radar

Whitepaper

v1.0.0

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01

INTRODUCTION

Radar Protocol is an ecosystem whose sole purpose revolves around asset management, and as such, we will focus on it in the first part of this chapter. Even though asset management has been around for a long time and has undergone multiple improvements over the years, it has somehow managed to achieve the status of a laggard technology, especially when compared with the cutting-edge capabilities that some of our current systems can handle.

Asset management most commonly encapsulates the entire process of developing, operating, maintaining, and cost-effectively selling assets. Most often used in finance, the term usually refers to individuals or firms that manage assets on behalf of other individuals or entities.

The goal of asset management is to increase total wealth over time by acquiring, maintaining, and trading investments that can grow in value. Asset management professionals perform this service for others. They may also be called portfolio managers.

01.1

THE FIRST REVOLUTION: BLOCKCHAIN & DEFI

What Bitcoin first aimed at solving was the required trust between two merchants or individuals over the internet. While the previous system worked well enough for most transactions, it still suffered from the trust-based model's inherent weaknesses. Completely non-reversible transactions were not possible since financial institutions cannot avoid mediating disputes. As such, merchants had to be wary of their customers, hassling them for more information than they would otherwise need.

The Decentralized Finance (DeFi) or Open Finance movement took that promise a step further. As Coinbase very well described it in one of their articles: "Imagine a global, open alternative to every financial service you use today — savings, loans, trading, insurance and more — accessible to anyone in the world with a smartphone and internet connection."

After the advent of Ethereum and other chains that included smart contract functionality, the use of dapps, or decentralized applications, has become a reality. These types of applications run entirely on smart contracts, making their code immutable and publicly verifiable.

Unlike traditional applications, whether financial or not, dapps are not managed by a single centralized entity or company. While some of these concepts might sound futuristic, such as automated loans negotiated directly between two strangers in different parts of the world, without a bank in the middle– many of these dapps are already live today. There are now dapps that allow you to lend out money and earn interest on your crypto, take out a loan, exchange one asset for another, go long or short on different assets, and implement automated, advanced investment strategies.

01.2

THE CHALLENGE

Despite blockchain & DeFi eliminating the need of an intermediary and adding several useful features on top, none of this solves the core issue at hand. To properly do asset management, whether personal or institutional, a user or an entity needs to have vast experience and knowledge regarding all of the particular assets they manage.

In large companies, such as banks or other financial institutions, this issue is usually solved by hiring experts in each industry where the bank has investments. Asking for a professional opinion, however, is an unrealistic solution for individuals or smaller entities. The problem then remains. Despite access to technology and being presented with an opportunity right beside, how can an individual learn about all the different options single-handedly while also weighing them appropriately and then allocating capital while doing proper asset management? Even if we only talk about the blockchain industry, it is still a colossal endeavor. It requires someone to understand all the different AMMs, synthetic assets, futures, lending protocols, and NFTs, to name just a few. Or, in simpler terms, it's a full-time job.

01.3

THE SECOND REVOLUTION: RADAR PROTOCOL & POR

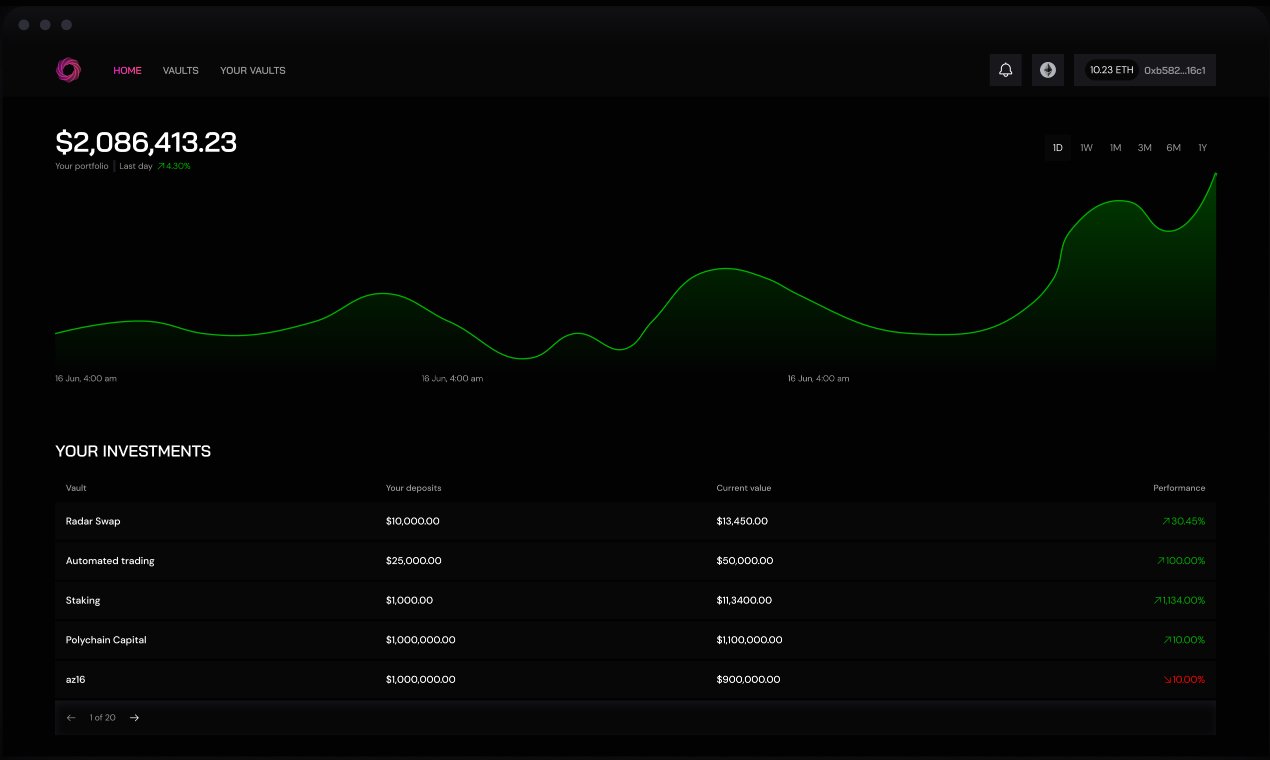
We now know what the asset management industry is focused on, how blockchain & DeFi help with that, and the current challenge. We've boiled it down to education in a particular sector, or even simpler terms, to knowledge on a specific subject.

