Abstract

The world is going mobile and it is changing the way we live. The average consumer checks their mobile phone more than 150 times a day. Global mobile application (“app”) revenue grew to $88 billion in 2017 [1]. While the opportunities in the mobile space are obvious, mobile app developers continue to face challenges in effectively understanding their users and monetising the apps.

This paper presents “SWIPE Network” – a decentralised mobile engagement data platform that will empower app developers with a suite of marketing tools (via SDK – software development kit) to monetise anonymised data transparently and fairly using blockchain technology. App users will be rewarded for contributing their data while maintaining full control of privacy and data sharing. App developers can increase their app active usage and retention through the SDK. They can get more data from the SWIPE Network, and improve the apps based on the data obtained.

The proposed solution will be built on top of our existing product – SwipeRich[2] mobile lockscreen content delivery solution which has been successfully deployed to more than half a million users in Indonesia and Philippines.
INITIAL DISCLOSURE

PLEASE CAREFULLY READ THROUGH AND UNDERSTAND THE DISCLAIMERS AT “SECTION 8.0 DISCLAIMER” OF THIS WHITE PAPER.
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1.0 OVERVIEW

There is a huge problem with today’s data monetisation approach. Traditional data brokerage and trading network often leave users out of the equation. They don't fairly incentivize users' data contribution. In some cases, data trading happens without user consent. The industry needs a new data monetisation model to change what is an unfair and often non-transparent trading model.

SWIPE Network incentivises users to share their data anonymously while providing data buyers with auditable data products. It enables fair and transparent data trading between users, app developers and data buyers through a decentralized data marketplace. All data transactions are strictly enforced with smart contracts. As data sources are tracked and auditable on the ledger, data buyers are no longer at the risks of purchasing low-quality data products.

SWIPE Network is designed with the following objectives:

- Enable app developers to understand their users and customers better
- Enable app developers to monetise their app data
- Incentivise and reward app users for their data contribution while giving them full control over privacy and data sharing

1.1 Data is the New Oil of Digital Economy

A McKinsey Global Survey on data and analytics indicated that more organisations are utilising data and analytics to generate growth [3]. While data monetisation is still in its infancy, any business that is able to leverage its data effectively to develop more comprehensive sets of data insights, will be set for the next level of growth and be able to increase its competitiveness.

Monetising data is more than just selling your data. Data can be monetised in two ways — directly or indirectly [7].

- Direct Monetisation refers to data sets that can be sold or traded with other entities or through a data intermediary. They can come in the
form of data sets packaged into data packages (CSV/Excel/etc) or API-based data streams.

- **Indirect Monetisation** refers to data sets that can be used to improve an organisation’s internal processes. For example, in the scenario of the mobile app economy, data analytics can be applied to gain insight which would increase the lifetime value of the app users, in-app purchases, active usage and retention — enabling app developers to continuously optimise user experience. Data can also be used to improve the Return-on-Investment (ROI) of marketing efforts by properly segmenting the market to enable effective marketing.

### 1.2 Why Consumer & Marketing Analytics Matter?

Consumer analytics is a process by which data from user behaviour is used to help make key business decisions. Anyone working in a bank, telco or any brand for that matter with a vested interest when it comes to engaging consumers, is likely to have heard of their company engaging or have personally engaged a market research firm for various purposes. Consumer analytics is required for a multitude of business actions including but not limited to launching a new product, understanding consumer behaviour, product-market fitting, etc. Making comprehensive market research necessary, as many organisations lack direct interaction with their consumers.

Consumer analytics require extensive user data sets. The use cases include but are not limited to the following examples.

a) **Audience Segmentation**
   - User clustering models (segments) — used for customer segmentation. Algorithms segment target groups based on various parameters and dimensions, taking everything from demographics, interest tags, to average order total into account.
   - Common cluster models include behavioural, category or product based, order size/type, mobile usage clustering, etc.

b) **Consumer Behaviour Analysis**
   - Based on users’ mobile usage behaviour corresponding to in-app-purchase transactions or content preferences.
• This helps in deriving predictive lifetime value (potential spending of a user), likelihood of engagement, propensity to churn, propensity to convert to sales or content clicks, etc.

c) Advanced Targeting & Lead Prioritisation
• Filtering (content recommendation) – based on consumer behaviour, the platform can provide insights that are used for recommending products, services and advertisements to customers based on various targeting parameters and prioritisations.
• Brands or data buyers can leverage on these insights for follow-up actions – namely up-sell, cross-sell, and next-sell recommendations.

d) Data-driven Marketing Strategies
• Utilising various data such as user acquisition statistics, retention statistics, content engagement analysis and in-app purchase conversion analysis to provide a feedback path which will help app developers further improve their products.

1.3 Problem: Today’s Data Monetization Suffers Trust Deficit

While it is clear that aggregating and correlating more data sets from multiple parties (apps) will generate a comprehensive picture of user profiles and mobile usage behaviours, data collaboration and exchange has been progressing relatively slowly, primarily due to the following:
• Lack of aligned incentives – data providers are not compensated for their data.
• Lack of trust among the data providers – preventing data mashup/aggregation across apps.
• Lack of trust between the data providers and data buyers
• Centralised data intermediary model, monopolised by industry leaders such as Acxiom, Experian, Epsilon, etc.

Today’s centralized data intermediary companies position themselves as the trusted parties that collect, manage and govern the data collected from users and relevant systems. However, this centralised model results in a lack of transparency on the data sharing policy and the quality of the underlying data sets. A Forrester’s study reveals that lack of data transparency will result in marketing dollars wasted on low or no-quality advertising campaigns, amounting to $10.9 billion by 2021[8].

Typically, data is traded without the knowledge or consent of users (data providers) and up to 30% of a person’s profile information may be inaccurate due to incomplete profiles, unknown data sources or errors in input data. The true owner of the data – i.e. the users/consumers aren't rewarded for these transactions, or the subsequent use of their personal information. They have no transparent control over the data they wish or do not wish to share.
2.0 SWIPE NETWORK – A DECENTRALIZED DATA PLATFORM

“SWIPE Network” is a decentralised data platform based on smart contracts that aggregates and analyses data across multiple apps. It processes data according to data schema specific to industry taxonomies and context.

The data platform addresses the key concerns faced in today’s centralized data trading model through the following value propositions:

- Incentivize data producers (both users & app developers) to share high-quality data
- Provide trustless governance of data mediation through smart contract - data producers have control over the data sharing policy (what data to share), data ownership and rights, data monetization policy and rewards/revenue distribution to both data producers.
- Transparency of the data - today’s DMP (data management platform) hardly provides any transparency. A Forrester’s study finds that nearly 8 out of 10 marketers claims that lack of visibility into data sources has negatively affected their digital campaigns [8]. Fixing the problem of data transparency has become more critical as 72% of the marketers use data to support customer relationship management.
- Privacy and Security - privacy meta-tagging on individual data set
SWIPE decentralized data marketplace focuses on the following areas where data insights generated are considered key to helping app developers engage their users better and improve marketing ROI and monetisation:

- Marketing optimisation — marketing budget, product mix and campaign effectiveness analysis.
- Consumer behaviour — consumer content preference, demographic shift analysis.
- Mobile usage insights — mobile device type, network usage type and frequency, mobile location distribution, etc.
- Advertising — improved targeting based on a user's profile and audience segmentation
2.1 System Architecture & Design

The data analytics platform ("SWIPE Brain") aims to cultivate a network where all stakeholders – data producers (users and app developers) and data buyers – can trade data fairly and transparently. The platform utilises the blockchain technology to record transaction logs, manage data campaign lifecycle, perform revenue distribution, and implement data governance logic. Data producers are able to audit the use of data, in order to protect data ownership and privacy. Data buyers are able to audit the source of data.

SWIPE Brain is designed using a hybrid model of on-chain and off-chain architecture. This hybrid model is a logical transition towards a completely decentralised architecture in future when blockchain technology is more scalable.

