LPPK

White Paper

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1. Introduction

Financial markets have grown significantly over the past few decades, boosted by revolutions in technology and globalization. Does that mean that the financial market has made more individuals wealthier? Although individuals have easier access to information, the financial market has become more uncertain. The world is changing rapidly, and so is the financial market. It is hard to forecast future events such as the financial crisis and the recent pandemic. There also exist many inefficiencies and risks, such as price manipulation, lack of transparency, insider trading, overloaded fake information, and other unknown risks. Many people, therefore, may be easily to get scammed or lose their properties when investing into various financial products. Other people decide to enter the trading world, try to be traders, and manage the portfolio by themselves, with the hope to yield their properties and earn. However, most of them may lose money[1] because trading is not for everyone.

Being a successful trader requires many factors such as good trading plans, strong strategies or algorithms, good research on the market, discipline and strong risk management, and so on. Only 6% of the people who attempts to be professional traders succeed[2]. For day trading, the success ratio could be even lower, only 3% of new traders can make any money[3], or only 1% can really make money[4]. We see a demand from individuals who have assets (such as fiat or crypto currencies) and seek for safe, trusted, verifiable financial services to invest in, and to grow their properties. In the meanwhile, successful traders, with additional programing skillset, may create fantastic trading bots but facing the problem of fundraising to extend trading activities. These trading bots can be semi-automated or fully automated computer programs.

Our solution, the LPPK , aims to solve the above concerns in a decentralized, transparent, and secure manner. We are the first DeFi platform to bring trading bots (aka, *DABots - Decentralized Autonomous Bots***)**, powered by DAO[5] principle and blockchain technology, to everyone. We introduce LPPK LPPK **token** as the fuel for the LPPK .

In this section, we analyze the key challenges, our mission, vision, and the overview of the LPPK .

1.1. Key Challenges in Financial Trading

Individuals continue to find various ways to earn in financial trading. However, after trying for a while, they become overwhelmed due to different reasons.

[1] https://tradeciety.com/24-statistics-why-most-traders-lose-money/
[2] https://www.businessinsider.com/what-percentage-of-traders-make-it-2011-6
[3] https://www.financemagnates.com/forex/analysis/new-study-shows-just-how-unprofitable-day-trading-is/
[4] https://www.forbes.com/sites/nealegodfrey/2017/07/16/day-trading-smart-or-stupid/
[5] https://en.wikipedia.org/wiki/Decentralized_autonomous_organization

- **Information Overload:** people explore the internet to learn the basics and are overwhelmed by too many opposing opinions. As a result, they are unable to discern which advice is good and important.
- **Uncertain Risks**: it is difficult to ascertain the risks related to an individual and even more difficult to forecast hidden risks.
- **Lack of Knowledge**: It is never easy to self-learn. Most people do not know from where to start.
- **Fraud**: Due to ignorance, many are scammed and lose their funds.

For the above reasons, investors are actively finding a platform that makes use of bots in financial trading. Due to market demands, a number of platforms have released trading bots. Although there is a serious demand and need for technology to assist investors in financial trading both in CEFI and DEFI, it is not easy for platform providers or bots creators to provide high-quality trading bots due to IP (intellectual property) issue. Therefore, it is true that the key challenges are outstanding, and that it creates barriers for both investors and bots creators to enter the market.

For individuals, key challenges are:

1. *Verifiable Performance*
   Users often have difficulties assessing the historical performance of bots as they cannot verify the performance of the bots. This may result in inaccurate data that do not correlate with their advertised performances.
2. *Fund Safety*
   Fund's safety is a key concern as well. There are too many instances of investors who had to send their tokens to wallets that may not have the adequate security of major exchanges. This poses significant risks for the users. Therefore, some bot's provider overcome it by using managed accounts to ensure funds security. However, managed accounts often are unable to return the optimal performances of bots. Therefore, there are many managed accounts that are unable to sustain the performances of the actual bots. It is also possible to use DEX to overcome the issues of funds security. However, DEX often do not have enough volume for high volume trading and DEX are prone to hacking at times too.
   Some bot's providers overcome it by using managed accounts to ensure funds security. However, managed accounts are often unable to execute the optimal performances of bots. Many managed accounts that are unable to sustain the performance of actual bots. It is also possible to use DEX to overcome the issues of funds security. However, DEX often do not have enough volume for high-volume trading and are prone to hacking.

For bots creators, key challenges are:

1. *IP Protection*
   There exists a barrier between bot creators, investors, and platforms with their IP. Bot creators are not keen to lose or surrender their IP as they had made a lot of effort to develop their bots. This has caused many bots creators to hide their boots and not share

them with investors. At the same time, bot creators are often not adequately incentivized for the IP that they have created.

2. *Marketing and Fundraising*
   Even if bot creators develop fantastic bots which deliver great performance, marketing and fundraising remain a big issue. Either bot creators do not know where to find users, investors, or they fail to convince individuals to use their service. Bot creators are faced with difficulties in presenting themselves to users, and in obtaining trust from investors, therefore, resulting in keeping the bots to themselves, their family, and their friends. The fundraising is also limited in their circle and may not be able to reach a larger community.

1.2. Mission & Vision

We aim to solve the above challenges and to benefit financial market players while still protecting data and privacy. Thanks to the blockchain technology, a higher set of standards in transparency, efficiency, and security have been introduced. Our solution is the LPPK which utilizes the blockchain and smart contracts technology to enable a safe, transparent, and trusted environment for the financial market.

Our vision is to be the first DeFi to bring trading bots, powered by DAO principle, to everyone. Our target users include:

- Any individual who wishes to generate yield for themselves from crypto assets.
- Bot creators who have fantastic trading bots and would like to raise trading funds, and to issue the bot tokens by themselves.

As being made with DAO, trading bots in LPPK are called DABots (Decentralized Autonomous Bots**)**. Bots trading activities help individuals to yield earnings from financial markets such as, but not limited to, crypto currencies, equities, forex, commodities.

LPPK offers bots staking, bots marketplace, bots governance and IBO (Initial Bot Offering) to users and bot creators, both of which earn through a mutual rewarding system which adheres to the DAO principle. As such, we believe LPPK is one among pioneers to transform the financial industry.

1.3. LPPK and LPPK token

In order to improve the efficiency of an individual's financial trading (method), a platform with cutting-edge technology is required. The first step is to launch a new platform - LPPK , a DeFi platform that offers a marketplace for revolutionary DABots with **IBO (Initial Bots Offering)**.

In the past, speed might have been a big advantage in the capital market world. However, that may not be the case today. Fintech (a portmanteau of finance and technology) has come about,

and the words big data and AI are no longer unfamiliar. Technology, equipped with trading strategies, has now become a key component in having a competitive edge against other financial institutions. Financial institutions are in a rat race to create more financial bots to stay on top of competition. This is not only limited to institutions as individuals are also trying to build their own bots and/or are looking for bot creators.

