REOS

A blockchain-based ecosystem for
user generated content (UGC)

Version 2018-03-29

Contents

1. Introduction

REOS is a blockchain-based ecosystem for user generated content (UGC) that empowers content creators and consumers. The platform enables content creators to monetize their UGC, such as short videos, in a variety of ways, without a middleman, while making sure that the content is validated by the REOS community. All digital content contributed by content creators are also registered on the REOSchain™, the main blockchain for the REOS community, to ensure accurate attribution of ownership of the digital assets. Content creators can be securely paid by various stakeholders, bypassing any intermediaries, by using REOS, a utility crypto-token issued by REOS Foundation. The value of the content will be determined by the REOS community rather than by any central authority, thus honoring the belief that "Truth is Value."

With the worldwide adoption of fast, affordable mobile Internet, UGC from wikis to photos and videos has exploded over the past decade. Videos are expected to account for 75% of the mobile data consumption by 2020[1]. Snapchat alone is estimated to have had 14 billion daily views of its short, ephemeral videos in October, 2017[2]. Led by short video apps like Kwai and Toutiao, China has seen tremendous growth in short video consumption, with 152 million daily average users (DAUs) of short video apps in 2016 and 244 million in 2017, at a staggering YoY growth rate of 60%[3]. Other content types are also flourishing. Wikipedia has

---

[1] *Ericsson Mobile Report,* June 2017. https://www.ericsson.com/en/mobility-report, accessed March 23, 2018.

[2] Snapchat Statistics – Updated October 30, 2017, Wallaroo Media. https://wallaroomedia.com/snapchat-statistics-updated-2017/, accessed March 23, 2018.

[3] 2016-2017 China Short Video Market Research Report by iiMediaResearch. https://kknews.cc/zh-tw/tech/lzlxel9.html, accessed February 8, 2018

more than 2.36 million contributors worldwide[4], whereas Yelp boasts over 100 million unique mobile visitors in Q3 2017[5] and more than 100 million reviews written as of March 2016[6].

Nevertheless, we see two shortcomings of existing Internet UGC platforms. First, on platforms like Yelp or JD.com, there is no effective way for regular users to validate the content that other people upload. An online shopping app could be filled with spam comments with even pictures auto-generated by robots. A consumer cannot tell whether a review of a product or shopping experience is valid or bogus. Furthermore, centralized platforms often intentionally allow this to happen because they are benefiting from it financially.

Second, there is too much concentration of power among a few large Silicon Valley Internet giants like Google and Facebook, to the extent that they not only dictate how much money a content creator can make on their platforms, but they also routinely censor content based on their business interests and political leanings[7] while disregarding users' rights to privacy[8]. Content creators and consumers are powerless because the prevailing method of compensation is through advertising and sponsorship[9]. A content creator often needs to have millions of views in order to generate meaningful revenue, and then the platform, acting as the middleman, takes a large cut and exerts editorial power. YouTube and Facebook routinely

---

[4] Statistica: User-generated content - Statistics & Facts https://www.statista.com/topics/1716/user-generated-content/ accessed March 7, 2018.

[5] "Number of unique mobile visitors to Yelp from 1st quarter 2013 to 3rd quarter 2017 (in millions)." https://www.statista.com/statistics/385440/unique-mobile-visitors-yelp/, accessed January 28, 2018.

[6] Andrea Rubin, "Yelpers Write 100 Million Reviews and Counting," March 15, 2016. https://www.yelpblog.com/2016/03/yelp-100-million-reviews-and-counting, accessed January 28, 2018.

[7] Robert Epstein, "The New Censorship," US News and World Report, June 22, 2016. https://www.usnews.com/opinion/articles/2016-06-22/google-is-the-worlds-biggest-censor-and-its-power-must-be-regulated, accessed March 12, 2018.

[8] Celicia Kang, "Facebook Faces Growing Pressure Over Data and Privacy Inquiries," New York Times, March 20, 2018. https://nyti.ms/2GKGNxj, accessed March 27, 2018.

[9] Clara Facchetti, "How much do Youtubers make?" August 28, 2017. https://www.techadvisor.co.uk/feature/internet/how-much-do-youtubers-make-3662986/, accessed February 8, 2018

take a 45% cut of the total advertising revenue generated by a user's video[10]. Ultimately, those platforms answer to their advertisers, not the content creators or other users.

REOS overcomes these shortcomings by using blockchain technology. We believe that the fundamental value of UGC is dependent upon reflecting the truth of content validity, ownership and rights-of-usage. Therefore, we try to create a community of content creators, promoters and consumers where members are incentivized to dig out the truth. Inspired by Reddit's Up‑vote/Down‑vote mechanism, we are developing a truth ratings system on top of the REOSchain™, along with the issuance of REOS tokens.

REOS intends to disrupt existing centralized, advertising-driven social media by effectively leveraging blockchain technology to give power and control back to content creators and consumers while ensuring validation of UGC.

