TOK

UNIFIED DECENTRALIZED COMMUNICATION APPLICATION

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INTRODUCTION

The world today has over 4 Billion monthly active messaging app users across the globe. And this figure is constantly increasing. Among its many uses and benefits, the Internet has transformed and simplified how people communicate with each other around the globe. In addition to email, instant messaging has played a large role in bringing people together.

This paper outlines a vision for a new decentralized chat application that will be the next big revolution in the way people communicate.

With TOK, we are creating a new universe of communication.

VISION

Technology has its upside and downside. In the digital age of communication, one of the primary downsides has been the breach of user data; one that's become a constant worry.

With companies & hackers making money off the private data of consumers, TOK aims to see the end of that fear that has engulfed the world with privacy leaks and data hacks.

MISSION

TOK aims to build a new universe of communication with faster, more secure & private communications enabling people around the world.

TOK, will be the new age communication application which will enable users with seamless & secure exchange of data not only through Chats (Group and Private) and Audio & Video Calls but also empower its users with several added features to help create a communication ecosystem that is not only conducive for personal but also for professional purposes.

THE NEED

Increased smartphone users and increased mobile internet penetration has revolutionized the way we communicate and connect. We live in an age where video calls are made possible with the click of a button; businesses operate and collaborate internationally across time zones; banks facilitate international transfers of trillions of dollars every day; and reaching out to the President of a country is just a tweet away. Mobile messaging apps have become a strong force in the mobile app sector by offering users an alternative to SMS- based texting and pairing enhanced features such as group chats and photo sharing along with social media elements.
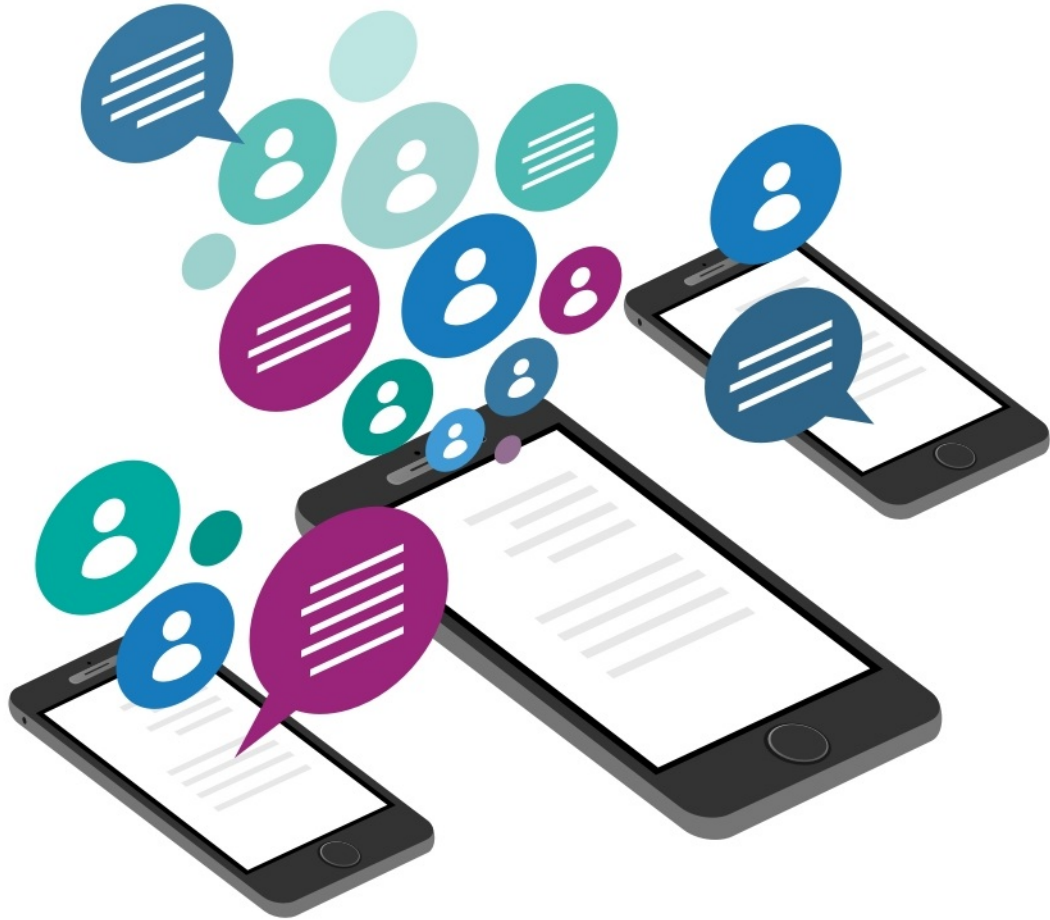
Statistics show that by the end of 2019, the total number of people globally, using mobile messaging apps will approximately reach 4 billion. Over the last two decades the growth of mobile messaging apps has given rise to several instant messaging apps, each solving one or the other form of communication- text, audio, image etc. And, each application has had its share of audience in- turn burdening users with multiple chats apps for varied types of usage. This presented a great opportunity for e- marketers to reach out to their consumer base at different levels and through different platforms. With the growth and acceptance of e- commerce in the last two decades, an item could be manufactured in Bangladesh and sold by an American company to a consumer based in Melbourne, all of it facilitated through a mobile application.

