



**SGPay combines virtual and fiat currencies  
into a seamless wallet experience. Earn,  
Spend and Play with SGPay.**

**SGPAY TOKEN WHITEPAPER**

---

[www.sgpay.org](http://www.sgpay.org)

Updated January 2018

The purpose of this white paper is to present the SGPay tokens to potential token holders in connection with the proposed token launch. The information set forth below may not be exhaustive and does not imply any elements of a contractual relationship. Its sole purpose is to provide relevant and reasonable information to potential token holders. Nothing in this white paper shall be deemed to constitute a prospectus of any sort or a solicitation for investment, nor does it in any way pertain to an offering or a solicitation of an offer to buy any securities in any jurisdiction. This document is not composed in accordance with, and is not subject to, laws or regulations of any jurisdiction which are designed to protect investors. Certain statements, estimates, and financial information contained in this white paper constitute forward-looking statements or information. Such forward-looking statements or information involve known and unknown risks and uncertainties which may cause actual events or results to differ materially from the estimates or the results implied or expressed in such forward-looking statements. This English language white-paper is the primary official source of information about the SGPay Token launch. The information contained herein may from time to time be translated into other languages or used in the course of written or verbal communications with existing and prospective customers, partners, etc. In the course of such translation or communication some of the information contained herein may be lost, corrupted, or misrepresented. The accuracy of such alternative communications cannot be guaranteed. In the event of any conflicts or inconsistencies between such translations and communications and this official English language white paper, the provisions of this English language original document shall prevail.

<b>EXECUTIVE SUMMARY</b>	<b>4</b>
<b>THE BIG PICTURE</b>	<b>5</b>
PUSH TOWARDS E-PAYMENTS IN SINGAPORE	
READY MARKET - A PERFECT LAUNCHPAD	
CRYPTOCURRENCIES IN SINGAPORE	
A CONFLUENCE OF FACTORS	
CURRENT COMPETITORS	
<b>OUR GOAL</b>	<b>10</b>
SGPAY - CREATING A 3RD GENERATION WALLET	
RELATIVE PROJECT VALUATIONS	
<b>SGPAY 3RD GENERATION WALLET</b>	<b>12</b>
VALUE PROPOSITION	
<b>SGPAY TOKENS</b>	<b>15</b>
TOKEN OVERVIEW	
LAUNCH SUMMARY	
TOKEN PROPERTIES	
TOKEN AND TGE SAFEGUARDS	
<b>BUDGET</b>	<b>17</b>
<b>ROADMAP</b>	<b>18</b>
<b>SGPAY TEAM</b>	<b>20</b>
<b>APPENDIX</b>	<b>22</b>

Our **SGPay Token** is built on the Ethereum blockchain in accordance with the ERC-20 standard. The SGPay Token (or SGP in short) is built as a utility token to be used on our primary platform SGPay. It will be adopted by our technology partners and affiliated merchants.

We chose to build SGP on the Ethereum blockchain because it brings advantages such as decentralization, security, transparency and lower transaction costs. It is also the preferred blockchain network of many large corporations such as Microsoft and UBS who are part of the Enterprise Ethereum Alliance.

Our primary platform **SGPay** is a 3rd generation e-wallet and e-payment mobile application that allows users to buy and sell cryptocurrencies, or make purchases using both cryptocurrencies and fiat currencies. Our objective is to make SGPay the leading e-wallet and e-payments mobile application for everyone living in Singapore and the region. Customers will be able to pay for their groceries, purchase movie tickets, book flights and more with SGPay. They will also be able to select their preferred mode of payment, either in fiat currency or cryptocurrency at selected merchants.

**Singapore** makes a good launch pad for the development and execution of the functionalities of SGPay. Many payment providers have ignored Singapore as a potential market due to its relatively small market size. However, they fail to recognize Singapore's capacity to quickly adopt innovative technology due to its highly educated workforce as well as tech savvy population. Singapore is also a leading financial center in Asia with one of the highest GDP per capita in the world. The Singapore government has recently advocated a national push towards e-payments which will increase the chances of investments and acquisitions in this sector.

After establishing our presence in Singapore, we will transition to nearby overseas markets such as Malaysia and Indonesia. Indonesia is the 4th most populous country in the world and the South East Asia region is poised to see tremendous growth. E-commerce and e-payments are also growing at an increasing rate in the region, posing a great opportunity for FinTech firms.

To encourage further adoption of SGPay, we will also be creating additional business platforms to support the use of our token. These include SGReward that will tie in with our SGPay platform to offer monetized reward points as well as SGFund that will help to financially support the expansion of small and medium enterprises (SMEs).



### **| PUSH TOWARDS E-PAYMENTS IN SINGAPORE**

Singapore has the “right ingredients” to be a Smart Nation, but it lags behind other cities in certain areas such as electronic payments, said Prime Minister Lee Hsien Loong.

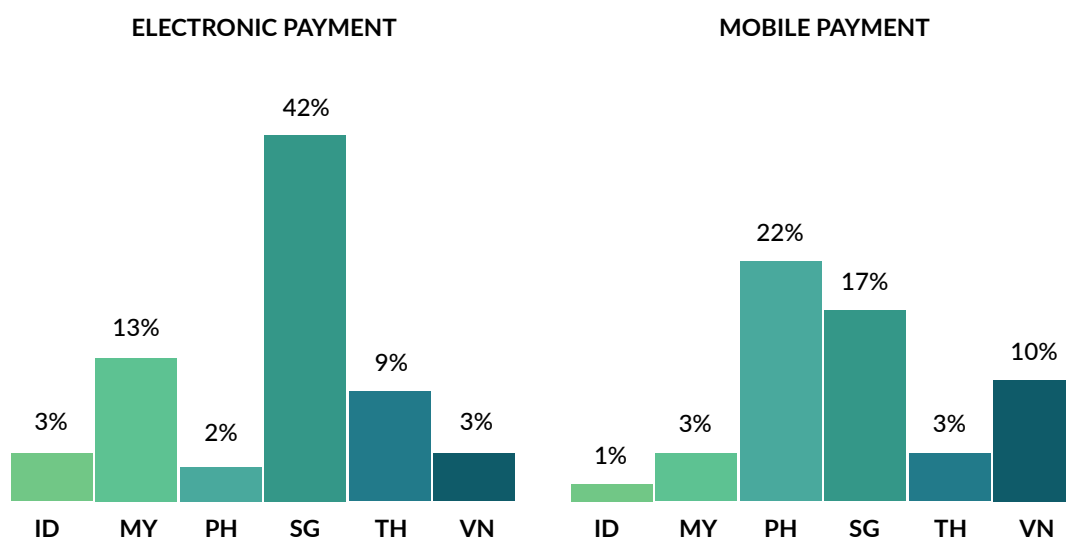
The above statement highlights the country’s unified push towards e-payments which opens up more opportunities for new payment platforms to flourish.

Payment systems which integrate new technologies and trends such as cryptocurrencies have a much larger chance of offering a unique proposition versus the current market incumbents.