---

[10] Eric Rosenberg, "How YouTube Ad Revenue Works?" https://www.investopedia.com/articles/personal-finance/032615/how-youtube-ad-revenue-works.asp, accessed February 8, 2018 and Olsy Sorokina, "Here's How Facebook Videos Can Help You Make Money?" https://blog.hootsuite.com/how-facebook-videos-can-help-you-make-money/, accessed February 8, 2018

2. Background

Motivation

Working with content creators on traditional social media in projects related to live streaming and short videos, we discovered that many of them are motivated by monetizing their work, which is becoming increasingly challenging. This is due to a number of limitations to monetization, such as

- Advertising is the primary method of monetization, which often requires hundreds of thousands, if not millions, of views to generate meaningful revenues;

- Middlemen take a significant cut from advertising revenues;

- Content can be used on other platforms without permission or attribution; and

- There is little privacy protection, as many platforms share users' information with advertisers.

We want to help content creators monetize their work without constraining themselves to a few centralized social media platforms. We aim to give control and freedom back to content creators while benefiting content promoters, consumers, and advertisers in a non-traditional way.

Blockchain as the Underlying Technology

Bitcoin, a digital currency, came into existence in 2009 when an anonymous person named Satoshi Nakamoto introduced it to the world[11]. As the first crypto-coin of its kind, Bitcoin reached a market cap of $195 billion as of January 25, 2018[12]. Bitcoin, as other cryptocurrencies, is built upon a technology called blockchain, which is a distributed ledger that stores a registry of transactions across a peer-to-peer network[13].

---

[11] Andreas M Antonopoulos. The Internet of Money. Volume 1. Merkle Bloom LLC; 1 edition (August 29, 2016)

[12] Coinmarketcap.com, accessed January 25, 2018.

[13] "Blockchains: The great chain of being sure about things". *The Economist*. 31 October 2015. Retrieved January 25, 2018.

Blockchain has the following important characteristics that make it ideal to use in REOS:

• Decentralization: Data are held across the blockchain network, which eliminates the risks and vulnerabilities that come with storing data centrally, such as central point of failure and data loss.

• Openness: A public blockchain makes its data transparent to everyone involved. It is permission-less, which means that applications can be added to the network without the approval or trust of others[14].

• Security: Blockchain offers high-level of security against fraudulent activity such as data tampering and identity theft.

Ethereum

Proposed by Vitalik Buterin in late 2013, Ethereum is an open source, public blockchain-based platform that runs smart contracts, which are applications programed to implement agreements between two or more parties "without any possibility of downtime, censorship, fraud or third-party interference[15]." Ethereum enables developers to create different decentralized apps (DApps) to run on its custom-built public blockchain.

Ethereum provides an excellent platform for us to issue REOS tokens by leveraging its smart contract system.

Delegated Proof of Stake (DPoS)

Delegated Proof of Stake (DPoS) is a consensus algorithm invented by Dan Larimer in 2013[16]. DPoS is intended to solve the scalability problem in blockchains that utilize Proof of Work for

---

[14] Antonopoulos, Andreas (20 February 2014). "Bitcoin security model: trust by computation". *Radar*. O'Reilly. Retrieved January 28, 2018.

[15] https://www.ethereum.org. Accessed January 28, 2018.

[16] Myles Snyder, "Delegated Proof of State: Features and Tradeoffs," March 2, 2018. https://multicoin.capital/2018/03/02/delegated-proof-stake-features-tradeoffs/, accessed March 11, 2018.

consensus[17]. DPoS implements a layer of technological democracy to offset the negative effects of centralization through the use of Witnesses (formally called Delegates)[18].

In Larimer's initial design, peers in a particular blockchain community vote for Witnesses to secure their computer network. Only some Witnesses are paid for their service, and only a subset of them earn a regular salary. Their vote strength is determined by how many tokens they hold; peers who have more tokens will influence the network more than those who have fewer tokens. As the community grows, it gets harder and harder to remain a paid Witness due to increased competition, which creates incentives for the Witnesses to excel and add more value to the community. Peers in the community can vote bad actor Witnesses out, as the voting is always ongoing[19]. DPoS eliminates the need to wait until a certain number of untrusted nodes have verified a transaction before it can be confirmed. This reduced need for confirmation produces an increase in speed of transaction times[20].

Current blockchain initiatives that use DPoS include BitShares, Lisk, EOS, Steem, and Ark[21]. REOSchain™'s consensus algorithm is based on the DPoS protocol.

---

[17] Miguel Gomez, "Ethereum Co-Founder Vitalik Buterin Weighs in on Blockchain Improvement & Scaling Issues," November 7, 2017. https://cryptovest.com/news/ethereum-co-founder-vitalik-buterin-weighs-in-on-blockchain-improvement--scaling-issues/, accessed March 11, 2018.

[18] http://docs.bitshares.org/bitshares/dpos.html, accessed March 11, 2018.

[19] Leah Stella Stephens, "Explain Delegated Proof of Stake Like I'm 5," September 28, 2017. https://hackernoon.com/explain-delegated-proof-of-stake-like-im-5-888b2a74897d, accessed March 11, 2018.

