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BLOCKOPTIONS

Decentralized Binary Options Platform Powered By Ethereum Blockchain

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<https://blockoptions.io>

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Abstract

The Binary Options Industry is a multi-billion dollar market. Just in Israel, binary options broker companies made \$5 billion profit in 2016 [1].

When you buy a binary option from centralized brokers, you actually bet against the platform. The broker makes money when you lose.

This means that the broker must make sure it wins more than it loses[2]

Traders are playing an unfair game as broker/platform can cheat on them by manipulating the price feed in their favor and block traders from withdrawing. So traders may win the trade but lose their money.

BlockOptions.io aim to build an independent and decentralized platform for the binary options industry.

- Pure P2P market - Traders bet against Bankrollers, BlockOptions.io token holders make profit from trading fees; not from profit share as traditional platforms.
- Guaranteed Payout - Payments are issued by smart contract direct to traders ETH address. No one can block withdraws.
- 100% Transparency and Provably Fair by getting assets price on blockchain. Therefore cheating by manipulating price feed is impossible.

We will show you how we build this 100% on-chain system, as we believe the foundations on ethereum blockchain are solid and can support a high user friendly Dapp.

1. Introduction

BlockOptions.io is a decentralized Binary Options Platform based on Ethereum blockchain. We do not bet against traders but provide a larger catalog of assets marketplace by letting bankrollers create varied asset contracts by themselves on our platform, e.g. 70 seconds EUR/USD, 3 minutes BTC/USD, 8 hours GOLD, etc..

1.1 Binary Options Industry

Binary options "are based on a simple 'yes' or 'no' proposition: Will an underlying asset be above a certain price at a certain time? [3]

And binary options are often considered a form of gambling rather than investment because of their negative cumulative payout (the brokers have an edge over the investor) and because they require little or no knowledge of the market.

This sort of thing can quickly become addictive... no one, no matter how knowledgeable can consistently predict what a stock or commodity will do within a short time frame. [4]

One of the biggest binary options platform in the United States makes almost 1M profit per day. IG Group, One of the top company made \$305.1 million of net trading revenue in 2016.[5].

Binary options seem to have more funds compare to dice game, and there is no leading blockchain binary options platform running right now. BlockOptions.io will have big potential as it is the no.1 blockchain binary options platform in the market.

1.2. Common Issues in Binary Options Industry

Some of the existing issues in the binary options market that blockOptions.io can solve:

- Funding problem into your account - In BlockOptions.io you are trading with your ether wallet, no need to wait for any broker to help credit your account.
- Price data feed manipulating - just a small change can influence the result of a trade. By using BlockOptions.io no one can change the price data as it is being fetched by smart contract and stored in blockchain.
- Delay or block withdraw - When a binary options broker delay or blocks you withdraw, you can't do anything about it. By using BlockOptions.io you will be rewarded direct to your ETH address by smart contract automatically and immediately.
- Not safe funds - On non-regulated platforms, the client's money is not necessarily kept in a trusted account as required by government financial regulations. Again, transactions are not monitored by third parties in order to ensure fair play."[6] By using BlockOptions.io, every transaction and bankroll funds are viewable on ethereum blockchain. Traders will get guaranteed payout if they win.

- Not provably fair game - Traders bet against brokers/platform in traditional platforms, it can't be provably fair even if it's a regulated platform. Traders bet against bankrollers in BlockOptions.io and win rates and rewards rate are 100% transparent and unchangeable.
- Company shut down or run away - Traders will lost all their money if broker company shuts down or is run away. It is the worst situation many traders face. By using BlockOptions.io all funds are safe even BlockOptions.io platform can't access the funds since all funds are stored on ethereum blockchain.
- Server or account hacked - In BlockOptions.io all your trades and funds are safer than traditional platform as it is 'impossible' to hack the ethereum blockchain.

