



YIELDSTER

Simply DeFi.

Tools and Protocols to participate in DeFi
in a safe and compliant way.

WHITEPAPER



Table of Contents

1	Yieldster	2
1.1	Decentralized Finance	2
1.2	DeFi, Past, Present, and Future.	2
1.3	The platform	3
2	Automation Platform	3
2.1	Vault	4
2.2	Advisors	4
2.3	Rules Engine	4
2.4	Access Control	5
2.5	Fees	5
3	Order balancer	5
3.1	Standard	6
3.2	Path marketplace	6
3.3	Order executioner	6
4	Software Development Kit	7
4.1	Functions	7
4.2	Data	7
5	Governance: Decentralized Autonomous Organization (DAO)	8
6	Conclusion	8



1 Yieldster

Decentralized Finance (DeFi) refers to the host of tools and applications that run on the Blockchain providing financial services to the crypto currency ecosystem. The Yieldster platform provides a convenient gateway to DeFi, opening the ecosystem to traditional investors and financial strategy developers.

A key to the success of DeFi have been interoperable applications. Standards such as ERC-20 and permissionless nature of the blockchain have allowed applications to easily build on top of each other. Thanks to this, the speed of development increased which leading to rapid financial innovations.

But the rapid explosion of DeFi protocols has caused the ecosystem to fracture. Due to a lack of protocol standards, applications can no longer easily communicate with each other. Additionally, Layer 2 solutions have created inherit silos, increasing the barrier to entry.

We believe a new class of technology is needed to unify the DeFi ecosystem. Yieldster provides reliable infrastructure, a proprietary order executioner and a powerful SDK to simplify participation in the DeFi ecosystem.

1.1 Decentralized Finance

With the exponential growth of cryptocurrencies over the last decade, more than a trillion dollars' worth of wealth was created. There was a strong desire to both utilize and deploy this newfound wealth, but no trustworthy crypto products existed that digital native investors were comfortable with.

Out of this frustration grew the DeFi ecosystem, providing a convenient and transparent solution. With almost no competition, the ecosystem grew to manage tens of billions of dollars' worth of digital assets. Despite this massive growth, most of the \$2T still sits on the sidelines.

We believe the DeFi ecosystem will grow further as \$36T of the \$200T global wealth will move to the newer generation of investors over the next 30 years. The new generation of investors are more comfortable embracing new and exciting financial products.

1.2 DeFi, Past, Present, and Future.

The first DeFi products created were over-collateralized lending protocols. These solutions provided liquidity to users by allowing them to borrow against their crypto holds, while maintaining exposure to their preferred asset. For investors, these over-collateralized loans provided a nearly risk-free and consistent income stream.

The second products created were trading pools that replaced traditional market makers with automated algorithmic market makers. These pools reduce the barrier to participate, enabling



passive investors to deploy their capital providing liquidity to the market. These pools also solve the problem of shallow order books for users and token issuers.

In the future, DeFi will also create a use case for a variety of financial products such as tokenized real-world assets, income streams, insurance, royalties, mortgages, auto loans, trade finance, etc... Once there is a network effect of assets that build on each other, the possibilities are endless.

1.3 The platform

The Yieldster platform is designed to enable any developer to build blockchain applications by removing the learning curve. Using our end-to-end and easy-to-use solutions developers can use the same programming language, development environment and testing tools they are familiar with.

The Yieldster product consist of three parts. The automation platform which holds and manages assets, The order balancer which provides optimal order execution, and an open-source SDK to create capital deployment strategies.

The automation platform includes vaults which hold a basket of asset, strategies which determine how those assets are deployed, access control which restricts who can participate in the vault, and a rules engine which restricts the flow of funds.

The order balancer is an application run by Yieldster; its goal is to discover the optimal execution plan for transferring, swapping, borrowing, and staking of assets. It does so by permutating through many possibilities made available to it by the community.

The SDK is a wrapper around DeFi applications written in the Python programming language. It creates an abstraction on top of low-level smart contract calls to expose functions and data useful for developing DeFi strategies.

2 Automation Platform

Connecting to the blockchain is a challenge. For investors who want to participate in DeFi that means using unreliable and potentially insecure web extensions. For developers it means configuring and maintaining a blockchain environment.

To enhance the developer experience and to provide a gateway for investors Yieldster has created the automation platform. Allowing investors and developers to come together and participate in DeFi.