[20] http://docs.bitshares.org/bitshares/dpos.html, accessed March 11, 2018.

[21] Bisola Asolo, "Delegated Proof-of-Stake (DPoS) Explained," October 31, 2017. https://www.mycryptopedia.com/delegated-proof-stake-dpos-explained/, accessed March 11, 2018.

3. REOS – A Blockchain-Based Community for UGC

REOS Token (REOS)

REOS tokens (REOS) will be the cryptocurrency used on the REOS platform. To be issued on Ethereum, the utility token will be based on the ERC20 standard.

REOS Foundation plans to issue a total of 10 billion pre-mined REOS tokens. Details of the token allocation will be published on https://reos.me.

Roles of Community Members

1. Content Creator: Any member can create a piece of content and upload it, thus registering it on REOSchain™. A content creator earns 10 REOS for each piece of content they register on REOSchain™. Only the fingerprint of the content (including a pointer to the actual content) is recorded on REOSchain™. The content itself may be stored in a data center or on a peer-to-peer file storage network with access control. Once registered, the content creator can decide if they want to ask content promoters to initiate the validation process.

2. Content Promoter: They are similar to content curators in the real world and must own at least 100,000 REOS. They are responsible for initiating a validation process. They are also owners of REOSchain™ master nodes where the blockchain is created and maintained. One may own several master nodes, but must put 100,000 REOS in escrow for each. A content promoter can also be a content creator, but she cannot be the promoter of her own content.

3. Content Consumer: They consume the content, and they can participate in the content validation process if they own at least 1,000 REOS.

Content Validation Process

1. We pre-define a range for the duration of content validation process, and the content promoter can decide on exactly how long it takes for the validation to complete.

2. The content promoter initiates the validation process by up-voting or down-voting the content.

3. Once the validation process is initiated, content consumers can come in and up-vote or down-vote the content. For each piece of content, a content consumer can only vote once.

4. The content creator is not allowed to vote on her own content.

5. During the validation process, nobody can see the number of up-votes or down-votes. The result will be announced after the validation process ends, and it will be permanently associated with the content after that.

Economics of the Content Validation Process

We need to design incentives for the community members to participate in the validation process. For content creators, if they succeed in the validation process, the content will be much more credible and thus more valuable. For content promoters, they have high stakes in the system (explained below), and they must fulfill their commitment of promoting various content, including down-voting certain content. For content consumers, they participate in the process in order to earn REOS if they vote correctly on a piece of content.

1. Consumers must own at least 1,000 REOS in order to up-vote or down-vote a piece of content. During the process, 10 REOS will be deducted from the consumer's account and put into an escrow account, thereby guaranteeing that they are voting responsibly[22].

2. After validation process is finished, the number of up-votes and down-votes are calculated. The side with more votes will take all the tokens in the escrow account. The other side will get nothing back, and each member of the majority side will receive an amount equal to the maximum of 11 ROES and the total number of tokens in escrow divided by the number of members in the majority, rounded down to the nearest integer. The remaining REOS, if any, will go towards supporting the REOS network.

3. If the validation result is a draw, each participant will receive 11 REOS.

---

[22] The exact number of stakes may change in the actual implementation. The numbers used here are for illustrations only. Same for the subsequent rules in this section.

4. Content promoters do not earn or lose any REOS.

We are studying other incentive models as we constantly strive to improve validation. We are looking into modern prediction markets based on University of Iowa's Electronic Markets[23,24]. Many businesses, including Microsoft, Google, Intel, and HP, have utilized such prediction markets, demonstrating that "wisdom of crowds" extends well beyond elections and sports[25]. And we will develop artificial intelligence neural networks with machine learning (ML) on the REOS platform to better understand the behaviors of community members in the validation process.

The Important Role of Content Promoter

A content promoter is responsible for discovering interesting content and initiating validation processes for them. If they choose to maintain master nodes, they will earn a part of the revenue shared by content creators (more explanations below).

Content promoters must behave responsibly, otherwise they could lose their status as well as their tokens in the escrow account.

Validation history of content promoters is public, and annually[26] members can vote if they would like to have a content promoter continue her role the following year. This is also part of the REOSchain™ DPoS consensus protocol.

---

[23] Stanley W. Angrist (28 August 1995). "Iowa Market Takes Stock of Presidential Candidates (Reprinted with Permission of THE WALL STREET JOURNAL)". The University of Iowa, Henry B. Tippie College of Business. Archived from the original on 30 November 2012. https://web.archive.org/web/20121130193428/http://tippie.uiowa.edu/iem/media/wsj.html, Retrieved March 20, 2018.

[24] Chrisjan Pauw, "Prediction Markets, Explained," February 20, 2018. https://cointelegraph.com/explained/prediction-markets-explained, accessed March 20, 2018.

[25] Philip Delves Broughton, "Prediction markets: value among the crowd," Financial Times, April 24, 2013. https://www.ft.com/content/f03fc956-9586-11e2-a151-00144feabdc0, accessed March 24, 2018.