But how can you prove that? Even if you do, how does that even help? It does, if you can delegate assets to a verifiably more knowledgeable individual, but how do you even go about doing that? This paper has the purpose of answering those questions and much more. Before we go there, however, let us turn this concept into something even more concrete. How do you prove knowledge in asset management? That's simple: Returns. That is where Radar comes in, and even more specific than that, this is where our Proof-of-Return system shines and makes people's life easier.

01.3.1

RADAR PROTOCOL

Before we get into the technical details and start discussing features, limitations, capabilities, and everything else, we want to explain in simple terms what Radar is. The team behind Radar did not choose the name at random; it refers to how the protocol is a tool that helps individuals or entities find the best possibilities at any one point without having to do backbreaking work through the use of technology.



In the same way, a radar detects, locates, tracks, and recognizes objects at a considerable distance, likewise, our protocol is capable of identifying opportunities and facilitating access to them in an easy-to-use manner.

As such, the purpose of our protocol is truly democratizing asset management. Furthermore, we are giving the power back to the system, which is where it should have been in the first place, because the depth of Radar protocol exceeds any one individual, be it a founder, an asset manager, or a simple participant.

Radar is decentralized software whose purpose is to withstand the test of time and eventually turn into what will hopefully be recognized as a technology and a revolution of the financial industry.

01.3.2

PROOF-OF-RETURN

You might be wondering what this could mean. To understand this, however, we need to put things a bit into perspective. On Radar, users can be many things and can employ an even more immense multitude of different tools, so let us first try to define that a bit.

We'll make an abstraction of most features and boil this down to its most elementary form. Radar puts asset allocators in touch with asset managers. In simple terms, Radar connects individuals who want to allocate their money somewhere but do not have the necessary time or knowledge to choose the best strategy, together with a manager who has a proven track record and the required time and expertise to allocate said capital.

Now that we've gone through the concept, as with every meritocracy, Radar will reward its users. The rewards are based upon a proprietary model, which we call Proof-of-Return. Managers will get rewarded based on their returns by the protocol itself.

While allocators can choose a specific manager to handle a portion of their portfolio, every user will also have the possibility of leaving his assets under the management of the protocol as a whole, after which the protocol will allocate capital to several managers based on their Proof-of-Return score.

In addition to the indirect reward of capital allocation through the protocol, there is also a more direct reward, which comes from the fees that the protocol takes, which eventually go back into the ecosystem, based upon the above principle.

The specific mathematics and technical details of this particular mechanism will be described in an ulterior yellow paper. Still, the mere concept is enough for someone to make sense of the ecosystem we are building, which we are about to describe in the paragraphs below.

02

GENERAL OVERVIEW

Radar is an ecosystem composed of several main components. Because Radar is built with a modular architecture, the infrastructure we provide will be usable by any project or individual on an independent basis through a simple-to-understand interface and API. Despite that, it makes things easier if we split the ecosystem into a few specific components, and although the ecosystem will continue to evolve, these components can remain at the core of the system.

The first main component of Radar is the asset management platform, aimed at both individuals and entities alike. The platform offers them modular vaults and complete freedom over how to set them up.

The second main component is our liquidity aggregator, with a fully open API allowing both personal and professional use. The aggregator will be built into our asset management platform, making the life of asset managers much easier.

The third component is our mobile wallet and application, which not only includes the aggregator and asset management platform but it also features a browser that allows users to access dapps directly from mobile and it has a built-in wallet.

02.1

WHY USE RADAR PROTOCOL

Due to the inherent advantages of blockchain, Radar allows both capital allocators and capital managers to interact with one another in a trustless manner without the need for extra verification or unclear terms, since everything is stored and settled on-chain.

The managers and allocators alike can decide on a specific set of rules to implement for each particular vault. Each party has a specific set of conditions they would agree with and since Radar offers complete freedom, this allows the two counterparties to have an easier way of finding a proper match. Every Vault will have its own individual score as well as live accounting which will include several variables, from performance and fees to current holdings at any point, denomination of the specific Vault, and dozens of other such things.

The specific rules of any individual Vault can be changed through a shared decision taken by both allocators and managers during a vote. Furthermore, managers can assign parts of the vault to other specific Vaults, or different yield strategies and such, similar to how traditional portfolios are handled with weighted averages of various risk levels across different industries.

02.2

HOW DOES RADAR WORK?

