



The World's First Real-time P2P Crypto-Fiat Currency Exchange

Whitepaper

Updated on 24 April 2018. This document will be regularly updated.

<https://HAT.Exchange>

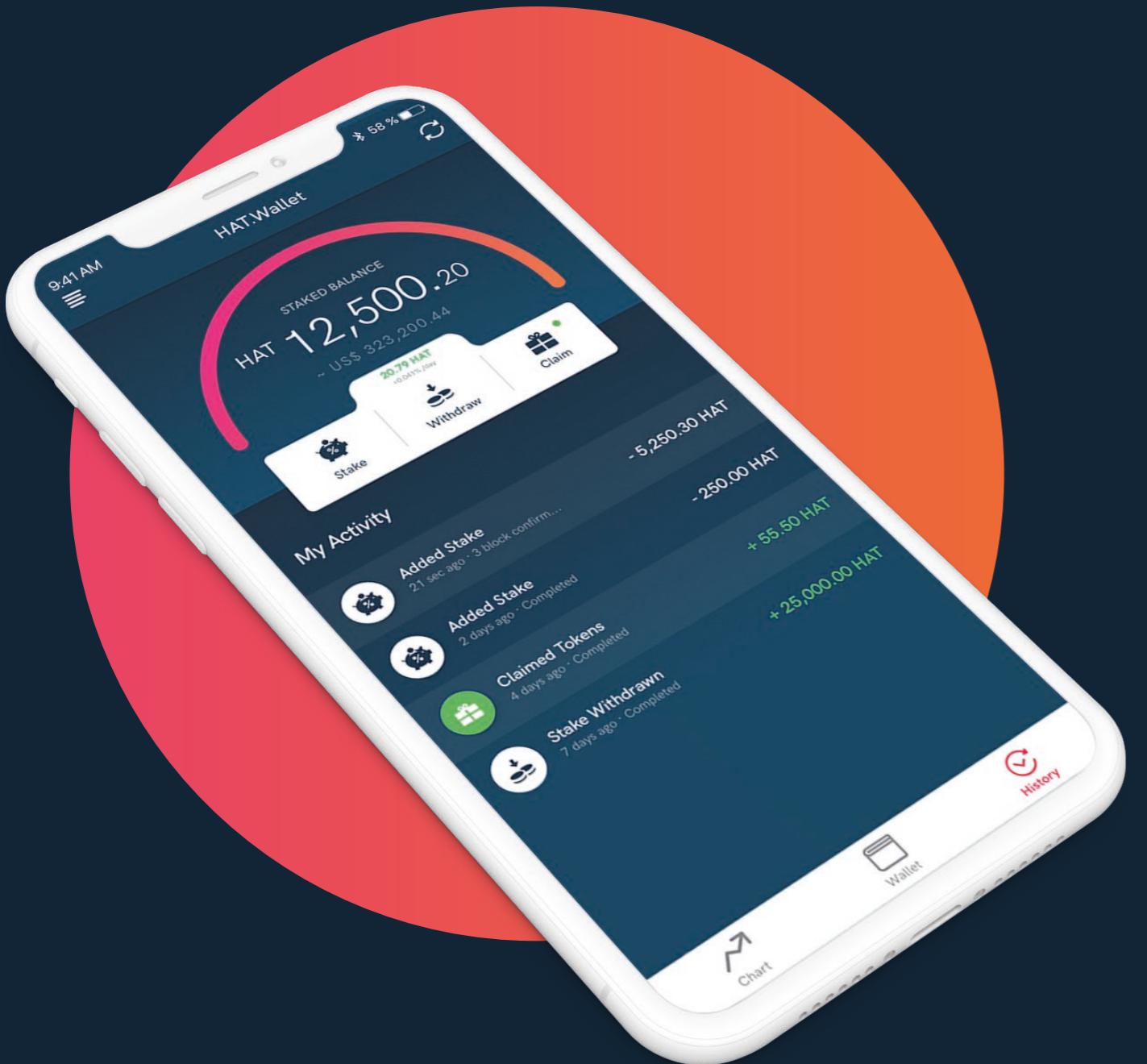


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Introduction

HAT.Exchange is the first real-time P2P crypto-fiat currency exchange. It's driven by a simple core goal - enable users to purchase and trade in cryptocurrency.

The world has begun to take notice of the blockchain technology and the advantages of a decentralized asset trading platform, ever since Bitcoin began its meteoric rise in the past few years, have begun to surface. This rapid shift in value, technological and commercial, has attracted many developers, who invest time and research into improving and innovating the technology.

Today, there are well over a thousand different cryptocurrencies leveraging the blockchain and pushing the boundaries of possibilities. More and more businesses and merchants are beginning to accept crypto payments, albeit limited to BTC and ETH in most cases.

HAT.Exchange targets ease-of-access and utility for people around the world.

However, simply the awareness of the potential cryptocurrency holds, is enough to motivate developers looking to improve the way we deal with our funds/assets.

HAT.Exchange is a decentralized network of traders who interact amongst each other, trade in crypto and fiat currencies and share the profits/rewards between them, all packed into the most simplistic and intuitive application, available on multiple platforms.

Motivation

Despite Bitcoin's unprecedented popularity, the world of cryptocurrency only gained noticeable momentum in recent times. Much of the world is quite oblivious to anything related to crypto beyond the words bitcoin, ethereum and blockchain.

With a strong belief that blockchain technology is the future, our motivation is focused on making the crypto space accessible to the people, eventually all around the world. Breaking the long and often costly processes down to a few button presses has enabled HAT.Exchange to expand its target audience the global stage. The power behind this product lies in the reliability and utility it will offer.