[26] The interval is subject to change based on real needs once the platform is fully launched.

DPoS Consensus Protocol of REOSchain

Delegated Power of Stake (DPoS) protocol is considered to be the fastest, most efficient, most decentralized, and most flexible consensus model[27].

In REOS, we call the full nodes that are set up by content promoters "master nodes". As mentioned earlier, each master node is guaranteed by 100,000 REOS. The master node will:

• collect and validate REOS content exchange transactions in the network;

• generate new blocks every 10 seconds;

• sign and broadcast these blocks; and

• if there are issues regarding consensus, DPoS allows them to be resolved in a fair and democratic way.

In theory, no master node can change any content exchange transactions on REOSchain™. However, as a validator of transactions, one master node could exclude certain transactions in a block, which could benefit the content promoter. However, REOSchain™'s DPoS algorithm can tolerate such fault because the next block created will include these transactions when it is generated by another master node. As a result, the transactions will only be slightly delayed. Furthermore, the discovery of that one master node excluding certain transactions will eventually lead to the dishonest node getting voted out by the rest of the network.

REOSchain™ Economy

Content creators are expected to share 10% of their earnings they make on the REOS platform to reward master node owners (a.k.a. content promoters) and pay for other operational costs of the network.

Traditional UGC platforms sell people's attention to advertisers and share a portion of the income with UGC creators and curators. However, a centralized platform inevitably becomes the focal point, and it will decide how much the content can earn by directing data traffic (eyeballs) to it. As a result, content creators are increasingly focused on eyeballs rather than

---

[27] https://bitshares.org/technology/delegated-proof-of-stake-consensus/, accessed March 7, 2018.

quality of their work. There are other blockchain-based content pricing mechanisms invented by Steemit and others. But the pricing power is still very much controlled by content curators, thus becoming another form of centralization. As described earlier, we believe that our validation process can be more effective and efficient in deciding the right price for a piece of UGC. The following are two scenarios that can help community members understand it.

Scenario 1: Pay Per View of Premium UGC

For instance, a content creator can create a piece of premium content with a desired price tag on it. A content promoter can start the validation process that allows consumers to vote if the price tag is appropriate or not. When the result is out, the content creator can decide if she wants to finally publish the content with that price or make some adjustment otherwise.

Our ecosystem aligns everyone's interest that way. As more consumers are willing to pay for premium UGC, there are more fees shared by content creators to support our master nodes and the REOS platform. As a result, content promoters will be more likely to conduct their jobs properly because they have high stakes in the system.

Scenario 2: Short Video Restaurant Review App

For the past 15 years, online portals like Yelp and Dianping have been the go-to places for consumers who are looking for a specific local business or service. However, these apps suffer from fake reviews. Yelp, for example, told NBC4 I-Team that as many as 25% of the reviews on its website were fake[28].

To combat fake reviews, a reviewer can upload a short video about a particular restaurant to a Restaurant Review App built on top of REOSchain™. Through REOSchain™'s ratings algorithm, the short video review is validated while a fake review is weeded out.

---

[28] https://www.nbclosangeles.com/news/local/Fake-Reviews-on-Yelp-Facebook-Google-447796103.html, accessed March 7, 2018.

REOS Software Architecture

REOS core software architecture includes User Account Management, System and Security Management, and Decentralized Ledger Services, as illustrated in Figure 1.
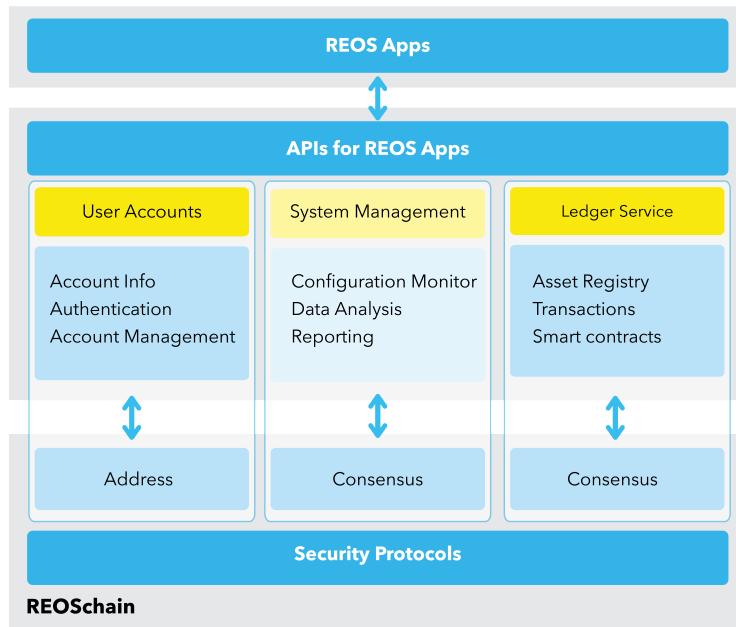
Figure 1: REOS Software Architecture

User Account Management

The key element of User Account Management is an address generated by the REOS using public key cryptography. The public address will be utilized by the system to send and receive REOS or other supported cryptocurrencies. Components of User Account Management include: generation of public and private keys, signature management, secure linkage of public key and user account, and any legally required tasks such as Know Your Customer (KYC).