Smart contracts implement a set of rules for data governance. These rules consist of various aspects around data ownership, access rights, privacy control, sharing rules, and monetisation policy. The network uses SWIPE Tokens as the unit of exchange to reward app developers and users. The campaign smart contract distributes SWIPE Tokens to app developers and users according to data monetisation rules.
## 2.2 Benefits of SWIPE Network

<table>
<thead>
<tr>
<th>Transparency</th>
<th>Fairness</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visibility and auditability of data usage &amp; monetization</td>
<td>Transparent tracking of data contribution and revenue distribution.</td>
<td>App developers and users in full control over privacy and data sharing policy</td>
</tr>
</tbody>
</table>

**Boost User Engagement**
SWIPE SDK drives higher app usage, user retention and in-app-purchases.

**Personalized Content**
Right time, right place

**Rewarding Experience**
Rewarded for engagement and data sharing

*Data Producers*: User profile, Individual app database, clickstreams tracking (SWIPE Push / Ads), transactions data (SWIPE Marketplace / Pay / Rewards), other external data sources if integrated.
2.3 Data Request Framework

Following sequence diagram illustrates how the data analytics engine ("SWIPE Brain") manages data request from data buyers.

1. Data Requestor (data buyers) R discovers certain specific data sets from SWIPE decentralized data marketplace. Data requestor R sends a data request for these data sets.

2. SWIPE Brain platform processes this request according to rules and policies defined in the smart contract. If the data sets are available as per SWIPE Brain data directory and adhere to required access and data policy, SWIPE Brain platform will inform the Data Requestor R accordingly.

3. Data Requestor will process the received policy, reviewing whether it has the necessary access to these data sets.

4. Subject to Requestor R’s confirmation and acceptance of the required policies, requestor R will send a confirmation of acceptance to SWIPE Brain platform.

5. Once SWIPE Brain platform receives confirmation from requestor R on the datasets requested, SWIPE Brain will perform the following:
   1. If the data sets are tracked by SWIPE Brain’s SDK and platform, data will be requested from the data store. If the data resides within an app developer’s (Data Provider) database, the data request will be appointed to the app developer.
2. App developer (Data Provider) will subsequently encrypt the data for data security considerations and initiate the secure transfer.

6. SWIPE Brain will send the data result to data requestor R. R will decrypt the package, adding the transacted data to its collection and store the data.

### 2.4 Data On-boarding Framework

**SWIPE Brain App Data Sets On-boarding Framework**

1. Open Schema for Data Mapping

   SWIPE Brain implements global open schemas for data mapping. A schema maps the “output data package” (required by data buyer) to “input data sources” from multiple apps.

   The SWIPE team will work with data buyers such as market research firms to co-create industry specific data schemas. This project focuses on data schemas that improve marketing return-of-investment (ROI) and deepen consumer behaviour understanding.
While the data schemas in this initiative focus on marketing, other projects can adapt the generic decentralised data management framework to other industry taxonomies.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Field Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>aid</td>
<td>android id</td>
</tr>
<tr>
<td>GAID</td>
<td>google advertising id</td>
</tr>
<tr>
<td>Hashed location</td>
<td>Longitude, latitude, timestamp</td>
</tr>
<tr>
<td>brand</td>
<td>phone brand</td>
</tr>
<tr>
<td>model</td>
<td>phone model</td>
</tr>
<tr>
<td>osver</td>
<td>API level of the operating system</td>
</tr>
<tr>
<td>timezone</td>
<td>timezone(millisecond)</td>
</tr>
<tr>
<td>network</td>
<td>network type</td>
</tr>
</tbody>
</table>

Schema Name: Mobile devices data  
Description: A database structure for mobile devices & network type  
Example:  
A data product covers 1 million monthly active mobile app users on Android devices. The data includes 60% Indonesia users. Top countries users come from are Indonesia 600k, Philippines 300k, and others.

Example Open Data Schema

2. Transparent Data Exchange through Smart Contract

A data collaboration campaign will be initiated when data buyers subscribe to a data package/campaign. Smart contracts will initiate a series of processes after the data has been requested, from access authorization, ensuring of the secure transfer of data, and calculation of monetization distribution.
2.5 Managing Privacy and Data Sharing

Data providers (app developers and users) can control the access and sharing policy for the datasets they contribute. The platform uses proxy re-encryption methodology to manage this process.

1. All data (with various schema) collected by SWIPE SDK is encrypted using user’s public key and stored on IPFS. This will ensure the data is not accessible to unauthorised viewers.
2. A smart contract is created when data buyers purchases a data package from SWIPE decentralized data marketplace. The smart contract will store data campaign specification such as data schemas mapping and reward distribution rules.
3. Data request will be forwarded to relevant users, along with the campaign information.
4. Users grant access to the data campaign. This information is appended into the smart contract for future audit.
5. Relevant encrypted data will be downloaded from IPFS.
6. Downloaded data is re-encrypted to allow access by data buyers. The re-encrypted files are stored in IPFS.
7. At the end of the data campaign, encrypted data package will be downloaded from IPFS. Data will be decrypted and aggregated as per data campaign requirements. Rewards will be released to users and app developers.
2.6 Data Monetization through SWIPE Tokens

SWIPE Network compensates app developers and users for sharing their anonymous and aggregated data.

a. USER is a user of an app named (“APP”), developed by an app developer (“DEVELOPER”). USER and DEVELOPER opt in to the SWIPE Network data monetisation program. The browsing behaviour of USER is tracked through SWIPE SDK.
b. SWIPE Network data platform consolidates the overall user behaviour data from APP, including USER data. A data buyer (“DATA BUYER”) purchases the data package through SWIPE decentralised marketplace and pays with SWIPE Tokens.
c. As a result of joining this data monetisation membership, DEVELOPER’ and USER’ both receive SWIPE Tokens as rewards for contributing data sets.
3.0 SWIPE SDK FOR MOBILE DATA COLLECTION

SWIPE Network delivers a suite of SDKs (Software Development Kit) that app developers can integrate. Through this integration, app developers can promote app installation, user engagement, user loyalty, in-app purchases and participate in data and ad monetisation. SWIPE SDK collects app and user data upon consent given.

**SWIPE SDK**

Driving user engagement to increase app active usage and retention, while supporting data collection

SWIPE Push Lockscreen SDK
- Users engage personalized content on lockscreen at the right time, right place.
- Real time tracking of user engagement on the blockchain

SWIPE Brain
- Analytics Engine to harness deep insights on user behavior, preferences and transactional patterns.
- App developers and app users earn SWIPE tokens when data buyers purchase the data.
- App developers use the analytics output for app & user experience optimization

SWIPE Ads SDK
- In-app ads monetization through various standard ad formats such as video, interstitial, offer wall and banner.

SWIPE Marketplace SDK
- Support in-app content redemption with SWIPE tokens.
- In-app content can now be promoted to the rest of the users within SWIPE Network.

SWIPE Mission SDK
- Allow tokenholders to create & participate in missions (customized campaigns) by staking their tokens.
- Mission Examples: Surveys, Installs, Data Collection

All stakeholders of the SWIPE Network can stake their SWIPE Tokens for exclusive privileges and discounts within the SWIPE Network while benefiting from the growth of the network in the future. Staked tokens are frozen from circulation and staking ensures that commitment, accountability and incentives remain present in the SWIPE Network where members can benefit from the long-term growth of the network.
3.1 SWIPE Push

SWIPE Push empowers app developers to reach out to their users on their first screen — lockscreen on Android and widget on IOS. In a joint research conducted by CNBC the independent research firm Ampere Analysis, it was found that the average mobile device user typically checked their phone 150 times a day [6]. This presents an opportunity for apps to reach out to users at the first point of mobile device engagement, i.e. the lockscreen.

SWIPE Push is built on top of our existing SwipeRich lockscreen delivery platform [2]. The app has been deployed in the Philippines (AGILA Rewards — www.agila.ph) and Indonesia (cepatswipe — www.cepatswipe.com). Combining the use of blockchain technology and the development of a multi-developer lockscreen SDK, SWIPE Network aims to deliver a more effective mobile content delivery platform with transparency and accountability supported by blockchain technology.