A decent majority of the world's financial systems are inefficient, lacking or unreliable. With some countries going as far as banning cryptocurrency trade, natural adoption may seem like an idea on the distant horizon. HAT.Exchange will serve as testament to the notion of 'power in the hands of the people', in its approach, business model and the milestones it achieves.

In a similar fashion to how Bitcoin is increasingly being accepted by merchants in North America and some parts of Europe and the growing clarity of the laws and regulations surrounding the cryptospace, HAT.Exchange has the potential to be a global player in payments and asset management, and the goal is to make it as accessible as Amazon.

Solutions

HAT.Exchange is designed to bring ease of access and adoption to crypto and investments in blockchain.

- An inherently simplistic and easy to use application for all platforms, enabling users to adopt to crypto without needing comprehensive technical knowledge of blockchain tech.
- A P2P exchange modelled on a trust rating system, allowing management and trade of all crypto assets on a singular, seamless platform.
- A social community platform that encourages mass wisdom and financial literacy, especially in the crypto space. Targeting the mass audiences will bring in an influx of new adopters and the HAT community may offer something akin to introductory courses and guides to help with assimilation.
- With mass adoption, the demand for professional services and consultations will increase. This is where Asset Management Services (AMS) will establish a comprehensive platform where users can solicit the services of asset managers with an independent trust rating system.
- Scalable and compliant API services to empower businesses, developers and entrepreneurs to build their own powerful crypto services and product offerings P2P no fees easy buy in to crypto asset management for investors and managers
- API availability will empower businesses, small investors and entrepreneurs to expand their customer base globally, and also shift their internal financial systems over to the blockchain, such as salaries, fund management etc.

- The entire ecosystem is saddled on the IFS model which incentivizes users to hold and stake their HAT tokens, minting new tokens in the process which they themselves receive as rewards.
- The IFS model will be complete once the max supply is reached, but the incentive will remain as the top holders will receive tokens collected through transaction fees, as rewards for staking

Overview

The user can interact with the HAT.Exchange through the applications currently being developed for desktop, web, iOS and android. The application is designed from a non-technical perspective and users should experience a very easy learning curve. Most processes will be a comfortable blend of prompt-based and easy-to-navigate actions.

The following section will discuss the app structure and the different facets which make it the complete solution for a real decentralized P2P exchange.

Take Coinbase for instance. It's the foremost platform where fiat is exchanged for crypto. It holds the user's tokens - a big chunk is stored offline in vaults, along with private information such as identification and driver's license. Transaction fees are often high and can take quite long at times. Essentially the exchanger manages user assets with more control than necessary. There have been cases where the servers were overwhelmed and users had to face blocked access to their exchange wallets.



This is something HAT.Exchange is determined to address. With a true P2P network, users of the HAT.Exchange application will gain access to a free market where they have sole control of all their assets. All information is stored on the user's device and accessed remotely by the application as required. **HAT.Exchange does not store any user's private data.**

A viable alternative to Coinbase is LocalBitcoins – a P2P network of traders around the world that exchange Bitcoin for fiat currency. Since most exchanges are locally done, they're quick but prices can be pretty high, especially when dealing in fiat-crypto, which in itself is limited to bitcoin transactions. The network is the largest in the world, but not entirely safe. Users must be extra vigilant about who they enter exchanges with. LocalBitcoins has seen its share of scam attempts which makes it difficult for new adopters to feel comfortable with.

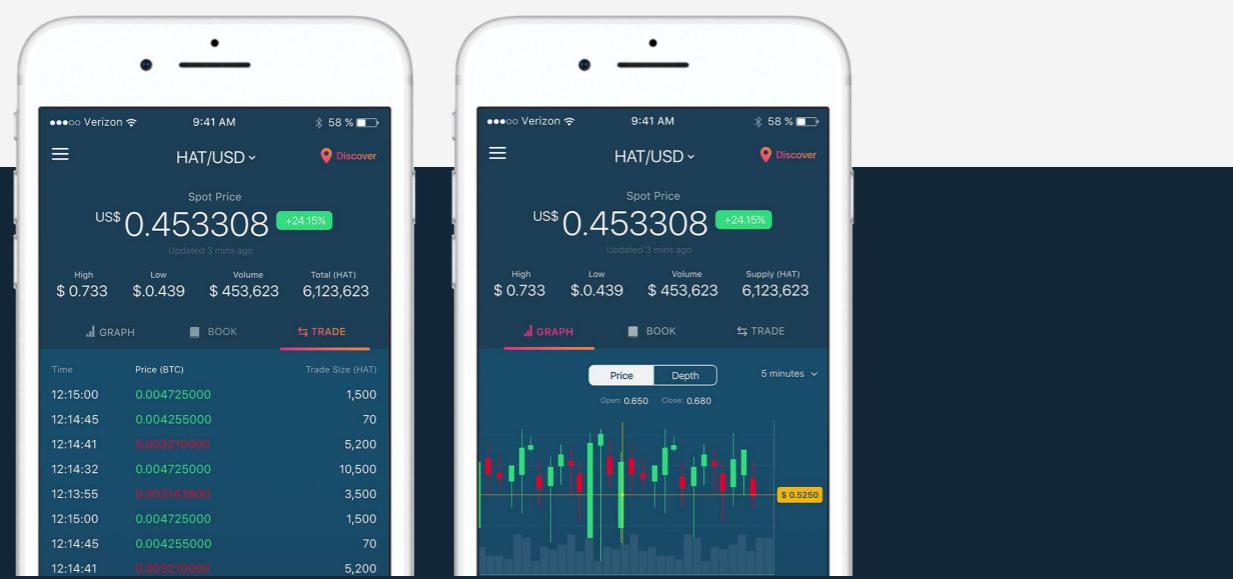
	LocalBitcoins	Coinbase	HAT.Exchange
Prices	High	Low	Low
Fees	Low	High	Low
Model	P2P	Centralized Exchange Platform	P2P
Safety	Low	Low	High
Security	No ID Verification Required	AML/KYC	AML/KYC
Application	No	Yes	Yes (All Native Platforms)
Availability	Worldwide	Limited Countries	Worldwide
Wallet	Limited	Limited	Universal
Ease of Access	Hard	Easy	Easy
Rewards	N/A	N/A	IFS

HAT.Exchange approaches the crypto space with a model sharing traits similar to LocalBitcoins, but with a P2P network of traders who have more opportunities to interact with and ultimately shape the community as well as be able to interact with other traders in a much more secure environment. HAT.Exchange will eventually cover ground, adding support various ERC-20 tokens as well as buy-in support for BTC/ETH/LTC.