Developers and owners of numerous commercial messengers put commercial gains in preference, and factors such as privacy and confidentiality of user data, behaviour and demographic became secondary. In most cases, commercial messengers have numerous drawbacks, but the following two are the most glaring concerns:

CENTRALIZED MANAGEMENT

All correspondence goes through the server of the company owning the messenger, and the company can dictate its rules: block messages on a certain subject or prohibit the transfer of certain files. The company may also be subject to government pressures and may be asked to disclose users' correspondence or to impose certain restrictions upon their request.

Besides, the terms-of-service agreements that all users agree to while 'Signing Up', provides companies the license to share their personal data with other institutions like advertisers or even governments. For instance, Google offers consumers free services, but it also shares user data such as browser activity and search history. Facebook was recently in the news for selling user data and activity such as posts, likes and comments to advertisers. When visiting social media or e-commerce websites, it is a common occurrence for advertisements to reflect the above-mentioned data or even conversations that were had verbally offline, which raises specific concerns about digital eaves-dropping and user privacy.

Facebook Messenger and WhatsApp combined process over 60 Billion messages every day and control over 79% of the instant messaging market. However, all this data is routed through a central server like other instant messaging applications. It is much easier to breach a central server and leak the data to the wrong kind of people. In January 2018 some German researchers found a way to breach WhatsApp's security and sneak into group chats. According to the researchers, anyone who has access to and controls WhatsApp's servers could insert new people into an otherwise private group without much hassle. With a breach of this magnitude, WhatsApp's credibility became refutable and effectively rendered the chat tool's end-to-end encryption useless.
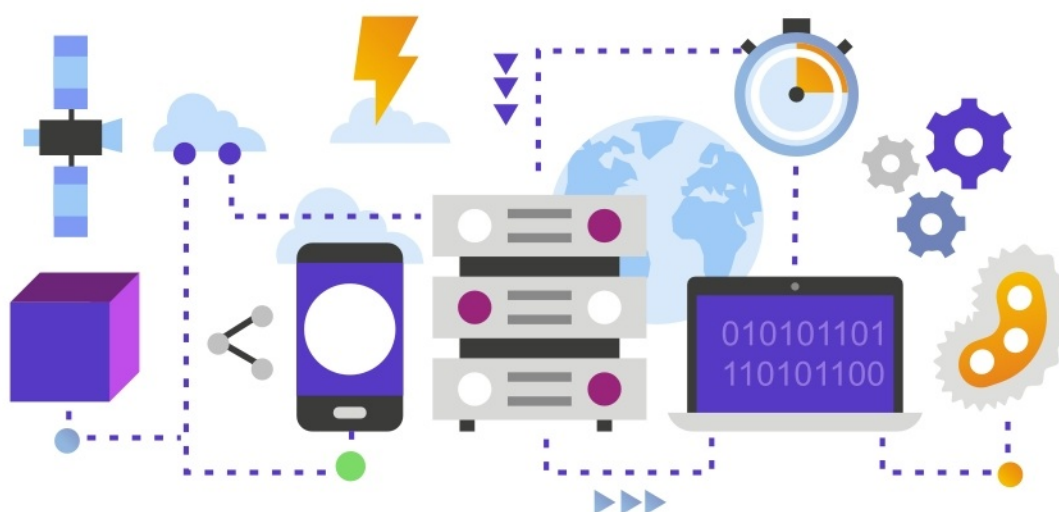

CENTRALIZED ARCHITECTURE

This problem is due to the presence of a single point of failure. While, on one hand, it allows to block access to a certain service for the whole country, on the other hand, technical problems on the management servers may lead to unavailability of the service for all or a significant part of users.