The Radar platform is built using a cross-chain solution that combines a regular asset management platform with complete freedom through the power of DeFi and cross-chain interoperability. As a result, Radar offers investors a group of asset management vaults they can choose from, based on their preference in terms of the fund manager, the weighted ratio of the fund, and specific investment currencies used within a Vault, to name just a few of the variables available for allocators to sort by. Furthermore, even managers have the right to select their clientele, i.e. the allocators who are allowed to join a particular Vault.

Funds can be run passively or actively via whitelisted decentralized finance (DeFi) protocols. A distinct Radar X-Fund LP Token, which is equal to the contribution that the investors made to the fund will be issued for every investment. We will refer to these tokens moving forward as rFund(n) where n is just a random number to differentiate between various Vaults. Investors can then exchange their rFund generic token for the underlying asset of that particular vault. Typically, an investor deposits crypto assets that are accepted by a specific fund in exchange for LP tokens. Those tokens represent a partial ownership of the fund. The rFund1 tokens are unique and different from rFund2 tokens and can be traded among the investor circle or be redeemed for its underlying assets within the fund. In the future a Radar - rFund(n) pool might exist.

A fund manager sets a fund up by formulating his investment strategy and defining the fee structure. The fund manager also decides which assets will be accepted and how access limits different safelisted DeFi protocols. Radar Protocol allows the fund managers to explain investment tactics to facilitate the attraction of appropriate investors. The funds are, after that, pooled from investors into a smart contract to allow the fund manager to distribute them passively by following a particular index or actively assuming the management of several financial product streams.

The fund manager is allowed access to all the necessary and required permissions depending on the given smart contract for individual investment funds, enabling the manager to distribute and assign funds to specific whitelisted DeFi protocols or use several other available options. It is mandatory that the funds allocated to each DeFi protocol must not pass a pre-established and defined limit and can only be reviewed via fund-level governance. In exchange for asset management service, the fund manager is compensated through a fee-based model, where investors are allowed to take all the gains and losses while paying a commission-based or fixed fee to the fund manager.

In addition to all of the above, the transactions that go through the vault are fully transparent. Despite that, the investment tactic will remain obfuscated so as to avoid potential frontrunning and other similar issues.

