BUNNYBOT KNOWLEDGE

I. TECHNICAL PAPER

1. What is Arbitrage?

<u>Arbitrage</u> is the transaction of buying and selling the same asset in two or more markets in order to make a profit from the difference in prices from different markets.

What is Arbitrage?

In CryptoCurrency, it is applicable to use cryptocurrencies such as Bitcoin, Ethereum, Litecoin, Bitcoin Cash, etc... to buy and sell simultaneously at two exchanges or multiple exchanges to make a profit on the price difference between exchanges platform.

Example: the theory of **Arbitrage**

Suppose at 2 exchanges that **list Bitcoin (BTC)** as follows:
- **Exchanges A**: BTC/USD = **7.729 USD**
- **Exchanges B**: BTC/USD = **7.950 USD**

Buy rate BTC/USD = 7,950 USD of the exchanges **B** is greater than the buying rate of BTC/USD on exchanges **A** BTC/USD = 7,729 USD.

Profit opportunities are as follows:

- Buy BTC at exchange **A** at the exchange rate BTC/USD = **7,729 USD**
- Sell BTC at exchange **B** at the exchange rate BTC/USD = **7,950 USD**

Thus, the profit earned from using Arbitrage is as follows: 7,950 – 7,729 = $221

How to make profit from Arbitrage?

It can be said that **Arbitrage** has been around for a long time, but recently the market "was up" with forms of making money or investing in trusts in companies and projects that are using **Bot Arbitrage**.
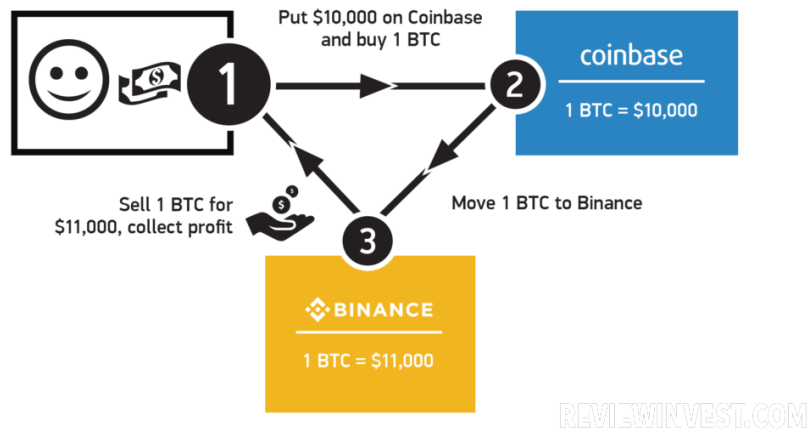
The example above has helped you imagine what it's like to make money from Arbitrage, right?

Use Arbitrage on Coinbase and Binance

However, to make money from Arbitrage requires us to have:
- Know the price of the crypto you want to use from the lowest and highest exchanges
- Fast processing time because the process takes place at the same time: BUY – SELL
- Large capital because available assets are needed to execute trades on exchanges

2. Liquidity pool/ Liquidity on Dex

What is Liquidity Pool ?

A Liquidity Pool is a group of coins or tokens locked in a smart contract. Overall, the Liquidity Pool is a straghtforward concept, it can be used in many different ways.

For example, Liquidity Pool facilitates transactions between assets on a decentralized exchange (DEX), lending protocols, Yield farming, Synthetic Assets, etc. .

Liquidity Pool can be considered one of the foundational technologies behind the success of DeFi currently. They facilitate the movement of digital assets in an automated and permissionless manner through liquidity pools.

How Liquidity Pool Works

One of the most important groups in terms of how well a Liquidity Pool works are those who provide that Liquidity Pool , or called Liquidity Providers.

NEW MARKET

So if Liquidity Pools in crypto are to work effectively, they need to be designed with appropriate incentives for Liquidity Providers to pool their assets into the Liquidity Pool. That is why most of the liquidity providers in the Crypto market earn trading fees and **Yield Farming** rewards from the decentralized exchanges where they provide liquidity. When a user provides liquidity to the pool, the liquidity provider usually gets LP tokens back. LP tokens represent their share of assets in the common pool and can also be used throughout the DeFi ecosystem with various capabilities.

LP
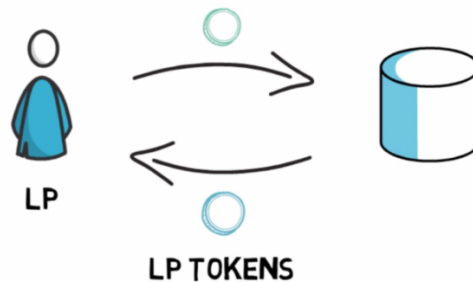
LP TOKENS

For Automated Market Maker (AMM) Liquidity Pools, when a transaction occurs, a transaction fee is retained in the Liquidity Pool and distributed proportionally among LP token holders.

Liquidity pools in AMM also maintain market value for tokens in the pool dependent on AMM algorithms. Liquidity Pools in different protocols may use slightly different algorithms.

For example, Liquidity Pool Uniswap uses a constant product formula (x * y = k) to maintain a ratio of price to the number of tokens in the pool.

$$x \times y = k$$

TOKEN X QUANTITY

TOKEN Y QUANTITY

CONSTANT

Why is Liquidity Pool Important in Crypto?

LTA (Long tail Assets) in low liquidity account status or no account makes their trading very difficult. Before the Liquidity Pool, the liquidity of the cryptocurrency market was heavily influenced by centralized

exchanges (CEX) and traditional Market Makers. At that time, the account only focused on some top coins & tokens such as BTC, ETH, and LTC,...

Liquidity Pool appears to solve the problem of illiquid markets by incentivizing users themselves to provide crypto liquidity and receive a reward as part of the transaction fee.

In addition, trading with Liquidity Pool protocols such as Uniswap and Sushiswap, ... does not require buyers and sellers to match orders like Order Book floors. This means that users can exchange their tokens and tokens in the pool using user-provided liquidity and trade through smart contracts.

This makes Liquidity Pool an excellent solution for settlement accounts in crypto, especially for LTAs, opening up many other use cases for crypto.

The Bunnybot platform works through arbitrage trading of pooled payment funds, which increases the feasibility of bunnybot and helps in stable operation, avoiding attacks due to decentralized activity on the blockchain network.

3. Loss of liquidity on crosschain – multinetwork

What is Cross-chain Bridge?