We at TOK aim to address these concerns by developing a chat application that is consistent with the principles of decentralization, confidentiality and data security. TOK will be the new age chat application powered by the Blockchain technology.

TOK OVERVIEW
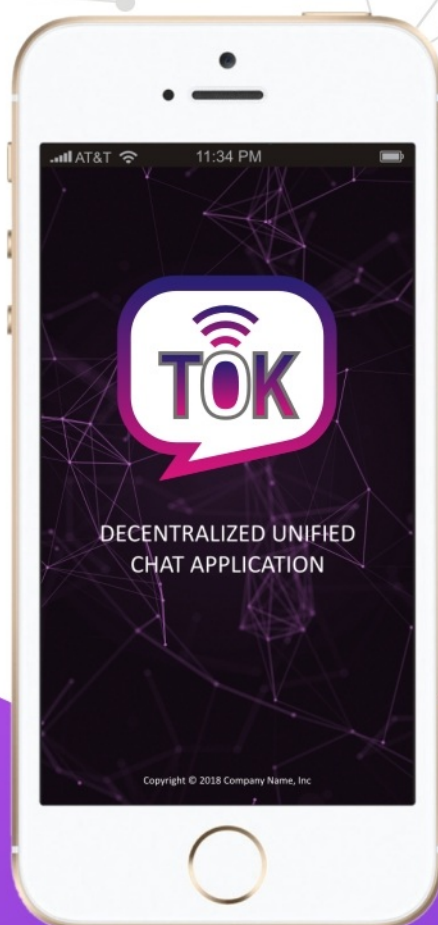
TOK is a multifunctional decentralized chat application built on ERC20. While offering users all the classic features of a chat application, it also provides users with a light weight cryptocurrency in-built wallet. Users can send and receive tokens from any MEW or any Ethereum wallet to the e-wallet within the app. Through the wallet, users will be able to buy, sell and exchange amongst TOK community of users and use the TOK token and credits for payments within the application.

While communicating with family and friends through TOK, the application will offer many more functionalities than the conventional instant messaging apps. TOK is a unified instant messaging application with features that are useful for personal and professional purposes. Webinars, collaborative documents, whiteboard, screen sharing, video broadcasts, advanced location features and currency transfer are a few of our core offerings.

Our goal is to create an app for communication in a network that will not depend on servers and will not be affected by government structures. TOK combines a high level of privacy and security of user data with the most convenient functionality- the blockchain framework.

WHAT TO EXPECT

TOK will be compatible with iOS, Android and Windows. Users will be able to download the application from the respective app stores once the development is complete. The application will be compatible with all smart phones and have a web App for desktop users as well. Following is the journey of a TOK users right from the start.
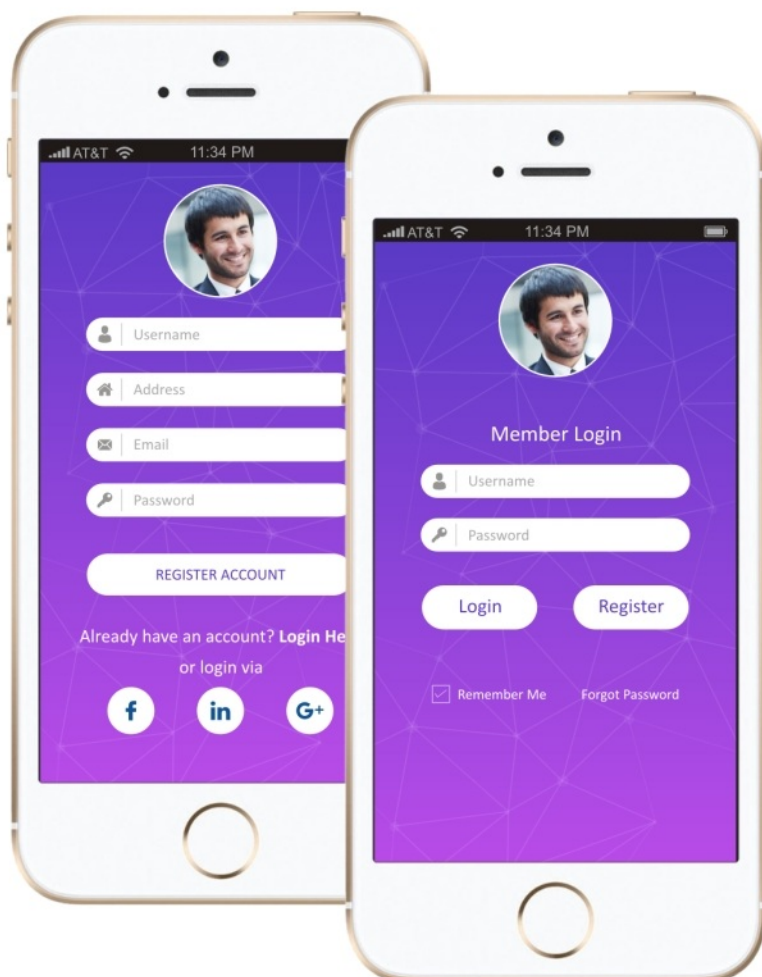
THE LOGIN PAGE