1.3 The following table compares typical binaty options broker and BlockOptions.io platform.

Compares	Typical Brokers	BlockOptions.io
Transparency	Very Little	100% Transparency
Manipulable	Uncertain	Can't
Guaranteed Payout	Uncertain	Yes
Fund Safety	Uncertain	Yes
Provably Fair	Uncertain	Yes
Platform Safe	Uncertain	Yes

2. The Platform

Blockoptions.io is the first decentralized binary options platform based on ethereum blockchain with BOP (a standard etheriun ERC20 token) used as an in-trade currency and profit dividend token. Blockoptions.io completely and permanently eradicate the inauspicious decease called 'TRUST' which is undoubtedly killing the binary options industry from inside out.

BOP - BlockOptions.io internal token - is used as dividend (100% of the profit generating by BlockOptions.io platform goes to token holders as dividend) and as second in-game currency.

We will release an MVP in July 2017 and publish further development plans according to the road-map after ICO.

2.1 How it works?

Built 100% on blockchain, BlockOptions.io fetches asset price data from an oracle by using Orcalize service running on smart contract. We will use a build-in wallet to fetch start time price and pass it to smart contract, compare the start time price, expiry price and reward winning traders immediately by smart contract. No additional database and server-side needed. Not even the slightest window for cheating and scams. No delay payments and deny payments. Although we will simplify this in the MVP version, but it will be implemented eventually.



2.2 Roles

2.2.1 Platform

We aim to provide the best binary options platform in the market by providing a provably fair, guaranteed Payout, 100% transparency, highest reward rate and best user friendly system to traders, obtaining more daily trade volume to make more profit. BlockOptions.io Platform doesn't make money from traders loss but from fees per trade (planning charge 0.005-0.01 ETH per trade, actual fee per trade will be published before public version release).

2.2.2 Quote provider

2.2.2.1 MVP version: Uses cryptocompare.com as quote provider. "At CryptoCompare we pride ourselves in showing the most accurate live prices, charting and market analysis from 37 of the top crypto exchanges globally. Our content editors keep the mining data, be it company, mining equipment or mining contracts up to date with the latest pricing and products available on the market. " [7]

2.2.2.2 Later versions: Use xignite as quote provider. Xignite provides very high quality quotes to many different banks and platforms.

"Xignite, pronounced ex-ig-nite, stands for Igniting Exchanges. We have sparked a FinTech revolution, the first to coin that term way back in 2014, and today we are fueling the digital transformation of financial services." [8]

BlockOptions.io will provide more than 30+ Assets: BTC/USD BTC/CNY EUR/USD GBP/USD CAD/USD USD/JPY USD/CNY GOLD OIL Silver NASDAQ S&P500 etc..

2.2.3 Ethereum Blockchain

BlockOptions.io's token contract and trading contracts will be deployed on Ethereum blockchain. Trader and Bankroller's funds are also stored on ethereum blockchain.

2.2.4 Oracle

In a nutshell, an oracle is something (or someone) that provides data to blockchain applications that these applications cannot (efficiently) access by themselves.

Oracles are necessary because it is inefficient and often impossible to reach a decentralized consensus on centralized data. [9]

2.2.5 Trade Smart Contract

Asset's start time price, expiry price stored in smart contract and rewards also issued by smart contract on ethereum blockchain.

2.2.6 Traders

Traders send ETH or BOP directly to asset's smart contract to trade, and get rewarded by smart contract automatically.

2.2.7 Bankrollers

Bankrollers send ETH or BOP to create an asset contract or back existintg contracts and make profit from bankrolling. Profits issued by smart contract.

2.2.8 Affiliates

Affiliates send new traders to BlockOptions.io's Platform and get paid with ETH from affiliate smart contract.

2.3 Token

Token for BlockOptions.io named BOP, BOP used to 'dividend' profits generated by BlockOptions.io and also used as a second in-trade currency.

2.3.1 Tokensales

20,000,000 Blockoptions Tokens[BOP] will be created as Ethereum ERC20 tokens and issued during the tokensale.

No min. cap.

Blockoptions Tokens can be purchased with Ethereum only. All funds will be held in cold storage.

2.3.2 Token distributio

18 million will be available for sale to tokensale participants. **None sold tokens will be burned.**

1.5 million will be retained by Blockoptions for advisors, partners, hiring, future marketing and development with 2 years vesting, unlock 25% per 6 months.