System and Security Management

REOS has implemented mechanisms for system and security management in order to achieve the maximum level of configuration flexibility and overall platform security, including access control strategies regarding data stored on our blockchain. Our system administrators can modify various parameters on the platform using a graphic user interface (GUI). They are also able to monitor the status of the system and run data analysis and reporting. For system configuration, we focus on blockchain node authorization and deployment, adjustment to consensus algorithm, and system performance parameters. Changing system configuration is deemed a nascent task of the blockchain, which requires voting and consensus by the blockchain nodes or stakeholders. The platform also provides various monitoring capabilities on system hardware and software, blockchain nodes, data application programming interfaces (APIs), and Internet portal, among others. These capabilities include complete data logs, alarms, and other messaging mechanisms for system administrators. Data analysis and reporting is the main driver for our content business, as we keep a record of all user behaviors and content performance. This allows us to personalize content recommendation and maximize value to all parties involved in a transaction.

Decentralized Ledger Services

We have implemented decentralized ledger service logic in the second layer of our REOS data processing (described later in this chapter). REOS ledger manages the following aspects of digital assets:

• Digital Asset Registry: We generate an asset ID for each uploaded content, cryptographically pairing it with its creator, whose public key functions as a digital wallet. Thus, content creators can automatically receive REOS as per smart contracts related to their assets. In addition, we are incorporating content protection methods such as machine learning (ML) based copycat and plagiarism detection, and protocols for appropriate compensation.

• Transactions: All transactions related to a registered asset will be recorded on the blockchain, ensuring proper tracking and data integrity. Transactions are always associated with content creators, which allows them to disclose certain transactions to other parties only if they deem necessary.

• Smart Contract Support: We provide two types of smart contracts to content creators and other parties. One is Standard Smart Contract and the other type is Programmable Smart Contract. The Standard Smart Contract is designed for simple and regular content transactional scenarios as users will only need to change a few parameters before posting it on the blockchain. For example, a business would like to buy out a very creative short video uploaded by a user. Programmable Smart Contract can be much more complicated, in that it will require the user to modify an existing contract or create a new one based on the transaction. For a Programmable Smart Contract, security will be very critical, and it will only take into effect after a consensus of safety is achieved by the blockchain.

REOS Wallet

We will launch REOS Wallet to enable REOS users to create their own public/private-key-based accounts and perform various token transactions and smart contract related operations both within the REOS platform and on the Ethereum blockchain.

The wallet is designed to provide users with ease of use while ensuring security and privacy. A user may perform operations such as transferring, buying, and redeeming REOS. We use strong encryption both in transmission and at rest to safeguard a user's tokens in the wallet.

Privacy and User Control

In recent years, Internet giants like Google and Facebook are wielding tremendous power over the social media. In their centralized model, content creators don't have much control over their own content and privacy. Worse, as a Fortune article writes, "potential violations of privacy abound, with Facebook, Instagram, Snapchat, and the rest being willing to change the order of feed, link users with advertisers, and make information more transparent than users might like."

At the time of writing, Facebook had allegedly allowed Cambridge Analytica, a British data analysis firm, to get access to the profiles of 50 million users through its APIs available to

Facebook developers[29]. Most Facebook users had no knowledge of such access of their personal information by third parties.

As blockchain is a decentralized system, REOS has the potential to provide a methodology such that its users can have much higher level of control over the privacy of their information while, at the same time, having more opportunity to monetize their UGC without relying on any large centralized platforms.

Data Storage and Processing

REOS utilizes a three-layered architecture for data storage and processing.

• The first layer is implemented via a library used to store large quantities of small data with blockchain and distributed file systems. This layer can store collections of individual data in a transparent and secure way. The core concepts here are signed data and Merkle trees.

• The second layer is dedicated to video creation and UGC sharing activities. This will allow REOS to run various measurements on UGC, including data to support content recommendation based on machine learning (ML).

• The top layer is REOS.js, a protocol/language dedicated to third-party developers to develop their application logic, such as UGC rights bidding or licensing smart contracts.

 Figure 2 illustrates the proposed architecture.