2.1 Vault

Vaults hold a basket of assets or loans against which financial strategies can be applied. They utilize smart contracts, which removes the need for a third-party custodian. The vault also allows cross-chain self-custody of assets all of which can be managed through Yieldster.

Vaults automate the management of assets, deposits, and withdrawals, as well as the calculation of fees. They grant permission for an automated advisor to deploy assets on its behalf, and the assets always remain under the vault's ownership and directly under the users' control.

Vaults can be both private and open to the public. Users who participate in the vault are issued tokens, representing their proportional share. To add a public vault to the platform, it must first be approved by the Yieldster DAO to ensure it meets the Yieldster standard.

2.2 Advisors

The competitive advantage afforded by the Yieldster platform lies in its ability to empower users to create and deploy advisors. Advisors are algorithms that create financial action plans tailored for a vault to allocate funds in various DeFi protocols.

Advisor developers provide the algorithms and propriety knowledge that makes a financial strategy successful. Not only are the developers able to apply their strategies to their own vault but they would also be able to earn a subscription fee through the marketplace.

These advisors live on-chain and off-chain in a fully automated, secure backend service provided by Yieldster. This removes the burden of maintenance and ensures that any code on the Yieldster platform has been thoroughly audited, ensuring a level of security for investors.

2.3 Rules Engine

Due to the immature state of some DeFi protocols and the substantial risk is posed by malformed smart contracts. Yieldster takes on the burden of meticulously reviewing every protocol available on the platform to ensure each is compliant with our standards.

The rules engine applies restrictions on the vault, such as which assets the vault can hold, which protocols the vault is able to invest in, which advisors are applied to the vault, and which actions the vault is able to execute. Ensuring the security of funds.

The greatest bound of actions allowed are those enforced by the Yieldster DAO rules engine. A second layer of rules are enforced by the vault-specific rules engine which restricts its functionality further. The rules engine restrictions help the vault keep the fund on track with its philosophy and reduces the possibility of erroneous transactions.



2.4 Access Control

Access Control determines who can participate in the vault. This helps vaults maintain regulatory compliance within their given jurisdiction. The vault Access Control manager may choose to (but is not required to) open the vault only to a select group of investors (i.e., Accredited Investors in the U.S.).

2.5 Fees

To utilize the Yieldster platform, vaults pay an annual platform fee calculated as percentage of assets under management to the Yieldster treasury. An additional fee is paid to the strategy executioners for the necessary transaction cost. These fees go toward the maintenance and future development of the Yieldster platform.

3 Order balancer

The ERC-20 standard was the greatest innovation of DeFi ecosystem, creating incredible interoperability. Now Yieldster has created an open standard for interacting with all DeFi protocols by wrapping them in a unified interface. The interoperability provided by the standard will then be used by the order balancer to interconnect the DeFi space.

The order balancer is an application run by Yieldster; its goal is to discover the maximum value execution plan for transferring, swapping, borrowing, staking of assets. It does so by permutating through many possibilities available to it by the community.

The order balancer is implemented as a Petri Net, which is an advanced mathematical model that can be used to find the least cost path from a starting point to an end point. The Petri Net model is uniquely suited to map out the landscape of the blockchain, enabling Yieldster to optimize the entire DeFi ecosystem.

Three advantages.

- Delayed execution
- Cross chain execution
- Many to many execution
- Deploying lazy capital like AMM

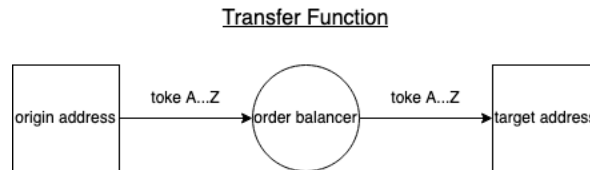


3.1 Standard

Yieldster has created a natural extension to the ERC-20 standard. This allows interaction with any DeFi protocol without requiring learning the specific interface of that protocol. This simple standard allows developers to rapidly build on top of existing applications.

Philosophy of the order balancer:

move [Tokens A..M] from [address + chain] and transfer [Tokens M...Z] to [address + chain] under [Path Restrictions]



With this standard any asset can be moved from an Ethereum wallet address or protocol and converted into an asset which the target wallet or protocol can utilize. The function that is called in the protocol is automatically determined by which tokens are moved.