0.5 million will be used for ICO bounties and dev. reward without vesting

Early Discounts

Time	Price
1st week 20%	1ETH : 250
2nd week 10%	1ETH : 220
3-4th week no discount	1ETH : 200

Pre-sale You can purchase tokens with a 50% discount (**1ETH : 400**) in our pre-sale.

The pre-sale has a cap of 2500 ETH. Email: support@blockoptions.io if you would like to participate.

Tokensale Time

Phase	Time
Pre-sale	1, Aug. 2017 - 8, Aug. 2017
Tokensale	25, Aug. 2017 - 25, Sep. 2017

Profit Distribution BlockOptions.io Platform doesn't make money from traders loss but from fee per trade (planning charge 0.005-0.01 ETH per trade, actual fee per trade will be published before public version released), and 100% of the profit will be 'dividended' to token holders via token reward smart contract.

2.3.3 ICO Fund usage 80% of the funds raised will be used for futher development and marketing. The remaining funds will be used for legal and other costs.

Fund usage	Percent
Dev.	40%
Marketing	40%
Legel and others	20%

2.3.4 As in-trade currency

BOP also a second in-trade currency besides ETH, it will add value to token and raise price by high market demand.

2.4 Roadmap

2.4.1 July - Aug.2017

Release MVP and Pre-ICO start.

2.4.2. Sep. 2017

Release build-in wallet version and add asset contract creation function for bankrollers.

Token dividend contract and affiliate contract completed.

ICO continue.

2.4.3. Q4, 2017

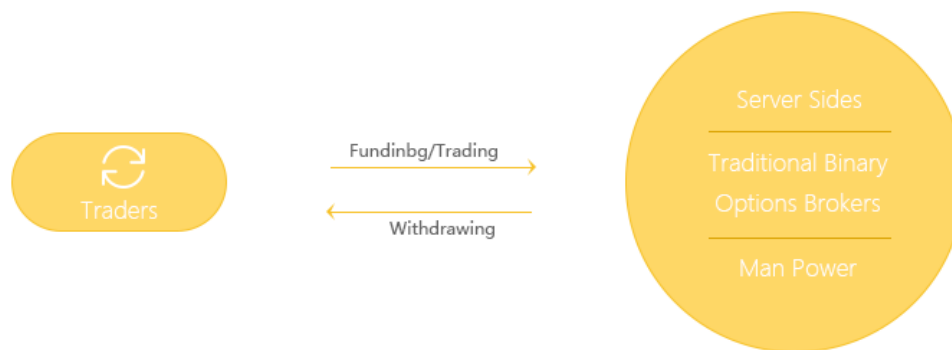
- Accept fiat money and btc/other crypto currencies to trade by using coinbase and shapeshift.io service.
- Build app to attract mobile traders, this will increase our user base up to at least 200%
- Multiple language supported and expand more offices to more regions
- Public released on Dec. 2017 and more marketing budget and PR, we aid to build the No.1 blockchain binary option brand.

3. How we achieve the 100% onchain platform

To achieve the 100% onchain platform, BlockOptions.io won't need account registration, off-chain server side, additional database, man power to audit funding/trading/withdrawing, but will only reply on ethereum blockchain.

3.1 How the traditional binary options brokers works

The traditional binary options platform also known as the only brokers trade against traders. Traders register/login to system, funding with fiat money via credit card/PayPal/Wire transfer to broker's account, get account credited after broker's auditing. Trading and rewarding by broker's server side, the price feed also provided by broker's server side. And how much and when traders get their withdraw is also processed by brokers. It can't be a provably fair game as brokers makes money while traders loss.



3.1.1 Traditional binary option sites using Bitcoin

Some sites claim to be blockchain binary options platforms, whereas they only provide trading and withdraw with bitcoin, such as satoshioption.com, secondstrade.com and other sites you can google them with phrase: "blockchain bianry options". Their trading are still running based on server site informations, and the withdraw part mostly need to be manually approved. They still belong to Traditional platforms category just using the fashionable bitcoin payment method.