The cross-chain bridge is a connecting bridge that allows the movement of crypto assets, tokens, or data from one Blockchain to another, including layer 1, layer 2, sidechain, or childchain. In a word, Cross-chain Bridge is like a bridge to trade between ecosystems, thereby making it possible for ecosystems to optimize the cash flow inside.
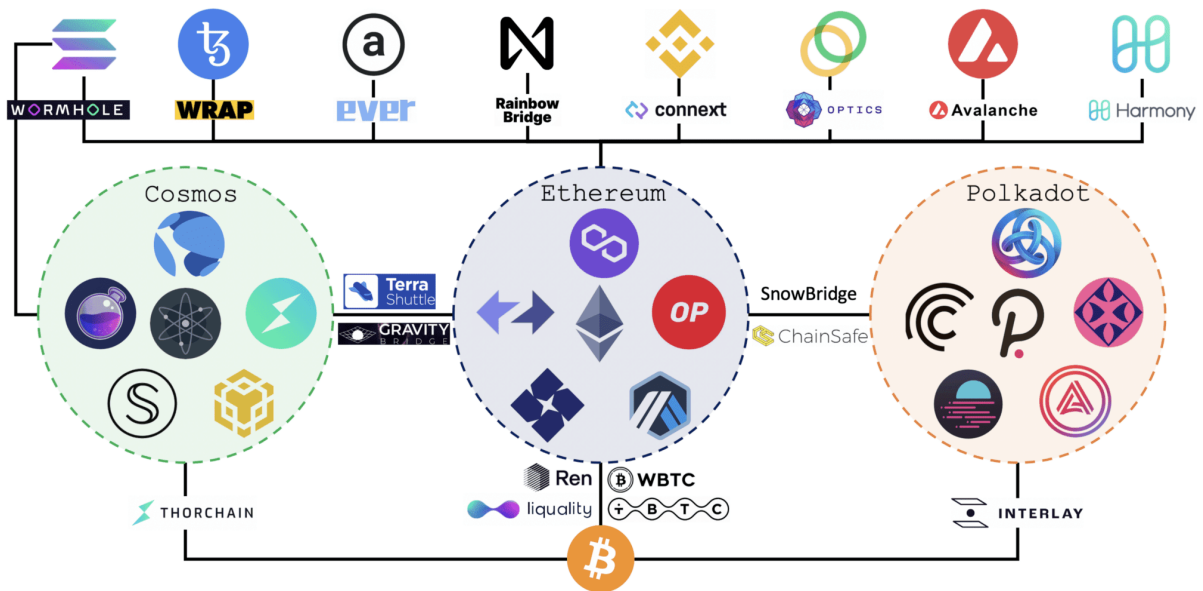
The above design has proven to work, as blockchains like Ethereum, Bitcoin, Cosmos, Solana, etc. highly secure, and users can thoroughly verify their transactions on the chain. However, the different nature of each blockchain has reduced the chances of cash flow growth in Cryptocurrencies and limited the ability of users to take advantage of the opportunity.

The increasing number of Cross-chain Bridge projects proves that the number of users who need to transfer assets is huge.

Cross-chain Bridge Operation

The model being commonly used in Cross-chain Bridge is Lock-Mint-Burn
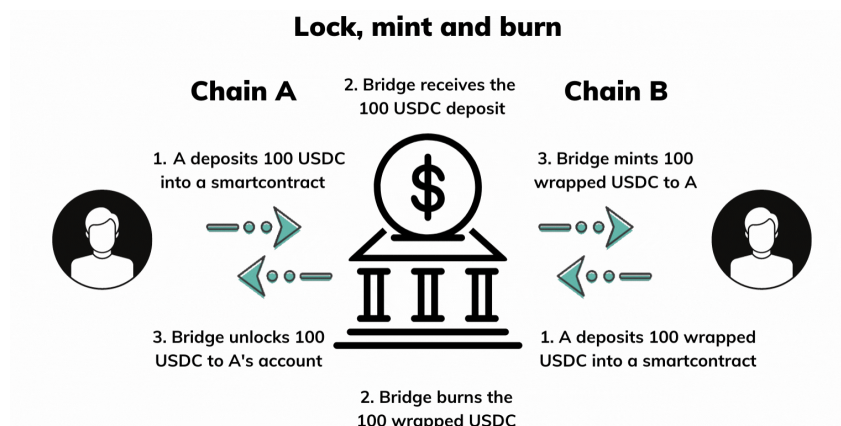
How the lock-mint-burn model works:

- Step 1: Users will send assets at chain A to the bridge.

- Step 2: This bridge will now be a bank, upon receiving the user's assets, the bridge will mint the asset wrapper on chain B for the desired wallet address.
- Step 3: When needing to withdraw assets, users send back the wrapped number to the bridge.
- Step 4: The asset will be burned and the bridge will unlock the asset on chain A for the user.

The method of operation is quite simple, but when applied to bridge development, there are many different variations to apply, among which, each type will have different advantages and disadvantages.

Type of Cross-chain Bridge

There are two types of Cross-chain bridges: Centralized Cross-chain bridge and Decentralized Cross-chain bridge.

Centralized Cross-chain bridge:

Centralized Cross-chain bridge: There will be a 3rd party acting as a broker for the chains. They receive user tokens from one chain and then mint wrapped tokens in another chain.
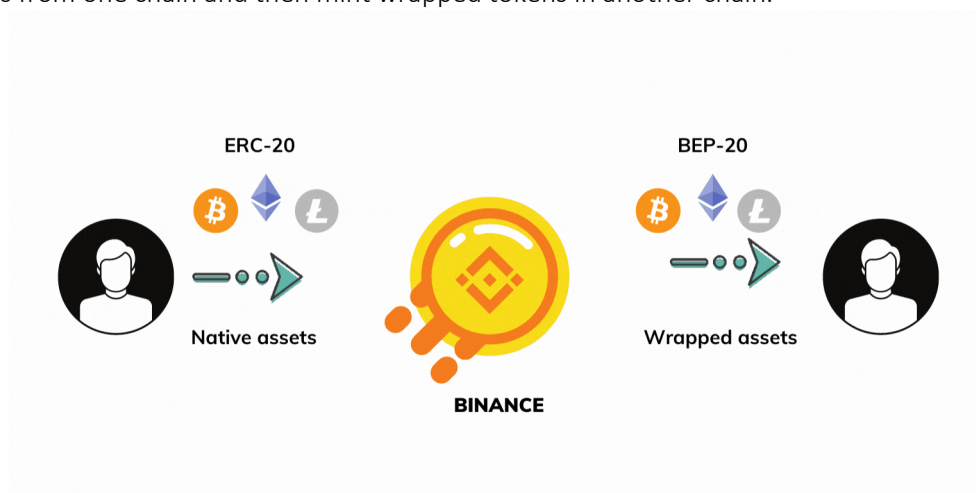
- **Pros:** Simple to use, convenient and suitable for new users.
- **Cons:** Users will depend on third parties, they have full rights to use the sender's assets.