The first time a user downloads the TOK app, he or she will be asked to register with TOK. Basic information- name, email id, phone number etc will be required to set up your account. In case, one does not wish to register, he/ she will be able to also join the TOK network by signing up using any one of their social media accounts.

Once in, users can then choose to interact with their contacts using the following features-

▸ Audio Calls
▸ Video Calls
▸ Peer- to- peer chat
▸ Video Broadcast
▸ Audio Broadcast
▸ File Sharing
▸ Whiteboard

▸ Collaborative Document
▸ Webinars
▸ Geo Tagging
▸ Live Tracking
▸ Screen Sharing
▸ Video Conferencing
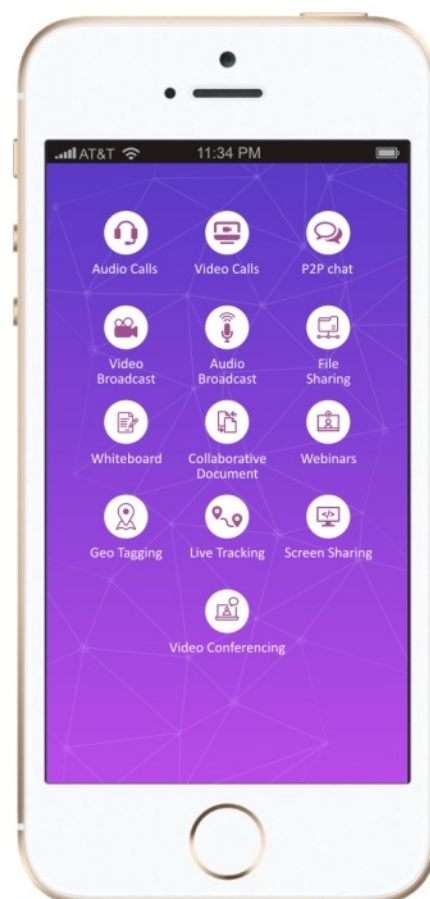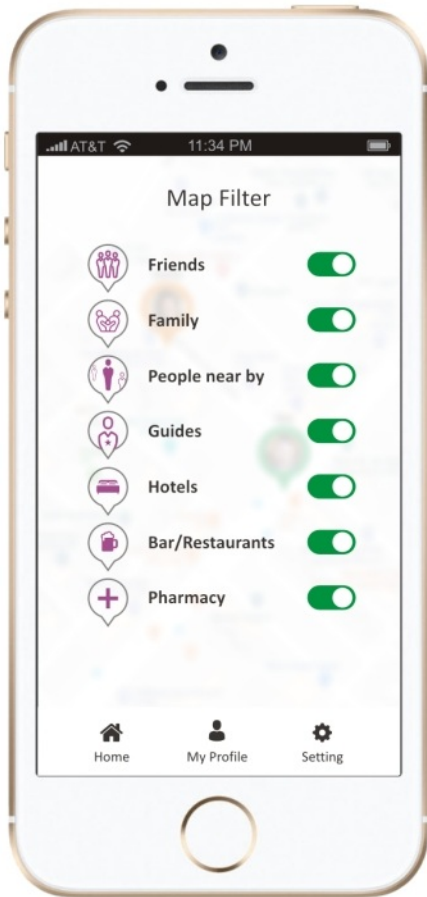
MAPS

Maps would be integrated seamlessly in TOK. Users will have the option of enabling Maps in their application. The Geo location feature is a part of the Maps. Once enabled users will be able to see their friends and their location in real time.