The following section will discuss the app structure and the different facets which make it the complete solution for a decentralized P2P exchange.

1. Features

The HAT.Exchange app is designed in two main components, the exchange and the wallet - both seamlessly integrated to offer a unified experience.



- Exchange.** HAT.Exchange is a real-time P2P exchange that allows users to trade assets in crypto-crypto and crypto-fiat, directly from each other without any intermediaries. It's built on the Ethereum blockchain which charges **gas** on all transactions, in the shape of ETH.

The exchange is the core component. This is where the user interacts with the majority of services like creating exchanges, tracking cryptocurrencies, participating in community activities such as voting on polls and feature requests. The potential of what the exchange can be is quite dependent on how the community wishes to evolve. Add-ons to the build can be sometimes be based on community feedback.

The primary method of finding trades will be through the Discover mode. This will search for available trades near your location. Alternatively, users can trade directly with each other. The exchange will eventually grow to include support for various ERC-20 tokens and later buy-in options with BTC/LTC/ETH.

- Wallet.** All management of personal assets is done with the HAT.Exchange Wallet, be it tokens or fiat money. The HAT.Exchange Wallet will allow the user to maintain wallets for all compatible tokens as well as connect their local bank account or credit cards. It will also handle:

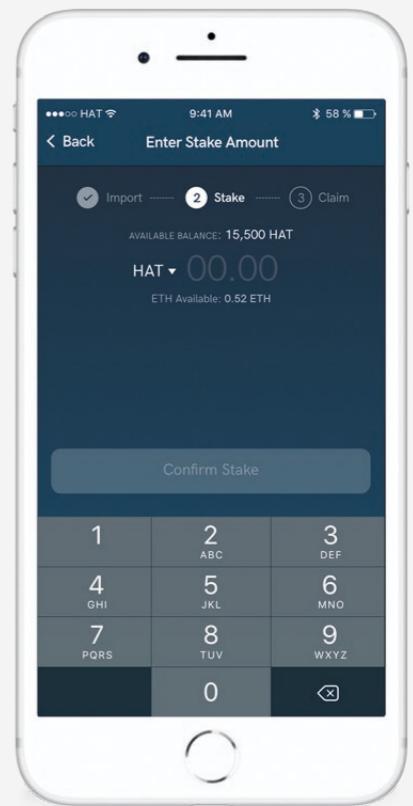
- Fiat-crypto purchase*
- All trades executed on a Peer-2-Peer (P2P) exchange*
- Direct exchanges with other ERC-20 compatible wallets*
- Staking*

Staking is the driving mechanism of the Incentive for Stake model. Past the initial supply, HAT tokens will be minted in the form of rewards at fixed ARRs each year until total supply is reached. These rewards will be distributed among wallets, proportionate to their staked amount.

- Fiat Payments.** Fiat currency plays an important role in HAT.Exchange. The app allows users to connect banking accounts and credit cards and top-up fiat amounts into the HAT.Exchange Wallet. The fiat money in the wallet can now be used to purchase cryptocurrencies.

In the beginning support will be limited to HAT tokens with more tokens added by Q3, 2018. The connected accounts will also be able to receive money from the HAT Wallet, allowing users access to their funds much earlier than through existing means.

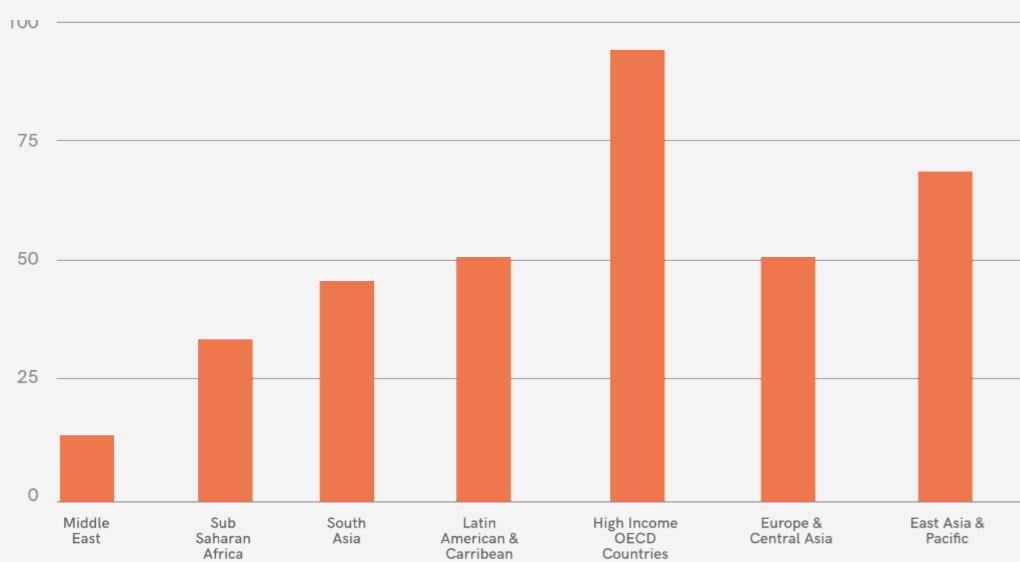
Alternatively, users will be able to purchase **HAT Cash Cards** from a local or online retailer.



