv3mdGReiF). Participation is free so 2 FTW will not be sent from your account.
2. Trigger draw (hash) method of the smart contract with wish numbers.

3.2.1 Winning numbers

Many smart contract programs such as gambling contracts and small games use random number functions. However, random number functions are typical non-deterministic functions and each system-call will obtain different results. In a distributed system, there is a way to solve this problem; When each block is generated the consensus node will reach a consensus on a random number and fill it into the nonce field of the new block. The contract program can easily obtain the random number of any block by referencing the Nonce field

Our code:

```
def getPseudoRandom():

    numbers = list(0)
    winning_number = list(0)

    for i in range(1, 50):
        numbers.append(i)

    currentHeight = GetHeight()
    currentHeader = GetHeader(currentHeight)
    randomNumber = currentHeader.ConsensusData

    for i in range(1, 7):
        if i != 6:
            percentage = (randomNumber * i) % (49 - i)
            winning_number.append(numbers[percentage])
```

```

    numbers.remove(percentage)
else:
    percentage = (randomNumber * i) % 9
    winning_number.append(percentage + 1)

return winning_number

```

3.3 Ticket verification and payout

To make the lottery purely decentralized and remove off-chain dependency, we let users verify tickets and deliver the winning prizes. Users who have 1000 FTW or more can participate. There are two different ways that users can submit.

1. Sending 3 FTW to the pool address (AMGqV7HJFrvxnXxVCzUjEcw4Gv3mdGReiF). Participation is free so 3 FTW will not be sent from your account.
2. Trigger verify (hash) method of the smart contract with wish numbers.

The submissions will be accepted by smart contract if there are available tickets to verify. Each trigger verifies one ticket and can be awarded 5% of the winning prize. If the ticket is not winning ticket, verifier will be awarded 5% of ticket price.

3.4 Fees

The lottery is managed and operated by users. There are no fees to any organizations or third parties but 10% of token sales will be paid to users who participate in drawings and ticket verifications.

3.5 Odds and Prizes

Overall odds are 1 in 10, making the FTW lottery an attractive and low-risk option for even a casual gambler. The return on investment is also highly favorable.

1 Ticket = 1 FTW

Numbers Matched	Odds	Prizes
Matched 5 of 5 numbers	1 in 575,757	60,000 FTW
Matched 4 of 5 numbers	1 in 3,387	700 FTW
Matched 3 of 5 numbers	1 in 103	30 FTW

Matched 2 of 5 numbers	1 in 10	3 FTW
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The prizes are paid out after the winning tickets are verified by users. Details at 3.3

3.6 Competitive advantage

Compared to our competitors from both online and traditional lottery platforms, FTW has easier access and higher chance to win for the players. Our scalability is also very high.

	FTW	Firelotto	Truflip	Powerball
Payment	FTW	ETH	BTC	USD
Platform	NEO	Ethereum	BTC	Centralized
Chance to win	High	Low	Low	High
Accessibility	Easy	Users need to be more skilled	Users need to be more skilled	Offline
Scalability	High	Low	Low	Low

3.7 Multiple NEP-5 pools

We are making on a new smart contract that supports other NEP-5 tokens as payment for prize pools. This will allow users have many options and methods to play. We will announce future updates in our community.

4. FTW Token

100 million FTW tokens will be issued with the purpose of participating in FTW products and services. A successful token sale will allow the FTW leadership to shift its focus to expansion and marketing to develop FTW models in more countries thus adding more players globally.

Please note: There is always the possibility that legal or regulatory policies will require updates to the current token model. We will share these updates with the FTW community as and when they transpire.

4.1 Token allocation

FTW will have a total supply of 100 million tokens, which will be distributed in the following manner:

- Public - 60% (60 million)
- Team - 20% (20 million)
- Partnership - 15% (15 million)
- Initial lottery prize pool - 5% (5 million)

4.2 Token sale schedule

- 1st stage: April 15 - 30
 - 25% Discount
- 2nd stage: May 1 - 16
 - 20% Discount
- 3rd stage: May 17 - June 1
 - 15% Discount
- 4th stage: June 2 - June 17
 - 10% Discount
- 5th stage: June 18 - July 3
 - 5% Discount
- Public crowdsale: July 3 - July 18
 - 1 FTW = \$0.33

5. FTW Utilities

FTW web apps and mobile apps will provide the best user experience to our global users.

5.1 Easy ticket purchase

Although many cryptocurrency users are familiar about how to deposit and withdraw their assets, it is still a challenge to understand deeply. The most challenging thing to participate in blockchain lotteries, which includes FTW and others, is sending assets with winning numbers to

a smart contract address because most wallets do not have an input field of data even though blockchain 2.0 supports this feature. FTW will release wallets by following our roadmap schedule that makes users purchase tickets with one-click without requiring to fill any extra input fields.

6. Marketing plans

FTW will be promoted by means of the following strategies:

Influencer promotion. The FTW team is connecting with high-visibility individuals, who believe in the FTW mission and who can leverage their reach to promote FTW. We are recruiting particularly from industries which we believe align well with FTW's core objectives, including media, entertainment, and gaming.

Advertisement purchasing. A part of our budget will be allocated towards purchasing premium-keyword related traffic from Google AdSense. Our keyword strategy will primarily be focused on 'lottery' and 'gambling', although we will also be experimenting heavily with keywords related to alternative coins.

Press. Our team includes experienced Public Relations/media professionals who are helping us cast as wide a net as possible in expanding FTW's name recognition within the cryptocurrency space, as well as within the broader industries of technology and gambling. We will be establishing ourselves on [ProductHunt](#), as well as reaching out to both mainstream tech-focused publications such as Forbes, Business Insider, Yahoo! Finance, TechCrunch, and Mashable and gambling publications, like Gambling Insider and Casino Insider.

Community building. We believe in the promise of alternative coins and we want to participate as fully as possible in the community, both to boost FTW and to ensure that it is evolving with the technology and the needs of its audience. Once FTW is launched, we will establish an FTW-specific subreddit, with content cross-posted on /r/altcoin, /r/Cryptocurrency, /r/ethereum, and any other subreddit wherein we believe that the audience will find value in the FTW token. We will also be posting on various crypto-related forums and Slack channels to promote FTW's ICO. Eventually, we will be launching our own Slack and Discord channels to promote FTW-related discussion, stay attuned to our audience, and to grow FTW to its fullest potential in accordance with community needs.

A referral rewards program. FTW is setting up a referral program wherein members of the FTW community can obtain a unique affiliate code and distribute it out to other potential users.

Whenever the affiliate code is used for a new account signup the FTW account associated with the affiliate code will receive 10% commissions of the token sales.

Thought leadership. With evolving technology at such a rapid pace, there is a need to educate both veteran and novice investors about how the technology's various applications work and interact. In order to establish trust and authority, FTW is creating meaningful, informative content about how blockchain can solve gamblings' most pressing problems and create new innovation and opportunities within the industry. By doing this, we aim to become the most trusted platform and resource for enthusiasts of both cryptocurrency and gambling.

Miscellaneous sponsorships and partnerships. We believe that FTW's mission provides rich breeding grounds for partnerships across a diverse array of industries, including lifestyle brands, consumer goods, and entertainment. We will be selling ad space to brands, as well as having them contribute funds to our jackpot. This will allow the brands to increase recognition and cultivate community goodwill. FTW players will be able to get the share of the dividends earned from FTW's growth.

7. Roadmap

Here we describe the current state of development of FTW as of 23rd March 2018.

7.1 Gambling Licenses

International internet gambling law is a subject of immense complexity because every nation has its own take on the subject. Some parts of the world embrace online gambling while others do everything they can to ban it entirely. During the token sale, the FTW team will aim to work together with lawyers and partners to ensure compliance in order to protect investors across borders.

7.2 PC wallet

FTW plans to create an FTW PC wallet. The wallet will aim to improve the user experience. Users can deposit and withdraw tokens for tickets. Users also can buy tickets from the FTW PC wallet and claim tokenholder's commissions.

7.3 Roadmap

We propose the following as a preliminary release schedule:

- **Q3 2018:** Token sale ends. Listing on exchanges.
- **Q4 2018:** Launch of the official lottery with multiple pools with different kinds of NEO tokens.
- **Q1 2019:** Release of the FTW PC wallet and mobile apps for Android and Apple.
- **Q2+ 2019:** Outreach to World Lottery Associations and Global Gaming Platforms.