QR Code Payments are also being shown the limelight. A newly formed payments council, set up to look into ways to advance e-payments in Singapore, has created a task force specifically to develop a common QR code for Singapore (SGQR) that could be used for e-payments Island wide. The task force aims to introduce a standardised QR Code that can be used by any payments application such that confusion can be avoided among consumers..

The Monetary Authority of Singapore (MAS) has advocated fiercely for a true 'cashless society' through the above measures

## | READY MARKET – A PERFECT LAUNCHPAD



Source: World Bank, 2011

The chart above highlights the trend of mobile payments in Singapore – which already holds a substantial lead over other regional markets. Though small in size, Singapore's population has shown a much higher readiness to embrace new trends in both mobile and electronic payments compared to neighbouring countries such as Malaysia, Philippines, Thailand and Vietnam. This is due to the mature technology field here as well as the fact that every Singaporean owns 3.3 handheld devices including mobile phones

The market has a ready audience but has not found a true integrated payments platform that leverages on trends that have found a more mature foothold worldwide. These include payments by QR Code highlighted above, in addition to integrated services straight on the platform. This trend is highlighted by the dual success of AliPay in China and PayTM in India.

These platforms have become giants in their own right which offers much more than just basic payments functionality. AliPay for example, offers insurance, payment of utilities bills, purchase of movie tickets, and its own shopping mall all in the same application. It is through this viewpoint that can be said that the current payments infrastructure and ambition of current local players are severely lacking.

## | CRYPTOCURRENCIES IN SINGAPORE

Singapore has rapidly emerged as a preferred hub for cryptocurrencies. Its fintech-friendly status, government grants and accommodative stand towards Initial Coin Offerings (ICO) has made it a favourite for fintech firms coming into Singapore. MAS is also taking an accommodative approach under which current compliance and securities laws apply while considering specialised regulations for future implementation.

The cryptocurrency community in Singapore is also quite active and this leads to an emerging market for providers of services related to blockchain technologies. However, the market is not mature yet and many providers are also concentrating on overseas markets (similar to that for e-payments).

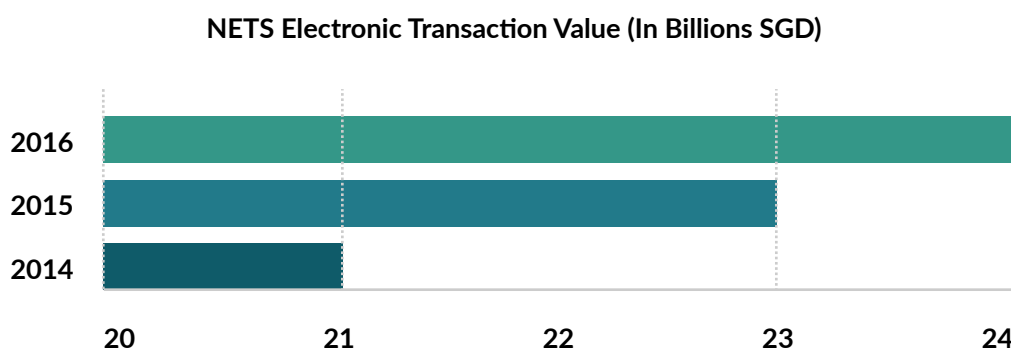
There exists an opportunity to normalize, dominate and create a unique selling proposition (USP) for our project to succeed based on the current environment.

## | A CONFLUENCE OF FACTORS

Our drive to build a '3rd generation' wallet is highlighted by the 3 factors above:

- The government's push towards e-payments and a 'cashless' society will provide much needed common infrastructure and support to our platform
- The lack of a current payments platform that matches or comes close to the success of AliPay in China and PayTM in India
- The regulatory friendly approach of MAS towards cryptocurrencies in Singapore which will help general acceptance and the adoption drive on our platform

## | CURRENT COMPETITORS



NETSPay – The incumbent leader in the payments field is slowly embracing the culture of cashless integrated payments. Their strength is in their wide point of sales (POS) legacy system that currently number over 37,000 merchant outlets. Their application also allows users to get special offers from merchants. See above for a chart on how big mobile payments are in Singapore.

DBS PayLah – A bank payments application by the Development Bank of Singapore (DBS) that allows users to perform fund transfers via mobile phone number. They application also allows users to perform and request funds transfers, pay bills and donate money. However, similar to NETSPay it lacks a wider integration of services that will make it much more useful to consumers.

CoinHako – The most popular local cryptocurrency wallet that allows users to transfer fiat funds in for the purchase of Bitcoin and Ethereum. However, the wallet suffers from high prices relative to the rest of the market, multiple downtimes as well as a lack of a mobile application.

We aim to put SGPay in everyone's hands and this plays well from a consumer to merchant angle. As all merchants are consumers in a way but not all consumers are merchants, we believe it is important to foster customer integration much more than merchant integration.



Moreover, merchant integration can be fostered more easily once we have a large user base. The current focus of payment solution providers of providing Point-Of-Sale (POS) systems to merchants is creating a very saturated market that provides consumers a confusing array of competing solutions at the payment point.

We believe that the future of merchant integration lies in the same application that consumers will be using their wallet platform on. Such integration would also mean QR Codes will have an important role to play.

Blockchain Capital Pte. Ltd. and its partners will pursue a primarily mobile strategy in order to develop assets that can cater well to the needs of the market.

### | SGPAY - CREATING A 3RD GENERATION WALLET

#### **Big Promises in the E-payments Field**

The E-Payments industry holds great promise for firms who are able to secure a solid foothold in the market. Cue the valuation case for MC Payments – which was recently acquired for US\$59 million (S\$80 million)

The sector holds great promise as the next milestone for the industry would be a 3rd generation wallet platform that hosts payments, cryptocurrency transactions as well as integrated services.

Even a market player that is 2nd or 3rd in the industry would still generate interest from prospective buyers and collaborators. This is due to the current underdeveloped payments industry here.

We aim to build a strong unique selling proposition (USP) through our integrated services and through partnerships with both technological innovators and traditional firms. We are also exploring potential partnerships with at least one of the local banks.

From our perspective, we believe traditional money still has a place beside cryptocurrencies and a partnership would provide much more value to consumers in general.

The integration of traditional sectors of insurance, general retail, transport, travel and recreational industries on our platform will generate much more support and potential revenue compared to outdated payment models. This brings us next to the relative valuations of blockchain projects in Singapore.

## I RELATIVE PROJECT VALUATIONS

Singapore has been a hotbed of blockchain projects due to a regulatory friendly environment. The following is a non-exhaustive list of projects, their current market capitalisation as well as a short summary. The tickers for each respective project will be listed beside their name. All market capitalisations are accurate as of 13th December 2017 and will change depending on market conditions.

- **DigixDao [DGD] – US\$275m Market Capitalisation**

A gold-backed token built on the Ethereum blockchain. DGD represents a store of value on the blockchain and their token event took place in 2016, raising US\$5.5 million.

- **TenX [PAY] – US\$255m Market Capitalisation**

TenX is built in partnership with credit card companies to put cryptocurrencies on your card. This is done through liquidity providers which handles multiple assets offline. TenX conducted their token event in June 2017 and managed to raise US\$80 million.