Cash Cards. One of the most exciting things this project has to offer, is cash cards. These cards are very much like prepaid mobile top-up cards. They will be available in various amounts and can be purchased with fiat currency.

Once purchased, the user only needs to enter the code in the HAT app and the predefined fiat amount will be added to the HAT Wallet. From there, the user can purchase any of the supported cryptocurrencies, in just under a minute.

But why do we really need cash cards? The reason lies in the sizeable percentage of the world's adult population without a bank account, spread across different regions.



Much of the developing world, while progressing at a steady pace, does not have comprehensive or accessible banking systems. Such people will not need to go through the hassle and fees of creating payment accounts in order to make the fiat-crypto exchange. All they would have to do is purchase a HAT.CashCard and get instant fiat amounts available in their wallets.

To make cash cards available around the world, HAT.Exchange will develop relationships with local distributors in the relevant and prospective countries. Local stores can act as retailers as well. Keeping the vision of mass adoption in mind, The cards are expected to be available in Q3, 2018 (initially available only in the United States), with plans of covering most territories of the world, one step at a time.

Verified Users & Mastertraders. Users of the HAT.Exchange products and services must be verified in compliance with KYC/AML regulations, as well as the relevant jurisdictional laws. Verified users will be divided into two categories – verified users and Mastertraders.

Mastertraders are users who:

- *maintain high trading volumes*
- *maintain high ratings*
- *are among top token stakers*
- *are generally the preferred traders in their region*
- *offer diverse exchange options*

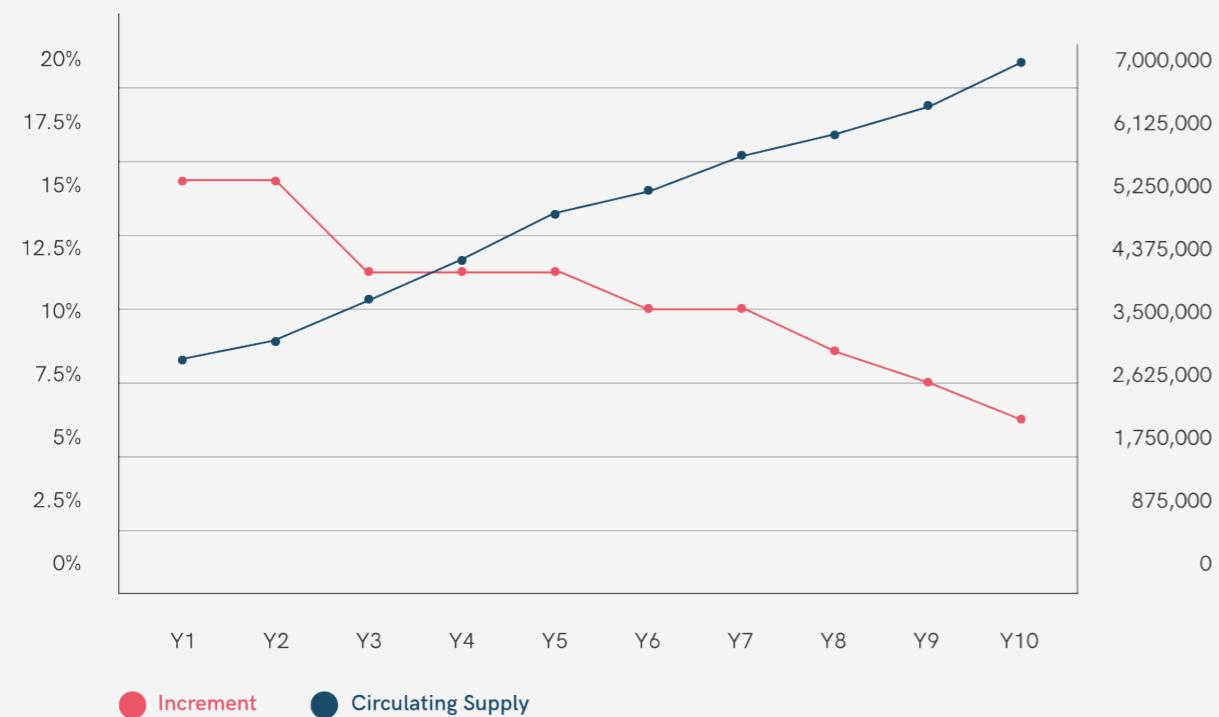
A special badge will be awarded to these Mastertraders and will reflect on their user profile. HAT.Exchange will only award users with this appointment once they have cleared all legal checks and compliances.

As a bonus, HAT.Exchange may offer certain Mastertraders unique opportunities to reach out to the HAT community. This may range from being featured as top traders on weekly basis, priority trading, and many more benefits.

2. Incentive for Stake (IFS)

The Incentive for Stake model derives its core mechanics from the Proof-of-Stake model.

Users will stake HAT tokens in order to mint more tokens. This model regulates the distribution of the total supply. Spanning over a decade, with a fixed Annualised Rewards Rate (ARR) every year, the model is designed to reach the total supply of 7 million while containing the inflation rate. The following figure depicts the IFS model:



HAT will integrate Incentive for Stake algorithm to create organic demand for mass adoption, where holders will earn incentives from up to **15% to 7.27% ARR in the final 10th year**.

There will only ever be **7,000,000 HAT**.

