



# PhunCoin

A blockchain-  
powered, mobile-first  
cryptocurrency ecosystem  
**connecting brands and  
consumers.**

[www.PhunCoin.com](http://www.PhunCoin.com)

Token White Paper Ver 11

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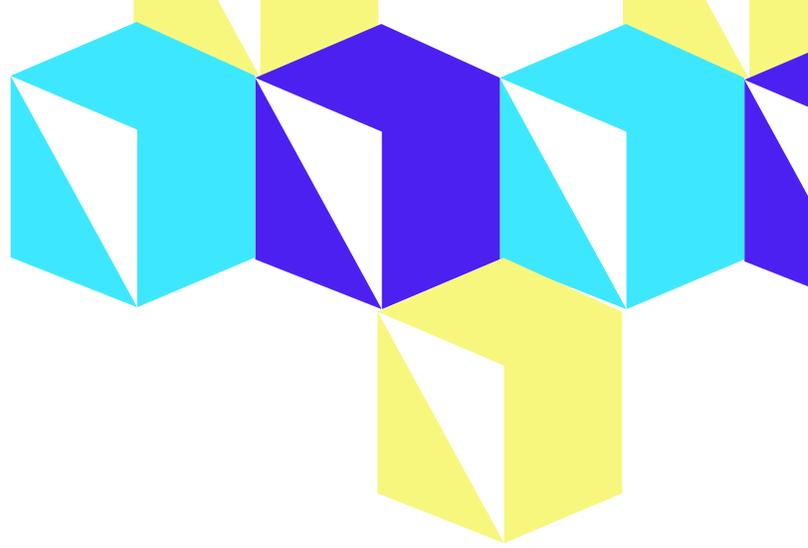
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# PhunCoin Abstract





In today's internet economy, users are the product. Google, Facebook, Amazon, Netflix and other internet giants have cornered the market on gathering, storing and monetizing user data—and they are making billions in the process<sup>a</sup>.



<sup>a</sup> TechCrunch, Facebook beats in Q2 with \$9.32B revenue despite slower user growth, 2017



These giants retain exclusive control over use and monetization of this data and it is extremely difficult or impossible for users to modify, remove or take back their data. They make billions and consumers are helpless to decide what is done with their information.

At the same time, the world's biggest brands seek to engage their anywhere, anytime mobile users with impactful, relevant and targeted messages which rely on accurate and rich data sets to ensure those messages are delivered to the right user at the right time.

PhunCoin is an innovative cryptocurrency with unique global reach and distribution which allows consumers to take back control of their data by creating a value-based exchange and a virtuous cycle of monetization.

- » **Consumers, along with mobile application users and publishers, receive PhunCoin based on how much information and data they are willing to share with the system and how they engage with the mobile applications they already use.**
- » **Brands direct, real-time access to deterministic and intent-based data for their target consumers and can reward users for their actions directly through the distribution of cryptocurrency based rewards.**
- » **An ecosystem of application services and rewards gives end users the ability to spend their PhunCoin on valuable goods and services.**

By connecting application publishers, end users, and brands through a mobile-first ecosystem and blockchain smart contracts — PhunCoin will radically change the dynamics of the current mobile and data landscape.



# About Phunware





In early 2009, every large enterprise business was starting a digital transformation. Computing was transitioning to the cloud, application consumption was transitioning to mobile and software and data were transitioning to Software-as-a-Service (SaaS) and Data-as-a-Service (DaaS) models. On February 23, Alan Knitowski, Luan Dang and Alan Kane founded Phunware as a Delaware “C” corporation to focus on one of the largest and most strategic opportunities in information technology: the opportunity to provide enterprises a comprehensive software platform that could help engage, manage and monetize customer experience journeys over mobile, directly impacting and improving brand interactions, business results and revenues for these organizations’ anytime anywhere mobile application users worldwide.

At the time, there were more than five billion feature phones deployed globally and only two percent of the world’s internet traffic was mobile. Smartphones were just starting to replace

feature phones and for the first time ever, mobile users were empowered to make decisions about the applications they used, the content they consumed and the brands they interacted with on their personal devices.

This dramatic sea change triggered Phunware’s founders to ask a very important question about the future of mobile computing: What would happen if Phunware could use its software platform within the application portfolios of the world’s largest companies and brands to create a massive database of proprietary Phunware IDs for every device touching networks globally to then reach everyone, everywhere, indoors and outdoors, in real time, on a 1:1 basis?

This thinking led Phunware to define a new market category for mobile, which it initially called the “mobile cloud” and which represented the world’s only comprehensive mobile-first, native-first and fully-integrated-first mobile application lifecycle management platform. This vision and approach ultimately evolved





into Phunware’s pioneering Multiscreen as a Service (MaaS) platform, the only fully integrated software platform that comprehensively equips the Fortune 5000 to engage, manage and monetize their mobile application portfolios globally at scale.

Phunware now provides everything brands need to create “sticky” experiences throughout the entire mobile application lifecycle: from application strategy and creation, to application discovery and user acquisition, to data-science-based application user engagement and monetization.

## Reach

By relentlessly addressing the needs of Fortune 5000 customers to create and manage category-defining mobile experiences for their application

users worldwide, Phunware has successfully expanded its addressable market reach into the largest and fastest-growing markets in the world: mobile applications, media and data science.

The founders’ foresight in positioning Phunware at the intersection of mobile, cloud, big data and SaaS / DaaS has resulted in a current inventory of more than 1 billion monthly active devices across more than 5 billion daily events. Phunware intends to win the “multiscreen cloud” in the same way that Salesforce has won the “sales and marketing cloud” and Facebook has won the “social cloud.” In doing this right, at scale, globally, Phunware envisions a computing future in which global technology will be composed of hardware, software, firmware and Phunware





## » Mobile Application Market

Phunware engages Fortune 5000 companies through its MaaS application lifecycle management platform, which includes platform products, vertical solutions and application portfolio services for the following industries and more:

- » **Automotive**
- » **Aviation**
- » **Education**
- » **Government**
- » **Healthcare**
- » **Hospitality**
- » **Internet**
- » **Media + Entertainment**

- » **Real Estate: Retail**
- » **Real Estate: Residential**
- » **Sports**

The mobile application market is enormous, with worldwide smartphone users downloading more than 175 billion apps—and spending over \$86 billion on them<sup>a</sup>—in 2017. The number of apps available to Android and iOS users climbed over 6 million in 2017 as well, and the average number of apps on a user’s phone nearly hit 100<sup>b</sup>. In 2018, the app economy is predicted to enter a new era and surpass \$110 billion in app store spend<sup>c</sup>.

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a App Annie, 2017

b App Annie, 2017

c App Annie, 2017



## Media Market

According to the Internet Advertising Bureau (IAB), users spend 66% of their online time on a mobile device and mobile advertising revenue now makes up 54% of all digital ad revenues<sup>a</sup>. In the first half of 2017, mobile advertising revenue was \$22.7 billion in the US alone<sup>b</sup> and Goodway Group predicts it will grow nearly 4% month-over-month with an expected overall price increase of over 45% by 2019<sup>c</sup>. Phunware offers audience building, engagement and monetization capabilities.

Audience monetization:

- » **Engaging experiences with video, interstitial, banner, native and rewarded video ad formats that do not compromising the user experience or interface**
- » **Premium, direct-sold demand from Phunware Fortune 500 advertising partners**
- » **Small software footprint with the power of a full SSP**

- » **Real-time, customizable reporting and analytics plus dynamic yield optimization**

Audience building and engagement:

- » **Application discovery and audience building via user acquisition and installs**
- » **Audience engagement and premium mobile media campaigns to reach users in virtual and physical environments alike**
- » **Micro-demographic segmentation and conversion enhancement via 1:1 targeting data across 1.3 trillion event records**

## Data Market

Phunware's data is made up of over 5 billion events captured daily from over 1 billion global devices touching the Phunware platform. Data offerings include:

- » **Audience segments to help marketers boost campaign performance, target high-value users, maximize conversions and optimize spend**

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a IAB, Digital Trends: Consumer Usage of Digital and its Influence on Ad Revenue Half Year 2017 Update

b IAB, Digital Trends: Consumer Usage of Digital and its Influence on Ad Revenue Half Year 2017 Update

c Goodway Group, 2017



- » Audience insights to help developers understand their users, enrich their analytics, personalize experiences and drive engagement
- » Phunware IDs that track one or more of six key data types—personal, life stage, location, interest, intent and consumption—to create a valuable 360-degree customer view

IDC forecasts that the big data and business analytics market will grow from \$130 billion in 2016 to more than \$203 billion in 2020<sup>a</sup>. According to Cisco Systems, global mobile data traffic will grow from 7 exabytes per month in 2016 to 49 exabytes per month in 2021, a compound annual growth rate of 47 percent<sup>b</sup>. And users are increasingly willing to share their data and participate in this market: 40% of broadband households are willing to share data with manufacturers for product monitoring and maintenance<sup>c</sup>. Across 17 countries studied, 27% users are willing to share their personal data in exchange for benefits or rewards like lower costs or personalized service<sup>d</sup>.

# Unique Market Position

Phunware is the only company in the world offering a comprehensive mobile application lifecycle management platform. All existing competitors represent point solutions only, requiring Fortune 5000 customers to source, integrate and deploy multiple offerings from multiple providers to provide comparable features and functionality in mobile environments.

Most competitive offerings today are simply legacy enterprise software providers that architected and built their application solutions from 5-15 years ago for internet and desktop application environments rather than mobile environments. These legacy offerings do not “port” to mobile and have suffered immensely in the market from cumbersome codebases, uncompetitive total cost of ownership and

- a [IDC, Double-Digit Growth Forecast for the Worldwide Big Data and Business Analytics Market Through 2020 Led by Banking and Manufacturing Investments](#)
- b [Cisco Systems, 2016](#)
- c [Parks and Associates, 2017](#)
- d [GFK Insights, 2017](#)



failed technology interactions with multi-vendor software architectures.

No single competitor in the world does everything Phunware does, but there is some overlap between areas of the Phunware MaaS platform and certain offerings from the following companies:

- / Adobe
- / Facebook
- / Google
- / IBM
- / Localytics
- / Microsoft
- / MixPanel
- / Oracle
- / Salesforce
- / SAP
- / Urban Airship

While competitive market participants are busy focusing on select market segments with point solutions, Phunware provides fully integrated and comprehensive solutions across application experience definition, application portfolio creation, application discovery, application user acquisition, application user engagement, application user monetization and the underlying data critical to making smarter decisions for both user engagement and monetization alike.