---

[29] Andrew Keane Woods, "The Cambridge Analytica-Facebook Debacle: A Legal Primer," Lawfare, March 20, 2018. https://www.lawfareblog.com/cambridge-analytica-facebook-debacle-legal-primer, accessed March 20, 2018.
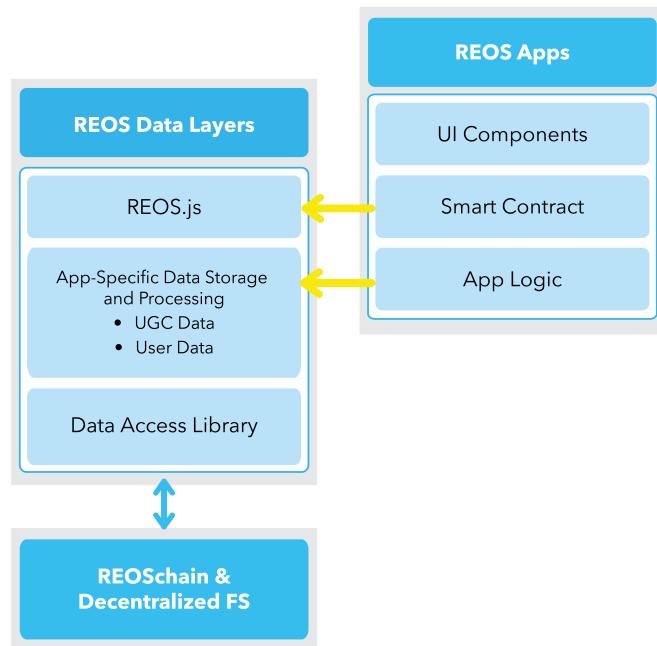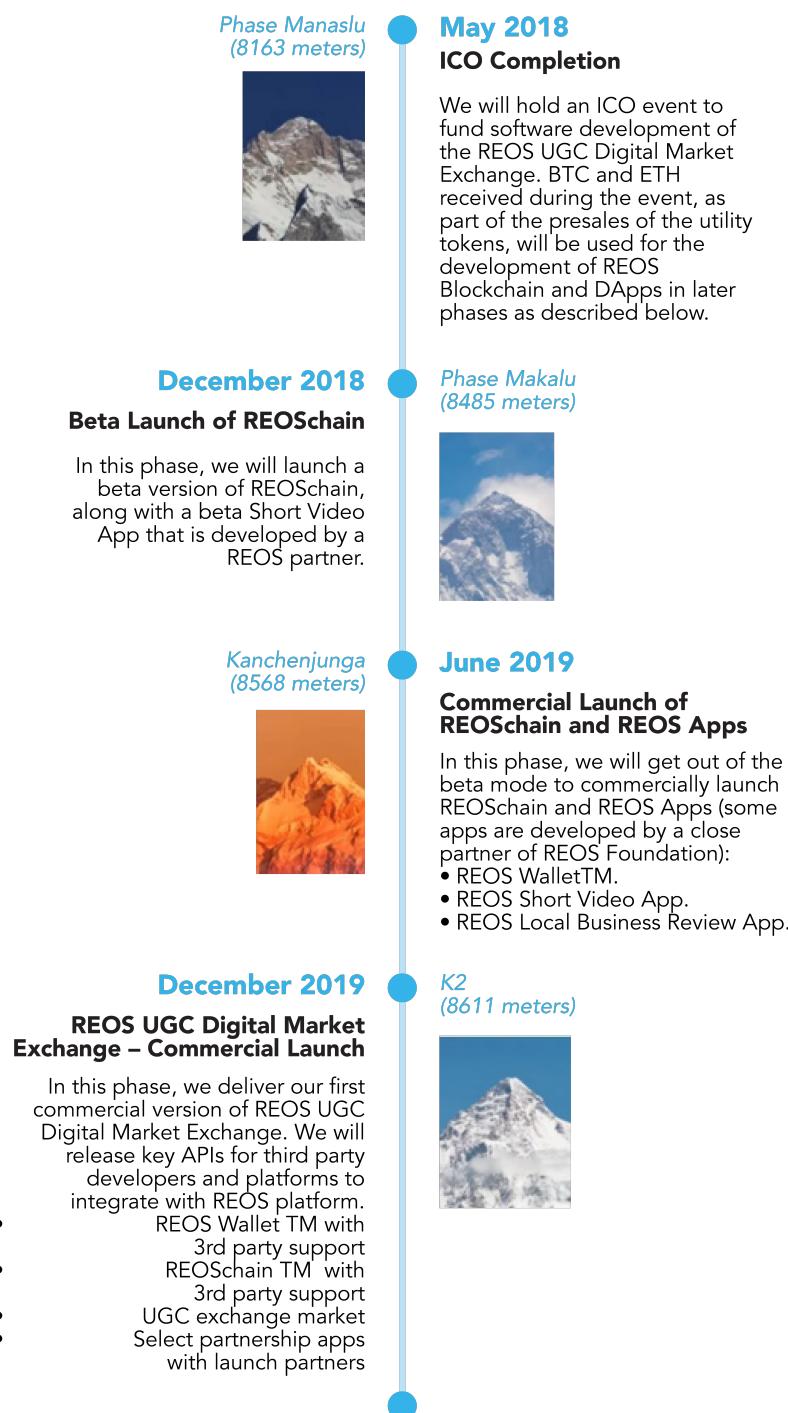
Figure 2: Three-Layered Architecture for Storage and Processing

4. Current Progress and Product Roadmap

The REOS team is currently developing the blockchain-based UGC digital market exchange, with plans to launch it in phases.