TOTAL INITIAL SUPPLY: **2,500,000 HAT**

YEAR	SUPPLY	ARR
1st	2,875,000	15%
2nd	3,306,250	15%
3rd	3,703,000	12%
4th	4,147,360	12%
5th	4,645,043	12%
6th	5,109,548	10%
7th	5,620,502	10%
8th	6,070,142	8%
9th	6,525,403	7.50%
10th	7,000,000	7.27%

Starting from 15% in the first two years, the ARR gradually evens out at 7.27% in the 10th year. The IFS model continues until total supply of 7 million is reached. In the event the total supply is not reached by the end of year 10, the model will continue at a fixed ARR of 7.27% for each subsequent year, until all 7 million tokens have been issued.

Rewards for staking, however, do not end with the completion of the IFS model. Once all tokens have been issued, the model switches over to distributing rewards from the pool of tokens collected from transaction fees. These fees will be nominal and the collected amount will be distributed to token holders based on their percentage shares, again, as rewards.

HAT.Exchange is meant for the people. The IFS model lets us build a self-sustaining network of traders who benefit as a whole, as well as individuals.

3. Technology

• **Platform.** HAT.Exchange functions on the Solidity / Ethereum Main Network. As such, all interactions with the blockchain will incur a fee in ETH, as **gas**. It will be available on the following device platforms:

- Windows Microsoft WPF Win64 Application
- iOS | Native Build (Objective C)
- Android | Android API 2.0+ native Java

• **Smart Contract.** The HAT.Exchange smart contract operates as a standard erc20 extension implementing the Incentive for Stake model. Majority of the max supply is withheld, to be disbursed over a period of ten years or more, proportionate to the staked amounts. This creates demand for the token and helps to maintain a good inflation rate as well as balance within platform.

Once the circulating supply equals the total supply, the IFS model is complete. The contract then switches its reward giveaway model and distributes the total tokens accumulated from transaction fees, proportionately, to the top stakers. This part of the contract does not have an expiration time and could potentially continue as long as enough HAT tokens are staked.

• **Wallet** The HAT Wallet is universally functional and allows users to easily manage their crypto assets while tracking any currencies integrated to the HAT Exchange platform. No user information or private data (i.e. private keys, etc) is maintained or stored by the HAT platform.

The contract calls the required data remotely, and the user has sole access to their information. Secured with a password, the wallet acts like an asset manager for all supported cryptocurrencies. It will be available on all major platforms to maximize exposure to mass audiences.

• **Staking.** The process of staking HAT is extremely simple and quick. It also liberates the user from having to do any actual work to mint new tokens. Incentives are rewarded to users at intervals of 3 days. After every transaction (stake/claim/cancel), the timer resets.

- **3 days interval for rewards**
- **Each transaction costs gas in ETH (stake, claim, cancel)**
- **Once incentives are claimed or stake is cancelled, the timer resets**

• **Security.** The HAT.Exchange application does not store any personal data instead it uses the data stored on the user's device. On smartphones, it is secured by the native Android and iOS embedded application lock.

Security of personal devices is heavily dependent on the user themselves – for example, if someone is able to get a hold of your device, and it is not locked, no amount of protection will stop a determined brute force attack.

HAT Token

The HAT Token (symbol - HAT) stands at the core of the HAT ecosystem. It is the prime enabler of crypto-fiat exchanges and also the functional token of transactions on the HAT.

Exchange application

It will be used to access various features, such as staking, and support the IFS model and rewards system. One of its functions is determining the level of investment a user can make in the AMS platform. The AMS pools will admit investors based on their HAT holdings. Holding HAT Tokens will be essential in accessing the services offered by the product.

What can the HAT Token do?

- Enable fiat-crypto exchanges
- Become the payment mechanism to access the services and the platform offered by HAT.Exchange
- Pay for API calls on the HAT platform
- Enable access to AMS platform
- Acquire IFS Rewards through staking

Fees

Transactions on the HAT.Exchange platform are charged a fee in the following situations:

- Non-HAT transactions
- HAT.Exchange API calls
- Gas for transactions on the Ethereum Network (charged in ETH)

Development

The application is currently being developed natively for desktop, web, iOS and Android platforms. Each platform has a dedicated team consisting of a senior developer, a developer and a UX engineer. These four teams are supervised by a senior architect and project manager.

Our aim is to make the application available to the maximum number of people in the shortest amount of time, without compromising on the quality and efficiency of the build. These are the various branches the dev team is working on:

1. Alpha / Beta Builds

The alpha build of the app was in development for nearly 3 months culminating with the community testing phase which included selected community members assisting the dev team in app testing.

The broader group of people worked on eliminating bugs and testing the overall performance before the beta release. The beta build is scheduled for launch on the 1st of January, 2018 and will include active staking in the HAT Wallet.

2. Staking

Staking functions in a very simplistic manner. The user will choose a specific amount of HAT tokens to stake. Tokens will need to be **staked for at least 72 hours (three days)** before claiming any rewards. For the benefit of the user, it is advised to claim rewards **once or twice a month**, as the gas required for claiming rewards after three days or 90 days is the same.

3. ERC-20 Token Integration

As mentioned before, HAT.Exchange will aim to offer support for all ERC-20 tokens.

Integration of a token can be done in two ways. The first is listing on the exchange. Any token which is not yet supported in the exchange can be nominated by the community. If the nomination gains popular support (in the form of votes), the token will be listed on the HAT Exchange.