03

THE RADAR ECOSYSTEM

03.1

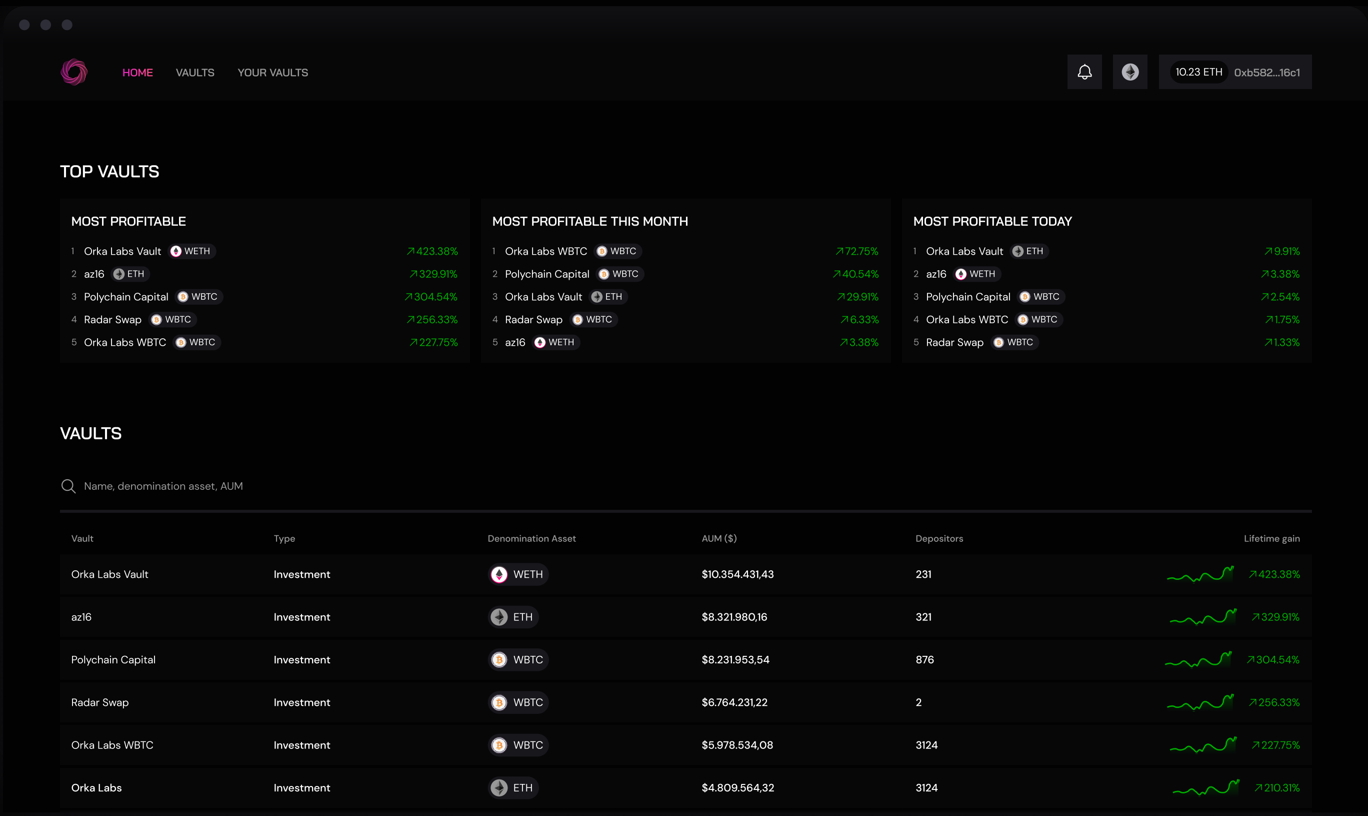
AUTONOMOUS ASSET MANAGEMENT

Moving forward, for ease-of-use we will simply refer to this component as AAM. AAM is a cross-chain decentralized infrastructure that enables users to build, scale, and monetize investment strategies through smart vaults.
Policy settings can be quickly configured at the vault level together with other useful reporting data such as trade history, deposits, withdrawals, and other such examples, which are presented in a transparent manner.

03.1.1

AAM VAULTS

It opens up the possibility for users to interact with vaults as capital allocators, having the right to choose a capital manager and to some extent influence or modify the power that particular capital manager has over the funds.



This exchange between parties is done in a completely non-custodial way allowing for no initial trust beyond the transparent public conditions a fund specifies on-chain.
Because of the modular approach, a user is not limited in the types of vaults he can create, allowing even for the creation of hybrid vaults. Despite that, below, we will give examples of a few “standard” vaults that people can use.

03.1.1.1

Yield Vault

The simplest type of available vault is a yield vault, whereby the asset manager’s role is to best allocate the capital in various DeFi strategies, lend the capital, provide LP, stake or any other type of similar yield-generating activity, within the bounds of his attributes as defined in the vault.

03.1.1.2

Spot Vault

The second type of vault is also quite simple. With a spot vault the asset manager's role is finding opportunities to trade spot cryptocurrencies within the bounds of his attributes. The vault can have pre-defined rankings, weights, maximum allocations, time period and dozens of other variables.

03.1.1.3

Futures Vault

The third type of vault is more interesting. An example of a futures vault is one that uses dxdy to place positions. Additionally, the vault manager can choose to get a Radar subscription and run a decentralized trading strategy that executes upon some set of rules as defined by the vault manager. As with all other vaults, this is also under the limitations of the Vault attributes granted to a manager.

03.1.1.4

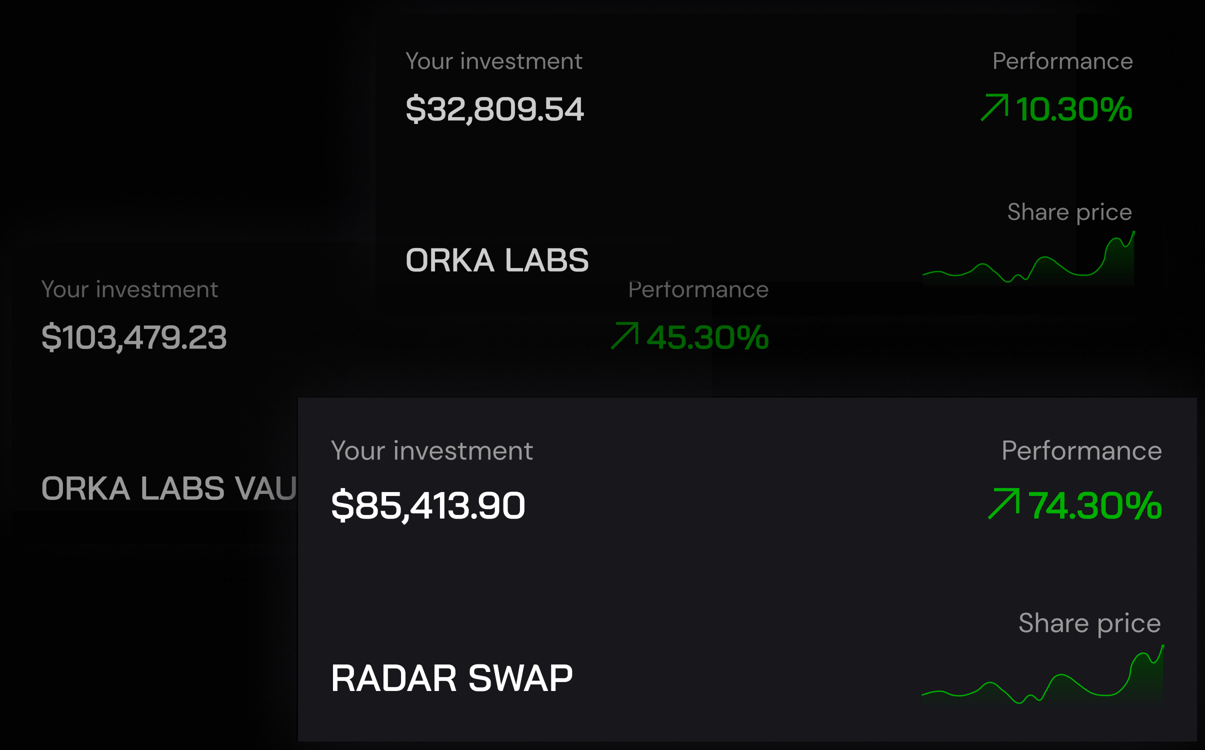
NFT Vault

The fourth type of Vault is a premiere in the blockchain space. Capital allocators who wish to have NFT exposure without understanding the intricacies of the sub-industry, can choose to allocate capital to a vault manager. The vaults can be targeted on sub-categories such as PFP NFTs or Metaverse NFTs or even more specifically Matic NFTs only.