As a result, the demand for high quality bots exists. There is a scarcity of high-performing bots in the market. The said bots are not accessible to everybody; therefore, the value of these bots increases over time. As a solution, the IBO concept, which is similar to an ICO, was introduced. In an ICO, a coin project receives funds from its followers. IBO stands for Initial Bots Offering and it is more than just fundraising. The IBO serves as a mechanism to offer bots to the public for the purpose of raising funds for trading and owning the governance shares of bots. Users who participate in IBO will not only own the governance shares but also will have many other rights such as voting rights. The users then become the DABots' governance shareholders.

LPPK makes it possible for bot creators to list their bots as services to the LPPK community. This creates an ecosystem where all participants benefit from it. One more important thing to keep in mind is that all DABots adhere to the DAO (Decentralized Autonomous Organization) principle. In DAO principle, everything works transparent and fair as it will not depend on one single person’s decision. This means all activities are transparent and verifiable in the blockchain. Via LPPK , users are also able to participate in bot games, staking, and lending.

LPPK also introduces LPPK token as the fuel of the system. LPPK is an important utility token to run different business functions on DABots. For bot creators, LPPK is a “must” to be able to list their bots in marketplace, to compute bot governance shares value, and to join the IBO. For normal users, LPPK is also a “must” to be able to own governance shares of DABots.Rewards from bot governance shares will be also paid in LPPK .

2. LPPK

This section presents main components in the LPPK , business functions as well as different user roles. Each component is designed in a secure, transparent, and trusted manner, to benefit both bot creators and individuals.

2.1. Components

The LPPK with LPPK token brings the value of professional portfolio management to hodlers in an automated, transparent, and verifiable way. The figure below outlines the major components within the LPPK .

There are different components inside the LPPK , in which, the LPPK Wallet and DABots (listed in LPPK Store) are key components. Besides, we have LPPK Treasury, LPPK Exchange, LPPK Lending, and LPPK Earn to serve various business functions of the product.

DABots (Decentralized Autonomous Bots), powered by DAO principle in blockchain technology, are computer programs to trade and yield earnings. DABots can be either CEX DABots (trade on centralized exchanges), DEX DABots (trade on decentralized exchanges), or Farming DABots (yield farming with liquidity pools).

Beside LPPK as the main crypto token issued by the LPPK , each DABot can issue two types of crypto tokens by itself. They are bot Governance tokens (aka, bot G-tokens) and Certificate tokens (aka, bot C-tokens). For each DABot, the G-token is unique, while the C-tokens may be various depending on bot specification. Nevertheless, the total supply of G-tokens and C-tokens for each bot is limited by designed.

G-tokens act as governance shares of DABots and are mainly sold in IBO phase. In order to own G-tokens and thereby obtaining the governance power on bots, users have to contribute to the initial fund for bots to trade, and must use only LPPK to buy G-tokens. In the meanwhile, C-tokens represent the "proof" for each staking, briefly, when users stake crypto assets to DABots, they will get C-tokens as confirmation. Both G- and C-tokens give users rewards generated from bot trading activities, however, G-tokens confer more power to change bot settings and join the bot game.

Since any DABot could issue itself bot tokens, that means the more DABots, the more tokens existing in the system. LPPK **Wallet** help users to store LPPK , bot G-tokens and C-tokens, as well as popular crypto assets (USDT, BUSD, ETH, BNB…) in their own wallets. It is a decentralized hierarchical deterministic (HD) wallet, in which each wallet owner keeps a secret mnemonic phase to secure his/her wallet, hence, secure any crypto assets that he/she is hodling. Once wallet owner losses the mnemonic phase, he/she may lose his/her crypto assets.

Users can participate in IBO and buy G-tokens, stake and get C-tokens, and harvest rewards from those tokens. In order to help users to operate such various functions and monitor bots' performance, the LPPK **Store** is a place to list and regulate all bots in the ecosystem. This component also helps bot creators to manage their bots through different phases of the Bot Life Cycle. Details about DABots, bot tokens and Bot Life Cycle are in subsequent section.

LPPK **Treasury** is a bridge to convert popular crypto assets to sToken. sToken is a mirror copy of a crypto asset and can also be stored in LPPK Wallet. Users convert crypto assets (e.g., ETH, BTC, USDT…) to get a copy of these assets in sTokens. The conversion rate is always 1:1. For example, convert 1 ETH to get 1 sETH; convert 100 USDT to get 100 sUSDT, and so on. The copied assets (sTokens) are used to stake into CEX DABots. At any time, users could convert sTokens at LPPK Treasury to get back the corresponding crypto asset (e.g., convert 1 sETH to get back 1ETH).

LPPK **Exchange** is the place where users can buy and sell bot tokens. A user could own bot G- or C-tokens when participating in IBO or bot staking. He/she may store those bot tokens in LPPK Wallet and harvest rewards. However, bot tokens total supply is not unlimited by designed. It means, a fantastic bot may be not accessible to everybody when all bot tokens are already "sold out". So, he/she may go to LPPK Exchange and sell bot tokens with other users if someone else is willing to pay a good price.

LPPK **Lending** is a decentralized lending platform allowing users to join their favorite DABots community even when they do not have the required crypto assets. Each DABot only accepts certain types of crypto assets (e.g., BUSD, BNB) for staking. Some users may not have those assets, but another (e.g., WETH). They do not want to trade WETH for BUSD or BNB. So they could deposit WETH to borrow BUSD and BNB in order to stake into the DABot. Typically, the value of borrowed assets is less than the value of collateral. This is to ensure the ability of repayment. For example, a user depositing a $100-worth collateral could only borrow up to $70-worth assets. The tight integration among components of the system enables borrowers to borrow more than the value of their collateral, i.e., *leveraged lending*. Thanks to leverage lending, users

could enjoy more benefits (and of course, with higher risk), while lenders' funds are still being protected.

As the market is sometimes high volatile, DABots trading on CEX or DEX may face risks and have to cut loss in order to protect the whole crypto assets under management. Bots earnings or losses will be reflected in staking rewards with positive or negative values. It also means, users who staked into DABots may suffer from some losses. Hence, we offer the LPPK **Earn** for any user who prefers to receive stable earnings no matter the volatility of the market. LPPK Earn acts like bank saving interest. Users could deposit their crypto assets and receive stable earnings without any risk.

2.2. Business functions and Users in LPPK

LPPK aims to bring trading bots, powered by DAO, to everyone. Our target users are bot creators and any individual who wants to generate yields from crypto assets. The user roles and main business functions are as follows.