Statistics from our current platform show that first screen content engagement has a click-through rate of 15-20% which is 10 times more effective than normal digital advertising platforms — which have an average rate of 1.5%.
The solution also adopts security measures to counter accidental clicks, HTTP-injection attacks, bot traffic blacklisting amongst other security measures. Furthermore, the solution incorporates various advertising attribution analytic techniques to track and control advertisement impressions enabling the delivery of relevant content according to user demographics and interests. This allows standard real-time reports to be generated for advertisers.

Use cases of SWIPE Push:

- Community/news apps to deliver community news.
- Emergency news that demands first screen attention (e.g. Natural disasters, terrorist attacks, etc.).
- Introduction of game events, promotions or features.
- Crypto exchanges to list price of coins (trading signals).

### 3.2 SWIPE Ads

Advertising Monetization for App Developers by joining SWIPE Membership

SWIPE Ads module allows app developers to integrate its in-app advertising SDK and rewards the app users with SWIPE Tokens. In the current industry practice, advertisers’ budgets are distributed to multi-layer intermediaries before ever reaching the developer. In most cases, developers are not aware of what advertisements are being displayed on their apps/sites, and advertisers are not provided with the key metrics and audience of their advertisements.

App Users and Developers are rewarded with **SWIPE token** for engagement with Advertisements
SWIPE Ads module uses smart contracts and multi-signature cryptographic keys for automated micro-payments/transactions between advertisers. For example, the advertisers upload their advertising content for different markets with a certain amount of funds locked in a smart contract for each location. Whenever a user engages with advertisement content, the smart contract pays out fees to the app developer and users without going through any intermediary or approval process.

### 3.3 SWIPE Marketplace

SWIPE Marketplace is a blockchain-based digital items marketplace. It promotes mobile app in-app items (such as premium content) to users within the SWIPE Network. SWIPE Marketplace is powered by SWIPE Token, an ERC-20 token enabling transactions within the marketplace.

SWIPE Marketplace is a blockchain-based decentralized marketplace for item listing, cross-promotion and affiliate marketing among SWIPE Network members. It offers the following benefits when compared to traditional digital marketplaces.

- Better security as transactional data is stored on immutable blockchain storage.
• Trustless system offers fair transactions between sellers and buyers.
• Consumer data privacy is protected, while sensitive consumer data is shared only as per required to the fulfilment party.
• Customer protection is provided through arbitrated escrow services.
• Supports cost-effective cryptocurrency payment methods.

SWIPE Network will build the decentralized marketplace based on Origin Protocol (https://www.originprotocol.com). Origin is a sharing economy marketplace and set of protocols that enables buyers and sellers of fractional use goods and services (car-sharing, service-based tasks, home-sharing, etc.) to transact on the distributed, open web. Using the Ethereum blockchain and Interplanetary File System (IPFS), the platform and community are decentralized, allowing for the creation and booking of services and goods without traditional intermediaries.

3.4 SWIPE Mission

• Typical missions are surveys, app install campaigns, and data collection campaign.
• Mission will come with a reward pool allocated by the mission creator. Mission participants stake SWIPE Tokens to participate in the mission. By completing the mission tasks according to the mission objective, participants will be rewarded with SWIPE Tokens.

SWIPE Token holders can stake their SWIPE Tokens to participate in SWIPE Mission. A mission is an assignment or work given to token holders. Each mission specifies the amount of SWIPE Tokens required to be staked.
SWIPE Mission uses Ethereum smart contracts to record staking participation, assess eligibility to participate and reward the completion of missions.

Any individual or organisation can create a SWIPE Mission. However, the creation of a SWIPE Mission requires the following inputs:

a. Mission details — mission name, description, governing terms and conditions.
b. Mission type — define clear measurable and trackable objectives of the mission.
c. Mission timeline — start date and end date
d. Staking requirement — the number of SWIPE Tokens required for participating ensures commitment from mission participants. Staked tokens will be locked on the smart contract and will not be sent to mission owner. Staked tokens will be returned to mission participants when the mission reaches its maturity date and users can recall the staked tokens prior to a mission's maturity, however, the reward tokens for participating in the mission will be forfeited.
e. Mission rewards — a number of SWIPE Tokens per completed mission are distributed equally to all participants during the rewards pay out period.
f. Participant Cap — maximum number of participants allowed.

SWIPE Network supports following mission types:

a. Mobile app installs — completion of a mission is determined by successful installation of a mobile application.
b. Survey — completion of a mission is determined by the successful completion of the survey.
c. KYC (Know your Customer) — completion of a mission is determined by the successful KYC completion and screening.
d. Data Upload — completion of a mission is determined by the uploading of data as stated in the mission.
Here are few examples of a SWIPE Mission:

1. Developer of “App A” is creating SWIPE Mission with following specifications:
   a. The mission's objective is for participants to install “App A” from iOS App Store or Google Play Store.
   b. Mission start date is 1 May 2018 and end date is 31 May 2018.
   c. A User must stake 10 SWIPE Tokens in order to participate in this mission.
   d. Participants who download and install the app will be notified via email within 24 hours of the app installation and be rewarded with 100 SWIPE Tokens by 7 June 2018. The staked tokens will be returned to the participants too.
4.0 SWIPE TOKEN ECONOMY

SWIPE Tokens are required to utilize the SWIPE Network. SWIPE Network will also release a wallet application, enabling app users and token holders to earn, manage, stake, send and receive SWIPE Tokens. Features provided by SWIPE Network are delivered through SWIPE SDK, a mobile software development kit that allows app developers to interact with the wallet application, display content on the lockscreen/widget, display/track mobile ads, as well as perform data collection on their current app. App developers can easily embed the SDK with minimum changes to their current code base.

4.1 Token Attributes

- Payment Utility - advertising, data purchase, SWIPE Marketplace and mission transactions required payment via SWIPE Tokens.
- Rewards Utility - advertising engagement, data sharing and mission completion are also rewarded by SWIPE Tokens.
- Staking Token - SWIPE Tokens are staked for participation on SWIPE Missions to ensure mission participants’ commitment on the mission.

4.2 How are Tokens used in the Platform?

4.2.1 Staking Token for SWIPE Mission

SWIPE Token distribution to SWIPE Mission Participants
1) A mission owner decides to create a mission on the SWIPE Mission platform (e.g. a survey). The mission specifications such as mission period and reward distribution rules are captured in a smart contract. SWIPE Network then collects mission listing fees.

2) The mission owner allocates participation rewards to be distributed to mission participants who complete the survey mission.

3) Mission participants are required to stake tokens in order to participate in the mission.

4) Upon completion of the mission and the mission’s maturity date, reward tokens will be distributed to the mission participants. Staked tokens will be returned to the mission participants as well.

4.2.2 SWIPE Ads

SWIPE Ads module rewards app users and app developers for engaging with advertisements. SWIPE Ads aggregates ad demand from advertisers to provide the most relevant ads to app users.
4.2.3 SWIPE Brain Data Monetization

App developers and app users earn SWIPE Tokens by participating in data monetisation campaigns. Data buyers buy data from the SWIPE Network using SWIPE Tokens. All data buying transactions are strictly enforced with smart contracts which eliminate the risk of data buyers paying for invalid or fake data. Users and publishers are rewarded based on number of data sets supplied by the users.
4.3 How are Tokens Distributed within SWIPE Ecosystem?

4.3.1 SWIPE Ads and SWIPE Brain

1) Advertising campaign:
   a) An advertiser purchases an advertising campaign with SWIPE Tokens. Number of advertisements to be shown for that campaign, individual advertisement unit price, campaign period and other details are captured in a smart contract.
   b) A certain percentage of the payment will be paid to SWIPE Network as a platform fee.
   c) The advertisements will be delivered to the selected apps that in line with the campaign’s targeting criteria.
   d) App developers will be entitled d% revenue cut of each advertisement displayed. Subject to the number of impressions being shown on an individual app, developer A/developer B/developer C will get da%, db%, dc% revenue cuts of a campaign’s values.
   e) App users that view the advertisements through the apps in the SWIPE Network will be rewarded u% based on the number of ads viewed respectively.
   f) Value of d%, u% will be finalized upon our team’s detailed market research.