It is extremely difficult, if not impossible, for legacy enterprise software companies to effectively retrofit their offerings to now become more mobile-first, native-first or

fully-integrated-first, while Phunware has already built its products and solutions from the ground up to do just that. Perhaps most importantly, Phunware has now hundreds of mobile application portfolios over nine years that have resulted in more than 2 billion Phunware IDs, 1 billion monthly active devices and more than 5 billion database events daily to help its Fortune 5000 customers better target and engage application users both indoors and outdoors, in real time, on a 1:1 basis, everywhere.

Phunware's audience size, scale and reach globally now rivals the audience size, scale and reach of both Facebook and Google, and it is seeing the market benefits of that scale accelerating rapidly as the Fortune 5000 is increasingly allocating more budget to mobile.

PhunCoin offers a way to activate that size, scale and reach—and put users and publishers back in control of their data in the process.



# PhunCoin Definitions



**Airdrop:** The act of delivering cryptocurrency coins or PhunCoin to a wallet through a direct transfer on a blockchain at the discretion of the sender. Since most cryptocurrency systems allow any two addresses to transfer PhunCoin without an intermediary, an Airdrop can be completed by simply knowing a wallet address, which can be obtained from the public ledger of a blockchain, and initiating a transaction of PhunCoin to that address. To the receiver PhunCoin will simply 'appear'.

**Application Developer:** A developer of a mobile application who seeks to provide a service to End Users via the mobile application.

**Data Buyer:** A representative of a corporation seeking to license data with the intent to leverage it for various purposes.

**Data Enrichment:** The process by which a request from a DSP becomes enriched with additional information not already obtained by the entity making the request. This is essentially a request for additional information about a mobile device to enable more intelligent bidding from Media Buyers leveraging these platforms.

**Data Marketplace:** A data marketplace or data market is an online store where people can license data. Data marketplaces typically offer different types of data from different sources for different markets. Common types of available data include business intelligence, advertising, demographics, personal information, research and market data.

**End User:** A validated physical human accessing the System.

**Exchange Operator / Manager:** A representative of the System who operates the data exchange to maximize End User rewards, at the same time providing value to the customers of the exchange (Media Buyer, Data Buyer).

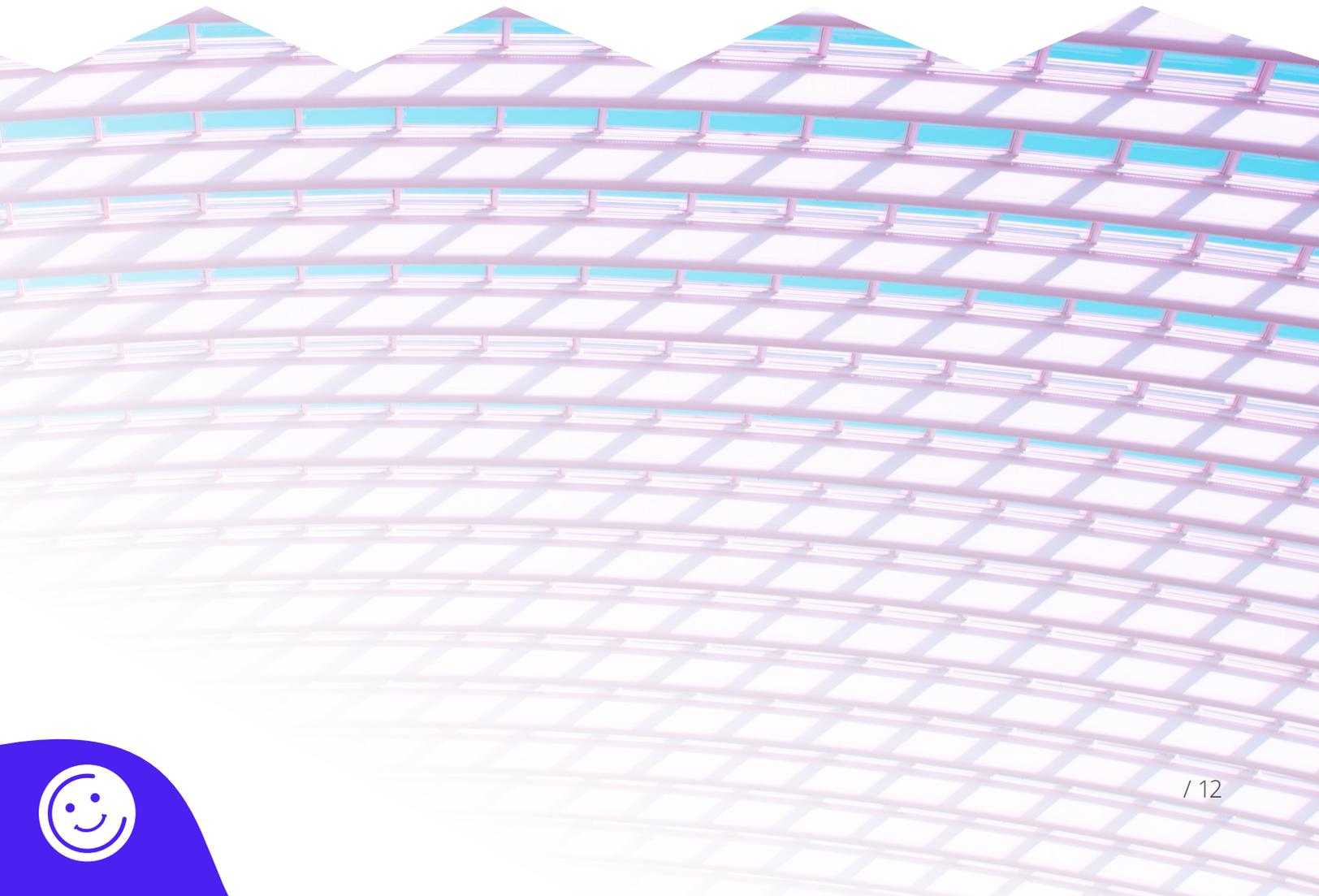
**Demand-Side Platform (DSP):** A DSP is a system that allows buyers of digital advertising inventory to manage multiple ad exchange and data exchange accounts through one interface.



**User Personas:** The following describes the user personas involved in the PhunCoin ecosystem. How they interact with the different System components will be described in the “Ecosystem” portion of this paper.

**Media Buyer:** A representative of a corporation seeking to purchase media and advertising with the intent to reach and influence a specific audience.

**System:** The technology stack (centralized and decentralized) to be built and managed by PhunCoin / Phunware to achieve the mission of PhunCoin.



# PhunCoin Design Goals and Considerations



The following represent key design goals / considerations we have identified that are necessary for the creation and operation of PhunCoin. These core principles will guide the development and operation of the System as it is being launched and operated over time.

## Mobile First, Native First

Mobile usage has skyrocketed in the last five years. There now are an estimated 3.1 billion smartphone users worldwide.<sup>a</sup> The average US adult spent over three hours on mobile devices every day in 2017 (3:17 to be exact).<sup>b</sup>

In fact, 57% of all digital media use is now mobile.<sup>c</sup> Consumers downloaded 149.3 billion mobile apps to their connected devices in 2016<sup>d</sup>, with many users spending five hours per day on those devices.<sup>e</sup>

The smartphone application ecosystem continues to explode with an estimated 2.2 million Apple apps<sup>f</sup> and 3 million Google apps on the market today.<sup>g</sup> Users carry their devices at all times, use a multitude of applications and produce a continuous stream of valuable data in the process. Consumer spend in mobile applications is expected to surpass \$110 billion in 2018<sup>h</sup>, a figure that highlights the growth and value of mobile user interactions and mobile's place at the center of the End User personal universe.

a eMarketer, [Worldwide Internet and Mobile Users: eMarketer's Updated Estimates and Forecast for 2017-2021, 2017](#)

b eMarketer, [US Time Spent with Mobile Devices, 2017](#)

c comScore, [The 2017 U.S. Mobile App Report](#)

d TechCrunch and App Annie, [Number of mobile app downloads worldwide in 2016, 2017 and 2021 \(in billions\), 2018](#)

e TechCrunch, [U.S. consumers now spend 5 hours per day on mobile devices, 2017](#)

f AppleInsider, [Total number of iOS apps on the App Store - January 2017](#)

g Android, [Total number of Android apps on Google Play - June 2017](#)

h Mobile Marketing Watch, [The Future of Apps: What to Expect in 2018, 2018](#)



Because mobile devices are at the center of the End User universe, we've selected mobile-first as a core design principle of the PhunCoin System.

Native application design is a guiding principle of the System. Native applications and SDKs can access device sensor data, location data and other valuable information. Unlike web-based technologies and browser plugins, native mobile design allows for rich user experience, effective blockchain interaction and access to scale as Application Developers embed software development kits (SDKs) into their applications.

For these and many other technical reasons, a native application development approach is preferred for the System.

## Data Security, Control and Transparency

One of the System's design goals is to ensure End User data is secure and decentralized. When data is provided to the System, it will be transmitted securely to the data exchange, which will store segments and aggregations

of devices and wallet addresses. Personally identifiable information (PII) does not reside in any centralized system and remains at rest encrypted only on the mobile device from which it originated.

Another core principle of the System is ensuring users remain in control of their data. PhunCoin will give users complete control over how much (or how little) data they share into the System and will be designed to ensure efficient, transparent and flexible data collection.

The System will employ a complex and flexible data taxonomy including (but not limited to): demographic data (email address, phone number, age), observed behaviors (purchase intent, purchase history, personality traits) and application usage (session length, in-app activities, location data). Some data (including application session length, location data, and content interactions) will be gathered automatically once permissioned by the End User. The data gathered by the System will change over time based on market demand and will reflect the demand of buyers in the ecosystem.



# Self-Sovereign Identity



The System will employ an identity solution that will allow End Users to unify their interactions across multiple applications and devices. This capability acts as the “glue” that securely, and in a decentralized ledger, brings together all the interactions an End User has with the applications they already use.