- **Kyber Network [KNC] – US\$190m Market Capitalisation**

Kyber Network is a new system that is on-chain and allows the easy conversion and exchange of digital assets. This mitigates users risk when trading cryptocurrencies. The sale of Kyber Network Crystals managed to raise US\$60 million in September 2017.

- **SGPay Token [SGP] – US\$4.8m Market Capitalisation [On Full Allocation]**

SGPay works on our 3rd generation payment wallet SGPay. The creation of a 3rd generation wallet aims to integrate cryptocurrencies, e-payments and other services on the blockchain.



SGPay Logo

## I VALUE PROPOSITION

### **Problem**

The E-Payments industry holds great promise for firms who are able to secure a solid foothold in the market. Cue the valuation case for MC Payments – which was recently acquired for US\$59 million (S\$80 million)

The sector holds great promise as the next milestone for the industry would be a 3rd generation wallet platform that hosts payments, cryptocurrency transactions as well as integrated services.

Even a market player that is 2nd or 3rd in the industry would still generate interest from prospective buyers and collaborators. This is due to the current underdeveloped payments industry here.

We aim to build a strong unique selling proposition (USP) through our integrated services and through partnerships with both technological innovators and traditional firms. We are also exploring potential partnerships with at least one of the local banks.

From our perspective, we believe traditional money still has a place beside cryptocurrencies and a partnership would provide much more value to consumers in general.

The integration of traditional sectors of insurance, general retail, transport, travel and recreational industries on our platform will generate much more support and potential revenue compared to outdated payment models. This brings us next to the relative valuations of blockchain projects in Singapore.

## Solution

The introduction of SGPAY and its tokens helps to solve these problems and promote the growth of cryptocurrencies in Singapore and Asia. The ultimate beneficiaries of this improvement are the early adopters of cryptocurrency.

Firstly, SGPAY is an e-wallet that allows users to buy and sell cryptocurrencies. It has an inbuilt incentive system that awards lower transaction fees to users who hold more SGPAY tokens. SGPAY will allow its users to also make transactions using its tokens, and to pay for value-added services on the platform.

Secondly, the addition of SGPAY into the payments ecosystem also provides users greater choice and diversity for payments in Singapore and Asia. There is a lesser likelihood of any one e-wallet gaining monopoly power and imposing unfavorable terms on users.

Thirdly, SGPAY will advocate the use of cryptocurrency for payments regionally. This creates a more familiar environment for users who are already comfortable with using e-payment apps. Now that cryptocurrencies are promoted and supported on a popular payments application, the use of them will increase correspondingly.

SGPAY will be marketed as a 'normal' payments platform so that users of our platform who are not familiar with cryptocurrencies will be encouraged to dip their toes in it. This strategy will enable us to capture a large portion of the market that would not normally purchase cryptocurrencies.

## Full Feature Set

- Accessible from mobile devices on both Android and Apple iOS
- Decentralized tokens on the blockchain
- 'Cold-Storage' style wallet protects up to 99% of crypto-assets stored with us
- Support for transactions involving cryptocurrencies such as the SGPAY Network Token, Bitcoin, Ether
- Support for deposit/withdrawal of Singapore Dollar funds
- APIs built to support merchant and user funds exchange
- Full access for users over their private keys (platform will not store keys)
- Support for debit and credit cards during the e-payment phase
- Deep integration with industry leaders from the Insurance, Travel and other fields
- Monetized reward system built into the platform
- Support for locally developed cryptocurrencies such as Kyber Network Crystals, Zilliqa Tokens and more

The full feature set of SGPay will be developed in stages. For a more detailed look of when each feature will be implemented throughout our development phase please check out our roadmap in the later part of our whitepaper.

We are looking to support tokens from locally developed blockchain projects such as DigixDao, Kyber Network and Zilliqa. This will help to make their tokens more liquid, accessible and also foster closer technical connections between our platform and their projects.

## Project Risks

There exist huge promises in the e-payments and wallet fields that we have espoused in the earlier parts of the whitepaper. Huge potential upsides also exist in our token values. However, there are the following risks to our project which we are obliged to highlight.

- **Banks** – Recently, many wallet providers in Singapore have had their accounts closed without reason. Banks have started to push back against cryptocurrency wallet providers and providers of other services by closing their accounts as they see them as a threat to their version of a proper financial system. We have identified several provisions or fallback plans in the event our platform gets targeted. The very essence of our project as a hybrid system (which integrates card payments, partnerships and cryptocurrencies) does lessen the risk of prosecution from the banks but the team is not taking any chances. We are also exploring a partnership with at least one of the local banks.
- **Regulatory Risk** - There is a chance that MAS may impose new regulations on current and new blockchain-based projects. The current stance of MAS now is to adopt a ‘wait-and-see’ approach and let existing regulations handle current cryptocurrencies. MAS itself has been experimenting with blockchain technology, most notably in ‘Project Ubin’. Our token has properties like a utility token so it is also not subject to any existing regulations. In spite of all these developments, our team is always on the lookout for any potential changes to MAS stance on cryptocurrencies.
- **Licensing Risk** – We are planning for our primary wallet platform not to fall under any current regulations and/or requirements. However, there exists some licensing risk as MAS develops new regulations and/or safeguards with regards to current wallets and service providers.

## I TOKEN OVERVIEW

The SGPay Token is an ERC20 compatible token on the Ethereum blockchain. It is promoted and used on SGPay, associated business platforms and partner merchant outlets. Token holders enjoy various incentives such as lower transaction fees when buying or selling cryptocurrencies on the SGPay platform.

## I LAUNCH SUMMARY

- **Token Name:** SGPay Token [SGP]
- **Total Supply:** Up to 13.8 million
- **Total Public Supply:** Up to 10 million
- **Pre-Contribution Period:** 1st Feb to 14th Feb 2018
- **Pre-Contribution Supply:** 2 million tokens @ US\$0.40 each
- **Main-Contribution Period:** 1st Mar to 31st Mar 2018
- **Main-Contribution Supply:** 8 million tokens @ US\$0.50 each
- **Soft Cap:** US\$0.8 million
- **Implied Market Cap:** Up to US\$4.8 million
- **Minimum Contribution:** 1 ETH
- **Maximum Contribution:** 100 ETH
- **Accepted Currencies:** Ether (ETH)
- **KYC/Whitelisting:** Yes

\*For institutional and/or large contributors – please contact us directly at [hello@sgpay.org](mailto:hello@sgpay.org)\*

## I TOKEN PROPERTIES

- Initial Limited Public Supply of up to 10,000,000
- Fixed Supply Forever (No inflation)
- Utility token on our platform(s). As adoption increases the value of tokens will increase due to limited supply. The SGP Token is classed under utility tokens as they are used for value-added services such as those offered by our partners on the platform, as well as an incentive to get lower transactional fees.