However, the possibility of users' asset fraud is very low with big names like Binance, the reputation damage for users will be more excellent with what they receive, but there are still many other problems related to the Concentration Bridge.

Decentralized Cross-chain bridge

There is no 3rd party; here, it is a pool containing assets managed by validators. Users deposit assets from one chain into the pool, validators will act as verification of that transaction, and the pool will mint wrapped tokens in another chain.
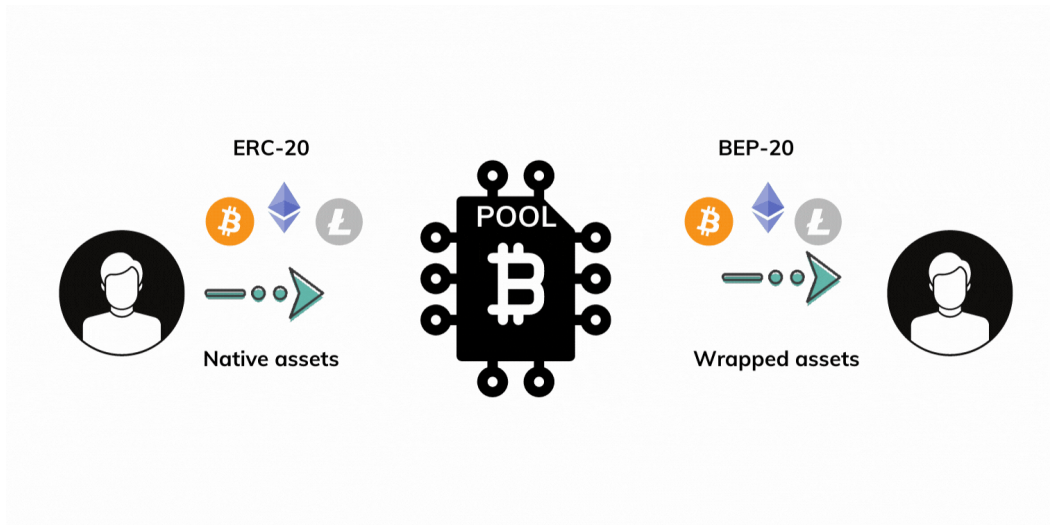
- **Pros:** There is transparency as everything is verifiable on-chain
- **Cons:** Not guaranteed safety when the current bridges are very new. The pool containing the assets of the Decentralized Cross-chain Bridge is suitable prey for attacks. Typically, Polynetwork was attacked by hackers losing more than $ 600 million

Three types of Decentralized cross-chain bridge stand out

Somewhat centralized bridge

Validators will control the minting and burning of wrapped tokens through a multi-sig mechanism (primarily by consensus, the transaction is approved). The validators will usually be verified accounts (KYC) and know each other in real life.
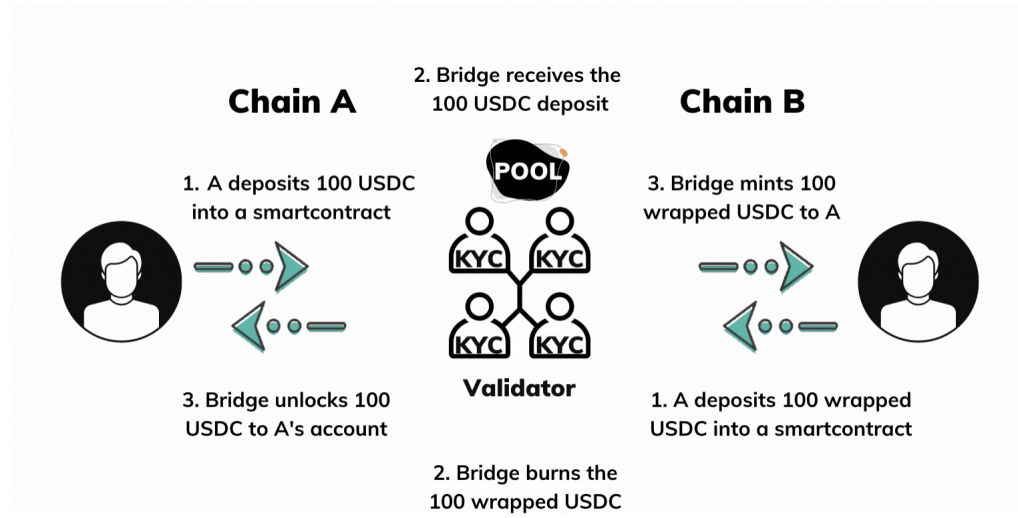
This model helps prevent bad behavior by identifying validators in advance. However, this also does not guarantee that validators will not "Rug-Pull" the project.

Decentralized bridge

The decentralized bridge is developed on the Proof of Stake network and allows anyone to be a validator.
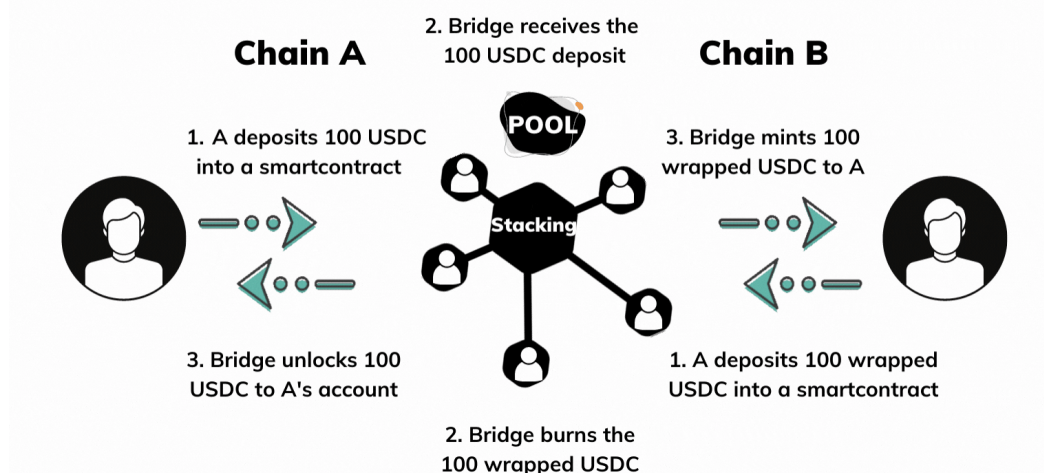
This decentralized bridge typically adopts a staking & slashing model, which gives validators an incentive to verify transactions, reversing their asset stakes that would be forfeited if the action was taken—destructive behavior.

Untrusted bridge

This bridge is directly **connected between the chains**. The core of the **Untrusted bridge** is the compatibility of the bridge with the network. It will be like a part of the network and inherit the security of the network. This type of bridge has **the highest level of protection but is challenging to develop and scale to chains**.
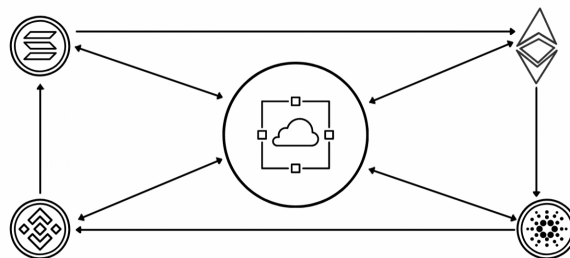
Why cross-chain bridge is vital in the Crypto market

- You can convert assets from one chain to another to use the chain's Dapps you want.
- Cross-chain Bridge's On-chain data can be used to forecast which chain the money is flowing to.
- If the future Untrusted Bridge develops and expands to chains, it will be a new era for Crypto.

4. Routing Algorithms and Arbitrage Crypto

4.1. CRYPTO ARBITRAGE

This is possibly one of the most favorable trading opportunities for cryptocurrency trading algorithms. With arbitrage, we are trying to take advantage of market mispricing and profit without the risk.

There are many arbitrage opportunities in the markets that exist on exchanges and even within them. We won't go into all the strategies.

Arbitrage opportunities are trades that exist precisely because not many people are trying to take advantage of them. There is low competition from other trading algorithms, which makes it more profitable for the first to enter the market.

Likewise, to take advantage of these opportunities, we must act quickly. They usually last for only a few seconds before the market realizes mispricing and closes the gap.

In the cryptocurrency market, arbitrage trading is often the most profitable arbitrage trading between currencies on multiple exchanges. For example, they may be trading undervalued Ripple on BitFinex and the Binance exchange.

This would require the bot developer to have an account with both exchanges and link orders from the algorithm to their API system.

Some bots can take advantage of mispricing on the exchange itself.

Here is an example of a potential triangle arbitrage that an algorithm could enter. As you can see, there is a mispricing of the prices of Litecoin (LTC), Bitcoin (BTC), and Ethereum (ETH) on the Kraken Exchange.
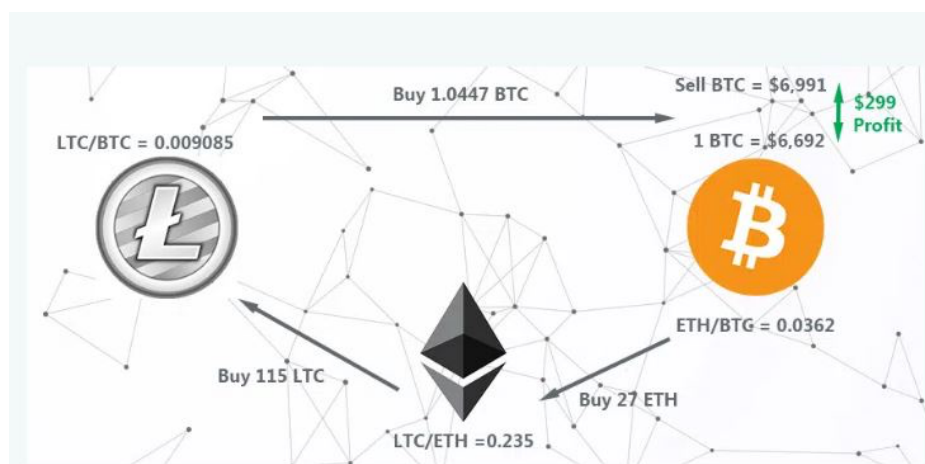
What is likely to happen in this case is that the mispricing will only last for a few seconds, and bots that can detect it and execute trades will reap the rewards. These algorithms will scan the Kraken order book in milliseconds to determine the slight increase.

4.2. ROUTING POOL

We often want to know the shortest/fastest path between two points. This is a well-known problem in graph theory. Several algorithms solve this problem: A*, Dijkstra, etc.

Determining the fastest processing algorithm to find the difference between pools is the advantage of Bunnybot. Bunnybot builds programs based on proven algorithms and works well. At the same time, the server system that the Metanode operates throughout helps the execution process reach the highest frequency.

5. Bellman-Ford Arbitrage Algorithm

Arbitrage - Bellman-Ford Algorithm

Description of the Bellman-Ford algorithm in currency and crypto trading

Suppose you are given a set of exchange rates between certain currencies, and you want to determine if arbitrage is possible, i.e., if there is a way that you can initially start with some currency C and make a series of barter transactions when there is more than one unit.
C. Suppose that

- Zero transaction costs

- The exchange rate does not fluctuate

- Small amount of items can be sold

```
% more rates.txt
5
USD  1       0.741  0.657  1.061  1.005
EUR  1.349   1      0.888  1.433  1.366
GBP  1.521   1.126  1      1.614  1.538
CHF  0.942   0.698  0.619  1      0.953
CAD  0.995   0.732  0.650  1.049  1
```

The figure above shows such a chart. Let's see what happens if I receive the exchange in the following order:

USD -> EUR -> CAD -> USD

Let's say we start with 10000 USD and then exchange it for EUR. We get 7410 EUR. Now I want to trade this with CAD.

7410 EUR = 7410 * 1,366 = 10122 CAD

Now exchange this for USD.

10122 CAD = 10122 * 0,995 = 10071

We started with 10000 USD and ended with 10071 USD. That's a reasonable $71 profit.Design an efficient algorithm to determine if arbitrage exists - a way to start with a single currency and convert back to multiple currencies through a chain of exchanges.

The relationship between currencies can be graphed: the money will correspond to the vertices, the exchange rate corresponds to the edges, and the edge weights are set to the exchange rate, as shown below.