Application Developers, End Users, the Data Exchange and PhunCoin will all be rooted in a trust framework connected to a self-sovereign identity (SSI) system. PhunCoin will not seek to re-invent SSI systems but will leverage existing solutions that meet the needs of the System. Some examples of these systems are below:

- » **Sovrin: An open source trust framework consisting of a Distributed Ledger Technology (DLT) anchored by the Sovrin Trust Framework and Sovrin trusted entities like Agents and Trust Anchors. This is a public-permissioned blockchain system designed specifically for identity, privacy and scale. This system is currently the identity solution (Indy) for HyperLedger, an open source blockchain system.**
- » **Evernym: A commercial offering built on top of the Sovrin system offering enterprise functionality intended to ease the deployment of SSI-based solutions. This system is already in market with credible state governments in the US.**
- » **uPort: An Ethereum-based decentralized identity solution currently only available on testnets but expected to launch in 2018 with a mobile SDK and applicable technical components for interoperation with the System.**

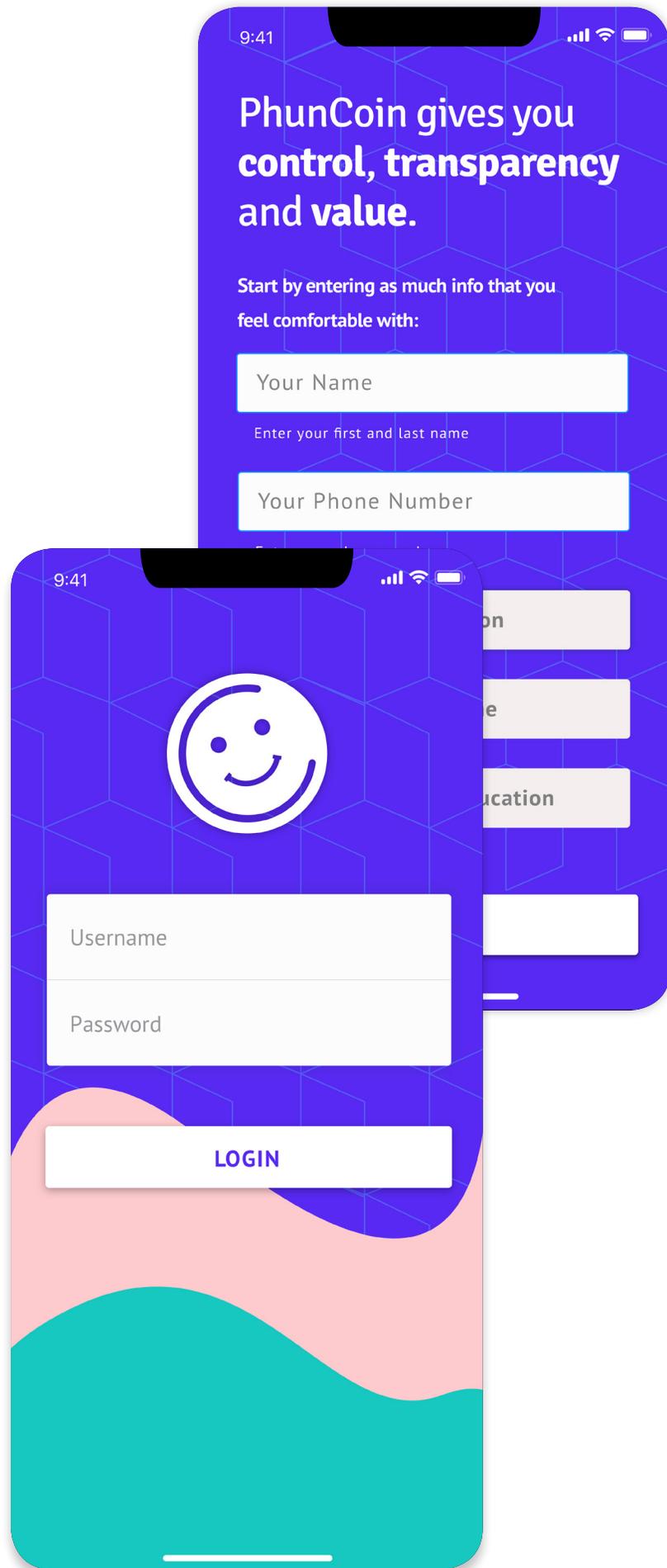


# Simple and Intuitive User Experience

To achieve our mission of onboarding one billion new crypto wallets for the world's population, the onboarding and discovery process must be simple and intuitive.

PhunCoin will adhere to best-in-class user experience design patterns for every element of the System, from the creation of a new account via SSI to integrating the SDK and redeeming the value earned.

Phunware has developed mobile solutions for some of the most recognizable brands in the world with extremely high standards for user experience and design. PhunCoin will leverage that experience to create a world-class, simple and intuitive user experience in all aspects of the System.



# Multiple Application Support

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For the System to be successful, End Users must be able to earn rewards for any and all applications that support data gathering via the PhunCoin SDK. To become part of the System, Application Developers will register with the PhunCoin data exchange, classify their application and be issued a unique, secure key to activate the SDK once their application is approved.

The End User experience of the System through a partner application will be limited to lightweight functions such as onboarding and background data collection. A full-featured wallet will likely not be possible in the lightweight SDK footprint most Developers desire.

# Blockchain Technology for Low-Cost Value Transfer

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End Users will receive payments from the Data Exchange as they onboard into the System and when the data they have submitted is used. Although the data activation in the Data Exchange will be at high scale, the reconciled payments will be made in batch and in a regular period to address existing blockchain scalability concerns. The System will maintain a balance of transactions against the data collected and make payments to End Users on a scheduled basis. The batch payment will include some level of detail about how the data was used, but may vary based on the Data Buyer's profile in the Exchange.

Most importantly, these payments will be made in PhunCoin via a reserve maintained by the Data Exchange, rather than in any fiat currency such as USD. This design is intentional and critical; typical wire transfer fees for complex fiat payment mechanisms can exceed \$10 or more.<sup>a</sup>



# A Robust Token Ecosystem

The System will enable a robust economy of Application Developers, End Users, Media Buyers, and Data Licensors. Token economics will be tuned to ensure members of the ecosystem are able to achieve maximum value

- » **End Users must be able to be rewarded fairly and obtain real value for the use of their data.**
- » **Application Developers must be able to be rewarded for onboarding End Users into the ecosystem and for bringing unique data to the marketplace through the use of their applications—as well as the contribution of application specific data.**
- » **Media Buyers must be able to obtain 100% transparency related to the data they are licensing, ultimately getting higher value from the data enrichment process than traditional modeled or aggregated target audiences would provide.**



Once users have earned PhunCoin, they will be able to redeem them for valuable goods and services that are integrated into the ecosystem.



# Operating at Scale



According to media measurement company Zenith, mobile media spend (and corresponding data-backed campaign enrichment techniques) have grown exponentially over the past five years, surpassing desktop spend in 2017. This exponential growth trend is expected to continue: mobile ad spending is projected to reach \$156 billion in 2019 and will account for 62.5% of internet expenditure in 2019. <sup>a</sup>

As ad spending increases, so does the scale at which the transactions occur. The systems that power these transactions must therefore also scale, which is why scaling is a core principal of the PhunCoin System.

Phunware currently operates its systems with over 4.5 billion transactions per day on its in-house advertising technology and can easily handle media transactions at the scale required by PhunCoin.

By contrast, most blockchain technologies currently today have significant scale limitations—on the order of 12-15 transactions per second—which are unsuitable for production at-scale deployment of real time media spend related technology systems. <sup>b</sup> Most media spending technologies must operate at the scale of hundreds of thousands of requests per second—so the PhunCoin System must be able to do the same.

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a re/code, [Mobile is driving most ad spending growth worldwide, 2017](#)

b Coindesk, [How Will Ethereum Scale?, 2017](#)



# System Design and Ecosystem



The following is a high-level description of System architecture and components—how they interact to create the PhunCoin ecosystem connected by the cryptocurrency token.

In general, the core components of the System will leverage existing mature elements of Phunware’s core suite of products already in market.

By leveraging existing technology already in market and at scale we will be able to have real at scale utility upon the launch of the System.

## Overview

The ecosystem and System for PhunCoin will, by design, be built upon a mix of decentralized and centralized components. Each technology approach (centralized / decentralized) has benefits and drawbacks.

For example, native mobile applications, their powerful suite of APIs and the existing marketplace of applications (Apple App Store,

Google Play Store) are a powerful software delivery mechanism that will enable End Users to interact with the ecosystem. A massive mobile data enrichment marketplace for enhanced targeting and return on investment already exists as well. These centralized systems will enable the rapid creation of the PhunCoin System and help accelerate the rapid adoption of the PhunCoin technology.

Other decentralized technology plays a critical role in the success of the System as well.



Self-Sovereign Identity (SSI) technology utilizes a distributed ledger to ensure the identity of a user is decentralized and in the user's control and a smart contracts platform built on blockchain technology ensures users can be compensated for their data in a cost-effective and efficient way.

It is through the blending of centralized and decentralized technology that Phunware will create the System and ecosystem to fulfill the mission of PhunCoin.

Key System components:

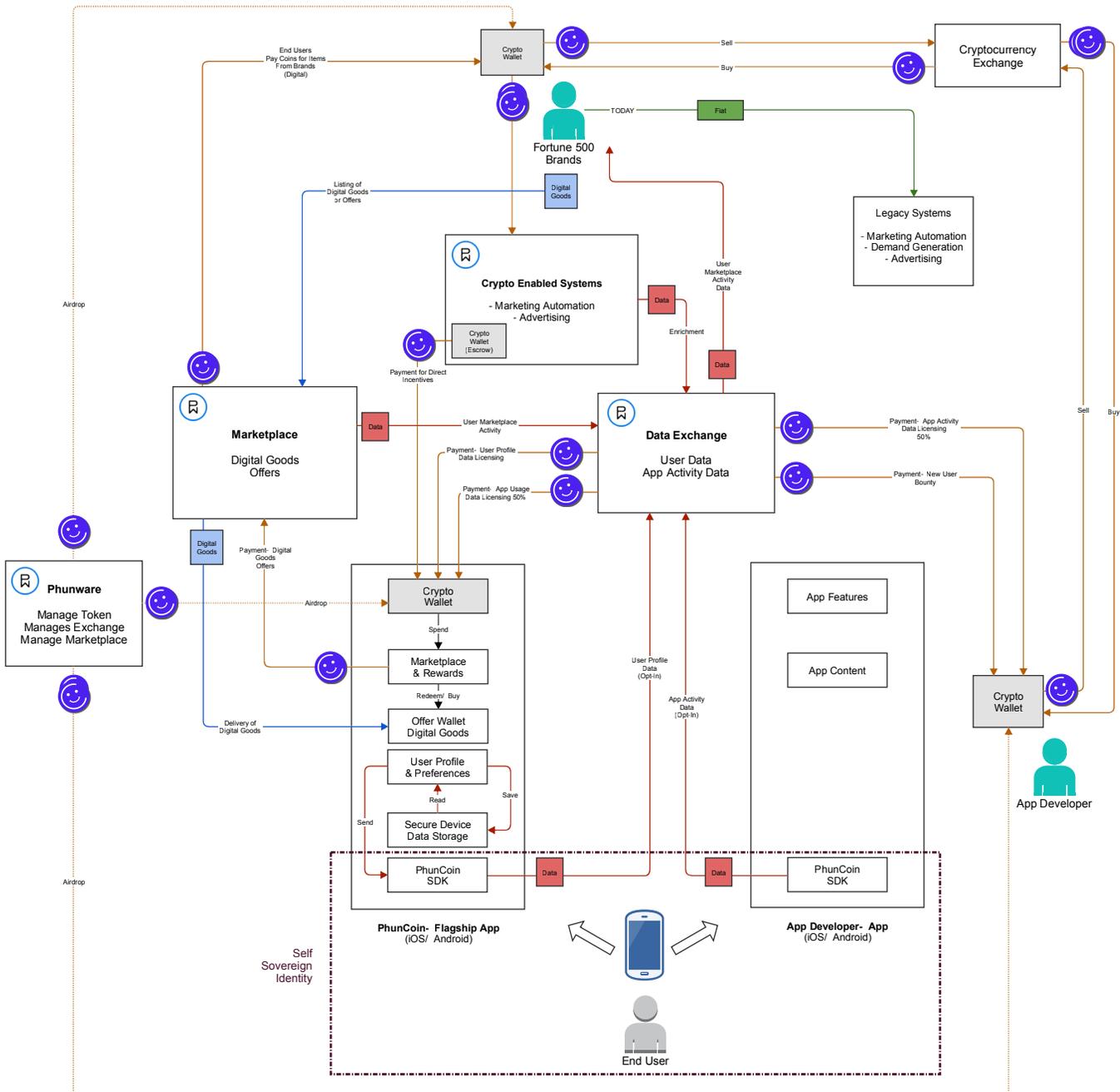
- » **Flagship native mobile application suite**
- » **Software development kit (SDK)**
- » **Data exchange**
- » **Smart contracts platform**
- » **Self-sovereign identity (SSI) platform**