2) Data buying campaign:
a) A data buyer purchases a data package with SWIPE Tokens. Number of data points/feeds to be captured within the data package, price per data set unit, campaign period and other details are captured in a smart contract.
b) A certain percentage of the payment will be paid to SWIPE Network as a platform fee.
c) App developers will be entitled d% revenue cut of each data package sold according to number of data points/feeds they contribute. Subject to the number of data points/feeds contributed by an individual app, developer A/developer B/developer C will get da%, db%, dc% revenue cut of the campaign values.
d) App users that contribute data feeds through the apps in the SWIPE Network will be rewarded u% based on the number of data points/feeds contributed respectively.

4.3.2 SWIPE Marketplace

1) App developers can choose to promote in-app-items in the SWIPE Marketplace by embedding “redeem buttons” SDK. SWIPE Tokens are used to redeem in-app items in the SWIPE Marketplace.
2) For every transaction conducted in the SWIPE Marketplace, SWIPE Network will charge a small percentage as a form of payment processing fees.
### 4.4 Stakeholders

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Description</th>
<th>Token Flow</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertisers</td>
<td>Brands who advertise on SWIPE Network.</td>
<td>Advertisers purchase SWIPE Tokens to advertise on SWIPE Ads. SWIPE Tokens will be further distributed to App developers and App users who engage with the advertisements.</td>
<td>Advertising access to SWIPE Network app users and community.</td>
</tr>
<tr>
<td>App developers</td>
<td>Developers of iOS or Android App.</td>
<td>App developers will be paid by advertisers for app users engagement with ads provided by SWIPE Ads. App developers will be paid by data buyers for participation in data monetization campaign provided by SWIPE Brain.</td>
<td>Additional monetization by earning SWIPE Tokens for serving ads to app users. Additional monetization by earning SWIPE Tokens for serving ads to app users. Additional channel for App and In-app item listing through SWIPE Marketplace.</td>
</tr>
<tr>
<td>App users</td>
<td>Mobile phone users who use SWIPE wallet application or any other SWIPE powered applications.</td>
<td>SWIPE Tokens to be awarded to app users when they engage on the advertisements and opt-in to participate on data monetization campaign.</td>
<td>Rewarded with SWIPE Tokens. SWIPE Tokens can be exchanged with app developers’ in-app items or other items</td>
</tr>
<tr>
<td>Role</td>
<td>Description</td>
<td>SWIPE Token Details</td>
<td>SWIPE Mission Details</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Data buyers</td>
<td>Anyone who wants to buy anonymous data collected by SWIPE Network.</td>
<td>Data buyers purchase SWIPE Tokens to buy data from SWIPE Brain.</td>
<td>Access to SWIPE Network data.</td>
</tr>
<tr>
<td>Data producers</td>
<td>Refer to app developers and app users who collectively contribute data.</td>
<td>Data producers are rewarded for contributing data.</td>
<td>Rewarded with SWIPE Tokens.</td>
</tr>
<tr>
<td>Mission owner</td>
<td>Anyone who wishes to create a SWIPE Mission.</td>
<td>Mission owner purchases SWIPE Tokens to create a SWIPE Mission.</td>
<td>Create missions for participation by SWIPE Token holders.</td>
</tr>
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</table>
5.0 ROADMAP

5.1 Two-pronged Go-to-market Strategy

The team has identified 2 go-to-market strategies that leverage on the existing market and product capabilities that have been built.

1) Indonesia, Southeast Asia & Emerging Markets as Early Adopters
   a. South East Asia is one of the fastest growing regions with a huge unbanked market. There is a large growing bitcoin community in the region where bitcoin transactions have grown by 10x in the last few years.
   b. With a high mobile penetration rate of 133% and approximately 90% Android penetration, we see an opportunity to focus on mobile data monetisation.
   c. The team has established existing commercial partners and ready mobile advertising products in Indonesia & Philippines. These products are slated to come on board as early adopters of the SWIPE Network.
   d. The team will on-board various apps to the platform — community apps, games, content & news apps and e-commerce apps are potential partners where the SWIPE Network can leverage on their data sets to deliver complete user profiles.

2) Crypto content app will be a key segment for the team to focus on when aiming to increase adoption of the platform. As crypto app developers
are familiar with token and the blockchain technology, we believe the adoption process will be much faster as the value of the token economy will be appreciated by this community.

5.2 Development Roadmap

Leverage existing business operation & commercial partners in Indonesia, followed by global expansion through platform approach

1) Any data analytics and monetisation projects demand the completion of a critical first step — collecting data. For the SWIPE Network, the focus is in providing a suite of software development kits (SDKs) that can be integrated easily by various app developers to improve active app usage and retention while collecting data.

2) The project MVU (Minimum Viable Utility) will start with SWIPE Push and SWIPE Mission SDK development to support data collection.

3) Upon completion of the above MVU, the team will on-board app developers to test SWIPE SDK while participating in a data contribution and monetisation initiative.

4) Alongside the software development and data collection exercise, specific data monetisation use cases with industry market research/data buyers such as FYSICAL and PERFORMARS will be co-created. Global open schemas will be developed for various industries as data insights are by nature industry specific.

5) As SWIPE Network 1.0 is released with the SDK features such as SWIPE Ads, marketing efforts to achieve critical mass with regards to the
user base by on-boarding more app developers onto the SWIPE Network will be increased.

6) As critical mass is achieved and the approach becomes a proven method for data collection, data buyers will realise the value of the data packages to be provided by the SWIPE Network. In turn, this will encourage App developers to participate in SWIPE Network as it will allow them to gain additional insights from the network without having to pay DMP (Data Management Platform).
6.0 TEAM & COMPANY MISSION

SWIPE Network is a decentralised mobile engagement data platform built upon the success of the team’s existing SwipeRich mobile app engagement platform [2] (www.swiperich.com). SwipeRich specialises in bringing advertisers and users together using the mobile lockscreen space as the first point of impression. Incorporated in Singapore, the company has successfully the solution to more than half a million users in the Philippines, Indonesia through partnerships with leading providers in the respective countries.

It is imperative to know that the team started SWIPE Network because of the struggles SwipeRich faced while working with centralized 3rd data intermediary to monetize our data. The founding team has been learning and working with data processes for 15 years and understood early on that the current data supply chain model has many flaws. With the rise of blockchain technology, we have embraced this technology in hopes that we can create a better way for app developers to give data control back to the users and monetising it with permission in a transparent and fair way.

6.1 Company History

<table>
<thead>
<tr>
<th>Timeline</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 2016</td>
<td>SwipeRich Pte. Ltd. founded in Singapore</td>
</tr>
<tr>
<td>Oct 2016</td>
<td>Commercial Launch in Philippine with #1 Local Mobile OEM, MyPhone – Agila Rewards (<a href="http://www.agila.ph">www.agila.ph</a>)</td>
</tr>
<tr>
<td>May 2017</td>
<td>Commercial Launch in Indonesia with leading local advertising partner, Alternative Media Group (AMG) – Cepatswipe (<a href="http://www.cepatswipe.com">www.cepatswipe.com</a>)</td>
</tr>
<tr>
<td>July 2017</td>
<td>Incorporate SwipeCrypto Pte. Ltd.</td>
</tr>
</tbody>
</table>
### 6.2 Team

**Clifford Lim, CEO**

Clifford has a wealth of experience in managing worldwide business operations from his 10 years of procurement and operation in IBM and Lenovo, including Lean Six Sigma Projects, Global Innovation team Projects, Process Controls, etc. He holds a BBA from Curtin University of Technology, Australia.