03.1.1.5

Staking Vault

Since Radar is a cross-chain protocol, we allow vaults whose purpose is to stake, whether that asset is Ethereum, Cardano, Solana or any other asset that features a native-staking feature. This is useful especially in the case of pools like on Cardano where the necessity of reallocating might arise due to various reasons.



03.1.1.6

Lending & Borrowing

The Radar AAM supports lending and borrowing natively, in order to give users more options on one hand and to allow vault managers and asset allocators who have locked up capital to use it as collateral for approval on borrowing something. Users will be able to place their positions within a vault as collateral and continue to earn yield on those assets while also having access to capital.

03.1.2

AUTO-ALLOCATED CAPITAL

The Radar AAM also features an extra feature which we've briefly described in the introduction. Users who do not have the time or knowledge to choose the proper vaults in which to allocate capital, can configure a general list of settings and permissions they would agree with, as well as some limitations and then they can grant that capital to the protocol itself.

The protocol then decides on some weighted averages and allocates said capital into various vaults from the Radar AAM or simply uses it in lending or staking or the dozen other options which are available. The purpose of the auto-allocated capital is to ease up the work of an average user, even beyond what already exists while minimising risk.

03.1.3

GOVERNANCE-BASED PERMISSIONS

Appropriate and necessary measures have been taken to ensure that the correct permissions are made available to asset managers so that they can ensure the assets are safe, in a transparent manner through the help of smart contracts.

Asset allocators have their rFund tokens which prove ownership of the underlying asset, while fund managers are only allowed to distribute assets to whitelisted contracts, DeFi applications and other such examples depending on the particular case. Asset managers only have trading access to smart contracts, which means they do not have any withdrawal permissions. With preset structures aimed at easing the process, managing permissions isn't even hard.

03.1.4

INSURANCE

Radar Protocol platform has taken steps to ensure fund security is related to insurance services. The Radar Protocol will use decentralized insurance protocols to insure all the protocols and guarantee the safety of investors' funds, in addition to high-quality code, comprehensive testing, industry-proven security standards and auditing. Concurrently Radar Protocol will offer fund-specific insurance options that investors can choose to acquire and/or to hedge against any risks linked with the fund investment.

03.1.5

IMPROVED GAS EFFICIENCIES

Since asset allocators pool their funds into one single place, this results in gas efficiencies which in turn opens the door to general capital efficiency.

03.1.6

AAM VAULT CREATION

The asset manager initializes a smart contract, deposits an initial amount, and then he has to set up the initial opening parameters of the vaults, which can include but are not limited to name, accepted assets and asset types, supported chains, rules of conduct and other such examples.

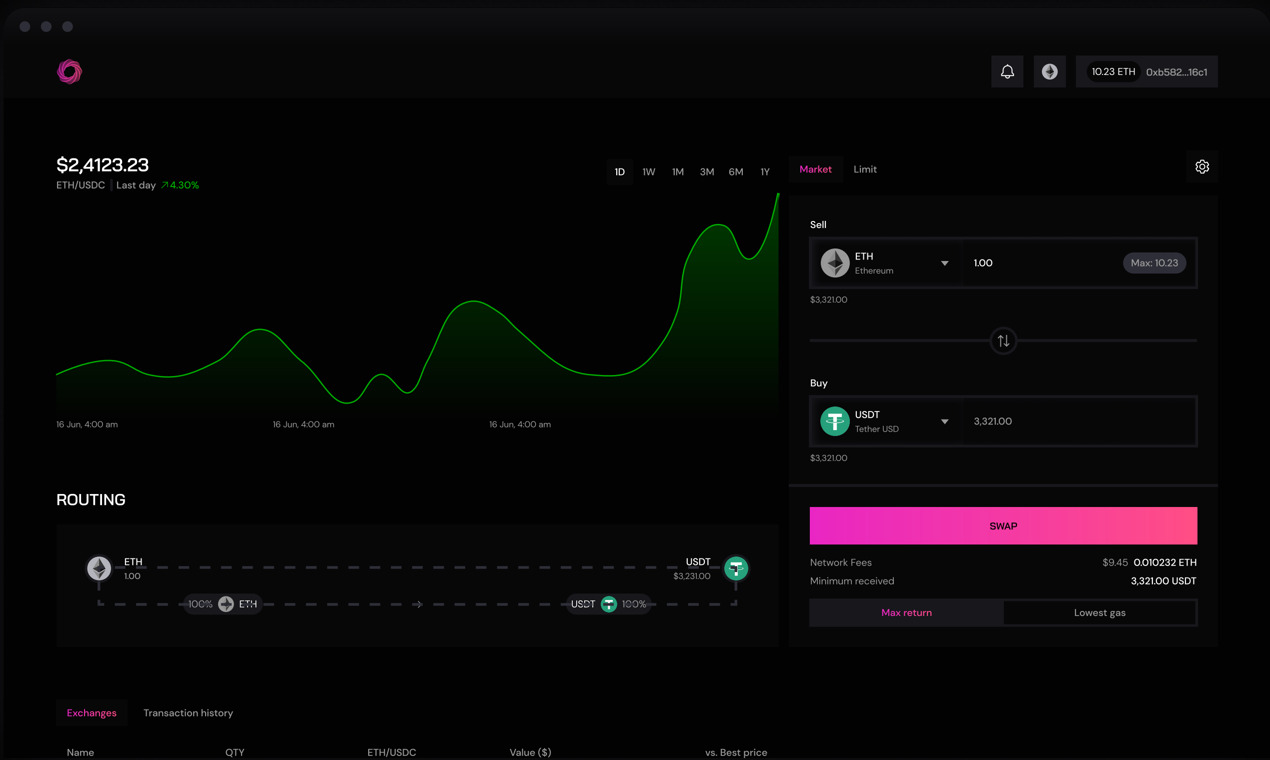
Once the initial parameters are set and the vault is published, asset allocators who fulfill the necessary requirements can use the vault on the condition that they agree with the parameters set forth and the overall fund vision and generated returns. After allocating assets to the vault they receive the corresponding rFund token which can be redeemed for the underlying assets.
While the severity depends on the permissions of an individual vault, an asset manager might need to get approval from the allocators vault-level governance. Some specific settings require a vote by default, such as changing the permissions.