There are so many problems with these types of companies and so many scams, so the binary options industry is in critical state where risk and trust problems are the oder of the day. many countries have banned it or limited it.[10]

So we are going to rebuild the binary option industry with blockchain technology following this steps in the list below:

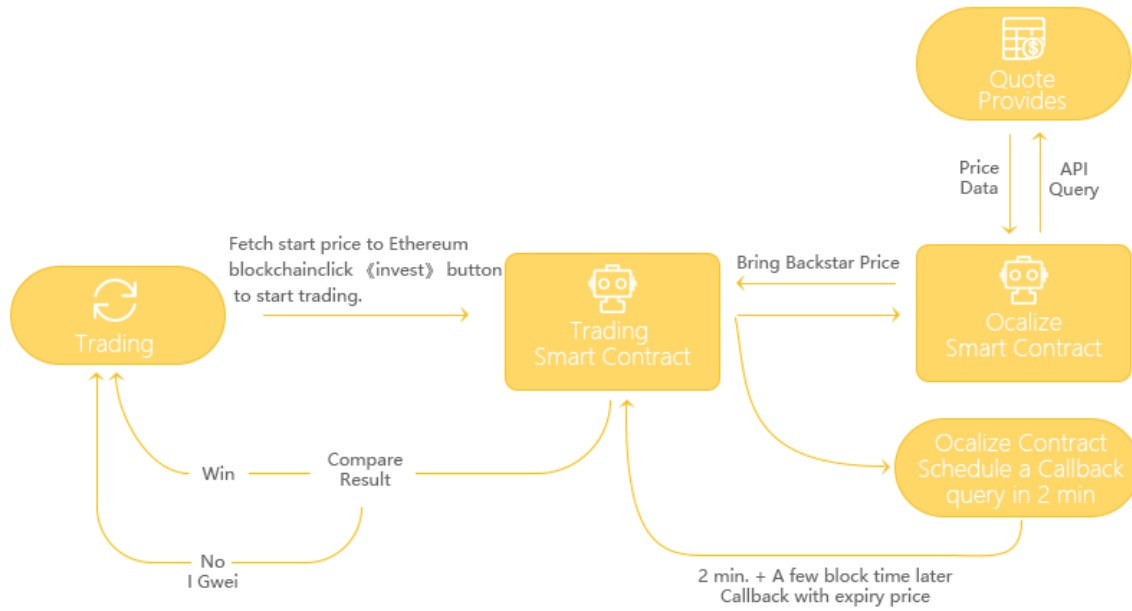
3.2 First 100% on onchain binary options platform

