Whitepaper

HIGHLIGHTS

The aim of this pre-ICO project is to consolidate countless cryptocurrency exchanges in this world into one.

In recent years, numerous centralized cryptocurrency exchanges were established, yet no exchange was able to achieve "high security", "low commission" and "large transaction volume" with "high usability".

Therefore, rather than offering a traditional centralised exchange, we aim to evolve cryptocurrency transactions by developing a permissioned decentralised cryptocurrency exchange that enables connectivity to Wallets all around the world, capable of carrying all the world's cryptocurrency transactions, revolutionizing cryptocurrency trading to a whole new dimension.

DETAIL

1.   INTRODUCTION

Issues with existing cryptocurrency exchanges

Currently, many users are still purchasing cryptocurrencies from company "sales offices", incurring high transaction fees, rather than from an "exchange" that enables both direct purchase and sell of cryptocurrencies.
There are also great security concerns related to "centralized exchanges", which populate the market, as can be seen from recent cryptocurrency exchange cracking and hacking incidents.
Therefore, we will be developing a decentralized exchange, capable of offering high security levels.

Issues with existing decentralized exchanges

Currently, there are several existing decentralized exchanges, however, high transaction fees and low transaction volumes are both factors contributing to the absence of end users. The main issue affecting existing decentralized exchanges is the unsuitable level of trading fees imposed on transactions, as the market price of cryptocurrencies saw high growth in recent years, the transaction fees (GAS) generated during transactions also grew proportionally.
Transaction volumes also dropped significantly due to soaring fees and increased usability hurdles.
Therefore, by developing a permissioned decentralized exchange that does not require a GAS (fee), an intermediate between centralized exchanges and decentralized exchanges, association with Wallets around the world becomes a possibility, at the same time, achieving "high security", "low transaction fees", "large transaction volume" and "high usability".
The permission holder is assumed to be a Wallet management company.
We have determined that arbitrary operations can be prevented by clearly publishing the permission requirements and quantitative requirements of this product, necessary transparency can be maintained. The most advantageous feature of Blockchain technology, transparency will not be impaired for going private rather than public.

2.   ARGUMENTS

1.   High Security Levels

- Decentralized Type: Countless users retain the system, security is not violated unless tampering exceeds more than half, boasting very high security levels.
- Centralized Type: Security is compromised if the operator company's server is cracked or hacked, low security levels.
- Permissioned: Security will not be jeopardized unless more than half of participating companies are compromised. The degree of security is lower than publicly decentralized types, but higher security levels are achieved in comparison to centralized types.

2.   Low transaction fees

- Centralized Exchange: Transactions are completed within the same company, therefore low transaction fees can be set to cover server costs etc., thus allowing relatively low transaction fees.
- Decentralized Exchange: Publicly decentralized exchanges based on the ETH design will incur a fee every time a transaction occurs in relation to ETH. The recent growth of ETH has also seen a surge in this transaction fee to be unrealistically high.
- Permissioned: By designing it as a private (permissioned) decentralized exchange rather than public, GAS (fee) becomes unnecessary. Like centralized exchanges, a small charge to cover server costs can be set, achieving low transaction fees.

3.   Large transaction volumes

Connectivity with Wallets already used in existing centralized exchanges enables trading volumes to increase tremendously.
Since any Wallet may be utilised for trading, large transaction volumes not achievable with existing centralized exchanges can be facilitated.

4.   High usability

In conventional centralized exchanges, password recovery is impossible if lost. In addition, intuitive operation cannot be performed as the user must be consistently conscious of whether connection to blockchain is maintained, resulting in low usability.
Centralized exchanges are capable of coping with the case of lost passwords.
Simple buy and sell of cryptocurrencies is made possible, just like at an EC site, and high usability is achieved with the utilization of Wallet management companies.

In general, the usability of the centralized exchange is dependent on its Wallet, but this project will provide its official Wallet that seamlessly connects with the permissioned decentralized exchange "PHOTON" to achieve high usability.

<OTHER ADVANTAGES>

- Compatible coin options

  We aim to be able to trade all things related to cryptocurrencies, therefore, we offer compatibility with many cryptocurrencies. For the time being, we aim to offer compatibility with 200 currencies at large transaction volumes.
  Transactions among all altcoins will be made possible, with emphasize on including new currencies as soon as possible.

- Language Support

  Multilingual compatibility; we aim to provide services in the comfortable environment of everyone's native language.
  Specifically, we will be providing English, Chinese (Simplified / Traditional), Japanese, Russian, Spanish language services within a year.
  In addition to multilingual compatibility, support centres will also provide multilingual services to assist with any enquiries in a person's own native language.

- Led by ICO, creating coins that can only be purchased at this exchange

  We support not only cryptocurrencies with added new functions but also financing usability options, creating coins that are traded exclusively at this exchange.
  Considering the number of fraudulent ICO activity, only coins that pass technical reviews from legitimate sources are offered.

\<SECURITY DETAIL\>

We place extreme emphasis on security, especially in cryptocurrency transactions.
For security aspects, cold wallet, two-step authentication login and multi-signature wallet will be adopted.   Full details of security implementations including those on operational aspects are listed below.

1: Physical isolation from the internet with cold wallet

Partially implemented by certain existing exchanges, theoretical isolation from public clouds do not fully prevent the risk of theft, as "stealing the root account of the public cloud itself" remains a possibility.
With PHOTON, precious wallets are kept safe as installed servers are physically isolated from the internet in highly secure domestic data centres.

2: Correct network design and access protection

In the recent cryptocurrency CoinCheck spill incident, one of the causes was thought to be sharing the same network for both information nodes and wallet access nodes.
At PHOTON, each network is individually designed for each network, achieving not only isolation but also implementing defence mechanisms such as UTM (Integrated Threat Management) at the entrance of each network.