The second type is for cryptocurrencies that can be bought with fiat money. The scheduled plan for buy-in support is as follows:



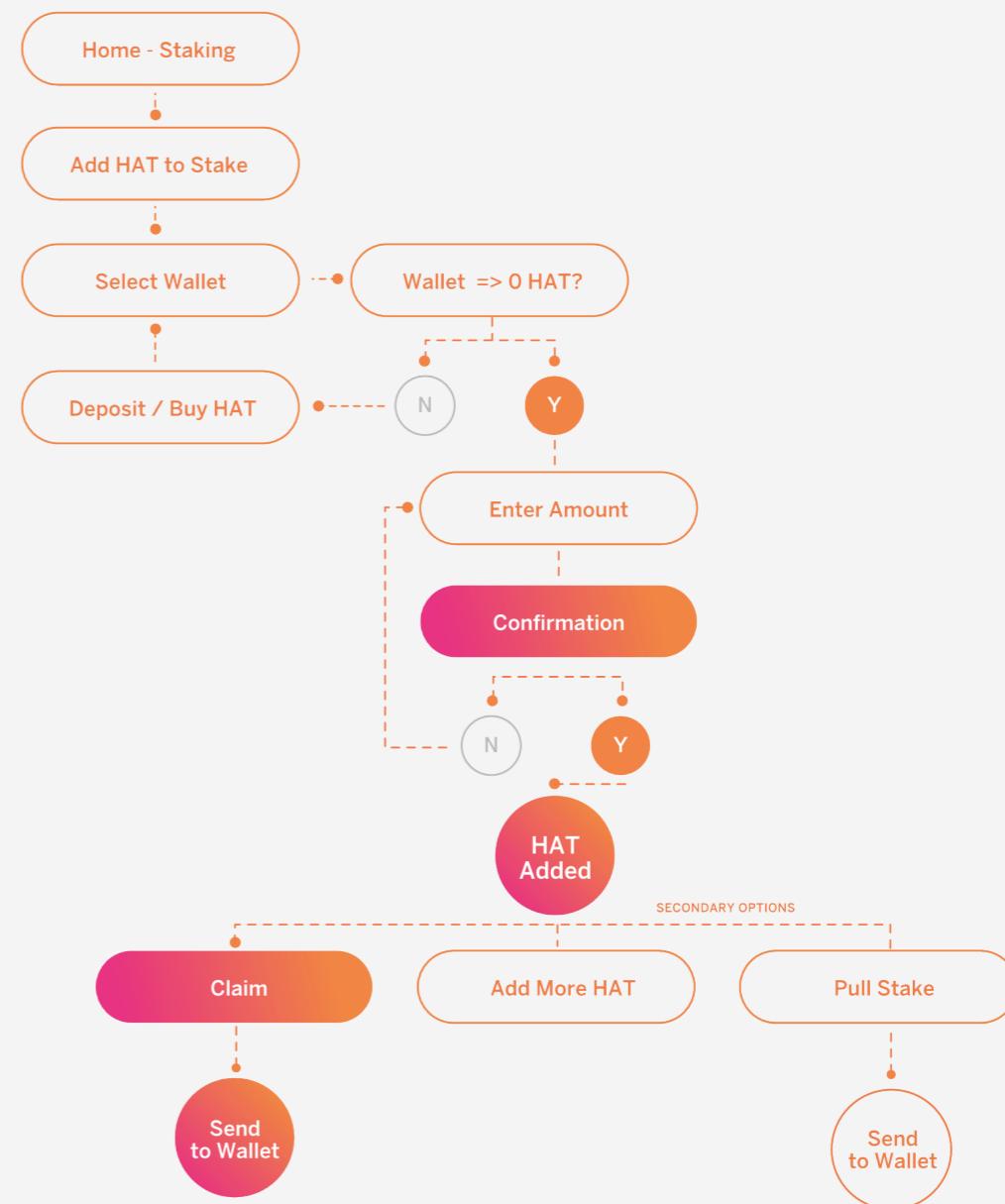
4. API

HAT.Exchange will make publicly available web APIs for the entire P2P exchange process.

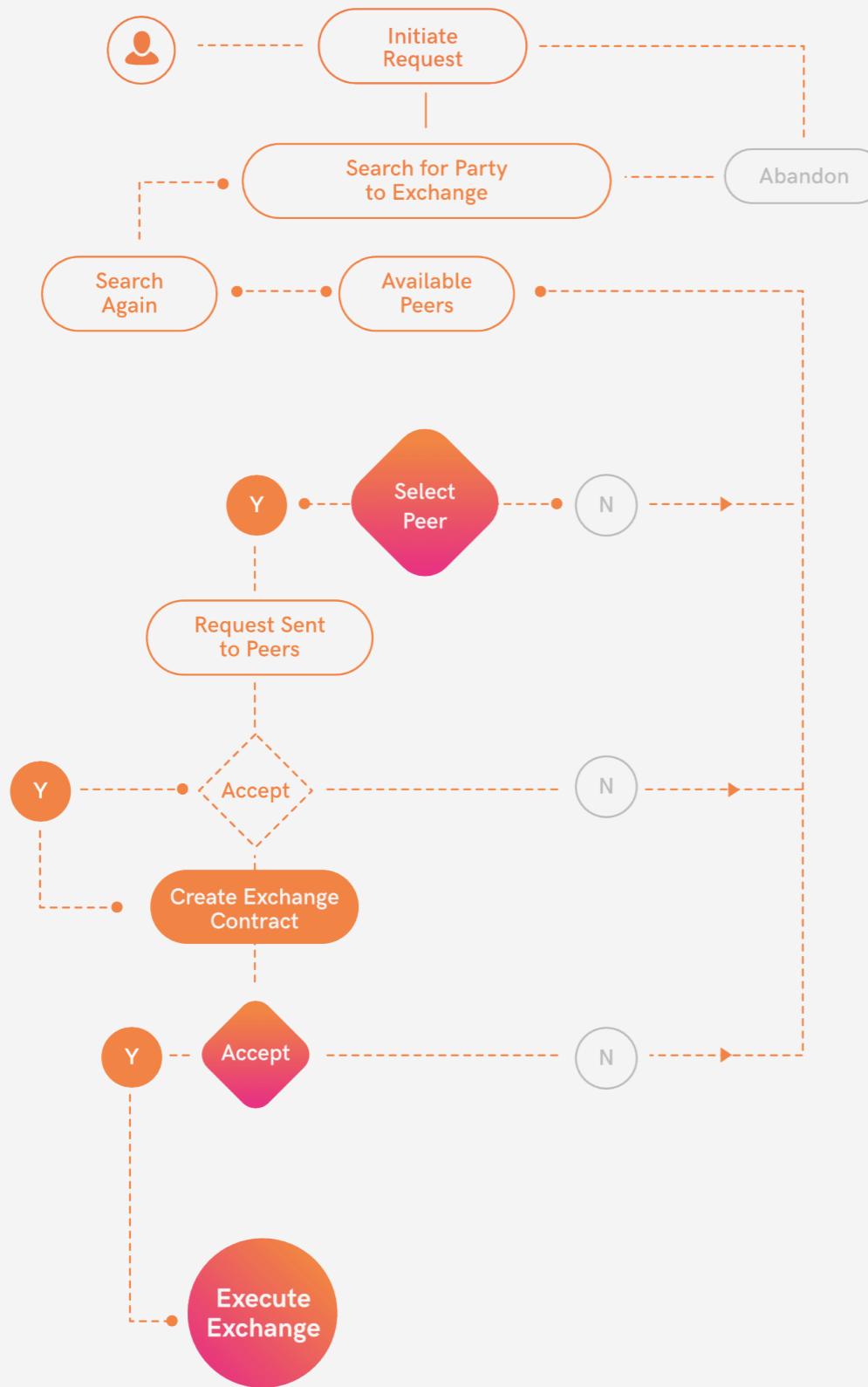
These can be used by third party applications for app development.