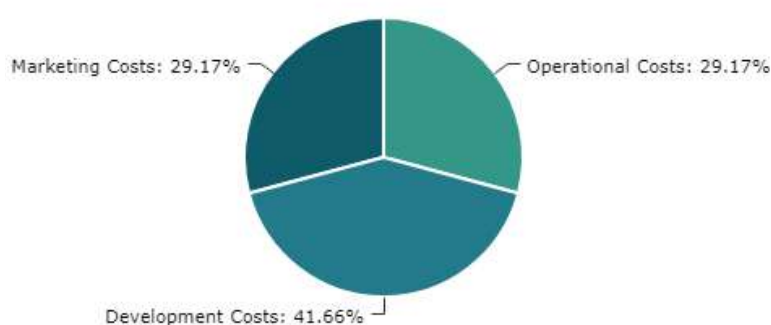
## I TOKEN AND TGE SAFEGUARDS

- Low initial market cap of up to US\$4,800,000 (based on TGE price of US\$0.50 on 8,000,000 tokens and Pre-Contribution price of US\$0.40 and full allocation). This will give us a 'bargain' basement position on coinmarketcap.com with an explosive potential to grow once adoption of our application takes off and new partnerships are signed. The low valuation will help to reduce downside risk for early project contributors and supporters.
- In relation to fintech – the team decided to develop the wallet first to exploit a gap in the market. Currently, there are no wallet applications with wide ranging applications incorporating disruptive partners and cryptocurrencies. We aim to exploit this gap by going into our platform development in stages to bring a competent innovative solution to the problem. Each stage will bring with it a new user base & growth through aggressive marketing & promotions. The more popular our platform gets, the more our tokens will get used and the higher the demand.
- SGPay is aiming to list on a few exchanges to increase liquidity and decrease the potential buy-sell spread of the SGPay Tokens. This will allow our users to easily liquidate or purchase more of our tokens and allow more liquidity for our micro-transaction system that is built into our platform. We are also partnering with liquidity providers to provide
- We will be putting a limit on the amount of funds a single person can contribute to the TGE. The limit would be set at 100 Ether, which is approximately US\$100,000 on this date. This will prevent 'whales' from controlling our floating token circulation and to allow more participants in our token generation event.
- Zero Inflation. The team has pledged not to release anymore new tokens forever.
- Pegged start of contribution and end of TGE pricing. The team has decided that in order to be fair to contributors during the distribution event, we will not strictly peg the amount of tokens you get at the time you choose to contribute your Ethereum. If by the end of the contribution event, your Ethereum value is more than what it was when you first contributed, we will choose the higher amount. Do take note this does not include values for Ethereum between both of the dates (your contribution date and end of contribution period). The confirmed distribution amounts would be done by the end of the distribution period.



To date, a six figure sum has been spent on developmental & operational costs. Proceeds from the token event will be used to expand our operational capabilities over the next 5 years.

### BASED ON FULL ALLOCATION



### FULL ACCOUNTABILITY



#### TARGET PROCEEDS

US\$4,800,000 (S\$6,420,000)



#### DEVELOPMENTAL COSTS

US\$2,000,000 (S\$2,675,000) to upgrade and enhance SGPay security & feature set.



#### MARKETING COSTS

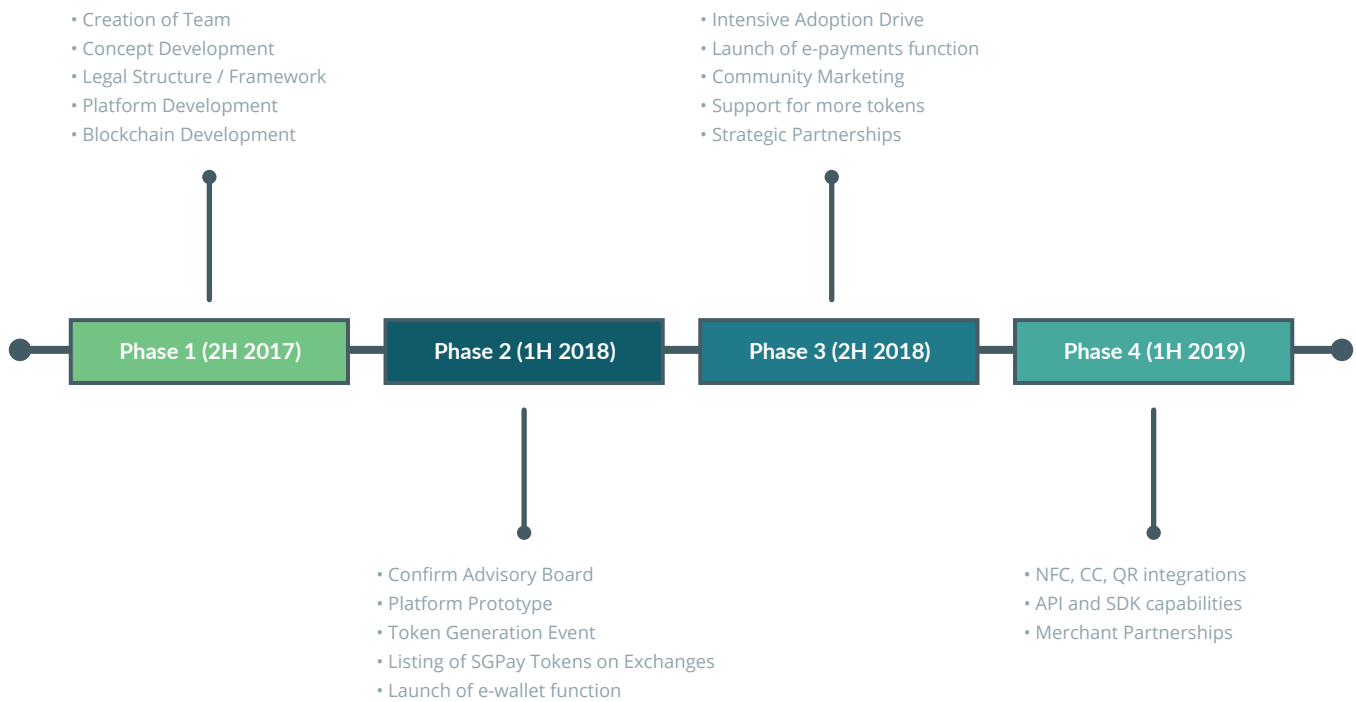
US\$1,400,000 (S\$1,872,500) for marketing and promoting SGPay to the general public.



#### OPERATIONAL COSTS

US\$1,400,000 (S\$1,872,500) for licenses, salaries, rental and other miscellaneous costs.

The development of SGPay system is already in progress. Following is an overview of the project planning breakup. With its expected completion by May 2018, we are planning to launch the initial version of the system by Jul 2018.