3.2 Path marketplace

The marketplace will leverage the community to capture the whole host of potential ways which can solve the problem of liquidity. Path developers create connections between DeFi protocols that optimize cost and maximize value for moving assets. Yieldster maps these connections to discover the most cost-effective transaction plan.

Path developers will make their algorithms available to the order balancer through the marketplace. If a developer's path is selected as part of an optimal execution plan, they will be compensated. This model will allow developers to focus on optimizing one path which it can be utilized by other transactions as an intermediary.

3.3 Order executioner

The executioner has two responsibilities. First to grantee that the transactions are executed by the blockchain in a timely manner. The second responsibility is validating the transaction against malicious activity.

The result of an order balancer computation is an optimal execution plan which is a series of on chain transactions. Since the balancer is chain agnostic, if chosen, the transaction may go through any chain which is more cost effective.



Restrictions will be put in place which will ensure changes are disclosed prior to execution, and if the execution deviates from the set guidelines the transactions will fail. This method guarantees protection against malicious transaction developers.

4 Software Development Kit

The goal of the Yieldster SDK is to lower the barrier for participating in the DeFi ecosystem by creating interoperable abstractions for developing on top of the blockchain. It provides functions and data for interacting with DeFi applications, removing the learning curve for application developers.

The SDK applications will be written in the Python programming language and may be hosted on a server cloud provided by Yieldster. All applications and data sources are audited and fully automated, ensuring both the cyber and financial security of funds.

4.1 Functions

The layers of abstraction come in four levels, from low level smart contract calls to the transaction ERC outlined in the order balancer. This granularity gives total control to the developers, empowering them to develop the perfect applications at a rapid pace.

The lowest level is directly calling smart contract function through the web3 libraries. Developers would be able to directly call the blockchain to execute the necessary transactions and receive information; without requiring them to host a blockchain node.

The second layer of the SDK are protocol function calls. The challenge with interacting with protocols is that they require multiple concurrent calls or off-chain data to properly execute. The protocol layer eases development by replicating the function and data usually available on the protocol webapps through an API.

In addition to protocol specific calls the SDK has also created ERC standards for each class of protocol. These classes include automated market makers, lending, staking, etc ... With this one protocol can easily be replaced with another to provide interoperability.

The highest layer of the SDK is the standard outlined in the order balancer. The standard allows interaction with any DeFi protocol without requiring the developer to learn the specific interface of that protocol. This completely removes the learning curve for any protocol, allowing for rapid development.

4.2 Data

The accuracy and reliability of data is critical to the correct operation of the platform. As such, we have included a simple and secure method for developers to locate, access, and use data that is



needed to track and evaluate assets. The data module will easily provide all relevant information from the vault, in addition to reliable and approved data sources.

A big challenge for interacting with blockchain applications is interpreting the data available on the blockchain. Many of times they require special functions or off-chain data sources to transform the information into human understandable form. The SDK provides this information for each protocol.

All data sources must be registered with and provided through the Yieldster marketplace. This filter ensures that the data streams are reliable and falls in line the goal of making the SDK fully automated.

5 Governance: Decentralized Autonomous Organization (DAO)

Yieldster is governed by two groups: DAO leadership and DAO token holders. DAO Token holders are responsible for proposing and voting on changes to the Yieldster platform including the assets, protocols, and strategies allowed on the platform as well as updating and upgrading the underlying smart contract and technology along with changing the platform fee.

The DAO leadership consists of its founders and members. They are responsible for the DAO's day-to-day operations, managing communications and community engagement, conducting due diligence, and ratifying initiatives approved by the community via the voting process.

In general, DAO leadership (Founders and Members) is obligated to ratify proposals and initiatives that have gone through the Idea Incubator and Yieldster Progress Proposal process and have been approved by the community via voting.

6 Conclusion

DeFi is the new paradigm that offers the possibility to invest safely in crypto. To make DeFi mainstream for the investor community, we need a mature framework. The reliable and secure foundation of the Yieldster platform provides professional organizational processes needed for the growth of the ecosystem.

Yieldster's team of technologist and financial experts offer the deep knowhow and professionalism which the current crypto ecosystem is lacking. Through the expertly designed vaults investors can feel more confident about the security of investing their capital in DeFi.