5. User Process Flow

- **Staking**



• Exchange



Use Cases

The concept of HAT.Exchange is built around utility, ease-of-access, efficiency and privacy. The app's simplistic and intuitive design allows all kinds of users to start trading instantly. The decentralized network maintains anonymity of all exchanges between the users.

The name "HAT" is an acronym for Hash Algorithmic Technologies. HAT.Exchange stands as a legally compliant product assuring a safe environment for all users. Some major use cases are detailed below:

1. Adoption

One of the key targets of this project is to bring cryptocurrency to the mass audience. In order to do that, HAT.Exchange incorporates a few usability functions:

- Ease-of-Use.** All interaction with the exchange will be through the app which is designed to specifically cater to non-technical people, without encroaching on the quality of experience. The simple design is easy to understand and use. The goal is to offer the same experience to all people from all walks of life.

- Availability.** Buying crypto in most countries is a lengthy and tiring process. Financial systems are not ready to move over to the blockchain just as yet, primarily because the decentralized network is contradictory to the existence of their profit-based institutions. HAT.Exchange will be available for download, globally. Each user will have equal access to purchasing crypto tokens experience to all people from all walks of life.

- Fiat / Payment Options.** In order to enable users to purchase cryptocurrencies, they must be able to do so with fiat currency, which is readily available.

The application will offer support for connecting local bank accounts or credit cards within the HAT.Exchange Wallet. This will act as the gateway between fiat and crypto. For those who do not wish to attach their personal accounts, HAT Cash Cards will make the buy-in process even easier.

2. Sustainability

There's no ICO for the project as it is privately funded. As such, HAT.Exchange will generate revenue for maintenance and deployment of services. The goal is to break-even by 2020 through the following means:



Low Subscription Fee

Users may be charged a subscription fee to access certain, future features of the Exchange.



Non-HAT Transactions

All non-HAT transactions will incur a small transaction fee.



API

The HAT.Exchange APIs will be made available to the public with varying license types. Calls to the blockchain through the APIs will incur nominal transaction fees (depending on the license type).



Asset Management Services (AMS)

HAT.Exchange employs a comprehensive asset management model. Users will be able to join pools created by an asset manager, who will organize, maintain and invest all pooled funds. Profit from these investments will be distributed among pool members proportionate to their contributions. Asset managers will be rated according to several aspects such as (prediction success rate, return rates, volume of trades, etc.) and will be monitored to ensure that asset manager performance remains at the peak.

Asset management is a complex model and will be fully documented separately and is expected to enter development by Q4'2018 - Q1'2019. Further information will also be revealed close to that time, as the model is still under development.

3. Commercial

Small and large business will be able to use our contract API in order to send and receive payments, manage crypto assets and retail cash cards. With the expected growth in cryptocurrency users, businesses can offer their customers alternate and secure payment options, in the same ecosystem.

Marketing

HAT.Exchange, with its multi-faceted model, is a brand name. It is vital for the enabler to be recognized and trusted in the community and in order to do that, the focus must be in creating brand familiarization among the publics. HAT.Exchange will make use of various avenues to maximize its potential outreach.

- **Social Media Advertising.** Social media is the frontline for any project or organization to interact with their communities and customers. HAT.Exchange has been using its social media to keep the masses up to date with the development process, announcements and bounties, mainly on Twitter, Telegram and Bitcointalk. Running social media ad campaigns tends to be more cost-effective than Google Ad so a large part of the marketing campaigns will be dedicated to social media, in the time leading up to full application launch.

- **SEO and SEM.** In order to generate traffic towards the website, blogs optimized for SEO will be shared sites frequented by users sharing interests in the crypto-space. Not only will these articles create traffic, they will discuss key informational topics as well. Paid advertising is also important to gain a steady flow traffic.

- **Influencers.** Influencers are extremely vital for HAT.Exchange in the early stages of development. They help introducing your project to their communities and generally help build credibility for the brand. This is usually done over social media, with Influencers using their blogs, YouTube channels and other social media accounts to promote the project.

This immediately grants HAT.Exchange access to various markets around the world. Since the project is heavily invested in community building, users will eventually be able to gain some rewards for inviting friends who buy a subscription.

- **Partnerships.** In order to establish HAT.Exchange as the go-to exchange globally, relationships with partners are important. This can translate into partnerships with:

- Distributors for HAT cash cards
- Businesses looking to offer crypto payment options to their customers
- Member groups of the HAT community, who can run promotions in exchange for some perks etc.

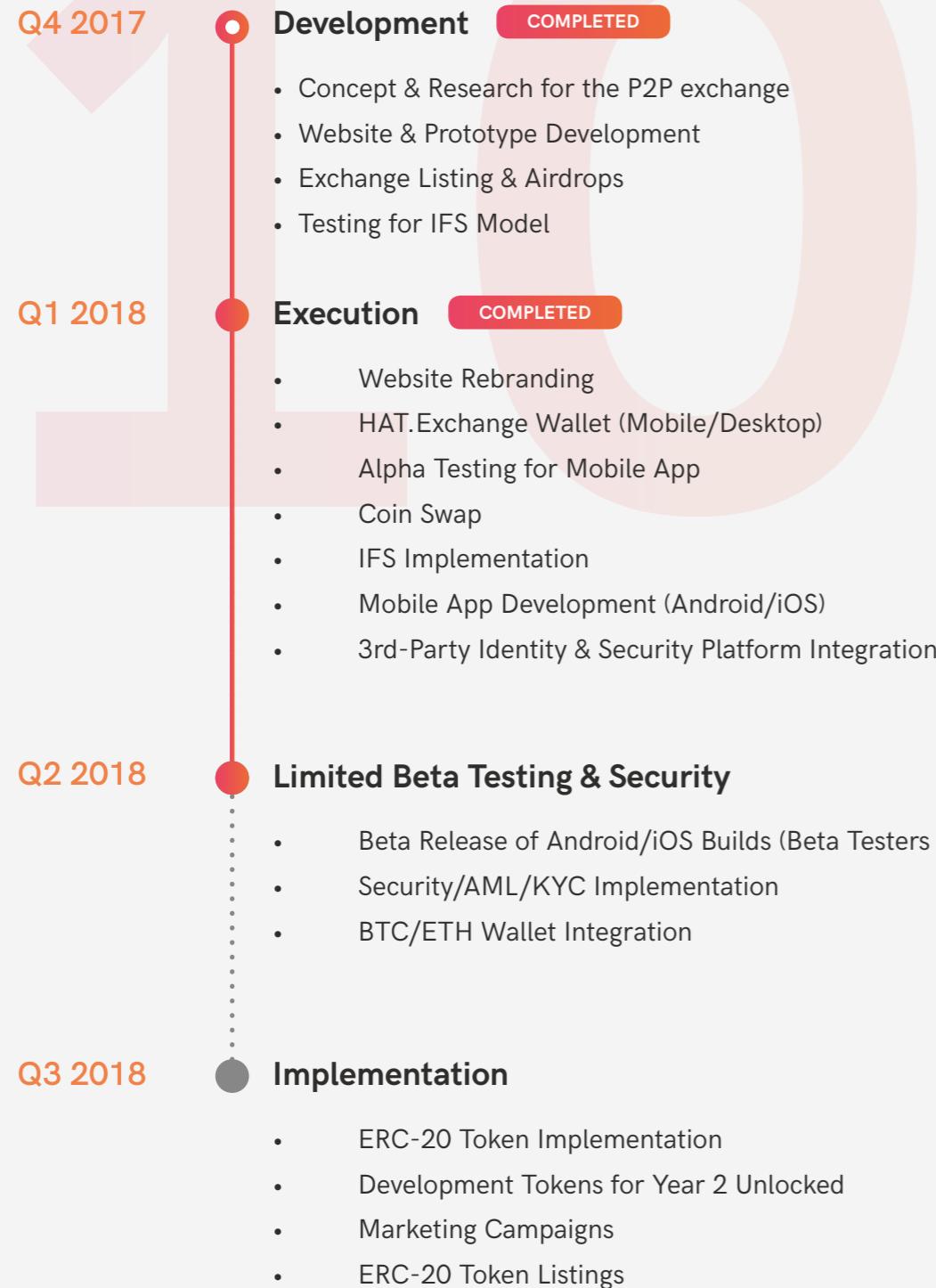
Legal Considerations

HAT.Exchange is establishing a platform which will be usable all over the world. Compliance with the laws and regulations of all jurisdictions is a prerequisite for HAT.Exchange to be operational worldwide.

Compliance with **Know Your Customer (KYC)** and **Anti Money Laundering (AML)** regulations and **all other relevant international and jurisdictional laws** will be ensured by HAT.Exchange. Comprehensive legal compliance will be achieved as per the country wise legal compliance implementation strategy. Countries with highest potential usage of the platform will be given higher priority compared to countries with low potential usage.

It is incumbent upon all parties purchasing HAT Tokens to comply with all relevant international and their jurisdiction's rules and regulations including but not limited to laws relating to cryptocurrencies, KYC and AML. All parties should consider these factors prior to purchasing HAT Tokens.

Roadmap



Social Links

As HAT.Exchange keeps growing, we would love to hear it from the communities & people who are excited to see how far blockchain technology has the potential to help everyone around the globe to get on board with cryptocurrencies & exchanging assets swiftly. Talk to us through the following channels:

[Twitter](#)

[Telegram](#)

[Bitcointalk](#)

Or visit our website at: <https://HAT.Exchange>

Email us at support@HAT.Exchange