

# SGCoin

(Not really a crypto per se)

Digital payment platform for everyone.

# Business Model

(similar to banks, except no Basel Accords)

- Keep portion of funds as reserves and invest the rest
  - In “risk-free” instruments probably (risk-averse)
- Is it profitable?
  - Yes. Low upfront costs and running costs. (refer to projection)
- What problem(s) do we solve?
  - Outdated payment methods in SG (uncharacteristic of a smart nation)
  - Cumbersome payment of fiat (small change and all that)
- Competitors?
  - Closest substitutes will be DBS paylah, OCBC paynow, etc.
  - However, we will win because of 0% tx fees and extremely low costs to maintain network (refer to projection)

# Business Model

(similar to banks, except no Basel Accords)

- Where/how do we add value?
  - We provide an instantaneous payment platform/solutions at extremely low integration cost, (few cents).
  - And 0% transaction fees forever.

# Transactions Model

- Instant electronic payment at 0% fees to both merchants and consumers
  - Lightning network
  - Fallback to traditional blockchain transactions
    - Requires scaling of nodes when no. of tx increases
- Easy adoption/integration
  - Uses public/private key pairs, ecdsa SECP256k1 elliptic curve cryptography
  - Wallet generation methods include:
    - Website provided by us
    - Users generate on their own using open source tools
      - We provide key derivation path
    - Future integration into Hierarchical Deterministic Hardware wallets (BIP 33, 39, 44) such as: Trezer, Ledger Nano S, KeepKey, etc.

# Transactions Model (merchants POV)

- Merchants POV:
  - Print QR CODE, display at payment counter; done.
  - Cash out from our platform (if desired, ultimately SGCoin should be more desirable than cash[fiat] ).

SGCoin Address: SGo3ef21AFD2491e1A3L



# Transactions Model (consumers POV)

- Consumers POV:
  - Scan QRCODE displayed at payment counter
  - Consume product/services
- Mimics function of Alipay/支付宝 BUT:
  - With high level of privacy
    - No personal details needed for tx
    - As many accounts as required
  - Accountability:
    - TXs viewable on our block explorer





# Transactions Model (why switch to SGCoin?)

- Merchants:
  - 0% fees, compared to other payment gateways
  - No need to actually “switch” as our model can be used concurrently with tradition payments (e.g. paylah, paynow, paywave etc.)
  - Almost no risk to them
- Consumers:
  - Easy way to make payment
  - Easy way to send funds amongst friends
  - Might become a store of value
  - Provides higher level of privacy and security compared to substitutes
  - Less hassle as well (no personal details required)

# Transactions Model (SGCoins to fiat)

- In the early stages, no. of transactions to cash out to fiat is projected to be high. As SGCoin turns mainstream, coin-to-fiat (C2F) projected to fall.
  - High volume of C2F in early stages = more costs for us to absorb
    - Proposed:
      - Set limit on free C2F, 10 txs in one week, important to note that this is not limiting the no. of tx between merchants and consumers. But rather, the tx from SGCoin to SGD. Which is a service provided by us.
    - Other proposals; open to suggestions.



# Distribution of SGCoins

- Online exchange via our website
- Setup fiat-to-coins booth/ATMs around the island (high-cost, KIV)
- Give away for free (yes, serious)



**SGCoin**

# Potential targeted merchants

- Adoption by:
  - Franchises such as:
    - Kopitiam foodcourt, replacing the current kopitiam card or running concurrently
    - Traditional Kopitiams, where cash is king. Might be difficult, since elderlies would not know how to use. Partial penetration in such cases.
    - McDonald's etc?
    - Hawkers, replacing DBS paylah, since 0% fees
    - Etc...



# SGCoin's properties and advantages

- Centralized and fully mined
- Value guaranteed by us, 1 SGCoin to SG\$ 1
- As we are centralized, and have complete autonomy over the blockchain, when the blockchain gets too large for us to maintain, we can truncate the blockchain, keep only transactions of the last 30 days.
  - Advantages:
    - Easy to maintain nodes, reduced disk space required. Although might not be necessary (disk space is cheap).
  - Disadvantages:
    - Potential legality issue, but easy to mitigate, just keep a local copy.

# SGCoin's properties and advantages

- Usage of Crypto vs Fiat
  - Advantages:
    - Privacy and security, all the goodness of cryptocurrencies.
    - Easy adoption
  - Disadvantages:
    - Cannot rollback a transaction, not in the traditional way at least
    - If private keys are lost, all funds are lost, just like any other cryptocurrencies.