User Roles	Business functions
Bot creators	✓ **DABots genesis**, powered by DAO principle. ✓ **Define** initial bot settings and parameters. **List** bots in LPPK Store using LPPK , bots issue G-token and C-token ✓ **Initial Bot Offering**, raise fund for bots to trade ✓ **Manage** bot trading activities
Bot users: Governance users	**Buy/sell** G-tokens using LPPK and become bot governance users. ✓ **Claim/harvest** rewards from G-tokens, rewards are paid in LPPK . ✓ **Redeem** G-tokens to get LPPK . ✓ **Change/govern** DABots settings (e.g., earning distribution and so on) via **Voting** protocol. ✓ **Participate** in DABots Game.
Bot users: Stake users	✓ **Stake** to DABots and become bot stake users, the staking is done with sTokens (sUSDT, sBUSD…) or popular crypto assets (USDT, BUSD…) depending on bot settings; users will get C-tokens as confirmation. ✓ **Claim/harvest** rewards from C-tokens, rewards are paid in same crypto assets that were used for staking. ✓ **Unstake** C-tokens to get back sTokens or popular crypto assets.

	✓ **Convert** popular crypto assets (USDT, BNB…) to sTokens (sUSDT, sBNB…) and vice versa at LPPK Treasury.
All users	✓ **Hodl, send, receive** crypto assets, tokens with LPPK Wallet ✓ **Exchange** bot tokens with LPPK Exchange **Stake** to LPPK Earn and get passive earnings. ✓ **Deposit and lend** cryptos with LPPK Lending

These users' roles do not exclude each other, a bot creator can also be the governance user and stake user of his/herself's DABot or others' bots. A stake user can also be a governance user and vice versa. All users can use features provided by LPPK Wallet, LPPK Exchange, LPPK Earn and LPPK Lending. The benefit for bot creators is to list their DABots through genesis phase, IBO phase, and thereby raising fund for bots to trade while still protecting IP. The benefit for bot users is to manage their crypto assets in a secure manner, select and stake into DABots and earn rewards with verifiable performance. Moreover, they can also play as part of the governance role for DABots using LPPK , and via a voting mechanism. This is done thanks to blockchain and smart contract technologies.

3. DABots

Decentralized Autonomous Bots (DABots) are kinds of Decentralized Autonomous Organizations (DAO), powered by smart contracts. Participants of a DABot could be either stake users or governance users. Stake users are participants who deposit crypto assets to the bot to generate earnings. Meanwhile, governance users are participants who purchase DABot's governance shares to control various settings of DABots and earn a portion of bots' earnings. Depending on how earnings are generated, DABots are classified as follows:

- **DEX DABots** are bots that trade on decentralized exchanges like Uniswap, Sushiswap, and Pancake. DEX DABots accept staking of DEX-tradable tokens (mostly ERC20 tokens on Ethereum network, and BEP20 tokens on Binance Smart Chain network).
- **CEX DABots** are bots that trade on centralized exchanges like Binance, Kucoin... Some bots of this type also trade on equity markets and/or Forex. CEX DABots only accept staking with sTokens, which is a mirror copy of a crypto asset (e.g., sUSDT ~ USDT, sETH ~ ETH, sBUSD ~ BUSD, sBNB ~ BNB…).
- **Farming DABots** are bots that are providers of liquidity pools of AMM-DEX to earn trading commission fees. DABots also earn yield farming income in certain types of liquidity pools. Framing DABots accept staking of tokens that are supported by liquidity pools.

LPPK Store provides a set of DABot smart contracts. These contracts follow a common interface so that users could interact with these contracts in the same manner no matter the differences in operation business within a DABot. The figure below describes the interactions between a DABot with its participants.

3.1. Bot tokens

If considered as an “autonomous organization”, a DABot is operated similarly to a joint-stock company. Each DABot will issue two kinds of tokens, which are similar to shares, as follows:

- **Governance tokens** (aka G-token): act as governance shares of DABots. Owning G-tokens means having the governance power on bot settings. Users could purchase G-token directly from the bot (using LPPK tokens), or from LPPK Exchange. Each DABot will have different settings that could be configured by voting protocols among governance users (who hodl G- tokens). The G-token’s name is derived from the bot’ s name. For example, a bot named SilkBot has its SilkBotGToken, a bot named PanBot has its PanBotGToken. For each DABots, the G-token is unique, and the total supply of G-token is limited as predefined by bot creator.

- **Certificate tokens** (aka, C-token): represent the “proof” for each staking. As its name also suggested, C-tokens are certificates issued per each unit of crypto assets staked to the DABot. When users stake crypto assets to DABots, they will get C-tokens as confirmation. C-tokens must match to crypto assets (e.g., sUSDT, USDT, BNB, ETH,…) that are accepted in each bot staking and this is pre-defined by bot creators. The certificate tokens’ names are derived from the bot’s name and the asset name. For example, SilkBot only accepts staking in sUSDT, so the C-token is only SilkBotsUSDT. Meanwhile, PanBot accepts staking in both USDT and BNB, so its C-tokens are PanBotUSDT and PanBotBNB, respectively, for staking in USDT or BNB.

For each DABot, the G-token is unique, while the C-tokens may be various depending on bot specification, the total supply of G-tokens and C-tokens is limited by designed.

Business functions with G- and C-token are described in previous section. Briefly, G-tokens can only be bought by LPPK . Users can harvest governance rewards from G-tokens.
Governance rewards are paid in LPPK also. Users can also redeem G- tokens at any time to get back LPPK .
C-token are used to harvest staking rewards. Staking rewards are paid in the same staked crypto asset (i.e, staking sUSDT will be awarded sUSDT and so on, users can convert sUSDT to get back USDT with value 1:1 thanks to LPPK Treasury).

C-tokens are also used to get back staked assets. Users activate the “unstake” function of the bot (via the LPPK Wallet). The bot will burn C-tokens and return the staked assets. A user could unstake any amount of C-tokens that he/she is hodling.

Staked assets in a DABot are used to generate earning for that bot. Different bot contracts will have different ways to generate earning from staked assets. The following are some kinds of bot contracts:

- CEX-bot contracts trades staked assets on centralized exchanges (thanks to the LPPK Treasury and sToken) for earning.

- DEX-bot contracts trade staked assets on decentralized exchanges.
- Farm-bot contracts earn trading commission fees and yield farming rewards from DeFi platforms (like Pancake, Alpha Finance, Beefi platform).

Bot's trading activities generate yield earnings from crypto assets under management. This will be shared as rewards for different participants in DABots. The earning distribution could be varied from bot-to-bot. The following chart illustrates an example of earning distribution, in which, 60% of earning will be stake rewards, 15% for governance rewards, bot creator can get 15% because he/she manages trading with his/her strategies and algorithms, 10% will be reserved for Bot game (optional) which opens only for governance users.

The earning distribution can be changed by governance users. Any governance user can propose a new change (proposal) and all governance users can vote via voting protocol. The winning proposal will be applied as new setting.