3.2.1 Fetch data from reliable quote provider

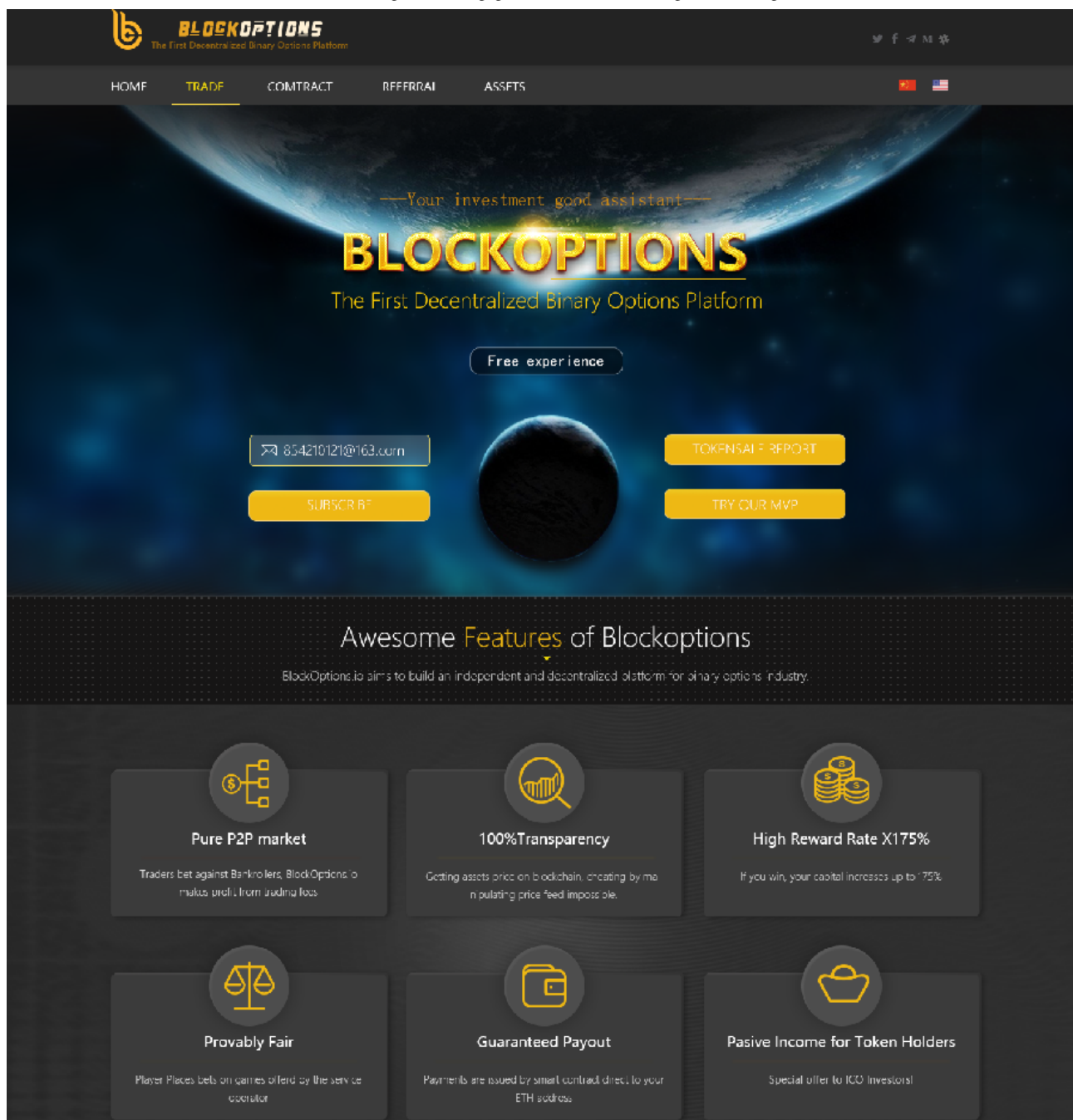
We will use smart contract service oraclize.it to fetch price from quote provider's API to insure that the price data is accurate and can not be changed.

3.2.2 MVP

1. Traders send ETH/OPT direct from 3rd wallet, e.g. MEW to trading smart contract, at the same time trading smart contract sending a transaction to Oraclize's smart contract. After some blocks time, 30 seconds – 1 min. Oraclize's smart contract bring back start price.
2. And we also schedule a callback in the transaction Oraclize's smart
3. In 2 minutes + a few block time later, Oraclize callback trading smart contract with expiry price, traders get e.g. 175% of trading amount as reward by trading smart contract if win or 1 gwei if lost.



3.2.3 The UI of MVP:



The MVP will be release online for test before tokensale, test address will be online soon.

Although the MVP is a 100% onchain system, with auto reward, 100% transparent, can't be manipulated, guaranteed payout and provably fair, but it have some weak points need to improve urgently.