3: Management of appropriate updates for internal facilities

We manage updates for PCs / OS for entire servers, various libraries, antivirus software etc. that are connected to the internet and protects against attack for known vulnerabilities of older versions.

4: Implementation of countermeasures against client-side vulnerability based on industry standards

We will implement countermeasures against vulnerability based on JSSEC standards, conducting periodic vulnerability inspections by external organizations for applications dedicated towards transactions.
The cryptocurrency stealing middleman attack against MyEtherWallet was preventable if appropriate measures were implemented on the client side.
With PHOTON, an application is dedicated towards middleman attack prevention, preventing any potential damages that may be caused with the implementation of Certificate Transparency support and browser add-on with the function to inspect Certificate Pinning.

5: Management of appropriate authorisation for operational requirements

We will establish an appropriate authorisation management and approval system by introducing a mechanism that requires multiple authentication steps for cold wallet withdrawals.

6: Acquire Privacy Mark · ISMS certification (ISO 27001)

Existing cryptocurrency exchanges rarely acquire security certification from third party organizations.
PHOTON plans to acquire Privacy Mark and ISMS certification as proof of appropriate management of information assets from third party institutions.

<DEVELOPMENT MILESTONES>

Development plan for the next one and a half years.
Including compatible currency, corresponding transaction format, corresponding language and security aspects.

2Q 2018: Start Development
Start development
Pre-ICO

3Q 2018: development of alpha version of Exchange
Complete Application Demo version / Release (Actual transactions not enabled)
English, Chinese, Japanese
ICO Implementation

4Q 2018: beta version
Complete Application roll-out version / Release
Release Beta version (actual transactions enabled)
SCO Implementation

1-2Q 2019: Launch
Increase the number of supported exchanges
Increase the number of compatible currencies (total 3-4 currencies)
Increase the number of compatible languages (total 4-5 languages)
Two-step verification login

3-4Q 2019:
Increase the number of supported exchanges
Increase the number of compatible currencies (total 5-7 currencies)
Increase the number of compatible languages (total 4-5 languages)
Multi-signature login

<TOKEN DETAIL>

ICO token will be issued with ETH Smart Contract compliant "ERC 20" that is compatible with most ICO Wallets.

[TOKEN ISSUANCE QUANTITIES]

<TOTAL>
- · Total cryptocurrency issuance: 25 billion PHOTON GOLD
- · Total issuance amount (per 1 PHOTON GOLD): 0.8 yen at PRE-ICO, 5% OFF market price at ICO,SCO

<PRE-ICO>
- · Cryptocurrency issuance: 2.5 billion PHOTON GOLD (10%)
- · Maximum procurement funds: 2 billion yen
- · Issue price (per 1 PHOTON GOLD): 0.8 yen

<ICO>
- · Cryptocurrency issuance: 7.5 billion PHOTON GOLD (30%)
- · Issue price (per 1 PHOTON GOLD): 5% off the market price

<SCO>
- · Cryptocurrency issuance: 7.5 billion PHOTON GOLD (30%)
- · Issue price (per 1 PHOTON GOLD): 5% off the market price

<Management Team Incentives >
- · Cryptocurrency issuance: 75 billion PHOTON GOLD (30%)

[Procurement purpose and timeline]

[PRE-ICO]
<Timeline>
- ● May/2018

<Procurement purpose>
- ● Cryptocurrency Trading registration
- ● Complete Application Demo version (trading not enabled)

[ICO]
<Timeline>
- ● Aug/2018

<Procurement purpose>
- ● Complete Application roll-out version / Release
- ● Release Beta version (actual transactions enabled)

[SCO]
<Timeline>

- Nov/2018

<Procurement purpose>
- Increase the number of supported exchanges
- Increase the number of compatible currencies
- Increase the number of compatible languages

If you have your own ERC20 compatible wallet, PHOTON GOLD tokens will be deposited to Wallet within 2 weeks of the end of the ICO period for purchasers who have submitted a Wallet Address.
We will not compensate for transaction failures such as Wallet software malfunctions, Wallet address errors etc.

For purchasers who do not have an existing ERC20 compatible wallet and those who did not submit a valid Wallet address, an account with the PHOTON service site with your registered e-mail address will be assigned after the PHOTON service commences.
The PHOTON GOLD tokens will be deposited to the Wallet assigned by the PHOTON service site.
If you wish to make a transfer to your Cold Wallet, please complete the transfer work by yourself.
Due to the nature of ERC20, GAS (fee) may be required for transfers to a Cold Wallet, GAS (fee) will be at your own expense.
If a Wallet address is not registered by the end of the ICO period (2018 MAY / XX 23: 59), the deposit will be locked to the assigned PHOTON transaction account and the destination Wallet can no longer be changed to another ERC20 compatible Wallet.

The PHOTON service site does not currently provide a timeframe to support direct deposit / withdrawal service between PHOTON GOLD and each country's financial organizations.
The PHOTON service site will provide payment / withdrawal transactions of PHOTON GOLD with ETH transaction pairs.
Should transactions between PHOTON GOLD and ETH become established, it will be possible to exchange the acquired ETH for Japanese yen.
In which case, may incur transaction fees.
Also, as with ordinary cryptocurrency transactions, we will not guarantee that transaction with ETH will be established. The currency pair will be that of the exchange, not the sales office.

NOTE

This ICO will not established if funds raised is less than 1.5 billion PHOTON, in which case, the investment will be returned.

This investment is not legally binding. Parties and individuals must take personal responsibility.