3.2. Bot Life Cycle (BLC) and Initial Bot Offering (IBO)

Bot Life Cycle defined three phases of DABots during their lifetime. These phases include:

- **Bot Genesis**: indicates the phase when DABots have just been created. LPPK is a "must" for bot creators to be able to list bots in LPPK . Bot creators define initial bot settings and parameters. At this phase, DABots are not having any fund to trade yet. Any user can browse and search for new bots in LPPK Store, and select interesting bots which are ready for IBO in the next phase.

- **Initial Bot Offering (IBO)**: is the phase that allows early bird users to stake crypto assets and thereby raise initial fund for bot to trade. These users of course can get C-tokens and have privilege to buy bot G-tokens at the IBO price (which is also the cheapest price if compared to G-token price after IBO). LPPK is a "must" to be able to buy G-token.
  Users who participate in this phase will have both C-tokens and G-token.
  At the end of this phase, bots already have initial fund to start trading, this fund however has not yet reached the maximum AUM (asset under management) that a bot can handle.

- **After IBO**: is the phase of DABots when IBO is finished and G-tokens, if not sold out, will have a higher price on the market for late bird users to buy. Users can stake crypto assets for bots to trade as long as the sum staked assets have not yet reached the max AUM of bots. The staking will be paused when maximum AUM is reached (i.e., accept no more staking) and will be resumed if some users unstake (withdraw staked assets). At this phase, DABots have larger fund to trade and generate earnings to distribute as rewards to all bots users and bot creators.

Various parameters need to be specified at the Bot Genesis phase. These parameters are varied in accordance with the type of the DABot. In the below, we present common parameters shared by most DABot types.

1. Textual parameters including name, description, target blockchain network (e.g., Ethereum, Binance Smart Chain, Plasm,...)
2. List of crypto assets that can be staked, and the preferred weight of each asset.
3. Target initial fund to raise in IBO per each asset.
4. Maximum AUM per each asset. This number must be greater than or equal to the target initial fund to raise in IBO per each asset.
5. Initial deposits (in LPPK token) that the bot creator has to deposit to the bot. This soituld be at least 100,000 LPPK.

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6. Total max supply of G-tokens, and max circulated amount for IBO public sale.
7. The initial G-tokens owned by bot creator (which is corresponding to the initiadleposits). LPPK
8. Staking warm-up time, which is the minimum time required for a stake to get earning share.
9. Staking cool-down time, which is the waiting time to get back original assets when unstaking.
10. The IBO period, defined by start date and end date.
11. After-IBO price multiplier (in percentage)
12. Earning sharing scheme for bot operator (represented by bot creator), governance users, and stake users, and for BotGame.

DABots will automatically enter the IBO phase in the predefined period. During the IBO, users could buy G-tokens at the IBO price (which should be cheaper than price "after IBO"), as denoted in the following formula:

$$IBO\ Price\ =\ (Initial\ deposits)/(Initial\ governance\ tokens)$$

As stated above, at the IBO phase, bots need early bird users to stake crypto assets and thereby raising initial fund for bot to trade. These users of course can get C-tokens and have privilege to buy bot G-tokens at IBO price. The maximum amount of G-tokens, that an early bird user can buy, will be computed based on the amount of crypto assets that he had staked to DABots. This is defined as follows:

$$MaxPurchase = \frac{1}{N} \times (IBO\ public\ sale) \sum_{asset_i} w_i \times (stake\ of\ asset_i)/(target\ initial\ fund\ of\ asset_i)$$

Where:

- $N = \sum_{asset_i} w_i$, which is the total preference weights all assets.
- $IBO\ public\ sale$ is the maximum circulated amount of G-tokens which can be sold in the IBO public sale. This number must be less than or equal to the Total max supply of G-tokens.
- $stake\ of\ asset_i$ is the amount of the i^{th} asset that a user has staked to the DABot.
- $target\ initial\ fund\ of\ asset_i$ is the amount of the i^{th} crypto asset that the bot wishes to raise in the IBO phase.

When the IBO period ends, the remaining G-tokens (it not sold out in IBO phase) will be sold at a higher price, denoted as *regular price*:

$$Regular\ price = (IBO\ Price) \times (price\ multiplier)$$

In which $price\ multiplier$ is determined at the creation time of a DABot. This setting could be changed by governance users, via voting protocol.

3.3. DABots Voting protocol

As made with DAO, the behavior of DABots are managed by the bots' governance users via voting protocols. The DABot voting protocol is used to change various settings of a DABot. Each DABot might have different settings. The common settings among bots include:

- Price multiplier, which directly impacts the regular price of each governance token.
- Earning sharing scheme;
- Staking warm-up and cool-down time.

The voting protocol (for a DABot) follows these steps:

- A governance user of the DABot places a change-setting proposal on the DABot. The proposer should possess at least 10% the bot's G-token. The proposer also has to deposit an amount of LPPK (which is set by the LPPK). The proposal includes following information:

    - The setting to change
    - The new setting value (many options might available)
    - Voting period (should be at least 3 days)
- Other governance users will cast their vote. The vote power is counted according to the balanced snapshot of governance tokens at the time the proposal is submitted.
- A proposal option which is voted for more than 51% can be settled.
- Any governance user could submit a transaction to settle the proposal to get a reward of 70% of the proposal deposit. The remaining 30% proposal deposit will be the operation fee.

After the voting period, if none of the proposal options gets enough votes. The proposal for change will be cancelled. Any user could submit a transaction to clean up the proposal and get the 70% proposal deposit as reward.

3.4. BotGame

BotGame are decentralized lucky draw games reserved for DABots' governance users (i.e., who hodl bot G-tokens). There are two kinds of game:

- Lucky draw among managers within a DABot, and
- Lucky draw among managers of many bots

The fund for bot game is taken from bot earnings. By this way, governance users do not need to pay any extra to enjoy the game. Additionally, users' funds are protected so that they will not lose their assets (and rewards) to gamble. Each participant will have a number of tickets. Periodically, the BotGame smart contract will randomly determine winning tickets. Winners will share the prize of the game.

The random selection of winners are based on a verifiable random function[6] that generates random numbers in the way that every participant could verify its randomness. The BotGame smart contract uses these random numbers to determine winners.

The prizes of the game come from the DABots' earnings. Game scope can be made within:

- Game among governance users of a DABot: prizes are 2% of governance rewards (this number could be changed via a voting protocol among governance users). The total issued tickets will be equivalent to the number of governance tokens. Users will have a number of tickets proportional to their governance tokens.
- Game among DABots: prizes are 2% of governance rewards. Each participating DABot will own an amount of tickets similar to the first game. The winning bot will take the prize, which is in turn shared to all governance users of the bot according to their governance tokens.