## Phase I (2H 2017) – Prototype Stage

- Prototyping different various user interfaces
- Optimizing the best user experience for our application
- Coding the wireframe for our platform
- Seeking of various liquidity partners for our platform
- Defining prototype functionality
- Establish prototype objectives

Goal: To create a seamless, secure, yet expansive prototype that has the ability to add much more functionality into the platform in future

## **Phase 2 (1H 2018) – Launch of Beta + Initial Release Version**

- Evaluate and refine prototype
- Debugging and user-experience testing
- Full systems development initiated
- Full e-wallet functionality and support for 3 currencies
- ‘Incentive’ algorithm based on SGPay Token built-in

Goal: Launch of a bug-free, excellent mobile application with e-wallet functionality built-in together with sufficient liquidity and transaction rewards based on the amount of SGPay Tokens being held by each customer

## **Phase 3 (2H 2018) – Addition of Payments functionality**

- Launch of e-payments functionality
- Support for debit/credit cards
- Potential support for more locally developed tokens
- Intensive Adoption Drive
- Lay groundwork for creation of APIs for partner services

Goal: Addition of e-payments functionality such that the platform can reach out to a much bigger pool of people and to expedite the growth of our user base

## **Phase 4 (1H 2019) – Partner Services API**

- To partner with various technological providers to enhance the use cases of our product
- This will include insurance company tie-ups, mobile company tie-ups and partnerships with other big firms in other sectors
- This will open up whole new users for our wallet application and make it a truly all-in-one platform

Eventually, SGPay will evolve into an All-In-One (AIO) platform that will rival the functionalities of AliPay in China and/or PayTM in India. This will bring up our current initial valuation exponentially.

## I SGPAY TEAM



**Deng Guangyuan**

**CEO**  
Entrepreneur with over 8 years of experience in various industries. Managing Director of 3 start-ups.



**John Lim**

**LEAD STRATEGIC DEVELOPMENT**  
Founder of Unibly, a technology startup, and former program manager for various start-up accelerators.



**Sufi Yusof**

**LEAD BUSINESS DEVELOPMENT**  
Founder of various start-ups and business manager for both Beamworks and Asia Coders.



**Bryan Ho**

**LEAD MARKETING DEVELOPMENT**  
Experienced entrepreneur with strong expertise in digital marketing and customer relationship management.



**Vishal Maheshwari**

**LEAD PLATFORM DEVELOPMENT**  
A seasoned professional with more than 7 years experience in developing enterprise solutions for platforms.



**Sumit Rajput**

**BLOCKCHAIN DEVELOPER**  
A blockchain programmer with over 3 years of experience in Solidity coding.



**Sanjeevi Acharya**

**UI / UX DEVELOPER**  
Sanjeevi has deep experience in helping platforms design a more seamless interface and creating an excellent user experience.



**Rolf Haudenschild**

**ADVISER**  
A Swiss qualified lawyer who currently runs his own compliance practice. Strong legal and regulatory background.



**Christel Quek**

**ADVISER**  
Co-founder at BOLT global and CMO of Zilliqa – the next-generation high throughput blockchain platform



**Ankur Maheshwari**

**ADVISER**  
A technologist at heart who believes innovation is the key to success. Has great experience setting up entire engineering and product teams.



**Farhan Firdaus**

**ADVISER**  
General Manager at Agrivo. Former COO for FDC Dental Group and Representative of Singapore to the European Union (EU).



**Joelle Pang**

**ADVISER**  
Head of Regional Business Development at SPH Digital and FastJobs Asia. Successfully exited several start-ups at multi-million dollar valuations.



**Jenna Park**

**ADVISER**  
Founder of Pulse9 Studio which specialises in AI technologies in chatbots, statistics and data analysis.

## | CONTACT & SUPPORT

**Registered Company:** Blockchain Capital Pte. Ltd.

**Registration Number:** 201727174G

**Registration Country:** Singapore

**Email:** [hello@sgpay.org](mailto:hello@sgpay.org)

**Mailing Address:** 14 Robinson Road,  
#08-01A Far East Finance Building, Singapore 048545

## I APPENDIX A - KEY TERMINOLOGY

### Blockchain Technology

Blockchain is a revolutionary technology that stores data in series of records termed as blocks. These blocks utilize the power of cryptographic technology for the purpose of security. Each block in a blockchain has the following three components:

- **Hash pointer** - A hash function that allows mapping of inconsistent data to a bit string is implemented in the blocks. This mathematical function makes it impossible for hackers to make any alterations in the blockchain
- **Timestamp** - A Timestamp is used to keep track of block creation time
- **Transaction Data** - The overall data related to a transaction

Blockchain technology enables internet users to transfer digital assets securely and safely with anyone and everyone. All the people in the network are aware about the transaction but the security aspect prevents anyone from changing or modifying the data. A decentralized system that's convenient for almost all industry verticals including Medical, Government, Enterprises, Financial institutions etc.

### Cryptocurrencies

Cryptocurrency, often termed as crypto, is a digital asset which is used as currency by people and organizations. They can be purchased and managed by individuals and organizations with the help of private keys. A digital private key allows access to records of encrypted transactions on decentralized blockchain ledgers.

A blockchain ledger (series of blocks functioning together) is a publicly accessible and immutable record of transaction that needs a consensus of different network nodes in order to validate transactions. A digital crypto asset finds its value on the basis of its supply and demand in the organic market.

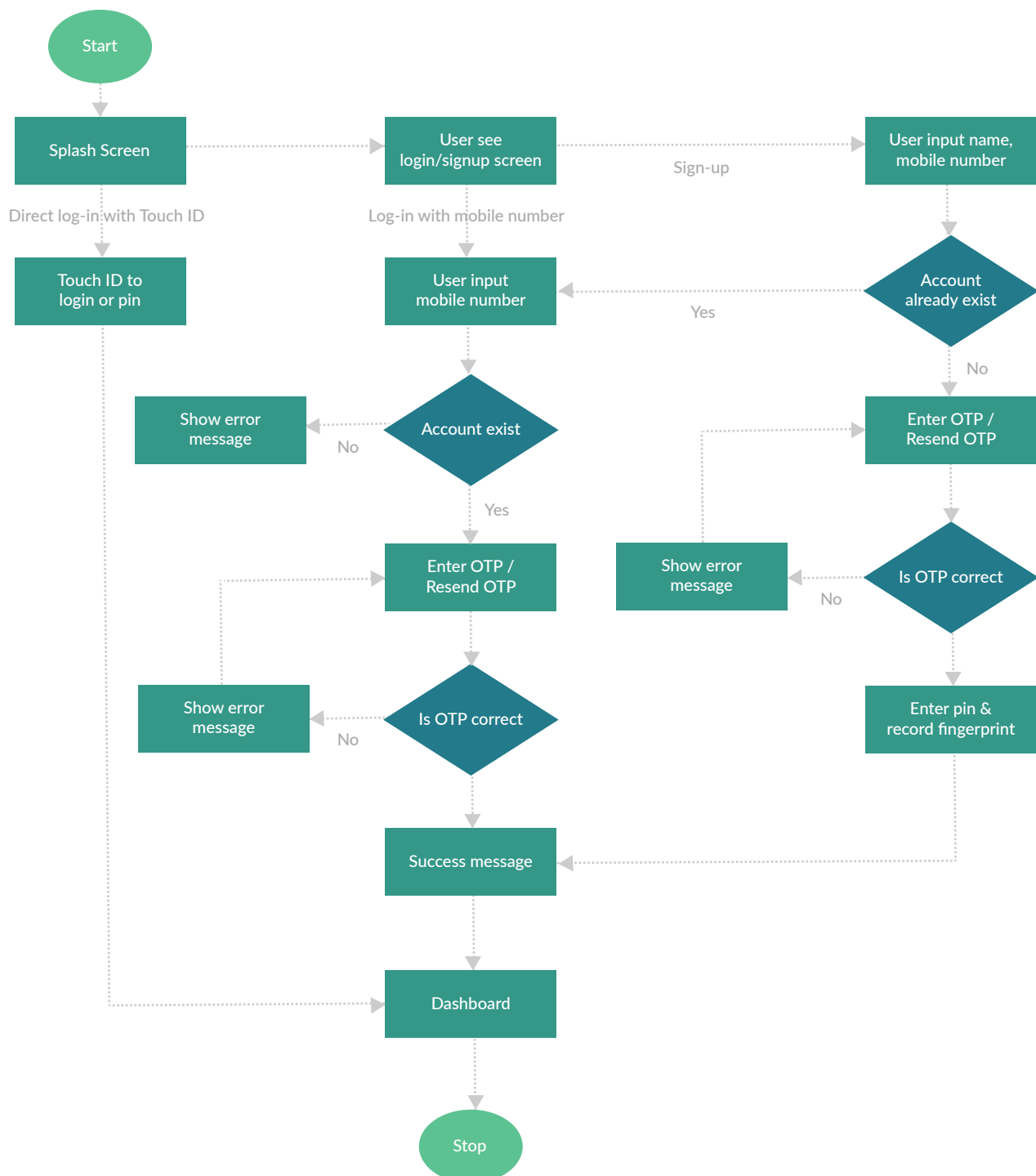
Due to it being easily transferable, digital assets hold flexibility and are treated as an equivalent to physical currency in terms of exchange of goods or services. Cryptocurrencies are proven as a more feasible form of making payments because of higher flexibility and therefore, are also being considered as the future of transactions globally.

With the high demand and increasing value in the markets, many Fintech solutions are being developed in order to maintain this growth trajectory.

## I APPENDIX B – SYSTEM WORKFLOWS

### System Flowcharts

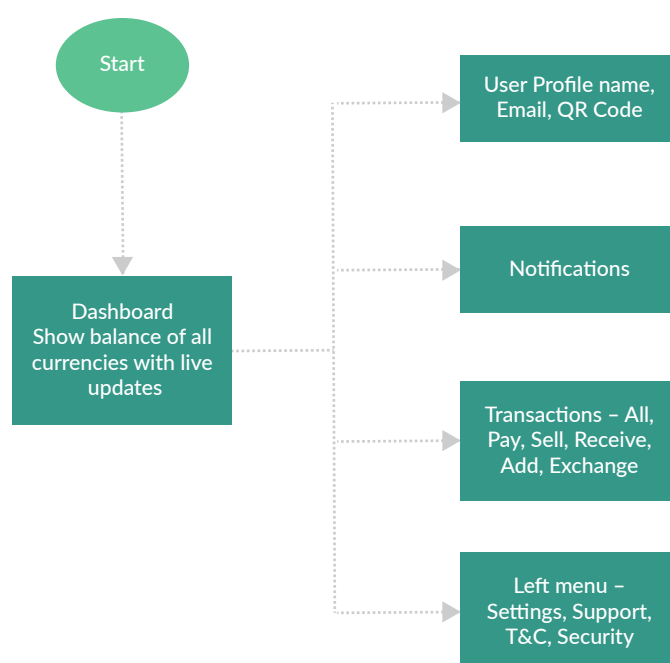
#### AUTHENTICATION MODULE



### Detailed description of authentication module flowchart diagram:

- Users attempt to log into the system either via direct pin or touch ID or mobile number
- In case of an already existing account, user is validated and allowed to proceed further
- Unregistered users attempting to perform transactions initiate the registration process
- Upon successful registration, an OTP is received by the user to validate the process
- Once the user enters correct OTP in the system, a success message is generated and the user is navigated to the functioning screen

### DASHBOARD



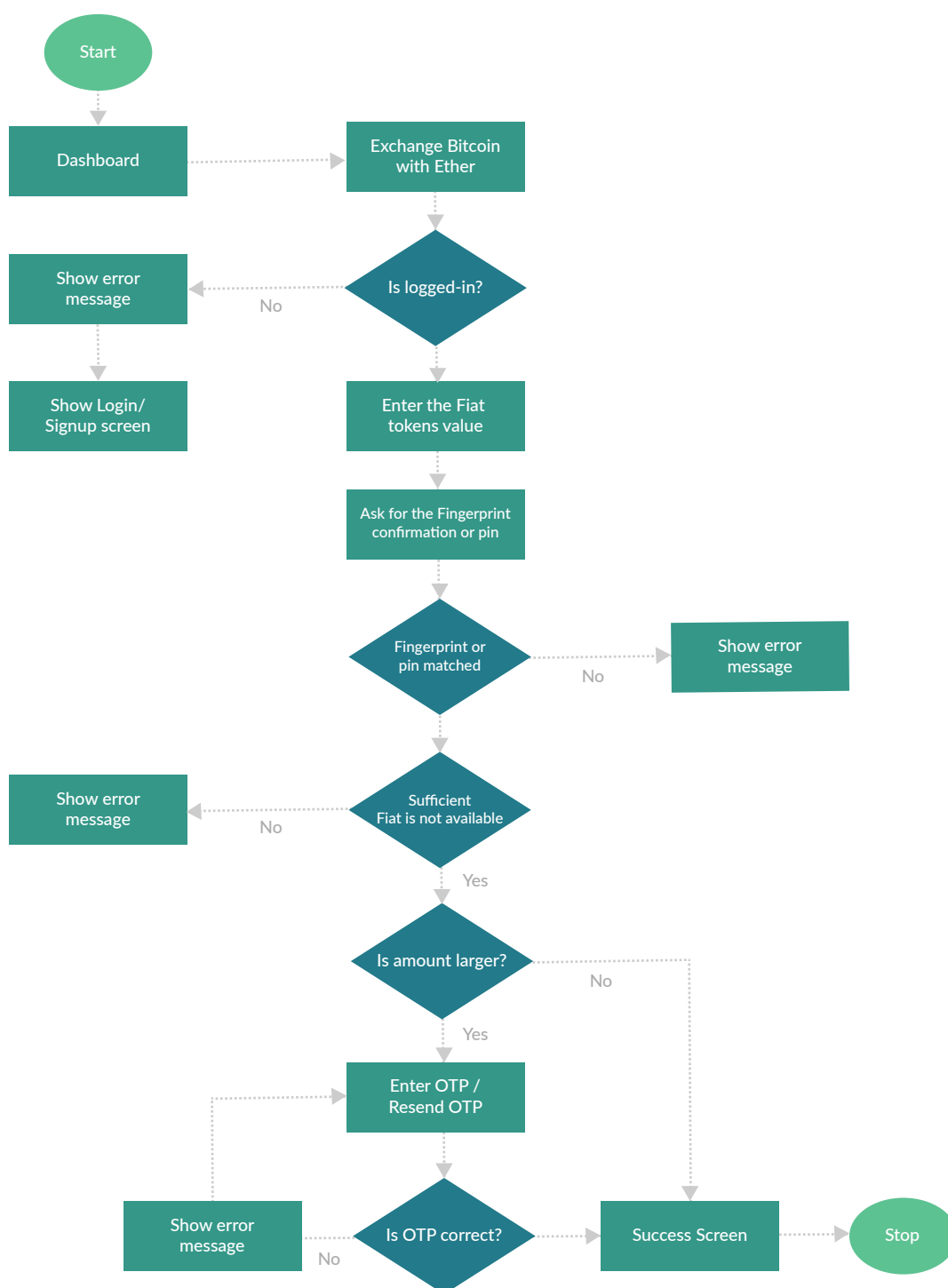
### Detailed description of dashboard module flowchart diagram:

- Upon successful registration in the system, users are redirected to the dashboard or main screen of the system
- The main screen/dashboard will show balances of all the approved currencies according to their live updates



- Dashboard will provide users with the options of viewing profile, notifications, transactions
- Along with these, the user can also access options like settings, support and security by clicking on left menu

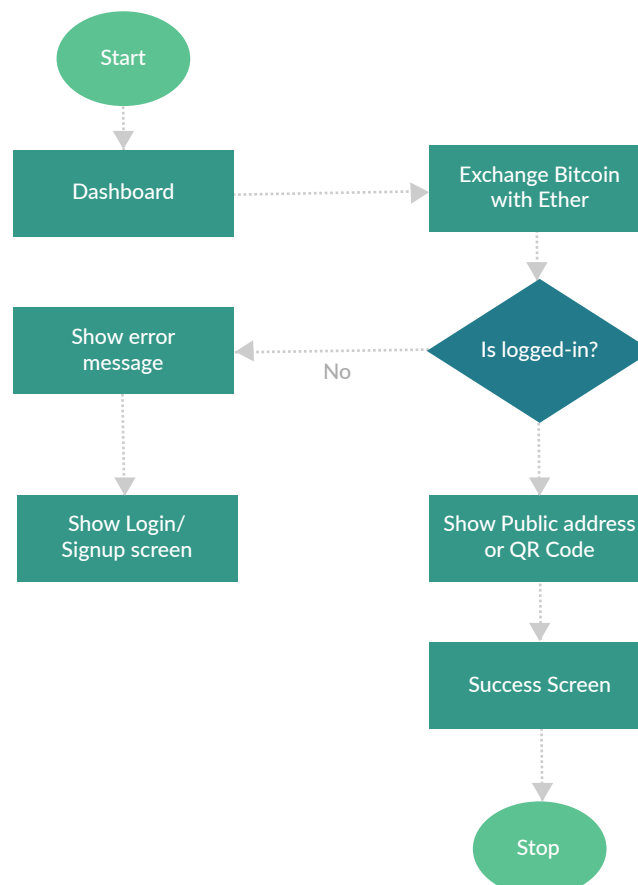
### SEND / PAY / TRANSFER MODULE



### Detailed description of Send/Pay/Transfer module flowchart diagram:

- The user chooses the option of transfer from the dashboard in order to exchange money. (let's consider bitcoin for ether in this example)
- User chooses the option of exchanging Bitcoin with Ether
- The system redirects user to next step of entering fiat tokens if the user is logged in to the system
- In case, the user is not logged in, he/she will be redirected to the login screen
- For proceeding with the exchange, the system asks user to enter pin or scan their fingerprint
- Upon successful validation, the system checks if the balance for exchange is sufficient or not
- For insufficient balance, an error message is displayed and if the balance is enough and OTP is generated which upon entering in the system allows the transaction to take place

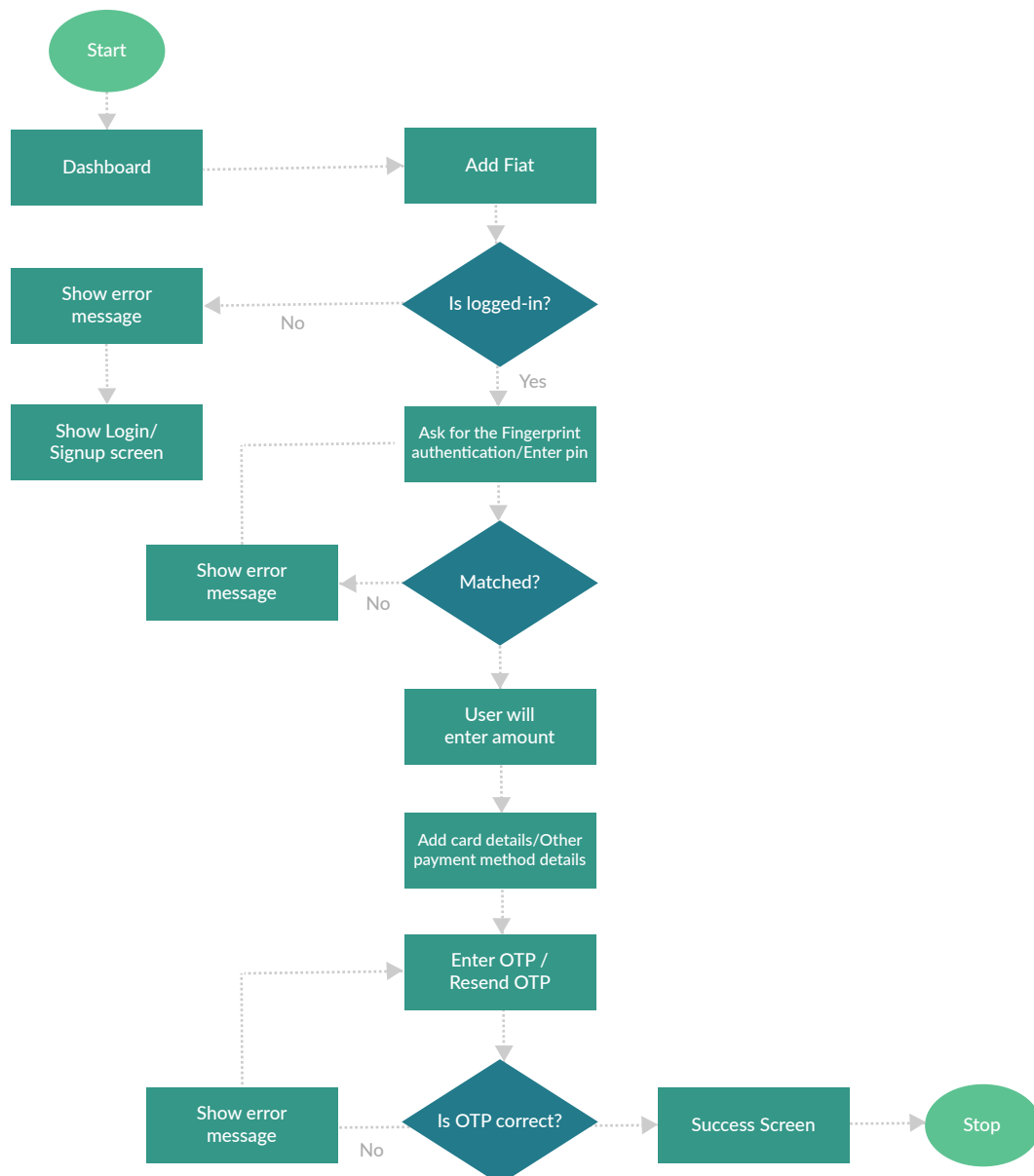
#### RECEIVE CURRENCY MODULE



### Detailed description of Receive module flowchart diagram:

- The user chooses the option of transactions from the dashboard in order to receive money.
- User checks the balance type of the received currency
- The system redirects user to login screen if the user is not logged in to the system
- In case of a logged in user, the system displays the public address or the QR code for the transaction
- Once this is completed, the user receives currency successfully