Phase Manaslu (8163 meters)

May 2018
ICO Completion

We will hold an ICO event to fund software development of the REOS UGC Digital Market Exchange. BTC and ETH received during the event, as part of the presales of the utility tokens, will be used for the development of REOS Blockchain and DApps in later phases as described below.

December 2018
Beta Launch of REOSchain

In this phase, we will launch a beta version of REOSchain, along with a beta Short Video App that is developed by a REOS partner.

Phase Makalu (8485 meters)

Kanchenjunga (8568 meters)

June 2019
Commercial Launch of REOSchain and REOS Apps

In this phase, we will get out of the beta mode to commercially launch REOSchain and REOS Apps (some apps are developed by a close partner of REOS Foundation):
• REOS WalletTM.
• REOS Short Video App.
• REOS Local Business Review App.

December 2019
REOS UGC Digital Market Exchange – Commercial Launch

In this phase, we deliver our first commercial version of REOS UGC Digital Market Exchange. We will release key APIs for third party developers and platforms to integrate with REOS platform.
• REOS Wallet TM with 3rd party support
• REOSchain TM with 3rd party support
• UGC exchange market
• Select partnership apps with launch partners

K2 (8611 meters)

5. Budget Allocation

We plan to conduct a REOS token pre-sale event in 1H 2018. Details can be found at https://reos.me.

Proceeds from the token sales will be used for the development and marketing of the REOS platform. Specifically, we plan to allocate the budget as follows.

Purpose	Percentage of Budget	Description
R&D	40%	The team will focus on the research and development of the REOS UGC Digital Market Exchange Platform, REOS apps, ecosystem, and the maintenance of an open-source community.
Marketing	25%	Marketing will focus on expanding adoption of the REOS apps and the REOS UGC Digital Market Exchange ecosystem among content creators, promoters, consumers, and businesses. This also covers the growth of the ecosystem community.
Administration	10%	This will cover legal, security, accounting, human resources and other associated administration expenses.
Operations	20%	This covers costs related to operations such as servers, cloud computing services, bandwidth, co-location, etc.
Contingency	5%	This is set aside for unforeseen expenses.

6. Team

The REOS team is comprised of a group of energetic global technologists and entrepreneurs experienced in mobile technology, security, blockchain, and social media. Most recently, some of us have been developing social media technology and applications to make it easy and fun for anyone to express themselves, share their favorite moments, discover content, and interact through the creation of short videos and other digital media content.

We believe in bringing people together through creativity and social interactions. Our primary goal is to empower ordinary people to monetize their talent, content, and community participation by providing them with a decentralized sharing economy platform.

Leon Bian
REOS Project Lead

- 15+ years of leadership experience across industries in mobile, security, blockchain, enterprise IT solutions, cloud services, and software; constantly bridging businesses across the Pacific.
- Named among the Top 100 Wireless Technology Experts of 2014 by Today's Wireless World.
- Most recently co-founder and CEO of a social media mobile app start-up
- VP of Business Development at Graphite Software
    - Grew the consumer installed base of Graphite's Secure Spaces solution from 0 to 150m smartphones globally in one and a half years.
    - Conceptualized a stealth blockchain project for an investor to develop a secure container solution to safeguard the transactions in a digital cryptocurrency wallet on Android devices in late 2016.
- VP at IDEX ASA (OSE:IDEX), Sr. Director at LG Electronics, and key management positions at Motorola and DELL EMC.
- Joint M.S. degree in engineering and management from MIT; B.S. and M.S. degrees in computer science.
- Full profile @ https://www.linkedin.com/in/lbian

Jay Cheng
Head of Business Development and Marketing

- Responsible for REOS' overall marketing and business development strategy.

- Technology executive with 12+ years of business development and product development experiences in multimedia and content delivery.

- Most recently co-founder of a social media app start-up

- Vice President of global sales at Nero, with proven track record in leading channel and e-commerce distribution and monetization.

- Solid background in the entertainment industry.

- Full Profile @ https://www.linkedin.com/in/jay-cheng-aba74b1

Larry Chen
Head of Engineering

- 15+ years of technology management and entrepreneurial experience across industries in mobile internet, digital content, artificial intelligence, blockchain and security.

- China General Manager at Graphite Software and Commercialize TV.

- VP of Business Development at You On Demand Inc.

- Key management and software architecture positions at Motorola.

- MBA degree in marketing and technology management from Kellogg School of Management; BE degree in computer science and technology from Tsinghua University.