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4. LPPK Product Design

As mentioned, LPPK is the first DeFi to have bots with DAO principle, in which, we support each DABot to do IBO (Intial Bot Offering), fundraising, and produce bot tokens of itself. There are various tokens, including LPPK token, bot tokens, and popular crypto assets. All of these are significant to multiple business functions in LPPK , therefore, storing them in a secure, manageable, easy-to-use wallet is also significant. The LPPK Wallet is designed to serve that concern. From the LPPK Wallet, users can easily connect and access to all services provided by the ecosystem, such as browsing and selecting favorite DABots in LPPK Store, converting sToken at LPPK Treasury, staking to DABots, harvesting rewards, borrowing at LPPK Lending and so on. The figure below illustrates the crucial role of LPPK Wallet and its interaction with other components.

4.1. LPPK Wallet

LPPK Wallet is a decentralized hierarchical deterministic (HD) wallet which is based on a single random mnemonic phase to generate key pairs (public and private keys) for different types of coins. The mnemonic phase is only known by the wallet owner. In other words, if a user loses this phrase, she or he may lose access to her/his asset.

RobiFiWallet plans to support popular coins and tokens, including (but not limited to):

- Ether (ETH)

- ERC20 tokens
- BEP20 tokens
- BTC
- ...

Besides the basic functions of a wallet (i.e., send, receive, check balance, view history), LPPK Wallet integrates with all other products within the LPPK . In particular, from the wallet, users will be able to:

- Mint sToken (via LPPK Treasury with conversion feature), the minted sTokens can be stored in the LPPK Wallet.
- Navigate LPPK Store for shopping DABots. LPPK Wallet, LPPK Store, and LPPK Exchange are all integrated in a same web application called Marketplace.
- Harvest staking rewards (from C-tokens) and governance rewards (from G-tokens) of participated DABots.
- Manage collateral and liquidity of lending pools

4.2. LPPK Treasury

LPPK Treasury works as a bridge to convert popular crypto assets to sToken. sToken is a mirror copy of a crypto asset. For example, 1 BTC ~ 1sBTC, 1 ETH ~ 1sETH, so on and so forth. sToken is specially designed for CEX DABots.

By design, DABots follows the principle of a decentralized autonomous organization. It means no one but only DABots' participants could control the operation of a DABot. This, however, limits the capacity of CEX DABots to execute trading on centralized exchanges (e.g., Binance spot/futures, Kucoin, HitBTC,..). The introduction of LPPK Treasury and sToken helps to solve this gap. The figure below presents the high-level architecture of LPPK Treasury.

The above architecture is illustrated specifically for two coins: Ether (ETH) and Bitcoin (ETH) which are representative for blockchains that do (ETH) and do not (BTC) support EVM-compatibility smart contracts. A short description for components in the figure are as follows.

- **Deposit BTC Wallet**: is to keep BTC from users' deposits. This wallet will also release BTC to users when sBTC is converted. The deposit BTC wallet is a multi-sig wallet to secure the users' assets. For blockchains that do not support multi-sig wallet, alternative approaches can be considered, such as, multi-party computation (MPC) and vault-based secured storage.

- LPPK **Deposit Contract**: plays the similar role of the Deposit BTC Wallet. By default, assets managed by a contract are even more secure than managed by a multi-sig wallet (assuming that the contract has passed the security audit, and is vulnerability-free).

- **Bitcoin full nodes/ Ethereum full nodes**: are the entry points for systems that stand outside the blockchain networks that could interact with deposit wallets as well as smart contracts. Multiple full nodes are deployed to ensure a high availability of the systems as well as reduce the risk of advanced persistent threats that target the LPPK Treasury.

- LPPK **Blockchain Adapters**: are the set of components that constantly monitor the blockchain network for depositing events. For each detected deposit, each adapter will submit a minting request to the LPPK Bridge Contract to mint sToken.

- LPPK **Bridge Contract:** listens for mint requests from the blockchain apdaters. When at least ⅔ of requests with consistent information are collected, the deposit is confirmed and the sToken will be minted to users' wallets.

LPPK Bridge Contract is the place that receives redeem requests from users (via LPPK Wallet). For each redeem request, LPPK Bridge Contract forwards it to the corresponding sToken contract to burn a token, and trigger an event to the Deposit Manager.

- **sBTC Contract, sETH Contract, sUSDT Contract**: are ERC20-compliant contracts which manage the minting and burning of corresponding sToken.

Deposit Manager: listens to redeem events from LPPK Bridge Contract to send the deposited assets to users' wallets.

4.3. LPPK Lending

LPPK Lending is inspired by various decentralized lending platforms such as Compound Finance, Bento Box lending. LPPK Lending is a collection of asset pools. Each pool will be handled by a contract name RLToken similar to cToken in Compound. RLToken is also an ERC20-compliant token contract.

When a supplier deposits 1 BTC (or other assets) to LPPK Lending, he/she will receive 1 RLBTC and earn interest. The supplier can redeem RLToken (e.g., RLBTC) at LPPK Lending to get back the deposit.

Users who want to borrow crypto assets from LPPK Lending will first deposit a collateral. The collateral shall be any kind of accepted assets. LPPK Lending will evaluate the value of collateral thanks to oracle services that provide live prices of the collateral assets. Then users could borrow assets from LPPK Lending.

When users pay back the borrowed assets, they also have to pay the lending interests. The lending interests are calculated real-time. When all the loans are paid, users are able to get back to collateral. Otherwise the collateral is locked.

Typically the total value of borrowed assets is less than that of collateral. It is to ensure that users are able to pay back the debt. If the value of borrowed assets plus the interest exceed the

collateral value, the loan will be closed automatically. The collateral will be sold to pay for the borrowed assets. This is called liquidation.

4.4. LPPK Exchange

LPPK Exchange is the place for DABots' token hodlers to buy and sell their bot tokens. Both G-tokens and C-tokens are always able to be redeemed or unstaked any time via DABots' contracts. Still, there are some conditions applying to these redeemable tokens:

- Unstaking C-tokens require a period of locking time since the unstake transaction submitted. The locking period is defined by the bot creator. C-tokens hodlers should be aware of impermanent loss when deposited assets are in trade positions.
- Redeeming G-tokens tokens will get back the exact amount of deposits.

If DABots are performing fantastically, the expected earnings of bot token will be great too. However, bot G and C-tokens total supply is not unlimited by designed. It means, a fantastic bot may be not accessible to everybody when all G-tokens are already "sold out" and no more staking accepted (i.e., bots already reached max AUM). The late bird users have no way to own bot tokens, so they are willing to buy (in a peer-to-peer manner) at a good price.