**Andrew Marchen, CTO**

A seasoned entrepreneur and ICT architect, Andrew was involved in leading the implementation of S$50 million Healthcare record project for Ministry of Health, Ministry of Defence and Health Promotion Board of Singapore. Besides his involvement in SwipeRich, he also acts as tech advisor to various startups working on social, market place, and financial industry.
Kuay Chong Sean, CSO

Kuay has more than a decade worth of experience in startups and MNC, including product management & strategic business development in innovation and data analytics projects. He holds a MSc in Communication Software & Network from Nanyang Technological University (NTU), Singapore.

Iyan Waer, COO

Iyan is a season technologist with expertise in charting company product roadmap and driving technology thought-leadership. He has proven track record in managing large telco software development with teams across continents and cultural diversity, harnessing from his strong experience both in building startup and working in MNC including McKinsey Digital and Verint Systems.

6.3 Commercialization Partner

We will leverage on our existing commercial partnership with local players. The team has also established key partnership with leading blockchain firms such as Kenetic (https://kenetic.capital/) and Digix to develop a better decentralized blockchain product for the community. We are also in the process of creating our decentralized marketplace with Origins protocol as well as working closely with Media Protocol to track and reward content sharing.
SWIPE Network has several data monetization partners already on-board and will leverage on our existing product (Cepatswipe - Indonesia, Agila Rewards - Philippines and Blockpost - International) to start generating data to be monetized to these businesses.

- Fysical is the world’s first code-complete, fully-functional, decentralized location data market and is SWIPE Network’s location data monetization partner.
- AdEx is a blockchain-based ad exchange aiming at disrupting the existing online advertising landscape and address its significant problems such as advertising fraud, privacy and consent. In this partnership, AdEx will supply ad slots to SWIPE network apps, generating revenue.

**Early Adopters in SWIPE Network**

Access to 1 million users in Southeast Asia

- [www.cepatswipe.com](http://www.cepatswipe.com)  
  Mobile lockscreen advertising platform in Indonesia  
  User base: > 420k, Rating: 4.4

- [www.agila.ph](http://www.agila.ph)  
  Mobile lockscreen advertising platform in Philippines  
  User base: >300k, Rating 4.3

- [www.around-j.com](http://www.around-j.com)  
  International Juventus Fans Community  
  User base: >5k in app, 1.15M in FB

- [Justbeep.me](http://Justbeep.me)  
  Personal organizer  
  User base: > 50k

- [Mbjj.live](http://Mbjj.live)  
  Live traffic App  
  User base: > 10k

- [Checkpoint.sg](http://Checkpoint.sg)  
  Live Traffic App  
  User base: > 170k

- [k9 crypto news](http://k9crypto.news)  
  User base: > 300

- [Blockpost](http://blockpost.io)  
  Crypto News App New Launch

- [Brown & Proud](http://brownandproud.com)  
  Marketing Network App  
  User base: > 49%

Building a strong community of app developers within the SWIPE Network is critical in driving the success of the network. Besides the company existing app portfolio (Cepatswipe, Agila Rewards, Brown & Proud, and Blockpost), we have on-boarded other early adopters and app developers who are willing to participate in our solution.
6.4 Ready Products to Accelerate Early Adoption

Battle-proven mobile lockscreen engagement (SWIPE Push) & advertising platform (SWIPE Ads)

Currently SwipeRich adopts a hyper-local model for its deployment in each of the region – CepatSwipe (www.cepatswipe.com in Indonesia) and Agila Rewards (www.agila.ph in Philippines).

‘Agila Rewards’ launched through Partnership with #1 Mobile OEM – MyPhone in Philippines
CepatSwipe Launched through Partnership with Leading Outdoor Advertising in Indonesia (Alternative Media Group – AMG), Top listing on Google Playstore through organic users growth

6.5 Awards & Media

**Effective Mobile Marketing Global Award 2017, London**

SwipeCrypto - Finalist in Most Effective Mobile First Service

**Tech In Asia Jakarta 2017**

CepatSwipe – Top 10 Most Interesting Startups Day #1
6.6 Strong Panel of Blockchain & Industry Advisors

Jehan Chu  
Managing partner,  
Kenetic Capital

John Fioreli  
Head of advisory,  
Kenetic Capital

Shaun Djie  
Co-founder/COO,  
Digix Global

Thomas Graham  
Managing Partner,  
TLDR Capital

KC Chng  
Co-founder/CEO,  
Digix Global

Joshua Ho  
Co-founder,  
QCP Capital

Yaron Vlner  
Co-founder/CTO,  
Kyber Network

Ivo Giorgiev  
Co-founder/CEO,  
AdEx

Ahmad Aditya  
COO  
Mahaka Group - Indonesia Leading Integrated Media

Indra Gunawan  
Founder  
Pedals.id - Startup Accelerator

Jefrey Joe  
Managing Director,  
Alpha JWC Venture

Megain Widjaja  
Chairman  
Alternative Media Group (Indonesia Largest DOOH)

Davy Makimian  
CEO  
Alternative Media Group (AMG)
7.0 REFERENCE


8.0 DISCLAIMER

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This White Paper states the current views of SwipeCrypto Pte. Ltd. (“SwipeCrypto”) concerning a proposed decentralised mobile engagement data monetization platform which will be known as ‘SWIPE’ (the “SWIPE Network”), the externally-tradeable digital tokens proposed to be used with the SWIPE Network (“SWIPE Tokens”) and related matters.

Disclaimers

Not an Offer, Solicitation or Recommendation

This White Paper is for informational purposes only and does not constitute, and is not intended to be, a prospectus or an offer to sell, a solicitation to purchase or invest in or a recommendation of SWIPE Tokens, the SWIPE Network, SwipeCrypto, any shares or other securities in SwipeCrypto (or any other entity) or any other project or property of SwipeCrypto (or any other entity) in any jurisdiction. Nothing in this White Paper should be considered a recommendation for any person to purchase SWIPE Tokens or to use the SWIPE Network.

Not a Contract

By publishing this White Paper, SwipeCrypto does not intend to solicit, and is not soliciting, any action with respect to SWIPE Tokens or any contractual relationship with SwipeCrypto or any other entity. This White Paper is not a contract and does not legally bind SwipeCrypto or any other party. SwipeCrypto will not accept any cryptocurrency or other form of payment in respect of SWIPE Tokens based on this White Paper. If SwipeCrypto elects to conduct a sale of SWIPE Tokens (the “Token Sale”), any offer to sell SWIPE Tokens will be made only on the terms and conditions of a binding legal agreement (the “Token Sale Agreement”) between the buyer and SwipeCrypto, the details of which SwipeCrypto will make available separately from this White Paper. Your requesting a copy of, possessing or sharing this White Paper does not constitute participation in the Token Sale, if SwipeCrypto elects to conduct such sale.

Indicative Information Only

This White Paper presents indicative information only, which is current only as of the date on the cover hereof (“Publication Date”). At any time after the Publication Date, the information, including information concerning SwipeCrypto’s business operations and financial condition may change. Unless expressly specified otherwise, the SWIPE Network and the technologies on which it will be based are under development and are not currently deployed. Any plans, projections or forecasts mentioned in this White Paper may not be achieved due to multiple risk factors, including without limitation defects in technology, legal or regulatory exposure, market volatility, sector volatility, corporate actions or the unavailability of complete and accurate information.

Not an Advice

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Network or to purchase any SWIPE Tokens. You are responsible for any and all evaluations, assessments, and decisions you make in relation to purchasing SWIPE Tokens, and should ensure that you understand and are able to bear the risks of purchasing SWIPE Tokens. You may request for additional information from SwipeCrypto in relation to the SWIPE Network or SWIPE Tokens. SwipeCrypto may, in its sole and absolute discretion, disclose such information.