A detailed discussion of each of these components and their role in the overall System follows.



# High Level System Diagram

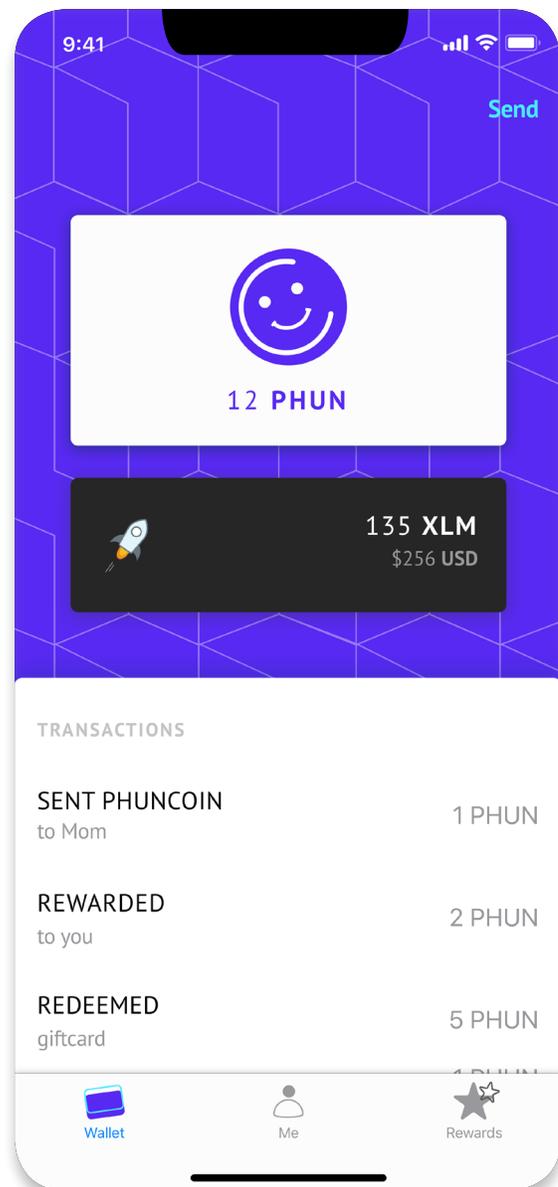
The following is a high level diagram showing the various personas, elements of the ecosystem, and how they will interact.



# Flagship Native Mobile Application Suite

This mobile-first, native-first application suite will be the main way End Users interact with PhunCoin.

Upon downloading the PhunCoin application from their application market, End Users will be able to interact with wealth of capabilities. The application suite will include a digital cryptocurrency wallet and transaction history, a simple and intuitive interface to enter and control the submission of their data and a marketplace of offers and rewards users can browse to redeem PhunCoin they have earned.



## ☞ Crypto-enabled Wallet:

The ability for End Users to store PhunCoin they earn by monetizing their data is critical to the design of the PhunCoin System, as is the ability of the Wallet to interact with the native currency of the smart contracts platform. End Users will create their wallets (and corresponding

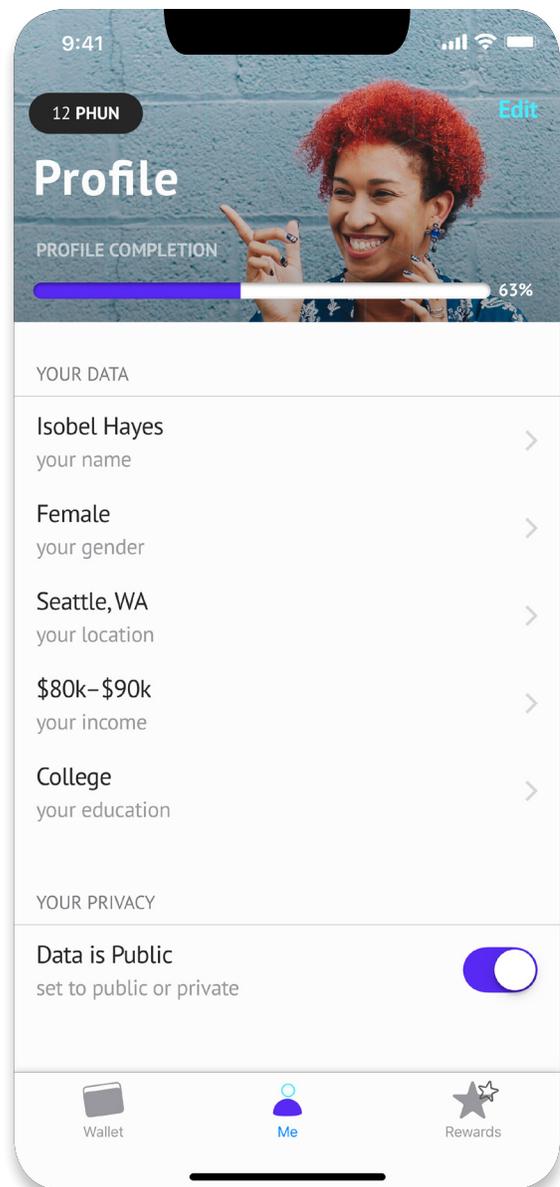


Self-Sovereign identity) through the App Portfolio.

The wallet will:

- » **Allow for the entry and management of personal data, purchase intent, purchase history or other profile data**
- » **Link the user's Facebook, Google or LinkedIn accounts to propagate that data to the Data Exchange**
- » **Register a smart contract address linked to the Wallet**
- » **View balance, receive payments, show a transaction history from the Data Exchange**
- » **View any / all applications linked to the user's Self-Sovereign Identity**
- » **Send and receive PhunCoin to other compatible wallets**
- » **Backup / export Wallet private keys to another device**
- » **Recover identity after porting to a new device**
- » **Interact with a marketplace of offers and redemption options for their earned PhunCoin**

*Note that actual final features and functions are subject to change based on final implementation.*



# PhunCoin Marketplace of Digital Goods

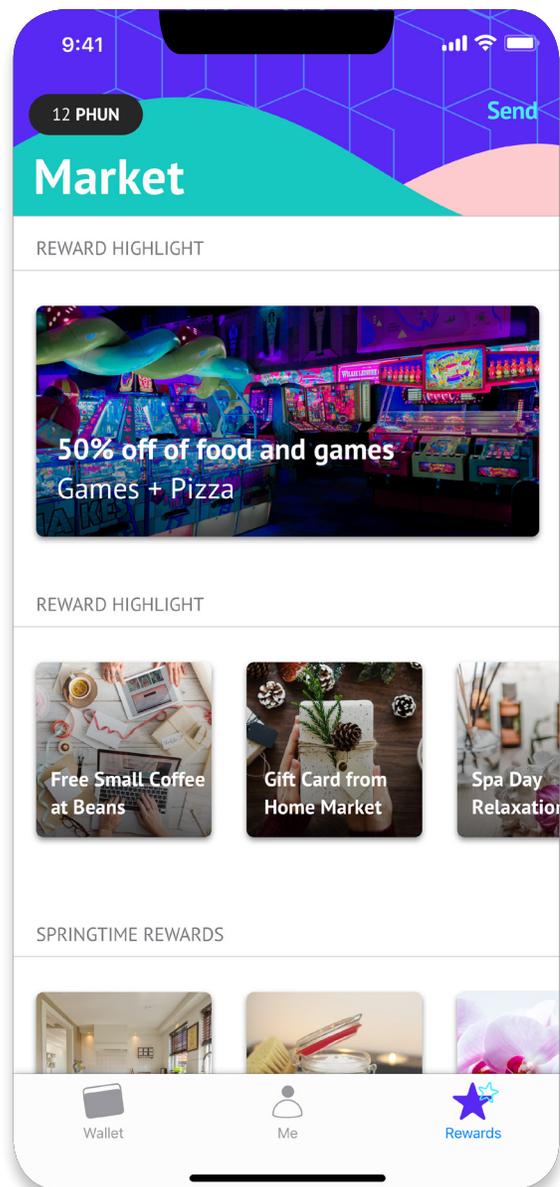
## Discovery and Redemption

Through the PhunCoin application suite, End Users will be able to interact with a marketplace of digital offers (such as gift cards, simple auction, specialized offers) for goods and services integrated into the ecosystem.

Digital goods purchased by End Users will be paid for in PhunCoin, and PhunCoin used for those purchases will be then paid out to the Brand that listed the digital good / offer—providing an important mechanism by which Brands can earn PhunCoin in the ecosystem.

## Prices

The prices of the items available for End Users will vary, but we intend to have a broad spectrum of digital goods and services End Users can browse and redeem within the System.