An arbitrage opportunity
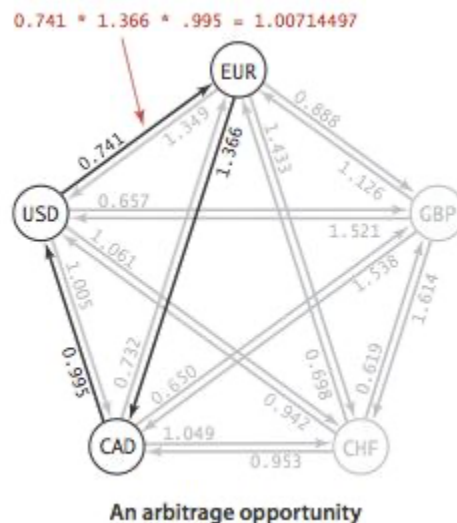
Let's say we have two currencies, A and B, and consider some scenarios below:

1. Assume the exchange rate A -> B = 1,5 and B -> A = 0,6667

Note that the multiplication of the exchange rate is 1,5 * 0,67 = 1.

So if we exchange 1 unit of A for B and whatever we get, we convert back to A, and we get 1 unit of A back.

2. Now, Assume the exchange rate A -> B = 1,5 và B -> A = 0,5

Exchange rate multiplication = 1.5 * 0.5 < 1. In this case, if we convert 1 unit of A to and then convert back to A, we will have 1 unit of A less even though we started with 1 unit of A, So in summary, we will lose in this scenario with profit < 0>3. If the exchange rate from A to B is 1.5 and B to A is 0.8, then since 1.5 * 0.8 > 1 and we will end up with more than 1 unit of A if we start for 1 unit of A, convert to B, and whatever we get after the conversion, we convert back from B to Profit > 0.

We can also extend this observation to more than two currencies.

Let's say we have two currencies, A and B, and consider some problems below:

let's say exchange rate A -> B = 1.5 and B -> A = 0.6667

Note that the rating of the Exchange Rate is 1.5 * 0.67 = 1.

So if we exchange 1 unit of A for B and whatever we get, we convert back to A, and we get 1 unit of A back.

Now suppose the exchange rate A -> B = 1.5 and B -> A = 0.5

Multiply the exchange rate = 1.5 * 0.5 < 1. In this case, if we convert 1 unit of A to and then convert back to A, we will have 1 unit of A less even though we started with 1 unit of A, So trick again, we will lose in this scenario with profit < 0>If the A to B Exchange Rate is 1.5 and B to A is 0.8 then because 1.5 * 0.8 > 1. We will end up with more than 1 A unit if we start with 1 A unit, convert to B, and whatever we receive after conversion, we convert back from B to Profit > 0.

We can also extend this observation to more than two currencies.

From the above discussion, we can say that if we represent the relationship between different currencies through a chart, as discussed above, the arbitrage situation will occur when the result of the weight multiplication of all edges forms a period greater than 1.

Suppose the exchange rate from A to B is a, B to C is b, and C to A is c.

Then we have a spread only if

a * b * c > 1

In the chart above, the exchange rate of

USD to EUR is 0.741,

EUR to CAD is 1.366,

CAD against USD is 0.995

Multiply these exchange rates = 0.741 * 1.366 * 0.995 = 1.007 > 1. So we have a multiplication relationship here. But the most popular graph algorithms are not well known for representing multiplication relationships and doing something meaningful. But if we can convert this multiplication relationship into some additional one, we can do something. We can convert a currency exchange relationship into an additive relationship where we can add edge weights and determine if a price difference exists based on the sum of the weights. Several edges of the cycle, we can then reconstruct the condition to get the spread like something like:

An arbitrage exists if the sum of the weights of the edges forming the cycle is greater than or less than a threshold. This threshold value will depend on how we convert the multiplication relationship to the additive relationship.

So if we have x * y = z, how do we get the additive relationship between x and y?

We know the logarithm of two or more variables that lead to the addition of the logarithm of each of these variables.

$\log(x*z*y) = \log(x) + \log(y) + \log(z)$

We also know

if we have a variable A then

$\log A = 0$ if $A = 1$, every positive real number to the power of ZERO is ONE.

$\log A > 0$ if $A > 1$

logA < 0>Assume A = 0.5

then we can also write A = 1/5

or, A = 5 -1

Therefore, logA = log(5-1) = -log5 < 0>

So use the following mathematical equations.
a * b * c > 1
=> log(a * b * c) > log(1)
=> loga + logb + logc > 0, because log1 = 0

   Now the solution is down; if the logarithm of the multiplication of the exchange rate of some currency
    forming a cycle is more significant than ZERO, then we have the arbitrage. Or, as we saw above: if the
    logarithmic sum of each exchange rate is more critical than ZERO, then we have a price difference. This
    brings us to a conclusion: if we modify the graph and make the edge weights represent the logarithm of
    the exchange rate, then the price difference will form a cycle with the sum of all the edges developing
   process greater than ZERO. In short-term arbitrage, a positive weight cycle will begin if we have exchange
   rates such as A, B, and C. In our previous graph, A, B, and C would be the weights of the 'triple.' According
   to the above discussion, we will modify the graph, and the consequences of the same edges will be logA,
   logB, and logC instead of A, B, and C. The chart will now look like that. This is when we take the base log e
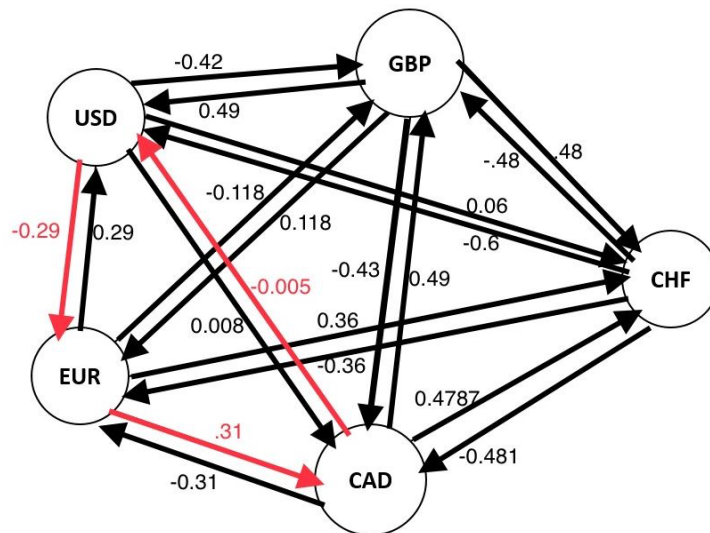
        or ln:

We saw earlier that USD -> EUR -> CAD -> USD forms an arbitrage. Now let's see what the sum of the edge
weights yields.