03.2

AUTONOMOUS LIQUIDITY AGGREGATOR

Moving forward we will be calling this in short ALA. On one hand, the autonomous liquidity aggregator is a core component of the ecosystem, on the other hand it is such a large endeavour that it has several sub-componented which constitute the final product. ALAs role in simple terms is to assist both asset managers & allocators to achieve capital efficiency in all regards.

This is achieved through a combination of the different sub-components that constitute ALA. These components make it easier to place larger orders, efficientizes avg price when placing a position through the use of multiple decentralized AMMs on different chains, reduces gas costs.



03.2.1

OPTIMIZED DEX ORDERS

Because Radar ALA is connected to decentralized exchanges and swaps across different chains, finding the best price is much easier. On one hand transactions can be split onto different chains and pools, thus resulting in a better overall rate. Furthermore, this also makes it easier to accommodate larger transactions which is especially important for vault managers who need to be able to deploy capital rapidly.

03.2.2

BOT-PROTECTED TRANSACTIONS

To avoid frontrunning, whether from an autonomous entity such as a uniswap bot or simply from an individual, the Radar ALA offers the option to execute a transaction directly through a miner, thus avoiding any possibility of the transaction being frontrun because it is only broadcasted after it has already been confirmed.

03.2.3

CROSS-CHAIN INTEROPERABILITY

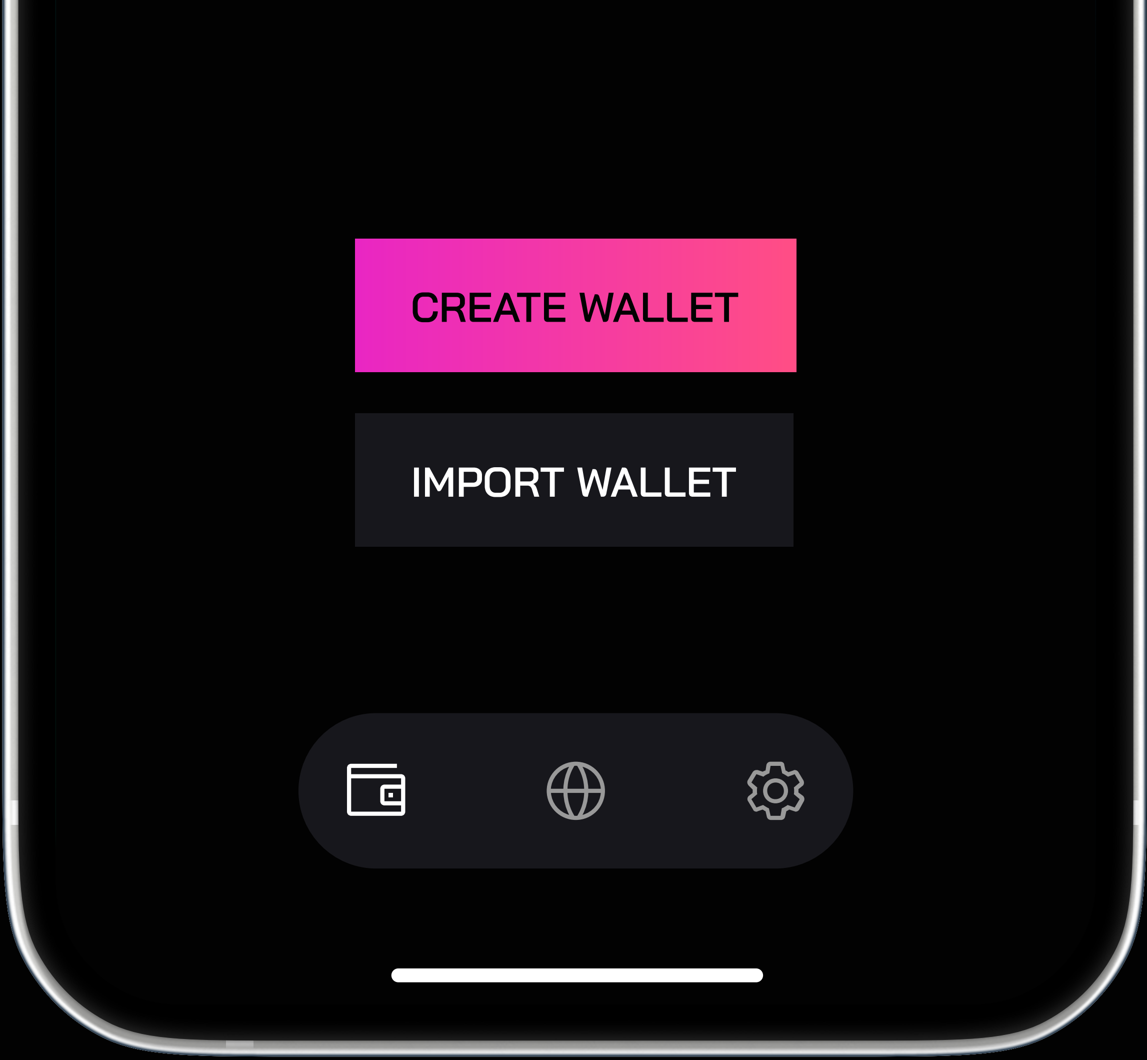
Radar ALA is a cross-chain application and has access to decentralized AMMs from several different chains. While the first target is integrating all EVM-compatible chains, as we move forward we will start looking into integrating non-EVM compatible chains as well such as Solana or Terra.