However, it is not easy to list those fantastic bot tokens on an exchange since the lifetime of DABots' tokens depend on the DABot's lifetime, which will not last forever theoretically. Centralized exchanges like Binance may not accept to list such tokens. Listing on decentralized exchanges could be a considerable option. Yet, to create a liquidity pool for trading DABots' tokens require adding an equivalent amount of counter parts tokens, which may not be feasible due to the lack of liquidity providers.

For example to create a liquidity pool to swap between LPPK and PanBotGToken (the G-token of a bot named PanBot) with an initial price of 10 LPPK = 1 PanBotGToken. The pool creator should have 10000 LPPK to create a pool of 1000 PanBotGToken.

Inspired by the above facts, LPPK Exchange provides peer-to-peer exchange so that DABots' token holders could post bid/ask ads to buy/sell their tokens at their desired price.

4.5. LPPK Earn

Not all DABots may retain positive performance at all time. Most days they win, some days they lose and need to cut loss. Stake users may see negative earnings reflected in their staking. This is quite a foreseeable risk for users because market is sometimes high volatile and hard to predict. LPPK Earn offer passive earning for users who do not want to take risk. Instead of putting crypto assets to DABots, these users deposit to LPPK Earn. The LPPK Earn smart contract takes those assets to grow the LPPK business, and return stable earnings.

4.6. Liquidity Mining and Staking

Liquidity mining is to encourage users to stake their LPPK and get rewards in LPPK .

Staking provides users of the LPPK extra rewards. By staking LPPK users can get rewards in LPPK .

For both liquidity mining and staking, users' assets will be locked for fixed periods. The reward ratio (APY) will be detailed when the liquidity mining and staking program starts

5. User Stories

This section presents several user stories that demonstrate the usability of the LPPK . Users can join different business functions as described in previous sections. In general, LPPK users could enjoy the following products and get benefits depend on their tastes of risks:

- Stake popular crypto assets to DEX-based or Farming DABots to get staking rewards: higher ROI, but also high risk due to trading loss.
- Convert popular crypto assets to get sTokens in order to stake to CEX DABots (even higher ROI than DEX-based DABots, and also higher risk)
- Purchase DABots' G-tokens to enjoy governance rewards: lower ROI but risk free
- Activate leverage lending to boost up staking rewards (also ROI) at even higher risk.

5.1. LPPK Wallet

Alice is a crypto hodler. She wants to earn from the crypto markets (also from equity and/or Forex markets). She opens a decentralized wallet at the LPPK Wallet. Alice still keeps her private key/mnemonic phase. Thanks to the LPPK Wallet, Alice could access all services provided by the LPPK .

At starting, Alice has USDT (BEP20) and BTC. These assets are all supported by LPPK Wallet.

5.2. LPPK Store

Alice browses the LPPK Store and searches active bots in the following category:

- DABots in Pre-IBO (i.e., new bots in genesis phase)
- DABots in IBO phase
- DABots after IBO phase and still open for staking

From the LPPK Store, Alice could find following information for each DABot:

- Short introduction about the strategy of the bot,
- List of crypto assets accepted for staking,
- Maximum stake cap per each asset,
- Bot's performance on daily, weekly and monthly basics,
- Lock time for unstaking (if any),
- And so on…

Alice decides to stakes on the follow DABots[7]:

[7] SilkBot, PanBot, and FarmBot are imagined bots for illustration purposes only. Any coincidences are unwanted and not relevant.

- SilkBot is a CEX DABot. It accepts only sUSDT. This bot earns earnings by trading on Binance Spot and Binance Future.
- PanBot is a DEX DABot. It accepts BNB and BUSD. This bot earns earnings by trading on Pancakeswap.
- FarmBot is a Farming DABot. It accepts BNB, CAKE, and USDT (BEP20). This bot earns by yield farming from swapping pools of Pancakeswap, Alpha Finance…

Given Alice's crypto assets, she could immediately stake some of her USDT to FarmBot. When staking, she has FarmBotUSDT (this is the C-token issued by FarmBot) to be kept in her LPPK Wallet.

For SilkBot and PanBot, Alice could not join due to lacking accepted crypto assets for staking.

5.3. LPPK Treasury

To have sUSDT to stake on SilkBot, Alice activates the swapping function of LPPK Treasury (via her LPPK Wallet) to convert her USDT to sUSDT. The conversion rate from USDT to sUSDT is 1:1, in other words Alice will receive 1 sUSDT for every 1 USDT that she deposits to LPPK Treasury.

Now Alice could bring sUSDT to stake to SilkBot. She gets SilkBotsUSDT (this is the C-token issued by SilkBot) for her staking. She hodls SilkBotsUSDT in her LPPK Wallet.

Overtime, SilkBot makes good performance earing by trading on CEX. Alice can harvest the stake reward from SilkBot earnings. The stake reward of SilkBot are paid in sUSDT. She can decide to use these sUSDT to add more stake to SilkBot, or to convert to USDT at LPPK Treasury.

Later, Alice decides to unstake, so she unstakes all of her SilkBotsUSDT and get sUSDT (which correspond to her initial staking). She goes to LPPK Treasury to swap all of her sUSDT and get back USDT. The conversion rate from sUSDT to USDT is also 1:1.

Now in Alice's LPPK Wallet, she is having BTC, USDT, and FarmBotUSDT.

5.4. LPPK Lending

Alice had participated in FarmBot and SilkBot. Now she wants to participate in PanBot. This bot only accepts BNB and BUSD, but Alice only has USDT and BTC in her wallet. Alice does not want to trade either BTC or USDT for BNB and/or BUSD. Instead, she deposits her BTC (from her LPPK Wallet) as collateral to LPPK Lending.

Alice activates the leverage borrowing for staking at LPPK Lending to borrow 100%-worth BNB from her collateral BTC. Notice that regular lending platforms only let their users borrow at most 75% worth of collateral.

Alice stakes her borrowed BNB to PanBot, she hodls PanBotBNB (this is the C-token issued by PanBot), and harvest stake rewards. PanBot stake rewards are paid in BNB.

6. Our technology

6.1. Decentralization

Decentralization is a key feature of DeFi in particular, of blockchain technology in general. Decentralization allows users to control their assets without relying on any third party, while being able to participate in finance services without the risk of losing money due to fraud or scams.

The LPPK ecosystem is built on top of several decentralized protocols.

- LPPK Wallet is a decentralized wallet, of which private keys are totally managed by users themselves. The disadvantage of this approach is that if users lose their private key, they will lose their assets. There is no possible help from the operators of the LPPK ecosystem to recover lost keys.

- LPPK Treasury is based on smart contracts and automated systems. No human interference could impact the operation of LPPK Treasury, even the administrators cannot.

  However, for blockchains that do not support smart contracts like Bitcoin, Litecoin, Cardano[8], LPPK Treasury employs the multi-sig wallet technique to secure the users' deposit. No individuals could access the deposited assets. As a result, redeem actions for these coins might require manual approval from different parties in order to be accomplished.