Edge Weight for USD -> EUR = ln (0.741) = -0.2998

Edge Weights for EUR -> CAD = ln(1.366) = 0.3119

Edge Weight of CAD -> USD = ln(0.995) = -0.005

(-0.2998) + (0.3119) + (-0.005) = 0.0071 > 0 .

So we have a sum more significant than ZERO, as expected. So now, the solution is reduced to finding the period of positive weights in the modified graph. In the previous two chapters, we discussed how the Bellman-Ford Algorithm finds the period of negative consequences in a chart very efficiently. So why not take advantage of that? We can modify the graph to transform the problem from finding a period of positive weights to cycles of negative consequences. We can achieve this by negating the importance of all edges.

Algorithms:

1. Create a directed graph where the vertices are the currencies, and the weights of the edges are the negative logarithms of the currencies' exchange rates represented by the vertices to which the edges are joined. For example, if the exchange rate of currency A to currency B is E, then the directed edge connecting A to B will weigh (-lnE) in the graph.

2. Find out if there is a negative balance period.

In the Crypto market, we have liquidity pools which are liquidity pools, and they exist under coin or token pairs. Applying the Bellman-Ford algorithm will help us have many arbitrage opportunities in the crypto market.

6. Bunnybot Operational structure of the Bunnybot platform

DIFFERENT ARBITRAGE MODELS IN BUNNYBOT

6.1. Two Point Arbitrage

Make a trade when there is a price difference between two coins and two exchanges.

To trade, you also need a large enough amount of money. For example, if you see an opportunity to change BTC-USDT between two exchanges, A and B, you will buy (x) BTC on exchange A and simultaneously execute a sell order (x) BTC on exchange B. So you must have available assets, including BTC and USDT, on both exchanges A and B.

In the current cryptocurrency market, we have two different types of exchanges called CEX (Centralized Exchange) and DEX (Decentralized Exchange). Thus we have the following arbitrage types:

- *Arbitrage between two CEX exchanges*: For example, we perform BTC-USDT pair arbitrage between Binance and Huobi.

- o *Need a relative amount of capital because we need to have assets available for two currencies on both exchanges.*
  - o *It takes a long time to balance the accounts between the two parties.*
  - o *Big risks due to API problems often occur when the market fluctuates greatly*
- **Arbitrage between CEX and DEX**: Let's do BAKE-USDT arbitrage between Binance and BakerySwap.
  - o *Need a relative amount of capital because we need to have assets available for two currencies on both exchanges.*
  - o It takes a long time to balance the accounts between the two parties (But lower than between the two CEX exchanges)
  - o Big risk because API exchanges often have problems when the market fluctuates strongly (But lower than between the two CEX exchanges)
- **Arbitrage between two DEXs**: Let's arbitrage the BNB-BUSD pair between Pancake and BakerySwap.rySwap.
  - o Less capital required and lowest risk
  - o More complicated and must be done via Smart Contract.
  - o Competition is high since many bots do this.

- Bunnybot implements this algorithm, but reading validator when blocks have just been generated on liquidity pools makes orders execute faster, avoiding liquidity loss due to order delay or wallet confirmation time.

6.2.Three Points Arbitrage / Triangular Arbitrage

This arbitrage is more complicated, so it usually has the following types:

- **Arbitrage 3 points on 1 CEX exchange**: Example arbitrage 3 BTC-BNB-ETH currency pairs with the base currency BTC on the Binance exchange.
  - o have the property of 1 type available.
  - o Some bots:
    - ▪ Binance Triangle Arbitrage => Runs quite ok but has almost no chance => There may be many bots running now with almost no chance.
    - ▪ triangular-arbitrage
    - ▪ Crypto Arbitrage – Triangular or Exchange Arbitrages
- **3-point Arbitrage between one or more DEXs**
  - o This is a complex algorithm that Bunnybot frequently uses
  - o directly on liquidity pools is more secure than CEX exchanges
- **Multipoint Arbitrage between one or more DEXs**
  - o Multipoint Arbitrage requires a routing algorithm and calculates with the fastest speed to ensure transaction execution
  - o Asynchronous processing and tax in pools, requests run on Metanodes, and super fast server response speed and bandwidth
  - o The number of different orders is much, but the small transaction amount does not lose liquidity. Therefore, it requires a relatively large number of bots to run. The downside is that the profit is not high but stable.

6.3. Crosschain Arbitrage other Networks

• Crosschain or Bridge is a bridge that connects two different networks. ETH network A-B pair and BNB chain network A-B pair

• Claims assets on two networks and relatively large amounts

• Affected by cross-chain fees and gas fees

• Relatively large profits

6.4.Flash Loan

- Flash Loan is a feature that allows investors to borrow money without collateral, but they must pay back the borrowed amount in the same transaction. That is, investors will borrow a certain amount of money and repay them in a sufficient time to complete a block of transactions.
- How it works: Use quick loans and arbitrage on pools to get the difference after deducting interest
- The smart contract will set the terms and execute instant transactions on behalf of the borrower. In a quick loan, money will be borrowed and paid back within seconds in a single transaction. If the quick loan is profitable for the borrower, this loan will be charged interest (about 0.09%).

Example: How fast loans on Aave work:

1. Borrowers apply for quick loans on Aave.
2. Borrowers will create an exchange logic, i.e., they will use that loan to make a profit.
3. Borrowers repay the loan if they profit from that loan and then pay an additional fee of 0.09% of the borrowed amount.
4. If the user does not repay the borrowed amount, the loan will be disabled.
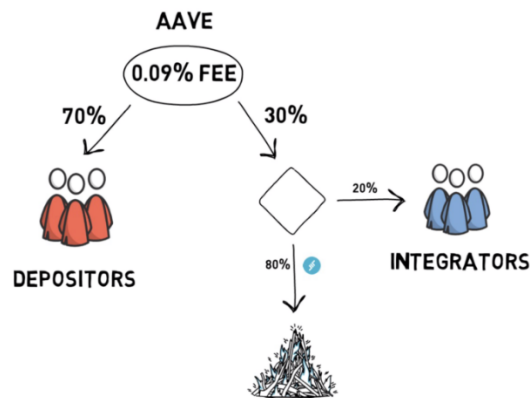
Flash Loan Arbitrage

Flash Loans can generate profits for investors in case of arbitrage. Suppose, in the DAI/USDC pool, there is a price difference between Uniswap and Curve. In this case, users can trade 1 DAI for 1 USDC on Curve, but if trading on Uniswap, then 0.99 DAI can be used to buy 1 USDC. Now you can try arbitrage like this:

• Borrow 100,000 DAI from Aave via a quick loan

• Exchange 100,000 DAI for USDC on Uniswap and get 101,010 USDC

• Exchange 101,010 USDC for 101,010 DAI on Curve

• Initial 100,000 DAI refund + 0.09% fee = 100,090

• Profit 920 DAI

7. Data security for Web3 and users

How does Web3 work?