Not Designed or Intended as Investment Products or Securities

SwipeCrypto has designed SWIPE Tokens to be externally-tradeable tokens that will be the exclusive medium of exchange within the SWIPE Network. SwipeCrypto has not designed SWIPE Tokens to have the characteristics of an investment product and does not intend them to be securities or any other type of financial or investment instrument in any jurisdiction. Without limitation, SWIPE Tokens will not entitle holders to a return by way of dividend, distribution of surplus assets or any financial return from the SWIPE Network or SwipeCrypto simply by possessing them; SWIPE Tokens will not entitle holders to any obligation from SwipeCrypto or any other entity to redeem or buy back SWIPE Tokens or repay any amount paid to it for the purchase of SWIPE Tokens (whether with or without interest); SWIPE Tokens will not entitle holders to vote on, or otherwise exercise discretion to govern or influence, any aspect of SwipeCrypto’s or any other entity's corporate entity or business, or the SWIPE Network or any other service; SWIPE Tokens will not entitle holders to receive shareholder/director meeting notices or attend shareholders’/directors’ meetings of SwipeCrypto or any other entity; and SWIPE Tokens will not confer ownership, equity, participation, conversion, liquidation or similar rights over (including any right or option of conversion into equity or other form of ownership), or rights, interests or benefits in the revenues, profits or other financial aspects of, SwipeCrypto or any other entity, the SWIPE Network, any underlying asset (whether tangible, intangible or virtual) or any technology or intellectual property developed, acquired or licensed by SwipeCrypto or any other entity.

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Literacy in Blockchain Technology

This Whitepaper is intended for persons who have sufficient knowledge, understanding and experience in (a) blockchain-based and smart contract technology and the limitations and risks of systems built using those technologies and (b) the functionality, usage, storage and other material characteristics of cryptographic tokens, token wallets and other storage mechanisms.

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References in this White Paper to specific companies and platforms are for illustrative purposes only. Apart from SwipeRich, [MyPhone, Cepatswipe, Alternative Media Group, and the commercialisation partners and blockchain and industry advisors referred to in sections 6.3 and 6.6, respectively, of this White Paper,] the use of any company and/or platform names and trademarks does not imply any affiliation with, or endorsement by, any of those parties.

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Risk Factors

The realisation of any one or more of the risks described in this White Paper, or other risks whether unforeseen or unforeseeable, could significantly reduce or eliminate the utility or value to you of the SWIPE Network and/or SWIPE Tokens and, if you participate in the Token Sale or otherwise purchase SWIPE Tokens, you could lose the entire amount you pay for SWIPE Tokens. SwipeCrypto does not represent that this White Paper discloses all risks and other significant aspects of the Token Sale, including risks which may be personal to you and thus unknown to SwipeCrypto. If you do not fully understand or are not comfortable with any of the risks described below, you should consult your legal, commercial, financial tax or other professional advisers; otherwise you should not participate in the Token Sale.

Company Risks

Company Failure. As a consequence of the realisation of one or more of the other risks in this White Paper or of risks not described in this White Paper, SwipeCrypto’s business could fail and SwipeCrypto could be wound up or dissolved. If SwipeCrypto’s business fails and the SWIPE Network is not transferred to and operated by another company, the SWIPE Network would terminate and any SWIPE Tokens you hold would have no utility or value. SwipeCrypto does not commit that it can or will transfer the SWIPE Network to another company if its business fails. If SwipeCrypto does transfer the SWIPE Network to another company, SwipeCrypto does not commit that the other company will operate the SWIPE Network to your satisfaction or at all, or will continue to accept SWIPE Tokens for use in the SWIPE Network.

Management Failures. SwipeCrypto’s management may fail to manage its personnel, finances, facilities, information, technology and other resources to effectively develop, operate, maintain, support, improve, market and sell the SWIPE Network, or to manage the growth of the SWIPE Network or its business, or to adapt the SWIPE Network or its business to changes in technology or the markets in which it operates, or to identify and effectively respond to the risks described in this White Paper or otherwise, the realisation of any or all of which could adversely affect the SWIPE Network.

No Governance Rights. SWIPE Tokens confer no governance or similar rights with respect to SwipeCrypto or the SWIPE Network. SwipeCrypto will, at its sole and absolute discretion, make all decisions concerning its business and the SWIPE Network, including decisions to fork or discontinue the SWIPE Network; to change any pricing, parameter or feature of the SWIPE Network; to subcontract or outsource the development, maintenance, support and operation of the SWIPE Network; to sell the SWIPE Network; and to sell, merge or liquidate SwipeCrypto or all or a material part of SwipeCrypto’s assets, any of which decisions may not be consistent with your expectations or interests. SwipeCrypto has no legal obligation to always act in good faith in the best interests of holders of SWIPE Tokens.

Business Model Risks. SwipeCrypto designed the SWIPE Network according to a specific business model. In particular, the adoption and success of the SWIPE Network depends on achieving targets for several key metrics, including but not limited to:

- Number of participating application developers.
- Number of active users for the application developers’ apps.
- Number of participating advertisers/data buyers.
- Number of advertisements fill-rate given by advertisers, especially in the programmatic ads-exchange scenario.
- Number of users perceiving SWIPE Tokens to be valuable and thus willing to use the App.

If the business model of the SWIPE Network is flawed, or if the assumptions underlying that business model are incorrect, the SWIPE Network may underperform or fail. SwipeCrypto may at its sole and absolute discretion elect to change the business model of the SWIPE Network in response to competition or market requirements, to address perceived flaws, to optimise the model or otherwise. Any such changes to the business model of the SWIPE Network may fail to achieve their purpose and could adversely affect the SWIPE Network.

Insufficient Funding. SwipeCrypto will depend on the proceeds of the Token Sale to fund its operations until such time, if ever, that SwipeCrypto earns sufficient revenue from the SWIPE Network or other activities. The proceeds of the Token Sale are cryptocurrencies that may increase or decrease in value. SwipeCrypto may, at its discretion, engage in hedging or similar activities to manage the risk of
cryptocurrency fluctuations, but those activities may not be sufficient, may fail or may worsen the consequences of those fluctuations. In addition, the cryptocurrencies held by SwipeCrypto may not be convertible to fiat currencies or other cryptocurrencies at rates SwipeCrypto considers favourable or at all. The cryptocurrencies held by SwipeCrypto are also subject to loss or theft despite security precautions taken by SwipeCrypto. If for any reason SwipeCrypto’s funds are not sufficient to sustain its operations, SwipeCrypto may have to reduce or suspend its operations, which would adversely affect SwipeCrypto’s ability to develop and operate the SWIPE Network at the intended level or at all.

**Unanticipated Risks.** The SWIPE Network will be launched and will evolve in technology, business, economic and legal environments that are uncertain and subject to rapid, unpredictable and potentially contradictory evolution. The future risks associated with those environments, their respective evolutions and the interactions among them are unknown and unknowable but they could threaten the viability or existence of the SWIPE Network.

**Product Risks**

**Delay.** SwipeCrypto may not develop and deploy the SWIPE Network according to its intended schedule. Future releases of the SWIPE Network may be delayed, or may not occur at all. Delays in deploying the SWIPE Network may adversely affect its acceptance in the market and ultimately its viability.

**Inability to Use Tokens.** SWIPE Tokens will not be created until SwipeCrypto makes the SWIPE Network generally available ("Launch"). Launch may be delayed, or may not occur at all. Even after Launch, the availability of certain services will be limited.

**Failure to Develop and Support the SWIPE Network.** As a consequence of the realisation of one or more of the other risks in this White Paper or of risks not described in this White Paper, or because of business or technical decisions taken by SwipeCrypto in good faith, SwipeCrypto may fail to launch the SWIPE Network with a full set of intended features and functions or at all, may discontinue certain features and functions of the SWIPE Network, may not improve or add to the features and functions of the SWIPE Network over time, may not adequately support the SWIPE Network, and may not fix bugs in the SWIPE Network in a timely way or at all. The SWIPE Network (including SWIPE Tokens) may therefore not have the utility you expect.

**Solution Issues.** The SWIPE Network may be degraded, interrupted or fail because of hardware, software or network defects, security breaches, hacking, viruses or other malicious code, natural disasters, congestion in underlying networks and other causes. SwipeCrypto may be unable to restore the SWIPE Network to normal operation in a timely way or at all.