# PhunCoin Software Development Kit (SDK)



The PhunCoin SDK will be used by Application Developers to onboard new users and send data generated by those users into the Data Exchange. The SDK will not have the full capabilities of the Flagship Mobile Application—but will have sufficient functionality to onboard users and provide an entry point to the ecosystem.

End users will be able to link their identities across applications using the Self-Sovereign Identity (SSI) solution integrated into the SDK. This ensures that the identity of the user across applications can be preserved.

The SDK will also allow Application Developers to register specific areas of their application that End Users interact with, and send that interaction data into the Data Exchange.

To use the SDK Application Developers will need to register with the PhunCoin System using the PhunCoin website

## PhunCoin Data Exchange



The Data exchange will serve as a nexus point for all participants in the ecosystem. This component is the the means by which the data from End Users will be captured, organized, and ultimately sold to advertisers via Data Enrichment requests.

Although a number of at-scale data exchanges already exist, the PhunCoin Data Exchange will be unique—offering a highly valuable deterministic data set and the ability to operate in near-real time.

The System will incorporate a flexible taxonomy of data collected from End Users via SDK or the Flagship Application Suite and serve as the connection point to existing at scale Media Buyers who seek data enrichment for advertising targeting purposes.



**The Data Exchange will serve as the clearinghouse and central point of the System, ensuring functions such as:**

- » **Data collection**
- » **Data age / refresh**
- » **Taxonomy / segment definition**
- » **Pricing**
- » **Token reserve**
- » **Settlement / payouts**
- » **Transaction batching**
- » **Fraud prevention**

For data to be valuable, it needs to be credible, verified and validated. Media Buyers and advertisers demand transparency and efficacy of the enrichment techniques used by Demand-Side Platforms and Data Marketplaces. The deterministic and validated data set created by the System fits this market need while at the same time rewarding users via PhunCoin for the use of their data.

In order to ensure the most basic data about an individual is valid, we intend to implement a SMS-based validation mechanism / code for phone numbers linked to mobile devices. Email addresses will also be validated using a secure link based validation system prior to being linked to an identity (SSI) on the ledger.

We also intend to use (as much as possible) the system of Verifiable Claims made possible by the Self-Sovereign Identity systems such as Sovrin and Evernym. These “Trust Anchors” will ensure that the claims made by End Users are valid, and the validity of those claims will increase their value in the data exchange.

## **Marketing Automation and other Crypto-Enabled Systems**

Phunware will enable its existing enterprise software technology systems (as well as work with partner systems) to enable direct incentive rewards from brands to consumer through the user of mobile applications. The rewards will be given to end users as PhunCoin payments, directly into their wallets—and could be the result of interactions such as interacting with content, entering or exiting a location, or any number of triggers built into these systems.



# Smart Contracts Technology

In order to achieve our design goal of low cost value transfer, PhunCoin will need to leverage a cryptocurrency on an existing blockchain.

Many blockchains now support the ability to launch tokens / assets, which can then be transferred at a very low cost through a smart contract deployed on the blockchain.

Each of the various available blockchains have benefits and drawbacks, and the landscape for this technology changes rapidly. Upon implementation of the Flagship Application and wallet functionality we will evaluate all the technologies available to ensure the right fit for the ecosystem.

We are considering using the following blockchain technologies:

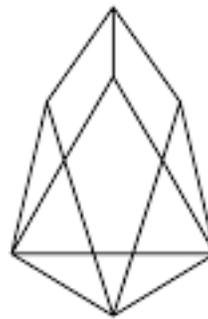
[Ethereum](#) / [Stellar](#) / [EOS](#) / [Cardano](#)



ETHEREUM



STELLAR



EOS

CARDANO



# Product Roadmap



The following describes the launch state, and projected evolution of the System and related ecosystem. Much of the base product capabilities can leverage existing Phunware technology. However for the initial launch of the System, we envision a series of enhancements required to continue to evolve the product.

## Phase 0:

### The following technologies are active and ready for use.

*Existing Operational Platform (with Paying Customers)*

- » **Flagship Application Portfolio**
- » iOS / Android Native Mobile Application
- » Native user experience
- » Ability to login to a user specific experience
- » Browse content from content management system
- » Push message / location based messages
- » **Data Exchange**
- » Application Developer registration
- » Application management
- » Reporting for usage of the data enrichment
- » API for data collection
- » **Advertising System—Demand-Side Platform (DSP)**
- » Ability to run campaigns
- » Ability to enrich requests using data
- » Ability to target specific audiences
- » Ability to accept and process cryptocurrency for payment for data enrichment
- » **Software Development Kits**
- » iOS / Android support
- » Ability to contribute data
- » Ability to contribute data for a specific application
- » Location technology (patented geofence entry/exit capabilities)
- » PhunCoin issued based on location based campaigns



# Phase 1:

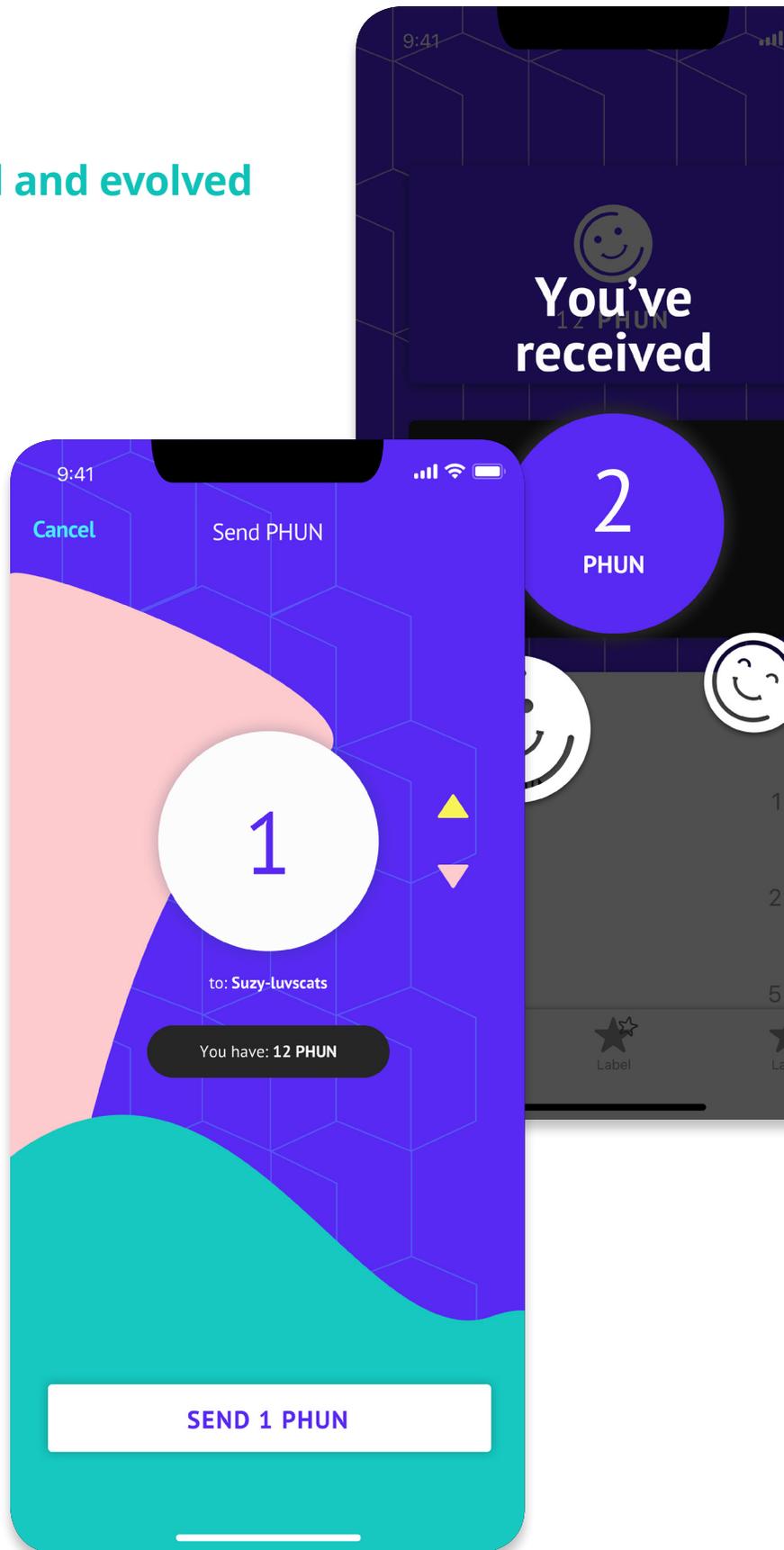
## Capabilities will be enhanced and evolved

*Enhancements per ongoing evolving roadmap*

# Phase 2:

## Advanced capabilities

- » Additional partners integrated
- » Scaling enhancements



# Community Building, Ecosystem Partners & Airdrops



We envision a rich community and broad-reaching ecosystem developing around PhunCoin. Our token allocation includes an allocation / reserve intended to be used to build community, involve partners, and drive adoption.

Consumers / end users, brands and app developers can earn and receive PhunCoin via Airdrops. Most cryptocurrency systems allow any two addresses to transfer PhunCoin without an intermediary—an Airdrop can be completed by simply knowing a wallet address which can be obtained from the public ledger of a blockchain—and initiating a transaction of PhunCoin to that address. To the receiver, PhunCoin will simply 'appear'. However, all Airdrops will be distributed only if associated with a qualified Regulation A+ offering.

## Consumers / End Users: Earning via Airdrops



After consumers enter the ecosystem through the Flagship Application Portfolio or an app with the PhunCoin SDK embedded, they will begin earning PhunCoin from their first interaction with

the System in the form of a new user welcome payment.

As End Users provide more valuable data to the Exchange or interact with locations enabled with rewards, they will earn more currency into their cryptocurrency wallet within the Flagship Application. In addition, we intend to implement a system that rewards for active users who maintain their profiles with Airdrops of tokens to their wallet.



## Brands: Earning via Airdrops

Select Brands, including existing Phunware customers and others interested in participating in the Ecosystem, will receive token Airdrops.

After receiving these Airdrops, Brands will be able to use their PhunCoin in many different ways to engage their consumers. Some examples include Phunware's crypto-enabled software systems, like Marketing Automation and Advertising, which will enable Brands to give direct incentives as well as consume data for digital marketing campaigns.

## App Developers: Airdrops

Phunware will do a series of token Airdrops to App Developers to incentivize them to add the PhunCoin software development kit (SDK) to their applications. Once these Application Developers have PhunCoin they will be able to use the PhunCoin SDK to enable various use cases in their applications.

In addition, App Developers can register in the PhunCoin Flagship Application and redeem digital goods and offers.

## Partners: Airdrops

Select partners offering valuable goods and services will receive PhunCoin Airdrops to be brought into the System.

These partners will be brands that want to accept PhunCoin for payment or in exchange for special offers they bring to the ecosystem. This approach brings Partners into the ecosystem and gives them a unique way to engage with their users.



# Future Considerations



Phunware has been building and evolving software, solutions, data and services for over 9 years, and we see the PhunCoin System and Ecosystem as no different. We will continue to evolve and enhance it to make it more valuable over time. Here are some of our future considerations, given our strong history in mobile and multiscreen.

- » Support for AndroidTV and wearOS platforms
- » Support for tvOS and watchOS platforms
- » Support for Amazon Alexa, Google Home and other smart assistant platforms



# Real-World Examples and Use Cases



The following represents a small sample of the ways we envision members of the Ecosystem will interact to create value.

## /// Data Enrichment and Refresh

Crypto-enabled advertising systems will be able to pay users in PhunCoin for the data they have supplied to the system. As users engage with the Flagship Application they will provide data into the data exchange and once activated, will be paid in PhunCoin for the usage of their data. In addition, users who keep their data refreshed in the Flagship Application, may be rewarded with an airdrop of additional PhunCoin, creating a virtuous cycle for brands and consumers to keep their data up to date and accurate.

## /// Brand Engagement: Location-Based

A brand will purchase PhunCoin (from Phunware or from an exchange), or earn it from selling goods in the Digital Marketplace. Once they have PhunCoin, they can deposit it into a managed wallet built into a crypto-enabled system.

Marketing campaigns with rewards denominated

in PhunCoin are configured in that system, and when a device is present at the appropriate target location. As End Users enter into the targeted location a push message will appear on their phone's lock screen, and at the same time, they will be notified that they have earned PhunCoin for visiting that location as well as how to redeem it.

## /// Brand Engagement: App Content

An App Developer can purchase PhunCoin and use the PhunCoin SDK to send PhunCoin to users as they engage with app content. The PhunCoin SDK will make it simple and easy for a developer to enable this use case to incentivize their users for wanted behavior. This could also be used to encourage viewing videos, trying new features, or any use case for incentivising users for specific behavior in an application.



## Brand Engagement: Augmented Reality

An app developer could use Augmented Reality technology and reward users in PhunCoin for interacting with virtual characters, or engaging in an augmented reality experience. The PhunCoin SDK would make this fast and easy for a developer to implement into their application—creating a unique interaction in their application.

## Brand Engagement: Offers

In the Flagship Application, and also through the PhunCoin SDK, End Users will be able to use PhunCoin to unlock special offers from select partner Brands. Partner Brands can offer items like Gift Cards and other Digital Goods in the Flagship Application, and once these are purchased, will be paid in PhunCoin.

**We envision a very dynamic and robust ecosystem in which partners will create innovative ways to leverage the value of PhunCoin.**



# **Business Model and System Operations**



In order to build a community, bring in App Developers and end users, Phunware will initially operate many of the centralized systems required for PhunCoin. As the ecosystem matures, we envision other partners / organizations leveraging the value of the ecosystem with their own crypto-enabled systems. The Smart Contract Technology that PhunCoin is built on will not be operated and maintained by Phunware—as these systems are envisioned to be public blockchains.

For the Data Exchange, Digital Marketplace, and Crypto-Enabled Systems—Phunware will operate these systems with the intent of driving adoption and value for the participants of the ecosystem.

Phunware has been operating systems at scale for many, many years—and will bring this experience to bear in operating these systems at scale, with a global reach.

# Payment Processing— Data Enrichment

Initially the PhunCoin System will accept payment from advertising technology platforms for their activity in the System in USD or other fiat currency—to enable rapid adoption of the System into existing at scale advertising platforms—however the PhunCoin System will also allow for payment for the data enrichment fees—and we intend to offer a discount for platforms that pay for usage in PhunCoin—as this helps the ecosystem as a whole.

The System will enable transaction-by-transaction device-by-device reconciliation—which is critical to the business model for PhunCoin—as it will allow the System to reconcile the usage of a given mobile device’s data over a period of time (say 1 day, or 1 week) and settle the amounts owed to the End Users, which will then be paid out in PhunCoin—as a transaction on the blockchain smart contract platform the System is built on.



PhunCoin will maintain the percentages paid out to End Users for the usage of their data, vs the amount kept by the Data Exchange for ongoing operations of the platform. The initial target for this payout percentage is:

- » **80% paid to End Users\***
- » **20% retained by PhunCoin**

*\* Subject to change based on actual System operation.*

Application Developers will also be able to contribute specific content (application activity data) from their applications into the taxonomy of the PhunCoin System so important events (like checking out, or clicking on a category of content) can be pushed into the data exchange and monetized.

The initial target for this payout percentage is:

- » **50% paid to Application Developers\***
- » **50% paid to End Users\***

*\* Subject to change based on actual System operation.*

The System will also make the running “balance” owed to the End Users and/or Application developers available upon request from within the Flagship Application Suite to enable users to

see what they’ve earned prior to it being paid out to them by the System through the reconciliation process.

The balances for end users are in no way a payment for simply holding PhunCoin, and PhunCoin are utility tokens, and intended to be valuable to end users and brands by using the PhunCoin in the ecosystem.

## Payment Processing: Direct Incentives

Brands that choose to incentivise or reward their customers directly by purchasing PhunCoin and depositing it into crypto-enabled systems will pay End Users directly via an escrow wallet that holds a balance of PhunCoin.

As End Users interact with applications, enter or exit locations, or do any number of triggers enabled by those systems, they will accrue balances and be rewarded through payments of PhunCoin.





## Bounty Program

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In addition to compensating End Users for the data they contribute, which is then monetized, we envision a model in which Application Developers are also incentivised with PhunCoin rewards for bringing new users to the ecosystem.

These new users will need to be validated, and have a valid Self-Sovereign Identity created to be compensated, but ultimately this provides a significant incentive for Application Developers to participate in the ecosystem.

## How Application Developers will Register

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Application Developers who want to participate in the Data Exchange will register their applications with the Data Exchange, and be given keys to access the System and contribute their data. These Application Developers will go through an approval process by the Data Exchange operators, and will have the ability to remove applications that violate the Terms of Use of the System.



# Pricing Considerations

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Not all data is valued the same by the market. Thus the System will enable Data Exchange Operators to set prices for data based on real-world usage and market demand. Data relating to basic attributes such as location and gender will have a certain price, while data about future purchase intent will have another price. These prices will be made available to data enrichment partners in real time through the bidding process as requests for data enrichment are processed.



# Token Economics and Distribution

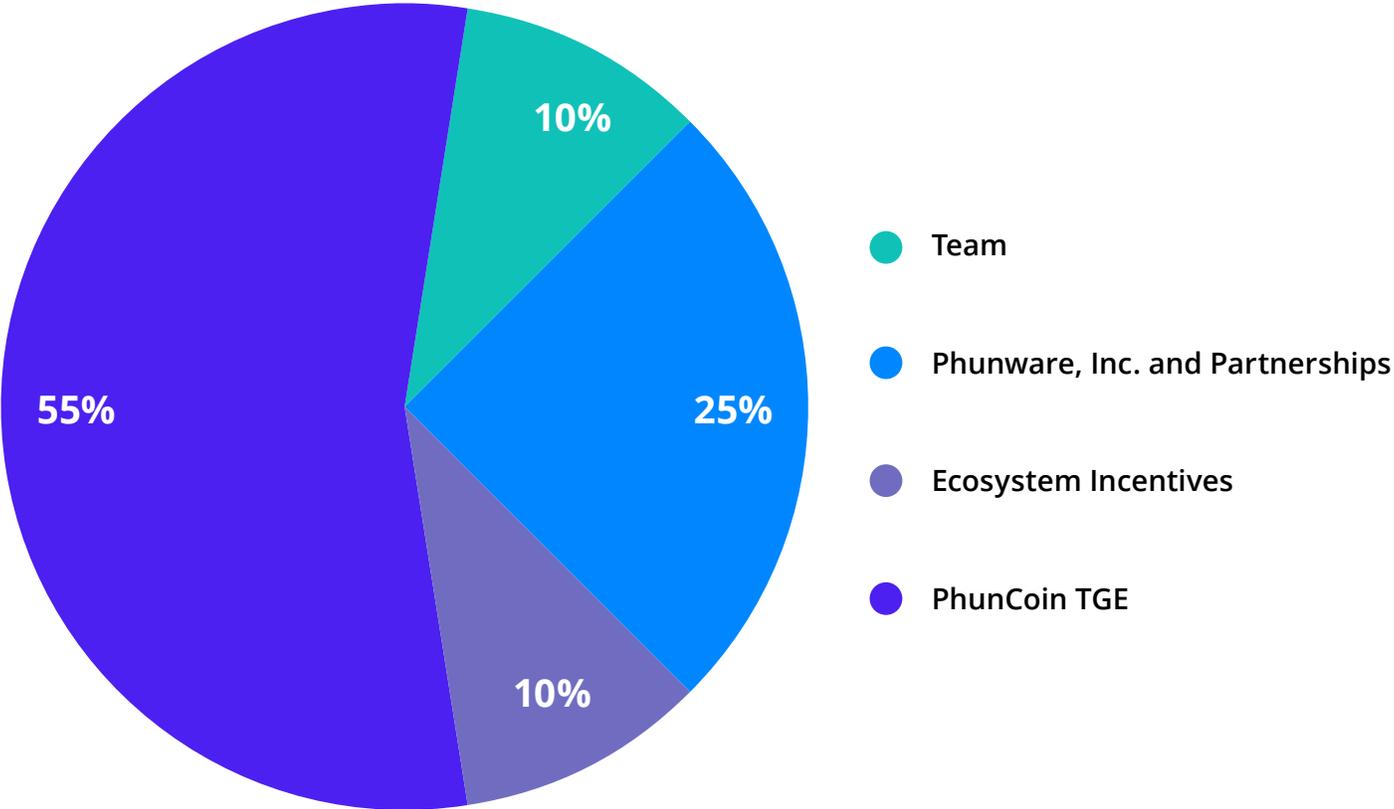


# Tokens

- » A total of 100,000,000,000 will be issued at the Token Generation Event (TGE).
- » No additional PhunCoin will ever be created.