Web3 helps users to search the internet faster, easier, and more efficiently than previous web generations. Complex search queries are also processed instantly by Web3 in a short time.

Web3 has neither a centralized database that stores the application state nor a centralized web server where the backend logic resides. Instead, Web3 will use blockchain to build applications in a decentralized manner maintained by anonymous nodes on the web. The logic of applications is defined in smart contracts.

The operation of a web 3.0 application is depicted in the following figure:
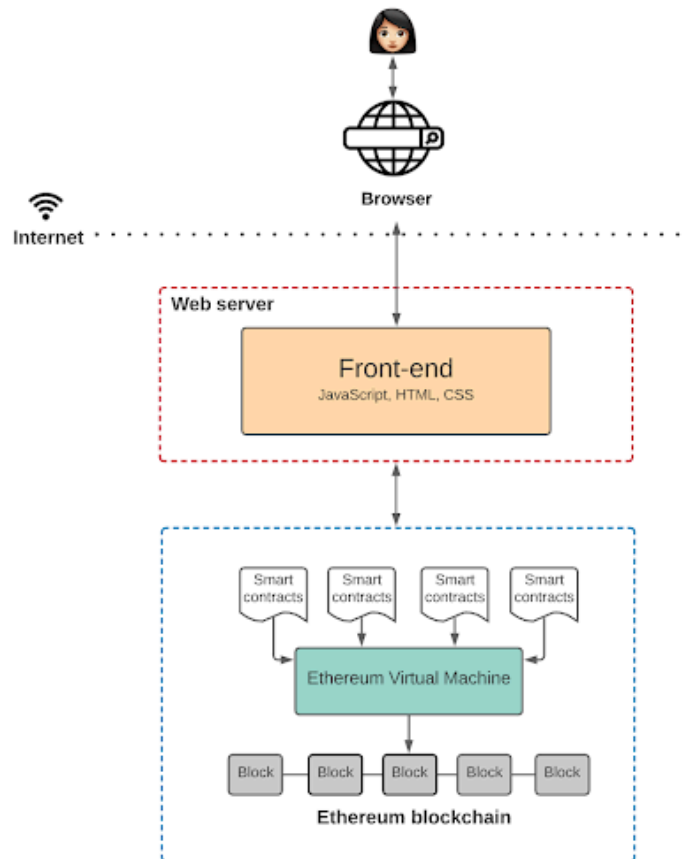
For Webserver, bunnybot built a multiserver to back up data regularly to avoid attacks. At the same time, create subdomains to help maintain logins for users to deposit and withdraw money through the platform securely.

II.   PRIVACY AND POLICY

1. Introduction and Overview

This Privacy Policy ("Privacy Policy") provides a comprehensive description of how Bunnybot ("Bunnybot," "we," "our," or "we") collects, uses, and shares information about you in connection with the website at https://bunnybot.io (the "Site"), and your rights and choices concerning that information. These terms apply to the Website and any other online location linked to this Privacy Policy (collectively, the "Services").

By accessing or using the Website, you agree to our Terms of Service ("Terms") and understand that the Terms represent a binding agreement between you and us. By using the Services, you also agree to our collection, use, and disclosure practices and any other practices described in this Privacy Policy. If you do not agree to the terms of this Privacy Policy, you should immediately stop using the Service and not access the Website. If you have any questions or would like to exercise your rights and choices, please get in touch with us at the email address or postal listed in the "Contact Us" section of the website.

2. Change the Privacy Policy

We reserve the right to amend and reissue this Privacy Policy at any time. Any changes will be effective as soon as we post the revised Privacy Policy. To avoid doubt, your continued use of the Service indicates your agreement to the revised Privacy Policy subsequently published.

3. Information gathering

A. Information you provide.

We may collect the following information about you when you use the Service:

Content in any messages you send us (such as feedback and inquiries for information support).

You may choose to voluntarily provide other information that we have not requested from you, and in such cases, you are solely responsible for that information.

B. Information has been collected automatically.

Although at this time, we do not automatically collect information from you when you visit the Bunnybot Services, we may collect it in the future. We will use this information to operate and ensure our services' security, reliability, and robust performance.

We may also use tracking technologies to collect information automatically, including the following.

Log files, which are files that record events that occur in connection with your use of the Bunnybot Service. Log files are created when you view content or interact with the Service.

Cookies, small data files stored on your device, act as a unique tag to identify your browser. For the avoidance of doubt, the cookies we include are essential for browsing the Website and using its features, including accessing secure areas of the Website. We will only use necessary cookies in connection with the Website and the Services.

For more information about how we use tracking technologies for analytics and your rights and choices about them, please see "Analysis" and "Your rights and choices" under.

4. Use of Information

We do not anticipate use, but we may collect and use the information for business purposes according to the practices described in this Privacy Policy. Our business purposes for collecting and using information include the following:

Operating and managing the Service; perform services requested by you, such as responding to your comments, questions, and requests and providing informational support; send you technical notices, updates, security alerts, information regarding changes to our policies, and support and administrative messages; detect, prevent, and address fraud, Terms of Use, and threats or harm; and comply with legal and regulatory requirements.

Protect the confidentiality and integrity of the Service; improve the Service and other websites, applications, products, and services; conduct promotions; and carry out any other business purposes, with notice to you and your consent.

Notwithstanding the preceding, we may use your non-identifying information (including aggregated or de-identified information) for any purpose except as prohibited by applicable law. . For information about your rights and choices regarding how we use information about you; please see the "Your Rights and Choices" section below.

5. Information Sharing and Disclosure

If we share or disclose the information we collect, we will do so by the practices described in this Privacy Policy. The types of parties with whom we may share information include:

Branch. We share information with our affiliates and related organizations, including where they act as our service providers or for their internal purposes.

Service providers. We share information with third-party service providers for business purposes, including fraud detection and prevention, security threat detection, payment processing, customer support, data analytics, information technology, transaction storage, and monitoring. Any information shared with those service providers is subject to the terms of this Privacy Policy. All service providers we work with are restricted from using information only on our behalf and according to our instructions.

Professional advisor. We share information with our professional advisors for audit purposes and to comply with our legal obligations.

Merger or Acquisition. We share information in connection with or during negotiations of any merger, acquisition, sale, or any other acquisition or business combination of all or any portion of our assets. Or transfer all or part of our business to another enterprise.