- Full Profile @ https://www.linkedin.com/in/liang-chen-04b0a52

Andre Rabold
Chief System Architect

- Responsible for REOS' platform architecture on blockchain, smart contracts, rewards layer, and content delivery services

- Senior technology executive with 18+ years of experience in software architecture, product management, and lean development, with a strong focus on consumer multimedia software, scalable cloud platforms, AI, and blockchain technology. Co-founder and CTO of Stashimi, leading its AI and machine learning-based curated content service

- Former head of the international mobile and cloud engineering team at Nero

- Owner of multiple patents on video handling and transcoding

- Graduated from Karlsruhe University of Applied Sciences, Germany

- Full Profile @ https://www.linkedin.com/in/arabold/
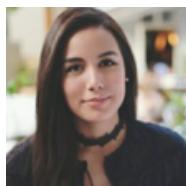
Jack Rong
Chief Software Consultant

- An established expert in mobile technology, open source, and blockchain with 20+ years of experience in software development and architecture.

- Holder of multiple patents in software and security.

- Senior software engineer at Graphite Software, Irdeto, Alcatel, and Deltaware Systems Inc.

- Full Profile @ https://www.linkedin.com/in/jack-rong-b4a9651/

Eric Liang
System Engineering and Operations

- More than seven years of system engineering and operations experience in digital video, one of the pioneers in setting up YouTube channels for a major State-owned content aggregator and curator in China.

- Expert in managing Chinese videos on various overseas video platforms, first-hand knowledge of video distribution, data analysis and content licensing.

- Amongst the first group of Bitcoin miners and enthusiastic in China, starting in 2011.

- CCNA, CCNP, CCIE

Fabi Pina
Marketing Manager

- Leads international marketing and PR efforts for REOS.

- Extensive international experience in managing PR and B2B/B2C marketing efforts such as app launch events, influencer marketing, community management, and social media.

- Marketing Manager at video AI startup Viscovery.

- Social Media Marketing Manager & Business Development Manager at Cheetah Mobile.

- Founder of Stylecaramba.com & bultique.com.

- Full Profile @ https://www.linkedin.com/in/fabipina/

Irene Lee
Content Acquisition Manager

- Oversees content acquisition and video production for REOS.

- Experience ranges from photography direction to video production and screenwriting for popular Taiwanese television shows including *Top Million Star* and political parody show "瘋狂大悶鍋", as well as Beijing IQIYI talk shows "大學生來了" and "姐姐好餓".

- Full Profile @ linkedin.com/in/irene-lee-1992bb15b

7. Advisors

Ephraim Feig, PhD
Life Fellow, IEEE

- Currently leads a blockchain research endeavor.

- Author of "A Framework for Blockchain-Based Applications."

- Formerly Chief Strategist and Associate CIO of the United States Social Security Administration.

- Chairman, Technical Committee on Services Computing, IEEE.

- Sr. Director at Motorola, CTO & CMO of Kintera, and Manager of Signal Processing and Coding at IBM.

- PhD in Mathematics, City University of New York.

- Full profile @ https://linkedin.com/in/Ephraim

Karen New
Owner, Noox

- Author of a recent book on cryptocurrency – New Assets. An established expert in blockchain and a much sought after speaker at various financial, technological and fintech conferences.

- Leader of Top FinTech Association and a member of the Oxford Blockchain Strategy program.

- CEO of Omnitoons Pte. Ltd, a Singapore-based company, which produces enterprise-grade mobility solutions with key technology partners like VeriFone and Good Technologies.

- Cofounder of ComiAsia Pte, Ltd. and HtmLab.

- Full profile @ https://www.linkedin.com/in/karennew

Terence Ng
Director, Global Ecosystem and Cloud Services, Lenovo

- Extensive experience across major MNCs in consumer electronics, IT and mobile, and highly conversant with hardware, OEM, internet and software services globally; spent 17 years at Sony, Hewlett Packard, Nokia and Lenovo.

- Led his team at Lenovo to significant partnership deals with major internet /software partners globally over the last 4 years. Some notable partnerships include Google, Baidu, Amazon, Rakuten, and Dropbox.

- An avid angel investor in a number of promising start-ups.

- B.S. degree from Nanyang Technological University

- Full profile @ https://www.linkedin.com/in/teren18

Paddy Tan
Founder, InterVentures Asia, and Founder, ICORA Co Ltd

- The 'go to guy' with a no-nonsense approach for tech startups and ventures in Asia, with vast experience in identifying startups from an idea to mentoring, funding and acquisition stage, improving the probabilities by running on the ground engaging founders, partners and VCs to make the whole business plan work.

- Advisor to a number of successful ICO companies including Storiqa.

- Formerly the 1st vice president of Mobile Alliance Singapore.

- A serial entrepreneur who founded several start-up ventures.

- Full profile @ https://sg.linkedin.com/in/paddytan

Grant McCarthy
Partner, Asia Pacific Growth Management (APGM)

•Experienced Investor and advisor with a global vision in digital content, finance, strategy, and international business development.

•Angel investor of Commercialize TV, a global start-up focusing on exchanging short video content between China and the world.

•One of the early employees of Yahoo.com in Asia Pacific, and experienced full growth cycle of the Internet during the new Millennium.

•Investor and advisor to a variety of start-ups, including an Hong Kong based blockchain company in the real estate industry.

•Full profile @ https://www.linkedin.com/in/grant-mccarthy-027405/