# Distribution

The distribution of PhunCoin will be as follows



# Core Team, Partners and Advisors



# Team



**Alan S. Knitowski,**

**Co-Founder and CEO**

Alan is a successful serial entrepreneur with multiple exits over a 15 year period to companies including Cisco Systems (NASDAQ: CSCO), Level 3 Communications (NASDAQ: LFLT) and Internet Security Systems (now NYSE: IBM). He is a 2014 Finalist for the Ernst and Young Entrepreneur Of The Year Award for Central Texas and has been a Founder, Executive, Angel Investor and Fund Manager throughout his career in the private sector after serving in the United States Army as an Airborne, Air Assault and Ranger qualified Captain in the Corps of Engineers.

Alan has also built and managed companies that have won both regional and national awards for growth, including # 4 on the 2014 Deloitte Technology Fast 500 for North America, # 82 on the 2014 Inc. list of the 500 Fastest Growing Companies in the United States (and # 40 on the 2013 list), # 36 on the 2014 Forbes list of America's Most Promising Companies, # 1 on the 2013 ABJ Fast50 list of the 50 Fastest Growing Companies in Central Texas and # 2 on the 2008 Deloitte Technology Fast 50 for Orange County.

As a mobile and multiscreen industry expert, Alan is frequently quoted in trade publications, serves as a panelist at industry events and writes for the Wall Street Journal's Accelerators Blog.

Previously, Alan was President of Alternative Investments for Curo Capital LLC and Managing Director for Trymetris Capital Management LLC. In the past, he was a Co-Founder and Director of Telseve Communications, a next-generation advanced services ASP focused on wholesale communications services for carriers and service providers, which was acquired in July 2003 by Level 3 Communications.

Before this time, Alan was Director of Marketing for the Voice Technology Group at Cisco Systems and was responsible for business, market and community development, including business planning and strategy for Cisco's global packet communications initiatives. In November 2000, Alan joined Cisco as part of the



Vovida Networks acquisition, where he served as Co-Founder, President and Chief Executive Officer and led the company from idea conception through its eventual acquisition by Cisco.

Alan holds an MSIE degree from the Georgia Institute of Technology, an MBA degree from the University of California at Berkeley and a BSIE degree from The U. He lives in Austin, Texas, and serves on the President's Council at the University of Miami (FL).



**Luan Dang,**  
**Co-Founder and CTO**

Luan is a successful serial entrepreneur, author, inventor and technologist, with post-internet and technology bubble exits to such companies as Cisco Systems (NASDAQ: CSCO), Level 3 Communications (NASDAQ: LVLT) and Hewlett-Packard (NYSE: HPQ). Previously he was President of Strategic Investments for Curo Capital LLC and President of Alternative Investments for Trymetris Capital Management LLC.

He was also a Director of Engineering at Linksys, a subdivision of Cisco Systems, overseeing the development of Voice-over-IP (VoIP) products and strategies. At Linksys, he grew the VoIP product line from \$0 to \$150M in 12 months, making it the fastest-growing product line in Linksys and Cisco history to achieve 1M ports shipped. Luan came to Cisco through its acquisition of Vovida Networks, where he served as Co-Founder, Executive Vice President and Chief Technology Officer.

In the past, Luan was an Angel Investor in Vonage (NYSE: VG) and an Angel Investor and Advisor to both Terverse Communications, a next-generation advanced services ASP focused on wholesale communications services for carriers, service providers and value-added resellers (acquired in 2003 by Level 3 Communications (NASDAQ: LVLT)), and vCIS, a proactive software behavior analysis and anti-virus security company (acquired by Internet Security Systems (NASDAQ:ISSX) in 2002), before it was subsequently acquired by IBM (NYSE: IBM) in 2006.



Additionally, he was a Founding Member of the Technical Advisory Board of both the Open Multimedia Protocol Alliance (OMPA) and the International Softswitch Consortium (ISC) in 1999, which were subsequently merged and scaled to nearly 200 companies prior to renaming itself to become the International Packet Communications Consortium (IPCC) in 2003. Luan worked in various operational and technical roles with Nortel Networks and Unisys. He has over 15 years of experience in the communications industry and has also co-authored a book entitled Practical VoIP currently used as a core textbook for teaching VoIP system development in universities worldwide.

Luan holds patents on display screen management apparatus (1997) and caller IP (1998) and has three other patents currently pending. He holds an MS in computer science from Stanford University and a BS in computer engineering from the University of California at San Diego. Luan resides in Newport Beach, California, with his wife Linh and their three young children, and serves as a member of the Central Texas Angel Network and Austin Technology Council.



**Randall Crowder,**  
COO

Randall is passionate about new venture creation and the innovative spirit that fuels entrepreneurs and advances in technology. As an active investor and entrepreneur, he understands what it takes to successfully launch and grow a new business. He regularly publishes articles and speaks on entrepreneurship, venture capital, healthcare and the rise of blockchain technology and cryptocurrencies.

Over the past decade, Randall has led over 40 angel investments and deployed over \$60M across 14 companies as a venture capitalist. Randall is a co-founder and Managing Partner at TEXO Ventures where he focused on tech-enabled health services and he is the sole founder and Managing Partner at Novē Ventures where he focuses on investing in existing companies looking to leverage blockchain technology. Prior to TEXO, he led the Central Texas Angel Network (CTAN) to becoming one of the most active angel networks in the country. Randall also founded and launched Texas Venture Labs (TVL) at UT in order to give the next generation of investors unique experiential learning opportunities outside of the classroom.



Before getting involved in venture and entrepreneurship, Randall was a Captain in the United States Army and is both Airborne and Ranger qualified. He served over six years active duty and deployed twice in support of Operation Iraqi Freedom where he was awarded two Bronze Stars for his actions during combat operations.

Randall holds a BS from the United States Military Academy at West Point and an MBA from the McCombs School of Business. He is also a Kauffman Fellow and member of the Young Entrepreneur Council (YEC).



**Matt Aune,**  
CFO

Matt has over 15 years of finance experience, primarily in planning and accounting, within the software and technology industries. He brings a strong background in financial modeling, strategic analysis and software development budgeting to Phunware. Prior to joining Phunware, Matt worked for Sony Computer Entertainment leading their global technology finance group and served as head of worldwide financial planning and analysis at Midway Games.

During his time in the entertainment and video game software industries, Matt was involved in many different aspects of the business, including M&A, product planning, product development outsourcing, P&L management and studio operations. Prior to joining the workforce, Matt played professional basketball in China. Matt holds an MBA from San Diego State University, a BA in Economics from the University of California, San Diego and resides in San Diego with his wife Heather and their two children, Jackson and Ella.





## Barbary Brunner,

CMO

Barbary has spent her 25-year career in technology leveraging software to transform human experience and give people the access and tools to make their lives smarter, faster, richer and more fully informed. From her earliest days as a Program Manager at Microsoft, to more recent senior executive roles at Yahoo! and Experian, she's built and led world-class product and marketing teams that are equally in service of customer delight, business and shareholder results, and employee excellence, growth and satisfaction. She's a noted speaker on brand development, growth strategy for technology ecosystems and diversity and inclusion in tech organizations. As Phunware's CMO, Barbary is responsible for driving all aspects of global marketing and branding for the company.

Before joining Phunware, Barbary was CEO of the Austin Technology Council, one of the oldest and largest technology industry associations in the US, where she executed a turnaround of the 25-year-old organization, reestablishing it as the premier thought leader in regional technology, doubling membership, developing an ecosystem-wide mentorship program, and establishing a benchmark of growing 10 local tech companies to \$1B in revenue in 10 years' time.

Prior to this, Barbary's roles have included CMO for Experian's PriceGrabber business, CMO for Yahoo! Media, Chief Digital Products Officer for MediaNews Group, Director of Global Planning for Microsoft's MSN business and Executive Producer for SierraOnline, among others. Barbary approaches each leadership position with the belief that building and leading teams is a trust and a privilege, and that quality of business culture is inextricably linked to brand and product success. In each of her roles she has created an environment of open and respectful dialog that has allowed her teams to be exceptionally high-performing, driving increases in revenue, loyalty, engagement and overall business success.

Barbary attended Reed College in Portland, Oregon, holds a patent on Previews of Information for Selected Download on Auxiliary Display, is an investor and advisor to a variety of early stage technology companies, and serves as a Director of the Founder Institute's global accelerator program in Austin, Texas.





**Tushar Patel,**  
EVP Corporate Development

Tushar came to Phunware as CEO of Simplikate, a Phunware acquisition. He is a 25-year veteran of technology based business solutions. He is fascinated with identifying brilliance through simplicity which has led his career focus toward merging efficient well tuned Intellectual Property and Companies together to create a sum that exceeds its parts. In the 90s, Tushar founded a web company out of his spare bedroom to build Nokia's first ever website and launch several other Fortune 5000 companies' first web presences. Through clever and rapid M&A, he merged with other small web shops into USWeb as the de facto standard for corporations to consume all their web needs through a single organization culminating in an IPO that valued the group at over \$1billion within 2 years.

His next venture, Simplikate, created B-to-B mobile solutions in 2002, before "Apps" were Apps, on a Palm Zire 71. Eventually those solutions evolved with the advent of the iPhone into a mobile platform that launched the very first Smartphone Apps for the leading Malls, Airports and Luxury High-Rises worldwide.

Alan, Phunware's CEO, met Tushar as they pursued the same customer and after just one meeting between the two, they realized they both shared the same philosophy of finding partners who know how to say "Yes" ( saying "No" is easy ), so Phunware acquired Simplikate and closed in a record 6 weeks end to end.

Tushar's role at Phunware is to replicate this M&A success by evaluating and acquiring successful, entrepreneurial companies with proven multi year recurring revenue models that exponentially add fuel to Phunware's comet trail toward touching every connected device worldwide in a meaningful way.





## Matthew Lindenberg,

EVP Product Management and Engineering

Matt is a leader, entrepreneur, and innovator with 15+ years of technology experience in design, architecture, management and implementation of SaaS products. As a co-founder and CTO for over 10 years, Matt built and managed large global teams that define product requirements and translate critical business objectives into scalable and extensible technology products.

Matt studied at DePaul University and began his work in mobile technologies over 12 years ago (predating modern smart phones) by designing and developing ground breaking and patent pending product solutions for mobile applications for the real estate industry.

He has also built and scaled ERP/CRM, PMS, VoIP, Big Data, and other SaaS systems – and has extensive experience with both waterfall and agile Software Development Life Cycle methodologies.

Matt's role at Phunware is to direct and manage all product management and platform engineering efforts across the organization.



# Investors and Partners

## Investors



Ari Paul

Blocktower Capital



David Siemer

Wavemaker Genesis



Reeve Collins

Tether and BLOCK



## Partners



# Patents and Trademarks



# Issued Patents



## Method and System for Accessing Wireless Account Information:

US7979350

This patent is broadly directed to systems and methods for managing wireless account information. The applications are operable to run on a wireless handheld device and a plurality of billing options are presented. In response to receiving a selection of an application, a wireless account is updated via a link between a web account and a wireless account according to the selected application, such that the selected application is available when a wireless account is accessed via a wireless handheld device.

## System-Side Wireless Communications Link Support for Mobile Handheld Devices:

US8009619

This patent is broadly directed towards systems and methods of implementing a communications link between a handheld device and a server. A first protocol is implemented at a first time between the server and the handheld device. This first protocol is based on a communications link and a type of handheld device. A second protocol, that differs from the first protocol, is automatically implemented at a second time based on a quality of the communications link at a second time. A server-based method for implementing a communications link.



## **Client-Side Wireless Communications Link Support for Mobile Handheld Devices:**

**US8060594**

This patent is broadly directed towards a client-based method for implementing a communications link. A request for a communications link is received from an application executing on a handheld device. A device API component is accessed to configure device hardware to implement the communications link and a wireless communications link is established with a server. An optimized protocol is automatically implemented based on the wireless communications link type and the handheld device type. The communications link is established via a communications component functioning with a device API component to configure hardware of the handheld device.

## **Server Method and System for Rendering Content on a Wireless Device:**

**US8103865**

This patent is broadly directed to methods and systems for executing an application program for generating content for rendering on a generic wireless device. A first screen description based on the content and a device profile of the wireless device is generated. The first screen may be in a syntax generic format independent of the wireless device type and describe relative screen location and display object size information independent of screen dimensions. The first screen is translated into a second screen description that includes discrete low level rendering commands within the rendering capability of the wireless device that is syntax generic. The translated second screen is then transmitted to the wireless device.



## Method and System for Rendering Content on a Wireless Device:

US8478245 and US8989715

These patents are broadly directed to systems and methods for generating content that is renderable by a wireless device. In particular, a custom configuration of a plurality of rendering blocks is provided to a wireless device. The plurality of rendering blocks are associated with an application. Once the plurality of rendering blocks are received by the wireless device, they may be used by the wireless device to render content in a manner that is customized to the application.

## Server Method and System for Executing Applications on a Wireless Device:

US8560601

This patent is broadly directed to a server implemented method for facilitating execution of an application for a wireless device. The server selects a plurality of scene components, which comprise at least one functional unit operable to execute functions associated with the scene components and a plurality of assets, which may be used in rendering a scene utilizing the plurality of scene components. The server determines a partition of functionality of the application which defines a server behavior module for executing some portions of the application on the server and a client behavior module for executing some portions of the application on the wireless device. The server customizes the plurality of scene components and the plurality of assets for the wireless device, which are then sent to the wireless device for execution and rendering.



## Methods and Systems for Interactive User Interface Objects:

US8732619

This patent is broadly directed to methods and systems for displaying interoperability objects. A first and second object, associated with a first and second application respectively, are displayed on a screen and able to be manipulated by a user in a way that initiates an action based on the compatibility and interoperability of the objects. The objects that attract may share content or communicate with each other via a one-time interaction, or may establish links or connections with each other that enable longer term communication.

## Systems and Methods for Enterprise Branded Application Frameworks for Mobile and Other Environments:

US8788358

The patent is broadly directed to an application framework to extend or promote branding of a plurality of customers within a targeted industry segment. A set of substantially identical branding features are provided into pre-defined branding categories designed for targeted industry segments. A plurality of mobile applications are created for customers within the targeted industry segment. Each of the mobile applications includes a navigation menu for accessing the plurality of pre-defined branding categories as well as submenus for providing access to specific functions within the pre-defined branding categories.

## Geo-Fence Entry and Exit Notification System:

US8812024 and US8812027

These patents are broadly directed to methods for determining the location of a mobile communications device with respect to a geo-fence. A mobile device having a location detection application provides a data set, containing the general location of the mobile communications device, to a server that maintains a geo-fence database. The server, in turn, provides a set of geo-fences in the general proximity of the



general location. Based on whether the general location is within a predefined distance to a nearest geo-fence, GPS location detection is used to confirm whether the GPS location is within a geo-fence and, accordingly, whether the geo-fence has been entered.

## **Method and System for Customizing Content on a Server for Rendering on a Wireless Device:**

**US9015692**

This patent is broadly directed to systems and methods for processing data for rendering on a wireless device of a user. In particular, a server-implemented method for processing data is provided. A server receives a request to execute a generic application from a wireless device. The request includes wireless device attributes, such as a given location and time. In response to the request, and without any involvement from the user, a customized configuration for the generic application is identified, configured, and used to generate a renderable customized application in a pre-rendering state. The renderable customized application is then transmitted to the wireless device.

## **[ALLOWED] Systems and Methods for Indoor and Outdoor Mobile Device Navigation**

**US Patent App. 15 / 061,933 (Unpublished)**

Methods and systems for facilitating indoor and outdoor navigation on a mobile device are provided. First and second position information is received from a first and second location provider, respectively. Based on the first and second position information, a first normalized position information is obtained. The first normalized position information is used in determining that the mobile device is transitioning from a first geographic region to a second geographic region. Additionally, a determination may be made that the mobile device has entered a zone associated with the second geographic region. Further, a map of the second geographic region may be displayed on a user interface of the mobile device.



# Pending Patent Applications



## System and Method for Leveraging Device Location for Targeting Hyper-Localized Mobile Advertisements:

US Patent App. 13 / 943,746 (Unpublished)

Methods for targeted mobile advertising are provided. A particular polygon region associated with a geolocation of a mobile electronic device of a user is determined. The geographic location is associated with an advertising campaign among a set of advertising campaigns that are associated with targeted advertisements. From the set of advertising campaigns, a given advertising campaign having a given polygon region is identified. The given advertising campaign comprises at least one advertisement. The at least one advertisement is then directed to the mobile electronic device of the user.

## Location Based Coupon Delivery System:

US Patent App. 12 / 477,220 (US2009-0307067)

Systems and methods for presenting, to a user of a mobile device, coupons for products or services which are available at nearby stores are provided. The system comprises (a) a catalog database; (b) a coupon database containing a set of coupon offers, wherein each coupon offer is associated with a set of applicable items from the catalog database, and is further associated with a geographic region; and (c) a coupon server adapted to receive location and item information from the mobile device via a network. The coupon server is further adapted to (i) search through the coupon database, (ii) evaluate coupons in the database for geographic relevance, (iii) select any coupons determined to be geographically relevant, and (iv) return the selected coupons to the mobile device.



## System and Method for Adaptive Use of Geofence Parameters:

US Patent App. 14 / 216,729 (US2014-0337123)

Systems and methods are provided for ascertaining the proximity of a mobile technology platform to a location. The percent overlap of a first geofence associated with the mobile technology platform is compared with a second geofence associated with the location. If the percent overlap is greater than a predetermined threshold value  $T_{sub.1}$ , where  $T_{sub.1} < 100\%$ , the mobile technology platform is marked as having entered the second geofence, and the mobile technology platform is otherwise marked as not having entered the second geofence.

## System and Methods for Device Identification

US Patent App. 14 / 874,352 (Unpublished)

Methods and systems are provided for providing and obtaining device identification information. Device identification information such as MAC address of a user device can be provided to a network connection service such as a wireless access point. The network connection service can assign a network address such as an IP address to the user device. The network connection service can communicate the device identification information and the associated network address information of connected devices to a device identification service. The device identification service can be configured to maintain and handle requests to obtain such device identification information.

## Monitoring Outdoor and Indoor Regions with Mobile Devices

US Patent App. 14 / 968,240 (Unpublished)

Methods and systems are provided for allocating monitoring resources of a mobile device based on information received at the mobile device. A plurality of outdoor regions and a plurality of indoor regions associated with a geographic area may be stored on the mobile device. Additionally, a determination may be made whether the mobile device is outside of each of the plurality of outdoor regions. Additionally,



monitoring resources of the mobile device may be allocated in a first mode or a second mode based on the determination whether the mobile device is outside of each of the plurality of outdoor regions.

## **Systems and Methods for Enterprise Branded Application Frameworks for Mobile and Other Environments**

**US Patent App. 14 / 336,960 (US2015-0025966)**

An application framework for mobile devices may provide a variety of application modules directed towards enterprise brand extension. The application modules are organized into five main categories: (1) featured, (2) community, (3) play/engage, (4) media, and (5) shop. The “featured” category may allow enterprises to push specific content onto its consumers. The “community” category may allow enterprises to leverage social networks and consumer communities that build and expand around their brands. The “play/engage” category may allow enterprises to offer compelling value and engaging utility to its customers. The “media” category may allow enterprises to entertain, inform, and educate consumers about brands through media content. The “shop” category may allow enterprises to facilitate electronic commerce with its customers. Further application analytics may be utilized by aggregating affiliate, sales, or usage data, etc. to better drive new revenue streams and optimize the return on investment associated with sales, promotion and advertising efforts.

## **Methods and Systems for Interactive User Interface Objects**

**US Patent App. 14 / 279,269 (US2014-0337736)**

Methods and systems for interactive user interface objects are provided. The user interface allows for users to manipulate different objects represented by icons within a user interface, such as that of an iPhone or iPad or other touch screen devices. Users may bump objects together, flick one object towards another, bump an object against the edge of a screen, flick an object towards a certain area such as a dock, or otherwise manipulate the objects. The user’s actions or manipulations of objects may result in an action by the objects or may have no effect. Depending on the compatibility of objects, the objects



may be neutral towards one another, may attract each other, or may repel. The objects that attract may share content or communicate with each other via a one-time interaction, or may establish links or connections with each other that enable longer term communication or broadcasts that occur upon pre-determined triggers.

## Mobile Device Localization Based on Relative Received Signal Strength Indicators

US Prov. Patent App. 62 / 358,465 (Unpublished)

Methods, systems, and devices for tracking a mobile device in an indoor area or bounded area are provided. A method for tracking a mobile device includes receiving sensor data from a mobile device and generating a heuristic map based on the sensor data describing a set of possible current locations of the mobile device in the bounded area. The method further includes receiving additional sensor data from the mobile device, and determining a change in position of the mobile device based on the additional sensor data. The method further yet includes updating the heuristic map to disqualify a first possible current location from the set of possible current locations, and outputting the updated set of possible current locations for display on a user interface.

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