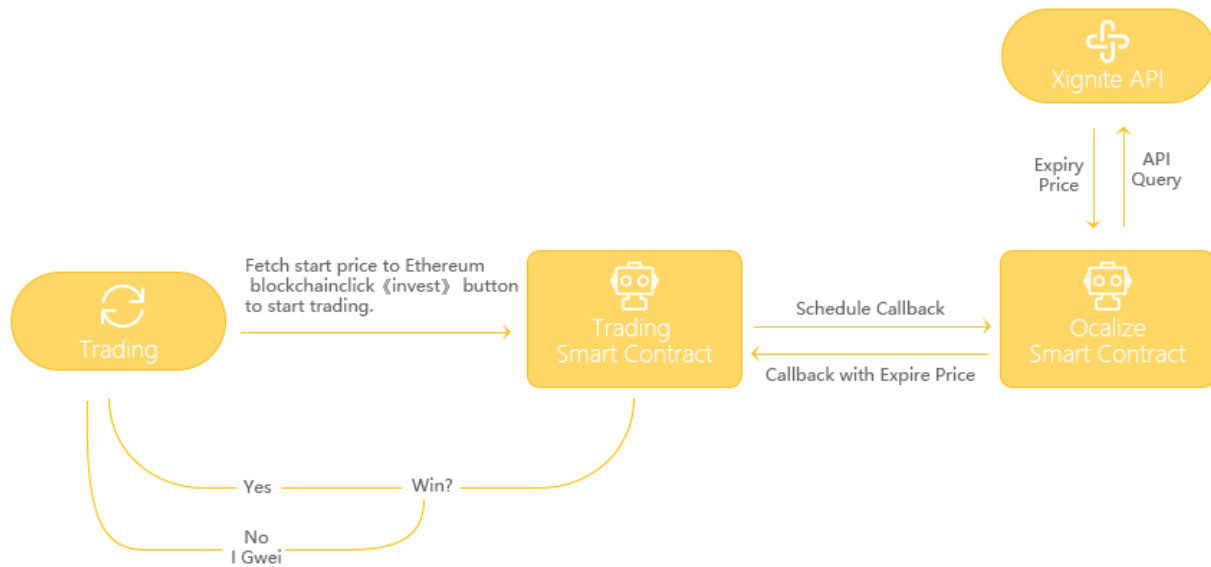
- The start price will be delayed in 1min.
- Traders have to open ETH wallet to send ETH to smart contract, not very user friendly
- Expiry time is not exactly e.g 2 Min. later time, the perdition is not traders wanted.

3.3 Build-in wallet version on public chain

So a build-in wallet version is needed. It will fix the start time delay, expiry time not accurate and can't accept BTC to trade, etc problems.

1. Traders create an online wallet on BlockOptions.io or import their private key to BlockOptions.io as other online wallets like <https://www.myetherwallet.com/>.

- Traders click invest button to start trading on BlockOptions.io Build-in wallet will fetch start price within the same second.
- At the same time sending a schedule callback to Oraclize's smart contract, e.g callback with exactly 2 min. later price using timestamp parameter for xignite API. This will get back the expiry price exact equal (start time + 2 minutes)'s price from ethereum blockchain.
- In 2 minutes + a few block time later, Oraclize callback trading smart contract with expiry price, traders get e.g. 175% of trading amount as reward by trading smart contract if win or 1 gwei if lost.



The UI of build-in wallet version will be similar to this, with one click traders can start a trade on site, no need to open 3rd wallet.



This version fixes the start time delay and expiry time not accurate problem plus all advantages MVP had. But still have a shortage:

- need to pay too many TX fee to ethereum blockchain miners (needs to pay 3 times TX fee for a trade, it will raise as price of ETH will rise in future and it is about \$\$1 per TX fee at the price of \$300 per ETH).

In this version we would like to achieve a less TX fee but still 100% onchain platform for binary options industry. We will bring in private chain + public chain structure.

1. Traders create a new wallet or import private key to BlockOptions.io and traders confirm how many ETH they would like used to trade, BlockOptions.io will transfer the fund from public chain to private chain.
2. Traders start trade as usual, the trading smart contract is executed in private chain, and the reward is stored in private chain too. When traders would like to end trades, BlockOptions.io will transfer the fund to public chain from private chain.

As only need to pay 2 TX fees to complete dozens or hundreds of trades, we will be the first batch of platforms that can achieve such minimum avg. TX fee per trade on the market.

One big plus for using private chain to process trading, we can get back results to traders near to real time as we can use 1-2 seconds block time in private chain, much faster than only use public chain.

The competition is very fierce in binary options industry, traditional binary option brokers pay more than \$300 to affiliate to get a new traders. Although we believe we can and will build the best blockchain binary options platform on market, but we still need pay more attentions on marketing, PR, networking and helps from communities to achieve it.

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Contact

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twitter : @blockoptions_io s

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