**Solution Updates.** SwipeCrypto may not update the SWIPE Network in a timely way or at all to fix bugs, address incompatibilities arising because of changes in underlying technologies and services, respond to user feedback or react to competitive threats. Any such delays or failures could adversely affect the SWIPE Network.

**Failure to Meet Expectations.** The initial and future versions of the SWIPE Network may not meet your expectations regarding features, functions, performance, availability, quality, security, scale, price or other attributes that are important to you.

**Reliance on Third Parties and Third-Party Systems.** SwipeCrypto relies on third parties and third-party systems it does not control to operate the SWIPE Network. Those third parties and third-party systems may be unable or unwilling to act as SwipeCrypto needs and expects, may themselves act maliciously or may be adversely affected by other parties acting intentionally, unintentionally or maliciously or by other events outside their control. The failure of those third parties or third-party systems to perform according to SwipeCrypto’s needs and expectations could adversely affect the SWIPE Network.

**Privacy Risks.** The Token Sale smart contract system (the “TSSC System”) and the SWIPE Network are built on Ethereum and other public, decentralised platforms. Anyone with Internet access can inspect all transactions and other information stored in those platforms that is not encrypted. Your purchases of and transactions involving SWIPE Tokens, and other information about you or that belongs to you that may be processed by or stored in those platforms in connection with your use of the TSSC System or the SWIPE Network, or your dealing in SWIPE Tokens, may be inspected by the public. Certain information may, even if encrypted, be associated with you by combining it with other public or non-public information.
**Technology Risks**

**Core Technology Risks.** The SWIPE Network is built with core technologies that are in some cases immature and unproven, including the Ethereum blockchain platform and various open source software applications and libraries. If those core technologies do not perform according to SwipeCrypto’s needs or expectations, have bugs or security vulnerabilities that are not or cannot be fixed, become unstable, degraded or unavailable, are changed or forked in a way that is incompatible with the SWIPE Network, or are not further developed or supported, SwipeCrypto may be required to change the specifications of the SWIPE Network and to reduce or eliminate features and functions that are important to you, or to discontinue the SWIPE Network.

**Integration Risks.** The SWIPE Network will be integrated with third-party services. If the integrations with those services fail, or those services are unreliable or do not perform as expected, those features within the SWIPE Network, or the SWIPE Network generally, may be adversely affected or delayed.

**Smart Contract Risks.** Certain key features of the SWIPE Network will be implemented in smart contracts on the Ethereum blockchain platform. The nature of smart contracts makes them difficult to change to fix bugs, improve performance or add features and functions. SwipeCrypto may therefore not be able to correct defects in the SWIPE Network or improve the SWIPE Network to meet market needs or respond to competition fast enough or at all, which could adversely affect the utility or viability of the SWIPE Network.

**Hacking.** All software systems, including the SWIPE Network, have security vulnerabilities. Through software exploits, social engineering and other methods, malicious actors may disrupt, corrupt or interfere with Ethereum and/or the SWIPE Network, may defraud SwipeCrypto or other stakeholders in Ethereum and/or the SWIPE Network, including you, and may steal SWIPE Tokens or other valuable data stored in Ethereum and/or the SWIPE Network, some of which may belong to or involve you.

**Mining Attacks.** Certain features of the SWIPE Network depend on the Ethereum blockchain platform. Ethereum is a decentralised service comprising a global peer-to-peer network of many independent node operators. Coordination or collusion among node operators could subject the SWIPE Network and its stakeholders, including you, to a variety of attacks that could compromise the integrity of the SWIPE Network, cause loss, theft or corruption of SWIPE Tokens and other valuable data stored in the SWIPE Network, including yours, or increase the cost of using the platform to levels that make operation of the SWIPE Network uneconomic and unsustainable.

**Security Risks.** The security and integrity of essential components of Ethereum and the SWIPE Network depend on cryptography. Known and currently unknown weaknesses in the cryptographic algorithms used in Ethereum and/or the SWIPE Network and their underlying core technologies, and advances in techniques or computing power to circumvent those algorithms, may compromise the security and integrity of Ethereum and/or the SWIPE Network, cause the loss, theft or corruption of SWIPE Tokens and other valuable data stored in the SWIPE Network, including yours, and require the suspension or discontinuation of Ethereum and/or the SWIPE Network. The existence or future development of stronger cryptographic algorithms to replace compromised algorithms, and the feasibility of implementing those stronger algorithms in Ethereum and/or the SWIPE Network and its underlying core technologies, is uncertain.

**Prohibitively High Transaction Costs.** All transactions on the Ethereum blockchain platform, including the transfer of SWIPE Tokens, have a cost in Ether ("ETH") ("Gas"). As at the date of this White Paper, Gas prices for basic transactions on the Ethereum blockchain platform are nominal. However, Gas prices may increase and make the trading of SWIPE Tokens on the Ethereum blockchain platform commercially unfeasible.

**Ethereum May be Superseded.** In SwipeCrypto’s view, the Ethereum platform is the optimum blockchain platform on which to issue SWIPE Tokens. However, the Ethereum platform may be superseded by competing blockchain platforms that improve on the Ethereum technology. It is not known whether the Ethereum platform will remain the predominant platform for token issuances. If Ethereum is superseded or abandoned, SWIPE Tokens could be adversely affected as usage and adoption declines.
Regulatory Risks

Regulatory Status. None of SwipeCrypto or its affiliates is currently regulated or subject to the supervision of any regulatory body in Singapore. In particular, SwipeCrypto and its affiliates are not registered with the Monetary Authority of Singapore as any type of regulated financial institution or financial advisor. The regulatory status of the SWIPE Network, SWIPE Tokens and the Token Sale is unclear or unsettled in many jurisdictions. Regulators in many jurisdictions have announced their intention to consider the adoption of regulations to cover cryptographic tokens and the markets for them. It is not known if, when or to what degree different jurisdictions will interpret existing laws and regulations or adopt new laws and regulations that could adversely affect the SWIPE Network, SWIPE Tokens and the Token Sale, or whether those laws or regulations would be applied retroactively. Adverse laws or regulations and/or the financial and other costs of complying with such regulation could cause SwipeCrypto to modify or discontinue certain features or functions of the SWIPE Network, or cause SwipeCrypto to discontinue the SWIPE Network in certain jurisdictions or entirely, or make dealing in SWIPE Tokens regulated or illegal in certain jurisdictions.

Excluded Jurisdictions. The Token Sale will only be open to persons from jurisdictions where the Token Sale (or similar cryptographic token offerings) is not prohibited or otherwise restricted; in particular, the Token Sale will not be open to persons in the People’s Republic of China, the United States of America and any other jurisdiction where the purchase of SWIPE Tokens is prohibited by law or regulation (including applicable international sanctions) (collectively, the “Excluded Territory”) or to persons in the Excluded Territory or whom SwipeCrypto is otherwise prohibited by law or regulation (including applicable international sanctions) from transacting with (“Excluded Persons”). It is such person’s sole responsibility to determine if they are prohibited or restricted from participating in the Token Sale, or if such participation constitutes a breach of the laws or regulations of their jurisdiction, whether by virtue of their citizenship, residency or other association with a jurisdiction which prohibits or otherwise restricts the conduct of the Token Sale (or similar cryptographic token offerings). Violation of those prohibitions or restrictions may result in criminal and/or administrative penalties being imposed on the breaching persons.

Compliance Risks. Complying with laws and regulations that apply to SwipeCrypto and the SWIPE Network may be costly and may divert a significant portion of SwipeCrypto’s attention and resources. If SwipeCrypto must have a licence or other government registration or approval to operate the SWIPE Network in a jurisdiction, there is no guarantee that SwipeCrypto will qualify for or be granted the necessary licence, registration or approval. The lack of the necessary licence, registration or approval would restrict or prevent SwipeCrypto from operating the SWIPE Network in that jurisdiction. If SwipeCrypto fails to comply with applicable laws or regulations, SwipeCrypto could be subject to significant legal liability and financial and reputational losses which may adversely affect the SWIPE Network.