- DABots follow the principles of Decentralized Autonomous Organization (DAO), and are controlled by smart contracts. Bot creators and LPPK ecosystem's operators cannot control the behaviour of bots, but the participants of DABots.

- LPPK Lending is a purely decentralized platform, inspired by well-known platforms like Compound Finance. The only thing that LPPK Lending's operators could change is the interest rates. However, this rate is always visible to users. Once a loan is settled, the interest rate applied to this loan is never changed. This makes the lending/borrowing always transparent to users.

- LPPK Exchange is a peer-to-peer market, where bid/ask requests are controlled by smart contracts. There is no room for third-party (even the administrators) to influence the transactions between buyers and sellers.
- BotGame is also controlled by smart contracts, which randomly determine winners using a verifiable random function, which is transparent to all users. The rules for determining winners are all published to the community.

[8] At the time of writing, the Cardano network does not support smart contracts. This however could be changed in future when the LPPK ecosystem is launched.

6.2. Cross-chain technology

Crypto assets are located in various blockchain networks, for instance Bitcoin, Ether, Ada, Tezos, Binance coin,.. They are in their own chains. To make these coins interchangeable, they should be located in the same network. The cross-chain technology is to do the job.

The idea for the cross-chain technology is the bridge, which consists of two gateways located in two networks, say Bitcoin and Ethereum. The Bitcoin gateway could transact with Bitcoin network users. Similarly the Ethereum gateway could transact with Ethereum network users. The essential part is that these two gateways could talk to each other to notify about the transactions happening in their networks. According to such communication, crypto assets are transferable across blockchain networks in a very similar way that the well-known Western Union service operates.

For particular, Alice wants to bring her 1 BTC from the Bitcoin network to the Ethereum network. Alice makes a deposit transaction to transfer her 1 BTC to the Bitcoin gateway. The Bitcoin gateway keeps Alice's BTC in its own (secured) wallet, and notifies the Ethereum gateway about this transaction. The Ethereum gateway listens to that notification and issues a WBTC to the preDeFined Alice's account in the Ethereum world. The WBTC is a copy asset of BTC in the Ethereum network. At any time, anyone could send 1 WBTC to the Ethereum gateway and receive 1 BTC in the Bitcoin network. Assuming that both gateways in Bitcoin and Ethereum networks are secure enough. The total amount of circulated BTC is unchanged. Hence 1 WBTC has the same value as 1 BTC. Now, Alice could use WBTC to transact in the Ethereum network.

The LPPK ecosystem adopts this idea to construct LPPK Treasury. LPPK Treasury consists of gateways in different blockchain networks, allowing crypto assets to be transferred among different blockchain seamlessly.

Depending on the characteristics of each blockchain network, different methods are applied to secure the wallet of LPPK Treasury gateways.

- For Ethereum Virtual Machine (EVM) compliant blockchain networks (e.g., Ethereum, Binance Smart Chain, Plasm), smart contracts are used to secure the assets. This is the most secure way to protect assets within a gateway. No one could get out the asset within the gateway, except the public preDeFined workflow that has been widely published to the community.
- For other blockchain networks (e.g., Bitcoin, Cardano, Litecoin), either multisig wallets are applied using blockchain native support (e.g. Bitcoin multi-sig wallet), or MPC-enabled wallets are employed. Further information about MPC-enabled wallets will be discussed in the subsequent section.

6.3. Multi-party computation

Multi-party computation (MPC) is an advanced cryptography technique allowing participants to join calculations without revealing their individual values. Threshold signature schema (TSS) is an application of MPC.

In the threshold signature schema, the private key of an original blockchain account is divided into several sub keys, and securely distributed to each participant. After that, the original private key will be destroyed so that no one can recover it. Hence no individuals or parties could manipulate the original account.

To sign transactions from the original account, raw transaction data will be composed and then passed through the sub-key owners to sequentially sign on it. The process seems similar to the Bitcoin multi-sign account, the behavior is completely different. In the Bitcoin multi-sig wallet, N participants would generate N signatures separately and independently. Meanwhile in TSS, N signatures of participants are aggregated into a single signature. The aggregated signature is exactly the same as if it was signed using the original private key, which has been destroyed previously. Then the signed transactions are submitted to the blockchain network in the same way as other regular transactions.

During the signing process among sub-key owners, the original private will never be reconstructed. Also, sub-key owners do not reveal their owned sub-keys to others. As a result, the signing process is secured and cannot be tampered by any third parties.

Regarding the security advantage, TSS is not widely adopted as it requires very complicated protocols for generating and distributing sub-keys. Consequently, TSS-enabled wallets require huge efforts for implementation and testing.

Still, TSS-enable wallets are in consideration during the implementation of LPPK Treasury for blockchain networks that do not support EMV-compliant smart contracts.

6.4. Verifiable random function

Generating a true random number is always a complicated task in the computing world. Especially in the blockchain world, every transaction should be executed in every node of the network, and the result of the transaction should be exactly the same in every node so that it could achieve the agreement of the network.

The verifiable random function is used to generate random numbers in a deterministic manner. It means that random numbers generated by this function in a transaction are always the same, no matter how many times the transaction is executed in any node in the network.

BotGame, a lucky draw game, relies on a verifiable random function to determine the winner for each round. So that users could only verify the correctness of the result, and verify that the number

is actually random, and cannot be interfered with by even the administrator of the LPPK ecosystem.

There are many ways to implement a verifiable random function. Popular implementations could be employed:

- Block hashes of previous blocks
- Oracle third-party services like ChainLink
- RANDAO protocol

The details of the used function will be publicly announced at the launch time of BotGame.

6.5. The CIA triad of security

Confidentiality

Crypto assets deposited in LPPK Treasury are either locked in smart contracts or multisig wallets. This is to ensure that no single individual could manipulate the assets. Protocols in LPPK Treasury are fully automated. Data transmission among components are digitally signed and encrypted. So that even the administrators of LPPK Treasury could not manipulate the system.

Crypto assets deposited in DABots are even more secure. Since the DABots are designed following the principles of well-known decentralized autonomous organizations, no one but the DABot participants would be able to withdraw the assets within DABots.

Integrity

Most components of the LPPK ecosystem are based on smart contracts. They therefore inherit the integrity of the blockchain technology by default.

The data integrity in LPPK Treasury is guaranteed in the asynchronous and distributed manner. Any deposit and redeem transactions acrossing blockchain networks will be eventually relaid to the LPPK Treasury contracts, even when all the entire backend system of LPPK Treasury are temporarily down. Transactions will be synchronized and processed from the last down time up to present.

Availability

Most components of the LPPK ecosystem are based on smart contracts. They are always available to users regardless of the shutdown of the Internet.