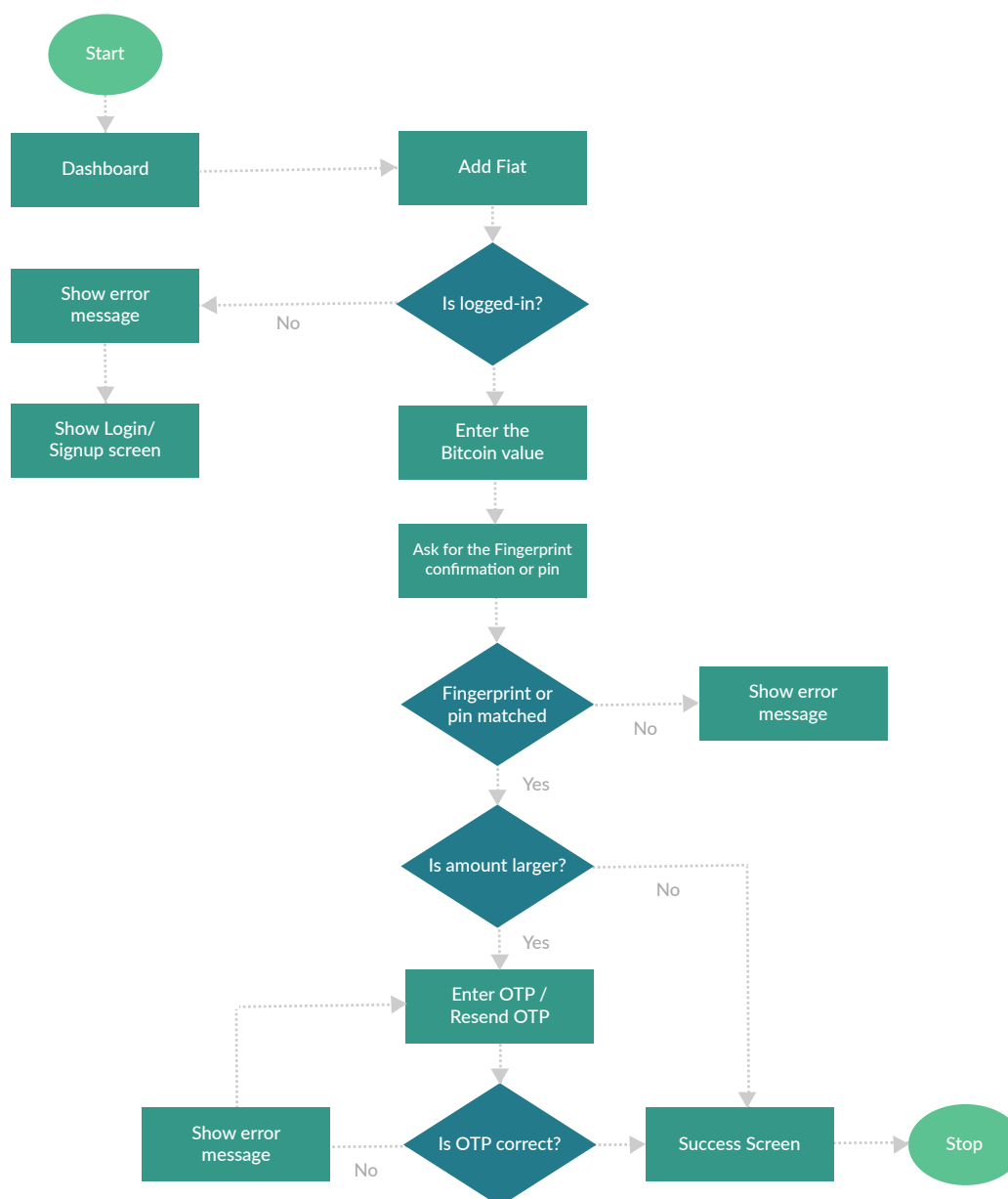
### ADD CURRENCY MODULE



## Detailed description of Add currency module flowchart diagram:

- The user chooses the option of transactions (add fiat in this case) from the dashboard in order to add currency of their choice.
- The system redirects user to login screen if the user is not logged in to the system
- In case of a logged in user, the system asks for user validation via fingerprint or pin
- After successful authentication, the user is provided the option of entering amount
- In the next step, the user enters card/payment details in order to add currency
- Further, an OTP is received by the user; on entering which, the operation is successfully completed

### ADD CURRENCY MODULE



**Detailed description of sell cryptocurrencies module flowchart diagram:**

- The user chooses the option of transactions (sell bitcoin in this case) from the dashboard in order to sell cryptocurrency
- The system redirects user to login screen if the user is not logged in to the system
- In case of a logged in user, the system allows the user to enter bitcoin value
- After entering the value, the system asks the user for confirmation via fingerprint or pin
- Upon successful validation, the system checks if the amount entered is larger or not
- Further, an OTP is received by the user; on entering which, the operation is successfully completed

<https://www.channelnewsasia.com/news/singapore/national-day-rally-singapore-to-go-bigger-on-e-payments-with-9140068>

<http://www.straitstimes.com/business/banking/task-force-set-up-to-create-common-qr-code-for-e-payments-in-singapore>

<https://www.techinasia.com/digital-payments-industry-heats-singapore-major-companies-jump-board>

<https://www.cnet.com/news/singapore-has-the-highest-smartphone-adoption-in-the-world/>

<http://www.businessinsider.com/alipay-is-setting-up-for-global-dominance-2017-5/?IR=T>

<http://www.businesstimes.com.sg/technology/singapore-not-rushing-to-regulate-cryptocurrencies-mas>

<https://www.dealstreetasia.com/stories/sgx-listed-artivision-technologies-to-buy-fintech-firm-mc-payment-85445/>

<http://www.businesstimes.com.sg/banking-finance/singapore-cryptocurrency-firms-facing-bank-account-closures>

<http://www.mas.gov.sg/News-and-Publications/Media-Releases/2017/MAS-and-ABS-lead-consortium-to-harness-blockchain-technology.aspx>