Tax. The tax status of the SWIPE Network, SWIPE Tokens and the Token Sale is unclear or unsettled in many jurisdictions. Adverse interpretation of existing tax laws and regulations or adoption of new adverse tax laws and regulations could result in unanticipated and potentially retroactive tax liability for SwipeCrypto and other stakeholders in the SWIPE Network, including you. Those adverse tax consequences could cause SwipeCrypto to modify or discontinue certain features or functions of the SWIPE Network or increase prices for the SWIPE Network, or cause SwipeCrypto to make the SWIPE Network unavailable in certain jurisdictions, or make dealing in SWIPE Tokens subject to tax in certain jurisdictions.

Capital Control Risks. Some jurisdictions impose strict controls on the cross-border flow of capital. The application of those controls to digital tokens like SWIPE Tokens is uncertain. Holders of SWIPE Tokens may be subject to those controls and/or enforcement of those controls at any time.

Market Risks

Lack of Market Penetration. The SWIPE Network may not attract users, application developers and/or businesses at the intended level or at a level sufficient to become or remain useful or viable. Any such lack of use or interest could negatively affect the development of the SWIPE Network and/or the utility or value of the SWIPE Network and/or SWIPE Tokens.

Competition. Other organisations may develop services that compete with the SWIPE Network, and may do so with some or all of the open source software underlying the SWIPE Network. Those competing services may adversely affect the adoption and use of the SWIPE Network, and ultimately the viability and continued existence of the SWIPE Network. It is unknown whether or to what extent, if any, those competing services may be interoperable with the SWIPE Network or may accept SWIPE Tokens.
Secondary Markets for SWIPE Tokens. As at the date of this White Paper, there is no public market for SWIPE Tokens. Virtual currency exchanges and other secondary markets for SWIPE Tokens may never exist. Even if SWIPE Tokens are listed or traded on a secondary market, there is no assurance that an active or liquid trading market for SWIPE Tokens will develop or, if developed, will be sustained. Unless SwipeCrypto publicly states otherwise, SwipeCrypto has no financial or other relationship with, and does not endorse, any such exchange or secondary market that elects to transact in SWIPE Tokens. Exchanges and secondary markets may be new, undercapitalised, illiquid, volatile, operated by persons with minimal or no relevant experience and subject to minimal or no regulatory oversight, making use of them susceptible to a variety of market, financial, fraud and other risks that could result in your loss of SWIPE Tokens or other losses.

Price Volatility. The price of SWIPE Tokens in the Token Sale may not be indicative of the price of SWIPE Tokens on public markets. SWIPE Tokens have no intrinsic value at the time they are created. The price of SWIPE Tokens on public markets may be extremely volatile, may decline below the price you pay for SWIPE Tokens or may diminish to zero in response to various factors, some of which are outside SwipeCrypto’s control, including, among others, the following:
   a) the volatility of the prices of cryptographic tokens generally and in response to events that have little or nothing to do with SwipeCrypto;
   b) general economic conditions and macroeconomic changes;
   c) changes and innovations in blockchain technology, the industry sectors in which SwipeCrypto operates and other technologies and markets;
   d) SwipeCrypto’s announcements pertaining to strategic direction, key personnel, financial and operational results, partnerships, significant transactions, new products and other events;
   e) activities and announcements of SwipeCrypto’s competitors; and
   f) third-party reports, recommendations and statements regarding SWIPE Tokens, the SWIPE Network or SwipeCrypto.

Risk of Dilution. SwipeCrypto will create and distribute SWIPE Tokens other than via the Token Sale, including to SwipeCrypto’s advisers, early backers, founders and development team. In many cases those other SWIPE Tokens will be distributed for significantly less consideration per SWIPE Token than you might pay for SWIPE Tokens. The distribution of those other SWIPE Tokens will increase the overall supply of SWIPE Tokens in the market, and may affect as well as result in downward pressure on the market price of SWIPE Tokens on any secondary market on which SWIPE Tokens may trade.

Fluctuation in the Cost to Use the SWIPE Network. If SwipeCrypto establishes the fees to be paid for use of the SWIPE Network based on the valuation of SWIPE Tokens in the secondary market, if any, then a larger number of SWIPE Tokens may be necessary to pay for those fees to the extent that the value of SWIPE Tokens declines in the secondary market. In addition, SwipeCrypto has not yet established (a) the processes for determining the fees for using the SWIPE Network and (b) whether any of those fees will be denominated by reference to SWIPE Tokens or to an external store of value (e.g., US Dollars (“USD”)). If the fees to be paid for use of the SWIPE Network are determined by reference to an external store of value, then the number of SWIPE Tokens to be paid for use of the SWIPE Network may fluctuate with value changes to the external store of value.

Market Perception. The market price of SWIPE Tokens could be adversely affected by negative publicity, social media commentary, rumours and other information, whether or not true, about SwipeCrypto, the SWIPE Network, SWIPE Tokens, the technology on which the SWIPE Network is based (including Ethereum) and/or the legal or regulatory environment in which the SWIPE Network operates.

General Economic and Market Risks. Adverse changes in general global and regional economic and market conditions may adversely affect SwipeCrypto, the suppliers and third parties on which SwipeCrypto depends and users and prospective users of the SWIPE Network, all of which may adversely affect the availability, reliability, performance, adoption and success of the SWIPE Network.

Participant Risks

Volatility of Payment Currency. The purchase price per SWIPE Token is fixed in USD, but payment is currently accepted only in ETH (the “Payment Currency”). The virtual currency markets are volatile and the value of the Payment Currency in USD could vary substantially (either higher or lower) over time.
Because the Payment Currency/USD exchange rate used to calculate the amount payable for SWIPE Tokens will not be determined until a future date, you could be obligated to pay substantially more of the Payment Currency than you would pay at the Payment Currency/USD exchange as of the date on which you commit to purchase SWIPE Tokens.

**Private Key Risks.** You, not SwipeCrypto, are responsible for securing the private key that controls any SWIPE Tokens you purchase. If you do not know your private key, you will permanently lose such SWIPE Tokens. If your private key is lost or stolen, you could permanently lose such SWIPE Tokens. If you store your private key with a third-party wallet or vault service, you will permanently lose such SWIPE Tokens if you forget and are unable to recover your credentials to access the third-party service, or if the third-party service malfunctions, is corrupted or compromised, makes your credentials or private key available to others, ceases operations, is hacked or otherwise cannot make your private key available to you or loses control of your private key.

**Token Sale Process Risks.** The process for purchasing and receiving SWIPE Tokens will be described in the Token Sale Agreement. If you purchase SWIPE Tokens and do not carefully follow that process, you may not be able to participate in the Token Sale or purchase SWIPE Tokens, you may permanently lose the funds which you intend to submit as payments for SWIPE Tokens, or you may permanently lose the SWIPE Tokens which you purchase. SwipeCrypto’s digital wallet address for the Token Sale (the “Sale Account”), like all software systems, has security vulnerabilities. Malicious actors may attempt to steal funds from the Sale Account, including by hacking it. Funds in the Sale Account are also subject to loss or theft by other means. By participating in the Token Sale, you accept all risk of loss or theft of your payments from the Sale Account.

**Incompatible Wallet.** The technical requirements for receiving SWIPE Tokens will be described in the Token Sale Agreement. If you use a wallet or other technology that does not conform to those technical requirements, or if you use a third-party service whose wallet or other technology does not conform to those technical requirements, any SWIPE Tokens you purchase may be permanently lost.

**Uninsured Losses.** SWIPE Tokens will not be insured by SwipeCrypto or by any public agency. If you purchase SWIPE Tokens and your SWIPE Tokens are lost or stolen, you will have no recourse unless you insure them at your expense. SwipeCrypto cannot issue new or substitute SWIPE Tokens to replace lost or stolen SWIPE Tokens. SwipeCrypto is not responsible for taking steps to retrieve lost or stolen SWIPE Tokens.

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