03.3

RADAR MOBILE WALLET

The mobile application consists of a blockchain wallet where you can store native assets from multiple EVM supported chains (Ethereum, Binance Smart Chain, Huobi ECO Chain, Fantom etc).

You will be able to create multiple wallets, receive, send and swap these native assets between each other from within the app. Furthermore, the app will work on both iOS and Android making it globally accessible on day one. Beyond the built-in features of the app, it also features a browser allowing access to other dapps.



03.3.1

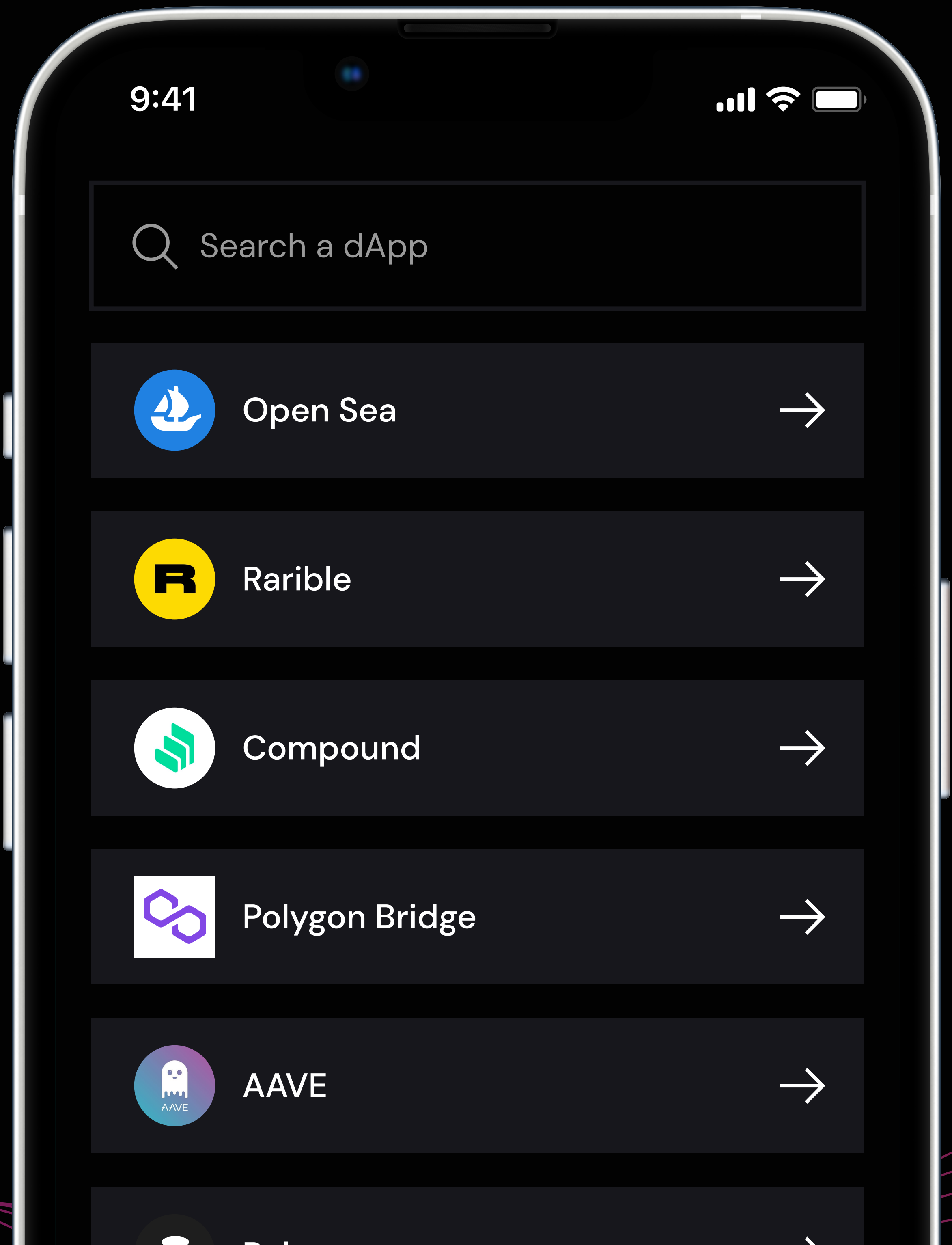
WALLET

The Radar Wallet allows users to store, send, receive and swap assets across multiple chains. The wallet is seamless and using Radar ALM executes optimized transactions while also offering gas reimbursements and security.