# Why has it not been done/why was it not possible?

- Flooded with transactions, slow clearing time.
- High volatility, not pegged to another asset class.
- Mining disrupts market value
- Decentralization enables distribution of control but:
  - Have to compensate miners for maintaining blockchain nodes

# Why is it possible now?

- Lightning network enables offline instant transactions using multi-sig.
- However, main reasons are:
  - We are centralized
  - Coins are fully premined
  - Closed nodes, no outside mining allowed
  - Thus we can guarantee the supply of SGCoins and the value of SGCoins (1 coin = SG\$1)
- Even without lightning network, we can still go ahead by scaling no. of nodes and reducing no. of txs per block to accommodate the additional overhead.



# ELI5 of Lightning Network

- Lightning network enables offline instant transactions using multi-sig.
- Multi-sig addresses/accounts require more than one signature (signed using private key) for the transaction to be valid.
- An established payment channel is basically a multi-sig account with the respective parties holding a private key each.
- E.g C[onsumer] has 10 SGCoin, M[erchant] has 0 SGCoin
  - C pays M 1 SGCoin by signing a transaction with 1 SGCoin and sending that signed transaction to M.
  - This transaction is **NOT** broadcasted onto the network(blockchain), at least not until M decides to sign it with M's key and broadcast it. Between the first signature and the broadcast, multiple transactions could have occurred

# ELI5 of Lightning Network

- Scenario:
  - C signs tx sending 1 SGCoin, M signs tx sending 0.5 SGCoin back to C.
  - 1 hour later; C signs tx sending 5 SGCoin to M, 2 hours later M signs tx sending 2.5 SGCoin back to C. Refer to image below

|          | C[onsumer] | M[erchant] | Opening/Closing Balance |
|----------|------------|------------|-------------------------|
| Balances | 10         | 0          | 10                      |
| tx 1     | -1         | 1          |                         |
| tx 2     | 0.5        | -0.5       |                         |
| tx 3     | -5         | 5          |                         |
| tx 4     | 2.5        | -2.5       |                         |
| Total    | 7          | 3          | 10                      |

Balanced

Broadcasted onto network

C ends up with 7 SGCoin  
M ends up with 3 SGCoin

# ELI5 Summary

- We position ourselves as a trustworthy intermediary
- We take the dormant funds and invest in low-risk securities
- We profit

# Risk-benefits assessment

- Low startup costs and very low maintenance costs
  - Only elements that are high in upfront costs will be:
    - Wallet App development
    - SGCoin customization
    - Nodes are relatively cheap
  - Enables SMEs, sole-proprietors to adopt easily.
- Demand exists
  - Singapore e-payments 149% Mobile penetration<sup>1</sup>
- Free Promotion
  - “Prime Minister Lee Hsien Loong says efforts to simplify and integrate electronic payment systems are underway, including making such a method available at hawker centres, in a bid to transform the country into a Smart Nation.”<sup>2</sup>
  - Crypto craze may help adoption, but important to note that we do not require the craze to sustain as the tech behind our transaction model is sound.

<sup>1</sup> KPMG - Singapore Payments Roadmap Enabling the future of payments 2020 and beyond

<sup>2</sup>CNA- <https://www.channelnewsasia.com/news/singapore/national-day-rally-singapore-to-go-bigger-on-e-payments-with-9140068>

# Potential Legality Issues

- Singapore ICOs not banned, yet. Even if banned, as ours has a concrete and pragmatic use-case, should not be affected.
  - Worst-case:
    - distribute a portion for free, not selling therefore, no problem.
- Difficult to trace tax liability, however this exists even for fiat
  - E.g. under declaration of self-employment income
  - Measures to mitigate duty of care on our part:
    - Not necessary as our blockchain is a public ledger, ie. All transactions can be viewed by anyone. However, tracing the address to the identity is another thing, but not our problem.
- Other issues - KIV

# Potential expansion pathways

- Financial Intermediary
  - Escrow services using 3 parties multi-sig, A & B signs the tx, but requires our signature to push it through, once A sends goods to B, and we have confirmation, we sign the tx and broadcast it.
    - Trustworthy, since no one party can edit the transaction.
- Instant forex, eg. Ringgit to SGD, SGD to peso, etc.
  - Charge lower fees, instant transfer.
  - Money market (?) offset transactions
- KIV



# Thanks for your time

- A copy of this presentation and the financial projection is available at:
  - [https://lwxforthe.win/sgcoin/sgcoin\\_presentation.pdf](https://lwxforthe.win/sgcoin/sgcoin_presentation.pdf) and
  - [https://lwxforthe.win/sgcoin/sgcoin\\_projection.pdf](https://lwxforthe.win/sgcoin/sgcoin_projection.pdf)

- Alternatively, just scan these:

- Presentation:



- Projection:

