

pigzbe

Pigzbe™ is a digital piggy-wallet™ for children aged 6 and up, powered by  Wollo™, a family-friendly cryptocurrency.



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Pigzbe helps teach children the principles of 21st century finance while enabling families as microfinancing networks to operate globally.

Wollo is the cryptocurrency for the next generation, and the future of digital piggy banking, financial education and inclusion for anyone, anywhere.

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1. Introduction

Our goal is to help children and their families learn the principles of 21st century finance through cryptocurrency savings and hands-on play.

Financial literacy will be an important 21st-century skill, and finding ways to introduce earning, saving and managing money principles at a young age will help children begin to develop these necessary skills.

Pigzbe is a digital piggy-wallet for children aged 6 and up, powered by Wollo, your child's first cryptocurrency. Think of Pigzbe as a friendly, tangible financial assistant that will teach children the principles of modern money in an exciting and safe system that harnesses children's natural drive to learn through self-correcting, practical experimentation.

Wollo is Pigzbe's native token, and when used with the Pigzbe digital wallet provides an effective, age-appropriate learning experience for children, while enabling families to come together as microfinancing networks.

Pigzbe is here to contribute to the building of an open, decentralised world where financial education is accessible to anyone, anywhere. Our goal is to accelerate the uptake of cryptocurrencies globally with a token, and a product, designed to empower the young and young at heart.

Pigzbe combines the latest in connected technology, tangible interface design, and blockchain technology to reach an a new generation of children and families by ushering in a new piggy-banking paradigm powered by their children's first cryptocurrency and wallet. We call it a piggy-wallet!

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1.1 The Problem

The traditional piggy-bank served us well. It taught us, and our parents before us, important financial values like earning and saving, but the model is outdated.

A stored physical unit of money offers few additional educational benefits beyond the moment of “storage”, and, furthermore, physical money is on its way out, with a new token economy on its way in.

A seemingly good alternative to physical piggy-banks are digital piggy-banks, offered by traditional financial institutions and startups, but even these services have huge limitations:

1. High transfer fees that hinder the true microfinancing nature of piggy-banking and financial education in early years.
2. Services limited to specific geographies that don't cater to modern, distributed, globalised families.
3. Poor executions that only portray and reimagine piggy-banks as toys with little use beyond the earliest years.

1.2 The solution

The solution is Pigzbe, a digital piggy-wallet supported by Wollo, a decentralised cryptocurrency for families and children aged 6 and up.

Enabled by the Wollo Token, the Pigzbe experience (Token + App) is designed to replace physical money normally stored in a traditional piggy-bank with a digital alternative that caters to modern globalised families.

We're reinventing the piggy-bank by transforming it into a piggy-wallet. Think of Pigzbe as a tool to support parents in teaching children the principles of earning, saving and managing money in an exciting and non-threatening way, while providing them with an entry point into the world of cryptocurrencies.

1.3 The future is a piggy-wallet

Piggy-banks should be interactive, useful and safe – which is why we made a piggy-wallet instead of just another “digital piggy-bank”. We built a product for families who believe money should be transferred easily amongst their members, even across borders, which can’t currently be done via existing banking systems.

Future-proofing financial education

We teach our children about finance, earning, saving, modelling and spending, a few cents and dollars at a time¹, something normally done with physical money and pocket change. Our ambition is to establish a new standard in financial education for children, and a system designed not only to survive the demise of physical money, but also to embrace the realities of a rising token economy, thus future-proofing the piggy-bank by combining the best in blockchain technology, digital banking and IoT technology.

Empowering families as microfinancing networks

A child’s financial education is, at its core, a micro-financing activity. It begins in early years, with small amounts of physical money drip-fed into a physical receptacle as rewards for good behaviour, and, once accumulated, used to purchase a desired good or service. This usually involves the entire family, making the family by default a micro-financing network.

Accelerating cryptocurrency uptake

We believe that a generation of children growing up with cryptocurrencies can be an enormously powerful force for change. Pigzbe doesn’t just aim at empowering families and children financially, but also at educating them about modern programmable money. Pigzbe and Wollo also possess the potential to provide unprecedented access to the cryptocurrency ecosystem for entire families.

¹ Average pocket money by region: Asia - [TotallyAwesome](#), UK/EU [ING](#), [Credit Suisse](#), US - [RoosterMoney](#)

1.4 Market overview

There are approximately 2.2 billion children (aged 0-18) living in the world today. Their financial decisions carry the power to dictate the future of world economies.² Barriers to entry for youth looking for economic inclusion are high, leaving an entire generation of global children underbanked and unable to take part.

To combat this trend, parents overwhelmingly provide regular allowances for children,³ which have been shown to positively impact “children's performance, level of engagement in school, and a higher level of confidence in achieving educational goals”.⁴ In parallel, the edutainment and game-based learning market is experiencing incredible growth at 26% CAGR, and is estimated to reach \$23 billion by 2021.⁵

Furthermore, the financial world is dramatically changing, with the crypto-economy growing at a phenomenal rate. It is estimated that by 2020 it will exceed \$3 trillion, and that it will represent 10% of the world's GDP by 2025.⁶ By the end of 2017, there were an estimated 21 million cryptocurrency users, and cryptocurrency use has been growing at 102% CAGR.⁷

A key benefit of blockchain solutions is that they support the increasingly global nature of people and families. An estimated \$575 billion was remitted by migrants back to their home countries in 2016.⁸ However, this process is currently slow and very expensive, costing on average 7.2% of the transaction amount.⁹

² USAID (2013). Children in Adversity: A Global Profile.

³ Totally Awesome (Leading child-safe content provider in Asia Pacific), How Kids Across Asia Pacific Spend Pocket Money from Parents.

⁴ Asia Pacific Journal of Social Work and Development, Cash transfers and child well-being in Singapore: an exploratory study of the School Pocket Money Fund.

⁵ Euromonitor, Marketline, Bandai entertainment estimates.

⁶ Deloitte estimations.

⁷ Statista, Number of Blockchain wallet users worldwide from first quarter 2015 to fourth quarter 2017.

⁸ World Bank, Bilateral Remittance Estimates for 2016.

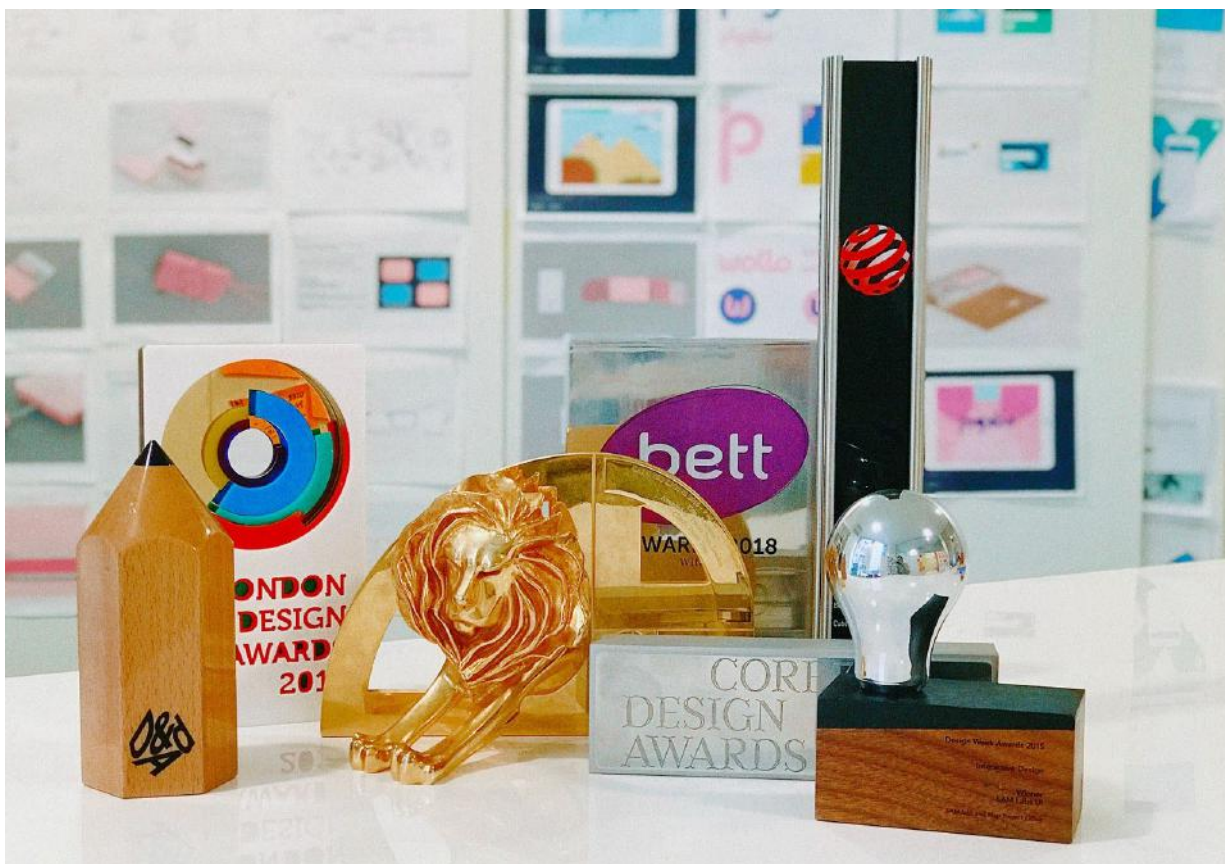
⁹ World Bank, Remittance Prices Worldwide, September 2017.

1.5 A little bit about us

The Pigzbe concept has been in development since 2015 and was incorporated as a business in January 2018. We're a crew of seasoned designers, makers, founders and investors in the consumer electronics, product design, fintech, cyber-security and banking space.

Two of our founders, Filippo Yacob and Jon Marshall, have been involved in the development and delivery of an award-winning portfolio of ed-tech and consumer electronics products for families and children. Filippo is the Founder of Primo and created the [Cubetto Playset](#). Jon was part of the team that designed the [Kano Computer](#), the [SAM Labs IOT system](#) and more. As an aggregate, the team has shipped millions of products across 180+ countries, covering almost the entire planet

We also draw from years of experience working on projects for companies like Apple, Google, NASA, Nokia, Honda, IBM, B&W, Yamaha, VEON, Bloomberg and more. We're an exceptionally strong team with a proven execution track record.



2. What is Pigzbe?

Pigzbe is a decentralised application that allows people to create their own enclosed, autonomous financial networks and to exchange money within them.

Decentralisation means that no central authority is needed for operation. Anybody can participate and the degree of decentralisation increases as the number of independent participants grows.

The complexity of linking existing banking systems causes delays and inefficiencies which increase costs to a level that limits practical minimum transaction sizes. By employing distributed ledger technology, we circumvent the current convoluted, centralised global payment infrastructure, creating efficient and trustless networks.

The back-end code that powers the DApp runs autonomously on the decentralised network, rather than on centralised networks such as cloud hosting. The DApp builds on the core technology through Smart Contracts and User Interfaces in order to provide some utility.

Pigzbe will provide the public with the benefits of blockchain technology, enabling families to make payments, no matter how small or large, within their own network irrespective of geography. Transfers will happen in seconds and cost a tiny fraction of a cent each. Transactions are recorded in a distributed ledger, secured without the need for any trusted third-party through a decentralised consensus mechanism.

Transactions within Pigzbe are made using Wollo, the platform's native token. Wollo is a token that will be purchased on the open market via a number of exchanges, and it enables access to a fun and exciting family environment that helps children learn about saving through play. It serves the dual purpose of boosting children's financial literacy, while providing an easy and effective way for parents and family members to reward children and help them practise good financial habits.

2.1 A digital wallet and educational app

The app, which will be available to token holders at the close of the ICO and ready for token distribution, serves as your child's first wallet, represented by an immersive, intuitive and visually stimulating world where children can play, explore and learn. The wallet itself is managed by the parent. It operates as a secure portal and allows parents to create a network of trusted family members, capable of sending funds to the child's environment as gifts, recurring allowances and rewards for completing tasks and chores.

2.2 A cryptocurrency for families

Wollo™ is the Pigzbe network's native token. It allows parents and families to make transfers big and small securely and internationally within seconds. Wollo is the token that allows our microfinancing family networks to form and function, and enables users to access the gaming and learning experience on the Pigzbe App.

2.3 A physical device for gaming and learning

The physical device is a notifier and game controller that connects with the app and engages children in a rich dialogue with Pigzbe through sound, haptics and visuals. While not necessary to the token's utility, it provides a different way for children to navigate the gaming environment, and receive notifications of when parents set new learning adventures for them to embark on. It can also act as a cold storage device should the parent and child wish.

2.4 A card for real-world spending

Through associated partnerships with card suppliers and exchangers that will manage KYC and AML processes, the Wollo Card will provide an outlet for children and families to spend Wollo. Children will be able to use their money on family outings and holiday trips with parental control. The card will include best-in-class pre-programmed and parental control restrictions, limiting its use across selected outlets. For example, it prevents the purchase of adult items such as alcohol, tobacco, online gambling and adult entertainment. Users will have full access to the App functionality without having the Card

This feature in our project is to be considered purely accessory and won't affect the utility of the Wollo Token.

3. Wollo token (WLO)

Wollo is the Pigzbe network's native token, and it enables the saving and playing experience within our application. A specific community can be built around Wollo, connecting children with family and loved ones.

Wollo ownership fosters and reinforces a higher level of brand affinity with the Pigzbe application and significantly increases the strength of network effects, promoting user growth and loyalty.

Generating our own token ensures Pigzbe users are the ones in charge. Following acceptance from the Swiss Financial Market Supervisory Authority (FINMA), Pigzbe plans to distribute part of its decision-making process in the project across its community of users. Holding Wollo would then entitle users to suggest and vote on proposals for the project development roadmap, helping make decisions on which new features to implement or discard.

Supplying our own token also allows for the development of strong network schemes that promote dissemination and sale of Pigzbe devices, the proliferation of family networks, and the use of Wollo.

Using Wollo also allows us to create a unique coin with functional branding in order to foster a clear understanding of cryptocurrency values like decentralisation, volatility and exchange. The branding is, of course, not only functional, but also aesthetic, and will help in the building of a strong community based on trust that will grow and identify with a unique cryptocurrency designed for families and children.

There will be a fixed total supply of Wollo and zero inflation in terms of supply. This will be publicly auditable on the decentralised network. Wollo token owners can be certain that there will be no possibility that their holdings will be diluted by increasing the token supply.

Wollo will be a Stellar-based token. The capabilities that Wollo tokens inherit by being on the Stellar network align perfectly with the needs of the Pigzbe DApp. Wollo transactions between family members are extremely cost efficient. A single transaction costs 1/100,000 of one Stellar Lumen (XLM) in network fees. Wollo transfers between one family member and another are settled within 3 to 5 seconds, regardless of where you are in the world. Wollo Tokens will also be tradable on the SDEX against other tokens and fiat currencies supported on the network.

3.1 Token economics

Wollo enables children to play within an immersive environment, whilst learning to earn, save, exchange, model and spend. Wollo also enables parents and family members to manage microfinances across their networks, globally without the barriers to digital piggy-banking identified in [section 1.1](#).

Families and children need Wollo to access the key play and learning functionality within the DApp. The more Wollo children earn, via their parents and family network, the higher the educational value created, and the more children can do within Pigzbe's world.

The more family members invited into a network, the more Wollo in circulation that can be used to access the Pigzbe service, allowing families to continue gifting to children, and for children to continue playing and learning.

Liquidity is then provided by facilitating the use of Wollo in the real world. Pigzbe users will be able to apply for a Wollo Card, provided through third party partnership, which gives customers the ability to spend their Wollo in the real world, in a number of fiat currencies, thus further stimulating liquidity and strengthening our token economics.

3.2 Growth and liquidity

The utility and liquidity of Wollo, a token which will be available to holders from the close of ICO, are intrinsically linked to its token economy. Building on this, Wollo serves a specific pedagogical purpose enabled by in-app engagement.

A child's traditional piggy-bank at ages 6 to 8 grows by an estimated \$6 per month, an average of 20 cents per day in petty cash. Alongside this, it takes an estimated 60 days of repeated action in a given discipline to form a habit. Saving and managing money is no different, and our gaming mechanics are based upon this principle. Liquidity is created by fostering learning through habitual microfinancing of children within a family network and more specifically through a number of mechanisms including, but not limited to:

1. Release of earnable tokens with each device purchased and subsequently registered to the network.
2. Release of tokens for inviting new members to the network and adding new family members and referral purchases.
3. Initial purchase and sale of Wollo on the Stellar Distributed Exchange (SDEX).

4. Gifting of tokens to children by parents.
5. Real-world purchase and spending via the Wollo Card, exchanging Wollo for fiat currency at point of sale. (Service to be provided by third party.)

At the close of ICO, Pigzbe will provide the ability to transfer Wollo via the Pigzbe application between family members using the Stellar blockchain network. The Wollo Card, which we aim to supply via a third party provider, will operate through a live exchange function when spending Wollo in the real world. This will be enabled by a third party Exchange partnership, converting Wollo into local fiat currency at the point of sale.

3.3 Supply and distribution

There will be 675 million Wollo tokens created in total, prior to ICO and stored securely with our custodian partners awaiting distribution at the end of ICO. The issuing account will be permanently, programmatically locked so that it is impossible to generate any further Wollo tokens after the ICO.

Token distribution chart:

	Token pool	Quantity (WLO)	%	Public/Pigzbe
1	ICO Pool	175,000,000	25.9%	Public
2	Network Growth Pool	200,000,000	29.6%	
3	Active User Incentive Pool	100,000,000	14.8%	
4	Founders Pool	100,000,000	14.8%	Pigzbe
5	Service providers Pool	75,000,000	11.1%	
6	M&A Pool	12,500,000	1.9%	
7	Partnerships & Advisors Pool	12,500,000	1.9%	
	Total	675,000,000	100%	

3.4 Token rationale

The token supply has been designed to distribute and release 70.3% of tokens directly to active users of the Pigzbe DApp, first through the Pigzbe ICO, then through an 'Active User Incentive' distribution scheme, and finally through a 'Network Growth' scheme, direct to the first 1,000,000 Pigzbe devices purchased. Of the remaining 29.7% of tokens, 1.9% of tokens will be held in a pool dedicated to strategic M&A acquisitions for the acceleration of the Pigzbe roadmap and vision, and 14.8% of tokens will be distributed amongst founders, team members and service providers.

Non-public tokens will be distributed under a lock-up scheme to incentivise long-term commitment, and tokens that remain unsold at ICO will be moved into the Network Growth Pool so as to still benefit our community.

Network Growth Pool

Each of the first 1,000,000 units sold to the public, post-ICO, will entitle each of their owners to receive and earn a total of 200 Wollo tokens per unit. 60 Wollo will be released to each unit upon device activation. An additional 60 tokens will be earned over the course of 2 months via active use of the device and app. The remaining 80 tokens are earned and released by: a) inviting family members to join the family network; and b) referring new Pigzbe customers using discount codes that ship with each unit. These tokens will serve the purpose of building the community by stimulating growth and network effects that attract new individuals to enter the ecosystem.

Active User Incentive Pool

The 100,000,000 tokens in the Active User Incentive Pool will be split into 500 smaller pools of 200,000 tokens per pool. For the 500 weeks that follow delivery of our ICO units, every active child account will receive a weekly payout of Wollo tokens from one of the 500 pools. Active accounts will build up a weekly score based on Wollo earned by task completion as well as by other activities. The number of weekly tokens received will be in proportion to the Wollo earned against the entire community of active accounts. Scores will be reset weekly. Early adopters and savers will benefit from a larger share of the rewards. This is somewhat analogous to mining rewards gained from proof-of-work tokens.

M&A Pool

The 12,500,000 tokens in the M&A Pool will be held by Pigzbe for specific M&A activity. Pigzbe may engage in M&A activities within the family-tech and ed-tech space that will help accelerate the development, production, distribution and adoption of Pigzbe and Wollo. Following a strict due diligence process, our M&A focus and prioritisation criteria will be aimed at companies with the necessary cultural, technological and financial fit that will accelerate aspects of our strategic growth plans. Access may refer, but not be limited, to technology acquisitions, talent acquisitions (MBO), infrastructure acquisitions and distribution network acquisition.

4. Technology

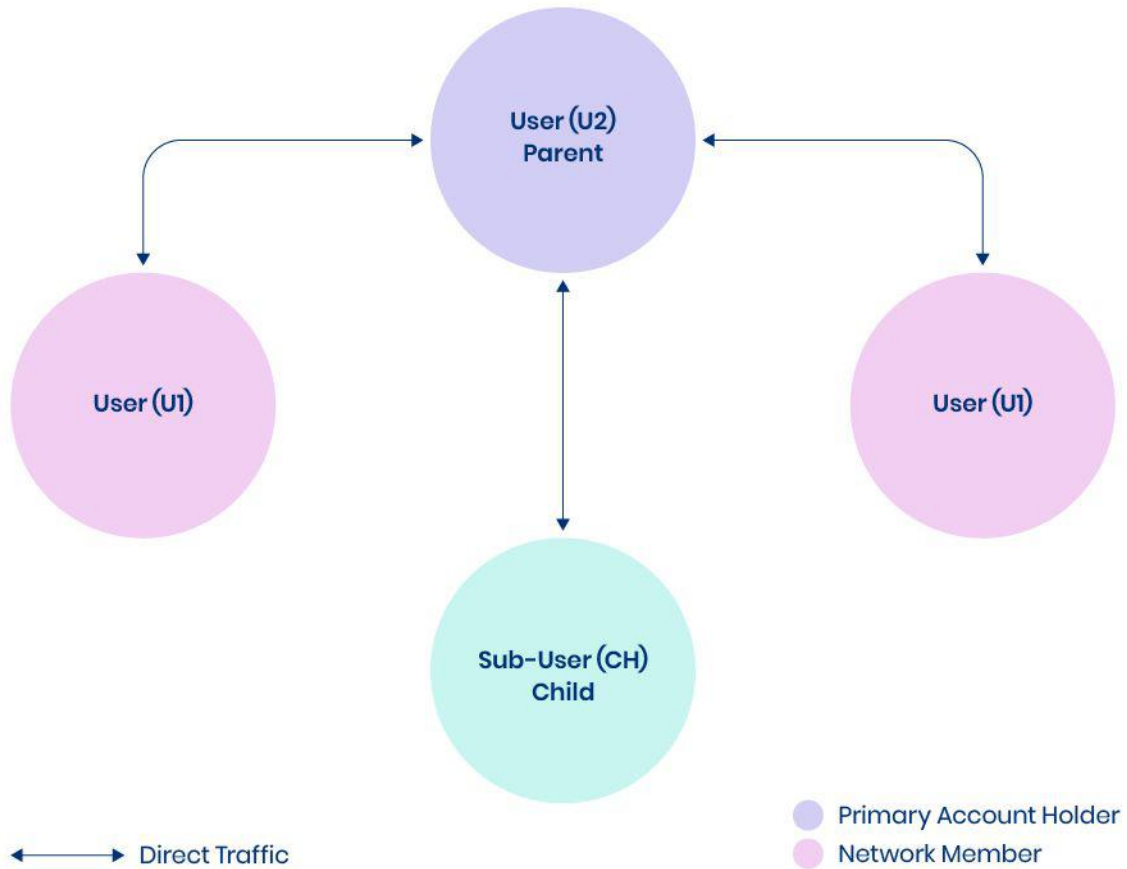
4.1 The Pigzbe network

Pigzbe is an educational product focused on the family-tech and ed-tech markets, and the safety of families is key. As will be evidenced by our DApp, one mechanism to enable this is to ensure that the primary account and wallet holder is the only entity able to interact with her child's account and wallet, whilst also ensuring management and control functionality is in place that enables the delivery of a swift, fun and educational experience.

A 'family network' is created when a primary account holder and an associated child's account (a sub-wallet) are created. Through specifically designed functionality ('Learning Adventures') the primary account holder (Parent) controls the transfer of Wollo to child's account (the Game).

In the diagram below, this is illustrated by the dark lines, which indicate direct connections between account holders, with a "Child's" account being in fact a parent's subwallet, which only the "Parent" can communicate with.

Family network:



The Primary account holder (U2) has the ability to;

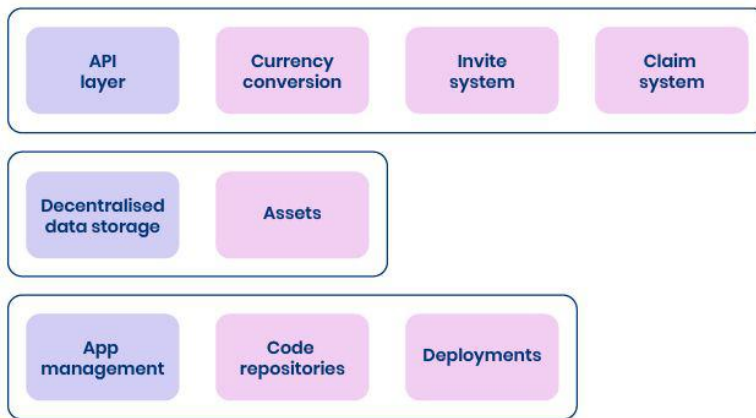
- Fund sub-users (CH) with an initial balance of Wollo tokens from the primary account in order to facilitate immediate interaction with the game..
- Send invites via email to allow family and friends to send and receive Wollo.
- Add additional children to a parent account. Any member of the family network can transfer Wollo to another adult member instantly through the app.

Functional systems:

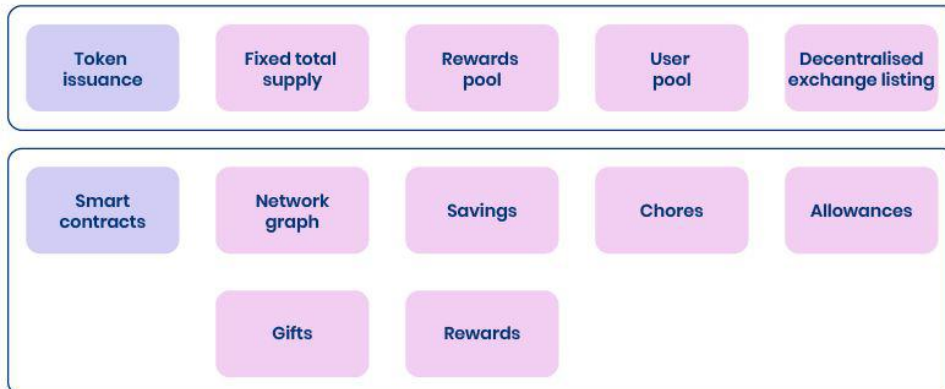
User



Pigzbe



Wollo



Stellar



4.2 The hardware

The Pigzbe device PCB features Espressif's ESP32-D2WD, a highly integrated WiFi & Bluetooth system-on-chip with a dual-core processor and advanced security features.

At scheduled intervals the device will connect to authorised WiFi networks and poll the Pigzbe server for notifications, ensuring fully independent operation without a mobile device present. All connections to the notification server are secured using HTTPS.

System configuration (including the authorisation of new WiFi networks) may be carried out over Bluetooth from the Pigzbe mobile application. The hardware takes advantage of LE Secure Connections (introduced in Bluetooth 4.2) to ensure an authenticated and secure connection between the Pigzbe device and the mobile application, using the LED matrix to support the Numeric Comparison association model.

Two buttons and a 6-axis motion sensor enables interaction with the game, while a miniature speaker, vibration motor and a matrix of 192 LEDs provide engaging and varied feedback. Ultra low power sleep modes conserve battery life while the device is not in use.

Each component used in the Pigzbe device has been selected to ensure reliable, long-term operation, from the LEDs down to the supporting passive components. Each electronic prototype is assembled in London by our experienced design and development team, allowing us to rapidly test and iterate designs.

Once the ICO closes, Pigzbe will deliver units to ICO participants in Q2 2019.

The utility of the token is independent from use of the physical device i.e. The device is not required in order to access the App functionality. Users will have full access to the App functionality without device.

4.3 The app

The Pigzbe app is built using modern open-source technologies. All code is developed in public view in our GitHub repository and, as such, is open to public audit and contributions.

The use of the React Native framework for iOS and Android apps and Electron for MacOS and Windows versions means there will be one core codebase across all platforms, helping to ensure both the security and consistency of the experience. Releases will be certified and published through the relevant app stores for each platform, ensuring integrity and easy access to updates.

The family's network is self-owned: secret keys are never sent over the network, nor are they seen or stored anywhere by the Pigzbe organisation itself. Critical functions, such as transactions, all take place on the decentralised Stellar network, which means they are cryptographically secure and publicly auditable.

The app provides the means to construct and submit these transactions to the network through an intuitive user interface, and to display the data they represent in an attractive and easily understandable manner.

The app will present differing views to child and parent/family accounts. Children interact with Pigzbe through a colourful, gamified world optimised for learning. Parent and family users will be presented with an app interface optimised for functionality.

All of your personal data in the Pigzbe DApp is owned by you. Individuals, including children, are not identifiable within our systems and are not accessible outside your network.

The Pigzbe mobile app will be available at the close of ICO and ready for token distribution, and will deliver the functionality described in the chart below section.

Key dates:

- 5th sept - ICO opens.
- 31st October - Pigzbe App goes live and made available for public download
- 31st Oct - ICO closes
- 1st Nov - Token distribution begins.

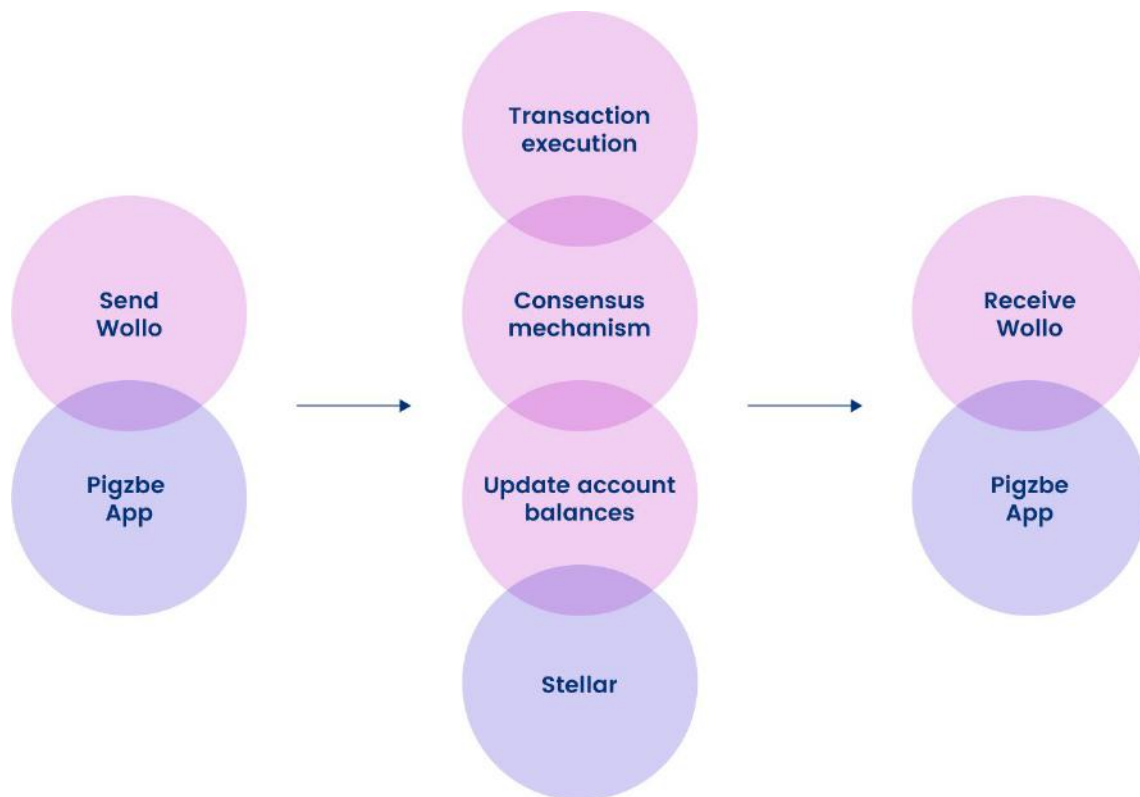
User functionality chart:

User level	Functionality
User (U1): 'Network Member'	<ul style="list-style-type: none"> • Pigzbe account creation • Send/receive Wollo • Create child profile ('sub-wallet') • Invite family members • View personal balance • Compare balance to market value (FIAT and crypto) • Transfer to exchanges to convert to other currencies • View notifications
User (U2): 'Parent'	<p><i>As above plus...</i></p> <ul style="list-style-type: none"> • View and manage child sub-wallet(s) • Compare balance to market value (FIAT and crypto) of parent and child wallets • Create and manage child tasks, goals and gifts (one-off payment) • Set up recurring allowance for children • View notifications from network members and managed child sub-wallets
Sub User (CH): 'Child'	<ul style="list-style-type: none"> • Send/receive Wollo to/from parent • View their personal balance and compare its value • Play and learn with the Pigzbe game • View notifications from parent • Complete tasks and goals set by parent • Receive recurring allowance and gifts from parent

5. Security

The Pigzbe DApp is designed to have an extremely limited attack surface. It will support high scalability to meet the demands of a consumer-facing product. A family's Wollo tokens are always stored in the public, distributed ledger and are not accessible by the Pigzbe organisation, and they can not be transferred or exchanged without the use of the Pigzbe app by using existing crypto wallet software.

Transaction flow:



Built on the Stellar network's Federated Byzantine Agreement consensus technology, the Pigzbe DApp is designed from the ground up to be secure, fast and low cost. Trusted and supported by large tech and financial companies alike, including IBM, Deloitte and Stripe, Stellar is built around fast, cheap transactions, with the aim of expanding global financial inclusion. The responsibilities managed by the various layers that encompass Pigzbe can be broken down as follows:

Application layers:

Layer	Action
Device	<ul style="list-style-type: none"> User interface
Pigzbe Wallet App	<ul style="list-style-type: none"> User interface Transaction submission Secure storage of keys in native keychain
API layer	<ul style="list-style-type: none"> Currency conversion Decentralised data storage for non-sensitive user data App updates
Wollo smart contracts	<ul style="list-style-type: none"> Token issuance Family network graph Tasks/Chores Allowances
Stellar network	<ul style="list-style-type: none"> Network infrastructure Consensus mechanism User accounts Transaction execution Data persistence and integrity

Data privacy considerations

Pigzbe works with three main types of sensitive data:

1. Financial data
2. Data relating to minors
3. Personally identifiable information

Pigzbe takes its security seriously. This extends from the technology at the heart of the platform to all of its business processes. Pigzbe, has taken the opportunity to develop a secure business from day zero, rather than to retrofit a security model later. This extends from Pigzbe’s “employee clean desk” policy, to its frequent reviews of file, system and data access. Pigzbe adheres to its own internal Secure Development Lifecycle (SDLC).

Financial security

Operating in both the ed-tech and the financial services space, Pigzbe is focused on providing the most secure and yet easy-to-use systems possible. In interacting with the financial systems, financial service industry standards are enforced. As a minimum organisational requirement, Pigzbe will adhere to, or is implementing:

- ISO27000 family
- SOX compliance as guidance for system controls
- CIS

Additionally, and where possible, Pigzbe will also adhere to guidance provided by organisations such as:

- OWASP
- SANS
- Red Hat

Child safety

As one of Pigzbe's core target audiences are families with young children, Pigzbe has gone to great lengths to ensure that both privacy and safety of children are protected, beginning with the product design phase through to production deployment. Additionally, Pigzbe adheres to the guidance issued by the Information Commissioner's Office in the UK (ICO).

PII sensitive data

At Pigzbe, we are avid participants in the new digital economy, and we are as concerned with personal privacy as our community members and customers are. In addition to the adoption of encryption, and the security best practices guidelines described above, Pigzbe also adheres to the following regulations:

- General Data Protection Regulation (GDPR)
- UK Data Protection Act
- Directive 2002/58/EC (the E-Privacy Directive)
- Directive 2006/24/EC Article 5 (the Data Retention Directive)

6. Founders & advisors



Filippo Yacob [in](#)

Founder & CEO

[Forbes 30 Under 30 2017 Alumni](#) ←, and Red Dot Award winning designer and technologist focused on family-tech and education. Co-founder of [Primo](#), and creator of award-winning, Montessori-approved Cubetto, a coding toy sold in 100+ countries.



Adam Amos [in](#)

Founder & Chief Operating Officer

10+ years across operations, design, strategy and innovation. Prior to Pigzbe, Adam spent time at [Native & Method Inc](#), leading world-class teams delivering product, service and strategy programmes for Bowers & Wilkins, *The Economist*, VEON, and Nordic tech leader EVRY.



Jon Marshall [in](#)

Founder & Chief Experience Officer

Product designer with 20+ years experience in consumer electronics. Jon has worked on some of the world's most innovative and successful products for families and children, like the [Kano Computer](#) ←, Kano Pixel Kit and, amongst other things, the London 2012 Olympic torch. Jon is also a partner at Pentagram Design.



Cat Le-Huy [in](#)

Chief Technology Officer

Senior technology executive with 20+ years experience in dev. ops and systems engineering, Cat was previously Head of Technology at Finallogic and Tribe & Sapient, and a software engineer at ABN Amro, Betfair and Endemol Digital Media.



Hugo Shelley [in](#)

Founder & Head of Electronics Engineering

Hugo has been developing hardware and firmware for some of the world's most exciting projects, for companies like NASA, Google and Primo. He is also the founder of Iota Technology in London, and a keen contributor to the open source community.



John Galpin [in](#)

Founder & Head of Marketing

20+ years experience enabling growth for global FTSE-listed businesses like TelecityGroup (from IPO to \$3bn acquisition), and scale-ups such as Emailvision, PrestaShop, HiPay and Qubit. Co-founder of two times Transform Awards winning agency Structure.



Richard Williams [in](#)

Founder & Head of Commercial Strategy

Digital banking strategy and innovation specialist with 10+ years experience supporting blue-chip businesses and start-ups, including Visa, Barclaycard, the Royal Bank of Scotland and PayPal, with transformative digital strategy and execution.



Ian McGregor [in](#)

Lead Software Development

A full stack developer with 20+ years experience leading development teams on high-profile projects for Google, Nike and Pokemon Go. Ian is also a contributor to the world of open source software and a keen game developer.



David Jakes [in](#)

Director of Digital Design & UX

David is an multi award winning designer, leading teams to solve problems for some of the world's biggest brands, including: BBC, eBay, Unilever, Coke Cola, O2, ENBD Liv. Siemens and Nike to name a few.



Daniel Diggle

Digital Product Design Lead

A multi-disciplinary creative covering design, illustration, animation and games, Daniel has worked with Google, Adidas, Chanel and more, crafting campaigns and products. He is also the co-creator of iOS-featured recording platform, Trackd.



Rhea Conway

Head of Media & Communications

An experienced marketing professional with 10+ years experience in communications strategy, Rhea has worked for scale-up businesses in Xavier Niel's and Accel Partners portfolios and global businesses including Dell EMC and Fidessa.



Natale Ferrara

Founder & ICO Advisor

Head of Poseidon Group. Founder of ICO-Engine and Eidoo, a 200,000-member ICO community, multicurrency wallet and hybrid exchange, Natale is also a leading international crypto investor, blockchain expert, and advisor to multiple successful ICOs.



Yannick Naud

Founder & Economic Advisor

25+ years experience in leading financial institutions and asset management companies like Crédit Agricole CIB and Dresdner Kleinwort in Paris, Tokyo, Geneva and London. Early Ripple investor, and chairman of the London campus of Université Paris-Dauphine.



Romain Girbal

Founder & Investor Relations

Co-Founder of private equity firm Adventure Capital Corporation, and the President and co-Founder of AMR (Alliance Minière Responsable), an independent French company specialising in the exploration of mining deposits in Africa.



Thibault Launay

Founder & Investor Relations

Entrepreneur and investor with a focus on Africa. Thibault is founder of Afrimalin, Francophone Africa's largest online classifieds platform, founder and deputy CEO of AMR (Alliance Miniere Responsable), and an e-commerce ICO advisor.



Jon Kornik

Founder and Commercial Advisor

Technologist, investor and entrepreneur focused on emerging technology and energy. Founder and CEO of Plentify, which provides intelligent energy and water services. Previously led Google's Africa energy business and consulted for McKinsey & Company.



Jan Petzel

Founder and Commercial Advisor

Managing Partner at Eldon Capital, a firm which identifies and manages bespoke opportunities in emerging technology for private investors. An alumnus of Harvard Business School, Jan is also a former Goldman Sachs Managing Director.



Atul Choudrie

Founder & Commercial Advisor

A technologist and entrepreneur with 10 years experience in retail and mobile banking transformation, Atul is the co-founder and former CEO of One Pulse, and currently serves as Chief Commercial Officer for French challenger bank Ditto.



Phillip Nunn

Commercial Advisor

Phillip Nunn is founder and CEO of The Blackmore Group, a business with substantial assets under management and a suite of investment products across multiple classes for individuals and institutions in the UK and overseas. Phillip has become a well-known, online influencer in the blockchain and crypto space and has sat on the advisory boards of many ICO's over the past 12 months.

7. Legal Information

A. GENERAL INFORMATIONS

1. In order to fund the development of Pigzbe, Wollo tokens ("WLO") will be created on the Stellar blockchain and will be sold to the public (the "ICO Placement").
2. Wollo's will be issued by a technical process that uses the Stellar Blockchain technology. This is an open source IT protocol over which PIGZBE SA (hereafter referred to as 'Pigzbe') has no rights, control or liability in terms of its development and operation. The Wollo distribution mechanism will be controlled by a Smart Contract; this involves a computer program that can be executed on a blockchain network that is compatible with Smart Contract programming language.
3. Wollo is a token
 - o that will allow the user to access the service and functionality provided by the Pigzbe App, including the ability for parents to set tasks and goals for their child, send one-off gifts and rewards for good behaviour, and set-up recurring allowances; and
 - o that will be used as a means of payment.
 - o Furthermore, the Pigzbe debit Card, (Wollo Card) delivered through third party partnerships will allow Wollo Tokens to be spent by children parental control. This feature of the project is to be considered purely as an accessory and will not affect the the utility of the Wollo Token within the App.
4. The sale of Wollo is final: the Wollo is non-refundable and not redeemable.
5. As of the day of the ICO Placement, Wollo does not have the legal qualification of a security pursuant to Swiss Law and is therefore not qualified as an Asset Token pursuant to the Guidelines (the "Guidelines") issued on February 16, 2018 by Swiss Financial Market Supervisory Authority ("FINMA").
6. Wollo does not have a performance or a particular value outside the Pigzbe Platform. Wollo shall therefore not be purchased or used for speculative or investment purposes.
7. As of the day of the ICO Placement, the Wollo sale is currently not subject to the Federal Act on Stock Exchanges and Securities Trading Law and the Financial Market Infrastructure Act, which ensure that the sale of certain products or assets is subject to regulatory scrutiny for the investors' protection and may only be sold to investors provided that, inter alia, the

respective documentation include all the proper disclosures and that the sale of investments.

B. TOKEN DOCUMENTATION

8. This white paper (the "White Paper") together with the Wollo Terms and Conditions (the "Terms & Conditions", see www.pigzbe.com), as amended from time to time, shall form the entire documentation for the Wollo sale (the "Token Documentation").

C. KNOWLEDGE REQUIRED

9. Any purchaser of Wollo (the "Purchaser") shall understand and have significant experience of cryptocurrencies, blockchain systems and services, and understand the risks associated with the crowdsale as well as the mechanisms related to the use of cryptocurrencies (including the storage).
10. The Purchaser shall carefully review the Token Documentation so to understand the risks, costs and benefits associated with the purchase, storage and use of Wollo.

D. RISKS

11. Acquiring Wollo and storing them involves various risks, in particular (but not limited to) the risk that Pigzbe may not be able to launch its platform and/or its operations, to develop or exploit its blockchain and/or to provide the services to which the Wollo relates or is forced (in particular due to changes in the legal environment and/or issuance of new laws or regulations and/or new leading interpretation of current legal framework and/or case law, which might also have a retroactive effect) to stop its operations or change its business model.

Therefore, and prior to acquiring Wollo, any user should carefully consider the risks, costs and benefits of acquiring Wollo in the context of the crowdsale and, if necessary, obtain independent legal and tax advice in this regard.

12. Any interested person who is not in the position to accept or to understand the risks associated with the activity (including the risks related to the non-development of the Pigzbe platform) or any other risks as indicated herein or in the Token Documentation) shall not acquire the Wollo.

E. NO INVESTMENT INVITATION

13. This White Paper shall not and cannot be considered as an invitation to enter into an investment. It does not constitute or relate in any way nor should it be considered or interpreted as an offering of securities in any jurisdiction.
14. The White Paper does not include nor contain any information or indication that might be considered as a recommendation or that might be used to base any investment decision.
15. This document does not constitute an offer or an invitation to purchase shares, bonds, securities or rights relating to [Company] or to any related or associated company (the "Company's Group").

F. NO SECURITY

16. Wollo are not convertible in shares or certificates of the Company or Pigzbe's Group and do not grant any right to receive any such share or certificate.
17. Wollo do not confer any direct or indirect right to Pigzbe's or Pigzbe's Group capital or income and, in particular, do not grant any right to dividends or interests or to any other share or participation to the Pigzbe or Pigzbe's Group revenue or earnings.
18. Wollo is not proof of ownership of any assets belonging to the Company or Pigzbe's Group or of a right of control over Pigzbe or Pigzbe's Group and does not grant to the owner any right to assets of Pigzbe or Pigzbe's Group.
19. Wollo are not shares or participation certificates and do not give any right to participate to, or vote in, the general meeting of Pigzbe or Pigzbe's Group or to influence in any way the respective corporate governance or the decisions of the corporate bodies of the Company or Wollo's Group.
20. Subject to Article G. below, based on the above, at the date of the ICO Placement, the Company considers that Wollo does not have the legal qualification of a security pursuant to Swiss Law and does therefore not qualify as an "Asset Token" in Switzerland as interpreted by FINMA Guidelines.
21. Pursuant to the Guidelines and current practice, the Wollo is a hybrid token (utility/payment) which can be used only on and/or gives access to the Pigzbe platform and is not intended to be used as an investment.
22. The offering of Wollo on a trading platform is done to allow additional users to use and/or to access to the Pigzbe platform and not for speculative purposes and does not change the legal qualification of the token as a hybrid payment/utility token.

G. CHANGES IN THE LEGAL ENVIRONMENT

23. The ICO Placement and the purchase of Wollo is taking place within a legal environment that is still under development. Regulatory authorities are carefully scrutinizing businesses and operations associated to cryptocurrencies in the world.
24. Regulatory measures, investigations or actions may impact Pigzbe's business and even limit or prevent it from performing or developing its operations.
25. Any person acquiring Wollo shall be aware that Pigzbe's business model and the Token Documentation may change because of new legal, regulatory and compliance requirements from any applicable laws in any jurisdictions, even with retroactive effect. In such a case, Purchasers and anyone acquiring Wollo acknowledge and accept that neither Pigzbe nor any of its affiliates shall be held liable for any direct or indirect loss or damage caused by such changes.
26. Pigzbe is, as of the date of issue of this White Paper, not a financial intermediary according to Swiss Law and is not required to obtain any authorization for Anti-Money Laundering purpose. This qualification may change at any time if the services offered by Pigzbe will be considered as a financial intermediation activity pursuant to applicable law. In this event, the use of Pigzbe services will require the positive conclusion of an AML/KYC identification process and the Purchaser agrees to immediately provide to Company, upon its respective request, all requested documents and information necessary or useful to the Company to fulfill its legal obligations.

H. THIS IS NOT AN OFFER – NO INVESTMENT ADVISE – NO REPRESENTATIONS AND WARRANTIES

27. This White Paper shall not be construed as an offer, personal recommendation or solicitation to conclude a transaction and should not be treated as giving investment advice.
28. Pigzbe is not to be considered as an advisor in any legal, tax or financial matters. Any information in the white paper is given for general information purpose only and Pigzbe does not provide any representation and/or warranty as to the accuracy and completeness of the information included in the White Paper.
29. Given the lack of qualification of the crypto-token in most countries, the Purchaser is strongly advised to carry out a legal and tax analysis concerning the purchase and ownership of Wollo according to his/her/its nationality and

place of residence.

I. IMPORTANT INFORMATION AND DISCLAIMER

30. Pigzbe will do its utmost to launch its operations, develop the Pigzbe platform and/or provide the services highlighted in this White Paper. Anyone undertaking to acquire Wollo shall be aware that Pigzbe does not provide any guarantee that it will be able to achieve the project highlighted in this White Paper.
31. By subscribing Wollo, Pigzbe assumes no liability or responsibility for any loss or damage that would result from or relate to the User failure to receive (or to timely receive) the Wollo or to the incapacity to use Wollo, as well as for any failure or malfunction of the respective Smart Contract, except in case of intentional misconduct or gross negligence directly attributable to the Company.
32. Wollo is based on the Stellar protocol. Any malfunction, unplanned function or unexpected operation of the Stellar protocol other blockchain-based protocols used may cause the Pigzbe network or Wollo to malfunction or operate in a way that is not expected. Moreover, the native Stellar Protocol other blockchain-based protocols used may itself lose value in a similar way to Wollo, and also in other ways. Pigzbe assumes no liability or responsibility in this respect except in case of intentional misconduct or gross negligence directly attributable to the Company.
33. Pigzbe assumes no liability or responsibility whatsoever for any loss of Wollo or situations making it impossible to access Wollo, which may result from any actions or omissions of the User, as well as in case of hacker attacks.

J. USER REPRESENTATIONS AND WARRANTIES

34. By participating in the ICO Placement and by purchasing Wollo the Purchaser confirms that he/she/it:
 - has read and understood the Token Documentation and accepts to be legally bound by its terms;
 - has sufficient knowledge about the nature of the cryptographic tokens and has significant experience with, and functional understanding of, the usage and intricacies of dealing with cryptographic tokens, cryptocurrencies and blockchain-based systems and services; has fully understood and accepts the risks connected with the purchase of the Token outlined in the Token Documentation, including those related to possible changes in the legal environment;

- is familiar with all related regulations, in particular (but not limited to) in the specific jurisdiction in which the Purchaser is based, and has received competent advice that participating to ICOs and purchasing cryptographic tokens is not prohibited, restricted or subject to additional conditions of any kind;
- is entitled to purchase Wollo in the ICO Placement without requiring any local authorization and is in compliance with the local, state, and national laws and regulations when purchasing;
- is authorized and has full power to purchase Wollo;
- is not and will not be at the time of the ICO Placement a U.S. citizen, resident or entity (a "US Person") nor is the Purchaser purchasing Wollo on behalf of a US Person;
- is not and will not be at the time of the ICO Placement a Chinese resident or entity nor is the Purchaser purchasing Wollo or signing on behalf of a Chinese resident or entity;
- is not and will not be at the time of the ICO Placement a Japanese resident or entity nor is the Purchaser purchasing the Wollo or signing on behalf of a Japanese resident or entity;
-
- will not use the ICO Placement for any illegal activity, including but not limited to, for money laundering and/or the financing of terrorism; the purchase and storage of the Token will not constitute a violation or breach of any applicable law by the Purchaser, in particular in his country of residence or citizenship;
- purchases Wollo because he/she/it wishes to have access to the Pigzbe platform; and
- is not purchasing Wollo for the purpose of speculative investment or usage.

K. GOVERNING LAW – ARBITRATION

35. The Token Documentation, the Pigzbe ICO operation and the purchase of the Wollo shall be governed by and construed in accordance with the substantive laws of Switzerland without regard to the conflicts of law rules and without regard to the rules of the Vienna Convention on the International Sale of Goods dated 11 April 1980.
36. Any dispute, controversy or claim arising out of or in connection with the Token Documentation, the ICO Placement and/or the purchase of the Wollo, shall be finally settled in accordance with the Swiss Rules of International Arbitration of the Swiss Chambers' Arbitration Institution in force on the date on which the Notice of Arbitration is submitted in accordance with these Rules. The number of arbitrators shall be 3 (three), the arbitrators to be appointed in accordance with the said Rules. The seat of the arbitration shall be Lugano, Switzerland. The language of the arbitration shall be English.



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