03.3.2

DAPP BROWSER

An important functionality of the mobile wallet is its built-in dapp browser, allowing users to directly access applications like Uniswap, Compound Aave and pretty much any other web3 application using the balances from your wallet inside the app.



03.3.3
AUTONOMOUS LIQUIDITY AGGREGATOR

The Mobile Wallet is connected to Radar ALM and can process private transactions to avoid frontrunning, handle multiple wallets on different chains for various interactions and even allows for the change of specific route when using the aggregator in case the user has a specific preference to mention just a few of the possible interactions.

03.3.4
FUND MANAGEMENT

In addition to being connected to the autonomous liquidity maker, the mobile wallet also allows both asset allocators as well as asset managers not only to check up on the status of their portfolio but also to make changes to it, vote upon a proposal inside the vault or simply use the app as they would on the web.

04

REVENUE MODEL

In this Section we will explore the different streams of revenue that the Radar Ecosystem generates and how these eventually flow back into the ecosystem through various mechanisms as described in the sub-categories below.

04.1

FUND MANAGEMENT

Asset managers can choose to promote their vaults (funds) to bring more publicity and target specific users with custom risk profiles. This can lead to a substantial increase in the visibility of asset managers and their managed vaults, which can lead to an increase of earnings for all involved parties. Given that there are only a limited number of spots available each week for which managers can bid, this will be a highly sought after feature that will function as a constant revenue stream for the project. Advertisements will be available on both mobile and web.

04.2

SUBSCRIPTION FEES

Vault managers may choose to pay a subscription fee which goes to the Protocol in order to cover server costs. In addition, vault managers may also ask for a subscription fee from asset allocators.

04.2.1

PROTOCOL SUBSCRIPTION

Subscriptions are used for automated strategies, allowing a vault manager to make use of a decentralized strategy that is completely autonomous, not only simplifying the work of the manager but also enabling a higher level of degree and trust for the allocators.

Different subscription levels will be available depending on the level of complexity and operations that need to be run. A fund manager will be able to pay such fees from the vault as an operational fee as long as it is within a pre established limit set beforehand.

04.2.2

VAULT SUBSCRIPTIONS

In addition to the protocol subscription, asset managers may choose to ask for a subscription fee from asset allocators, paid either on a monthly or yearly basis. The Radar Protocol will be taking a 5% commission from these subscriptions.

Other than this, the fee is at the discretion of the asset manager as long as his clientele is ok with that particular number. Asset managers may also choose to create a limited number of available spots via the subscription under the form of a generated NFT with multiple editions, whereby the number of editions is directly proportional to the number of available subscriptions.

Because of this modular approach, asset managers can even choose to have different subscription tiers, an example would be having a bronze, silver and gold level.

04.3

VAULT FEES

Radar does not take an entrance fee in any specific Vault as is customary with such systems. Instead, Radar only takes an exit fee of 1% every time an allocator redeems his investment from a specific vault. Vault managers also pay a 5% fee from the performance fees they gain from asset allocators, just as with subscription fees.

Of the gathered funds, after paying for the operational fees of the company, the rest of the funds will be used to buy tokens from the open market. These tokens will then be used as follows.

04.3.1
BURN
25%

From the tokens the protocol acquired from the open market, 25% of these tokens will be irreversibly burned. Burning is the process where digital currency miners and developers take certain tokens out of digital circulation. This creates a deflationary system for Radar Protocol.

04.3.2
TOKEN LP REWARDS
25%

25% of the platform's funds will be allocated to token liquidity provider (LP) rewards. Every user who provides liquidity on one of the Automated Market Makers where Radar is listed will be able to stake his LP tokens and earn Radar tokens in addition to the pre-existing LP rewards which come directly from the AMM.

04.3.3
STAKING
25%

25% of the platform's funds will be allocated to the users who stake their Radar tokens. Staking for a longer period of time will yield more rewards, albeit in a logarithmic fashion, not a linear one. Staking will also grant users other benefits, some of them covered already in this whitepaper and others still to come.

04.3.4
TREASURY
25%

25% of the platform's funds will be allocated to the community treasury, to be spent as necessary whenever the community decides so. The treasury can be spent on proposals that get passed through the Radar governance. Proposals can be made by anyone in the community respecting specific thresholds so as to avoid bot tactics.

05

CONCLUSIONS

In the constantly developing world of cryptocurrencies and digital assets one thing that stands out is innovation. Radar was created to fill the gaps that other similarly ambitious projects left open and improve upon some ideas that already existed on the crypto market.

The Radar Protocol innovates the way investors and depositors interact with Vaults in a non-custodial manner, which requires minimal trust among the parties. Features like live accounting, requiring vault managers to do specific actions and denying them the possibility to take others, the possibility to retrieve reporting information such as trade history or deposits and withdrawals, gives the users a whole lot of options to customize the way in which they engage on the platform.

Being built on a cross-chain solution that ratifies a common asset management platform, where funds can be run passively and actively via whitelisted DeFi protocols, makes Radar a perfect solution for users that want to actively partake in the complex world of cryptocurrencies.

Radar therefore creates the framework not only to attract so many new users to the world of crypto, but it also does it in a manner that is both innovative and user friendly.

This mix of innovation and improvement to already established features, while still being user friendly, makes the Radar Protocol the perfect solution for cryptocurrency beginners and aficionados alike.

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