Traditional components like the website, underlying backend system of LPPK Treasury are carefully designed and deployed in redundancy mode. This helps to minimize the downtime of the entire ecosystem.

7. Token economy

7.1. LPPK LPPK token

The LPPK blockchain-based ecosystem is built upon Smart Contracts and fuelled by LPPK token. Users can use the LPPK token to buy the governance shares of DABots, which will give them the ability to control various aspects of bots.

7.2. LPPK Usage

- DABots creation: LPPK is a must to be able to create and list bots to LPPK
- IBO Participation: LPPK is a must to be able to buy DABots G-tokens.
- Governance rewards: LPPK is used to pay governance rewards to bots' governance
- users.Change/governance DABot settings: LPPK is a must to be able to create a new proposal to change any bot's setting. Once a proposal is created, it will be voted by governance users to approve or dismiss it.
- Liquidity Mining and Staking: users can stake LPPK and get rewards in LPPK
- Much More: In the future, many services will be available with LPPK .

8. Roadmap

Q1

- LPPK project kick-off
- Prepare Whitepaper
- Private Token Sales

Q2

- Release Litepaper in public
- Release the website in public
- Listing on DEX
- Public presales and IDO
- Community building
- Start system design
- LPPK Wallet
- LPPK Treasury: support BUSD (BEP20), USDT (BEP20)

Q3

- Listing on Coingecko
- Listing on Coinmarket Cap
- LPPK Store and DABots IBO, stake, voting
- LPPK Treasury: support BNB
- LPPK stake LPPK to earn LPPK

Q4

- DABots: DEX bots, Farming bots
- LPPK Wallet: convert ERC20 from/to BEP20
- LPPK Game
- LPPK Treasury: support BTC, ETH, USDT (ERC20)

Q5

- On boarding institutional users
- LPPK Lending: regular lending and leverage bot staking
- LPPK Exchange (P2P)
- LPPK Earn

Q6
And much more…

9. Company overview

9.1. Company

SnapBots Limited is an artificial intelligence (AI) research firm based in the British Virgin Islands. Driven by our focus in the fields of machine learning and trading, we aim to bring bots as a service to its global users. With the mission to bring DABots to everyone, SnapBots created the LPPK ecosystem, paving the way for normal people to access the DABots community.

9.2. Team

Our team is made up of experienced financial market players. We are professionals with strong backgrounds in the fintech industry.

Dr. Le Minh Sang Tran - Director / Head of Technology

With a PhD in Computer Science from the University of Trento and over nine years of working in different sectors (European ICT projects under Seventh Framework Programme, quantitative investment firm, e-commerce), she is no stranger to security and innovation technology. She is currently responsible for core products in the LPPK .

Merry Silvana - Head of Bots Management

Merry is an exceptional senior software developer with more than 13 years of experience. Having joined industry heavyweights like Nyenburgh and RTI Infokom, Merry is well-versed in extensive development of a wide range of applications, specializing in blockchain and the financial sector. Merry presently oversees a team of talented developers in global locations and leads major projects to bring project goals into reality. Merry is handling all AI bots and algorithms of Snapbots.

Donna Lee - Head of Marketing and Sales

Possessing over 8 years in B2B marketing, Donna has played key roles in various projects, supervising the development of all B2B marketing’s products and services. She has over 5 years of experience in managing a country office for a Fintech company in Asia. As a true cryptocurrency enthusiast, she has launched an OTC channel in South Korea and has educated numerous people on how to trade crypto in Thailand since early 2017. Today she is responsible for Snapbots' marketing and all sales activities, including client relationships.

Levon Aleksandr - Head of Trading Research

After earning his Bachelor's from Rostov State University of Economics with a major in financial management, Aleks actively pursued his passion in finance and explored various business

functions to broaden his knowledge and widen his capabilities. Being in the industry for over eight (8) years, he has extensive experience in the financial sector, specializing in cross-finance, particularly in trading equity and cryptocurrency. His exposure to various roles enable him to effectively use data and quickly adapt to trends on top of identifying the risks involved. His expertise will prove useful to SnapBots in ensuring that trade regulations and corporate standards are followed.

Dr. Ting Shang Ping – Advisor

Ting Shang Ping is a graduate of Nanyang Technological University and holds a Bachelor's, Master's, and Phd in engineering from the said institution. Having been obsessed with disruptive tech since his teenage years, he has eventually found synergy in combining AI with trading. He has successfully implemented various trading strategies and continues to conduct research to improve those strategies. He is a true researcher who possesses an in-depth knowledge of Alpha Generation, Risk Modelling, and Trade Execution.

10. Disclaimer

LPPK White Paper is for information purposes only. The information contained herein is subject to change and does not guarantee the accuracy of or the conclusions reached in this White Paper. The guidance outlined in this White Paper is for informational purposes only. It is non-exhaustive and does not represent contractual obligations between any parties. All tokens discussed in this White Paper and on all other communications media are unintended to constitute securities in any jurisdiction. This White Paper does not constitute a prospectus or offer document of any sort, and is not intended to constitute an offer of securities or a solicitation for investments in securities in any jurisdiction. The contents of this White Paper are not a financial promotion. Therefore, none of the contents of this White Paper serves as an invitation or inducement to engage in any sort of investment activity. The information contained in this White Paper may be incomplete and in no way implies a contractual relationship. While we make every effort to ensure that all information in this White Paper is accurate and up to date, such material in no way constitutes professional advice. The distributor may be an affiliate of LPPK . All proceeds of the token sale will be deployed to fund LPPK crypto currency projects, businesses, and operations. Any agreement between the distributor and purchaser in relation to any sale and purchase of LPPK tokens is to be governed by a separate document setting out the terms and conditions ("T&Cs").

LPPK does not provide any opinion or any advice to purchase, sell, or otherwise transact with LPPK tokens and the fact of presentation of this White Paper shall not form the basis of, or be relied upon in connection with, any contract or investment decision. Token Purchase is an unregulated fundraising operation. It poses several risks to buyers that of losing all amounts traded for LPPK tokens. You acknowledge and agree that there are risks associated with purchasing, holding, and using LPPK tokens. By purchasing LPPK tokens, you expressly acknowledge and assume these risks. You acknowledge that LPPK token is not a security, will not give dividends, and will not give the same privileges as shares in the company. In the event of any inconsistencies between the T&Cs and the White Paper, the former shall prevail. In no event will LPPK or its affiliates be liable to any person or entity for any damages, losses, liabilities, costs or expenses of any kind, whether direct or indirect, consequential, compensatory, incidental, actual, exemplary, punitive or special for the use of, reference to, or reliance on this White Paper or any of the content contained herein, including, without limitation, any loss of business, revenues, earnings, data, use, goodwill or other intangible losses.

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on its projected appeal to users, possibly due to the failure to meet users' preconceived expectations based on this White Paper, and hence, impact its success.