Confidentiality and Mandatory Disclosure. Country or law enforcement. We share information to comply with the law or other legal processes and, when required, to respond to lawful requests by public authorities, including in response to security requirements:

Require to be supported. We may share information about you at your request or with instructions.

Agree. We may share information about you with your consent.

Notwithstanding the preceding, we may share your non-identifying information (including aggregated or de-identified information) unless prohibited by applicable law. Please see the " Your Rights and Choices " section below for information about your rights and choices regarding how we share information about you; please see the "Your Rights and Choices" section below.

6. Other parties

We may integrate technologies operated or controlled by other parties into portions of the Services. For example, the Service may include hyperlinks to other websites, platforms, and services that are not operated or controlled by us.

Please note that when you interact with other parties, including when you leave the Website, those parties may independently collect information about you and collect information from you. Information collected and stored by such parties remains subject to their policies and practices, including the information they share with us, your rights and choices on their services and devices, and whether they store data in the United States or elsewhere. We encourage you to familiarize yourself with and consult their privacy policies and terms of use.

7. Analysis

We do not use analytics services for this Website.

8. Your Rights and Choices

Cookies. We will only use the necessary cookies. These cookies are essential for browsing the Website and using its features, including accessing secure areas of the Website.

Do Not Track. Your browser settings may allow you to automatically transmit a "Do Not Track" signal to the online services you visit. However, please note that there is no industry consensus on what Website and app operators should do regarding these signals. Accordingly, unless and until the law is understood to require us to do so, we will not monitor or take action on "Do Not Track" signals.

If you disable or remove tracking technology, some parts of the Bunnybot Service may not function correctly.

9. Data security

We implement and maintain reasonable technical, physical, and administrative security safeguards to help protect information about you from loss, theft, misuse, unauthorized access, disclosure, change, and destruction. However, transmissions over the internet are not entirely secure, and we cannot guarantee the security of information about you.

III. RISK WARNING

A. Interpret this Risk Warning as follows:

All terms used in this notice, as defined in Bunnybot's Terms of Use ("Terms of Use"), have the same meaning and structure as in terms of Use.

B. Bunnybot Service

This notice provides information about the risks associated with the Bunnybot Service. Each Bunnybot Service presents its unique risks. This notice generally describes the risks when you use Bunnybot Services. This notice does not explain all of the risks or how much they relate to your circumstances. You must fully understand the risks involved before deciding to use Bunnybot Services.

C. No personal advice

We do not provide personal advice regarding our products or services. We sometimes offer factual information, information about trading procedures, and information about potential risks. However, any decision to use our products or services is made by you. No communication or information provided by Bunnybot is intended or shall be considered or construed as investment advice, financial advice, trading advice, or any other type of advice. You are solely responsible for determining whether any investment, investment strategy, or related transaction is appropriate for you according to your individual investment goals, financial circumstances, and risk tolerance. Yourself.

D. Unsupervised

Bunnybot is not your broker, intermediary, agent, or advisor and has no fiduciary relationship or obligation to you concerning any transaction, decision, or other activity you undertake. You are displayed when using the Bunnybot Services. We do not monitor whether your use of Bunnybot Services aligns with your financial goals and objectives. It is up to you to assess whether your financial resources are sufficient for financing with us and your risk tolerance for the products and services you use.

E. No tax, regulatory or legal advice

The taxation of Digital Assets is uncertain. You are responsible for determining what taxes you may be subject to and how to apply them when transacting through the Bunnybot Service. You are responsible for reporting and paying any taxes arising from transactions on the Bunnybot Service. You acknowledge that Bunnybot does not provide legal or tax advice regarding these transactions. You may seek independent advice if you have any doubts about your tax status or obligations using the Bunnybot Services or the Digital Assets credited to your Bunnybot account.

F. Market risk

Trading Digital Assets is subject to high market risk and price volatility. The value of an investment and any returns may increase or decrease, and you may not get your investment back. Value changes can be significant and can happen quickly and without warning. Past performance is not a reliable indicator of future performance.

G. Liquidity risk

Digital assets can have limited liquidity, making it difficult to sell or exit a position when you wish to do so. This can happen at any time, including times of rapid price movement.

H. Fees & Charges

Please be aware of all costs and fees that apply to you, as those costs and fees will affect the profits you earn from using Bunnybot's Services. Our fees and charges are set forth herein. Bunnybot may, in its sole discretion, update fees and charges from time to time.

I. Risks Available

We do not guarantee that the Bunnybot Services will be available at any particular time or that the Bunnybot Services will not experience unexpected service outages or network congestion. You may not buy, sell, store, transfer, send, or receive Digital Assets when you wish.

J. Third-party risk

Third parties, such as payment service providers, custodians, and banking partners, may be involved in the provision of Bunnybot Services. You may be subject to the terms & conditions of these third parties, and Bunnybot may not be liable for any loss these third parties may cause you.

K. Security risks

Bunnybot cannot eliminate all security risks. You are responsible for keeping your Bunnybot Account password secure, and you may be responsible for all transactions in your Bunnybot Account, whether authorized by you or not. Transactions in Digital Assets may be irreversible, and losses resulting from fraudulent or unauthorized transactions may not be recoverable.

L. Risks associated with Digital Assets

Due to the nature of Digital Assets and their underlying technologies, there are several intrinsic risks, including but not limited to: bugs, defects, hacks, exploits, bugs, protocol errors, or unforeseen circumstances concerning Digital Assets or the technologies or economic systems on which Digital Assets are based; Transactions in Digital Assets are irreversible. As a result, losses due to fraudulent or accidental transactions may not be recovered; technological developments leading to the obsolescence of Digital Assets; delay causing the transaction not to be settled on the scheduled delivery date; and attacks on the protocol or technology on which Digital Assets depend, including but not limited to:

i. distributed denial of service;

ii. cyber-attack;

iii. Cheat;

iv. social engineering;

v. hacking;

Vi. search the web;

vii. malware;

viii. majority mining, consensus-based, or other mining attacks;

ix. disinformation campaign;

x. fake.

M. Risk monitoring

The Digital Asset Market is open 24 hours a day, seven days a week. Rapid price changes can happen anytime, including outside regular business hours.

N. Communication risk

When you communicate with us electronically, you should be aware that electronic communication may be faulty, delayed, unsafe, and not reach its intended destination.

O. Currency

Exchange rate fluctuations will affect your profit and loss.

P. Legal risk

Changes in laws and regulations can significantly affect the value of Digital Assets. This risk is unpredictable and can vary from market to market.