GEO LOCATION

TOK will helps users see where their friends are and their live status on the map:

▸ Users will be able to see if their friend is moving.
▸ Or is at one place. Zoom in and users will be able to see their accurate location.
▸ The Geo location feature in TOK will allow users to send out alerts to their friends in case they are in trouble or need help.
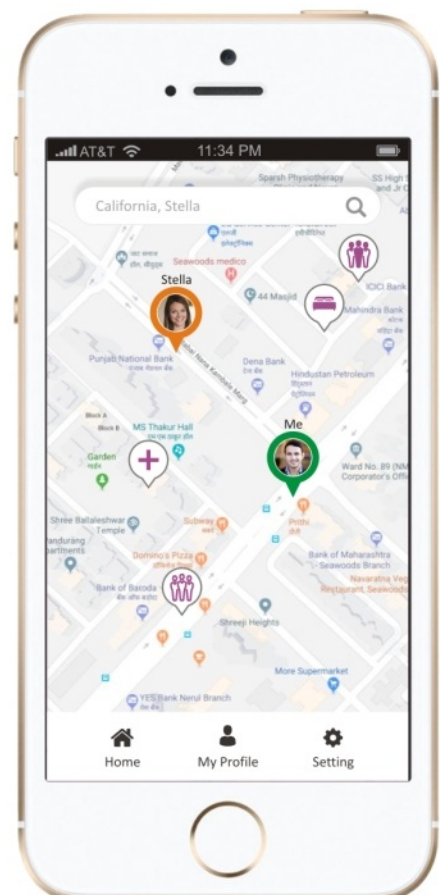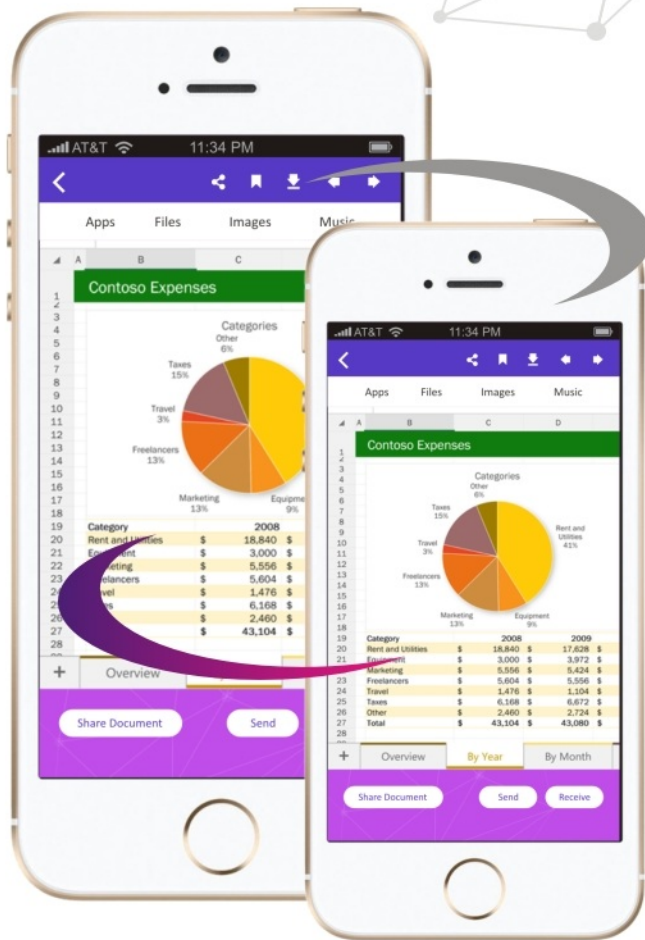
SCREEN SHARING

With TOK, users will be able to share screens with their contacts. This is one of the most important features of the app especially for businesses using the application. Users will be able to secure their screens by enabling or disabling the option of screen grabs while sharing their screens.

COLLABORATIVE DOCUMENTS

This feature will allow users to work in collaboration when required. Whether it's for businesses, a simple student project, or even a family project, with Collaborative documents users will be able to share their work in progress documents with others. They will have the option to choose who all can view and edit the documents and change setting as per their requirements.
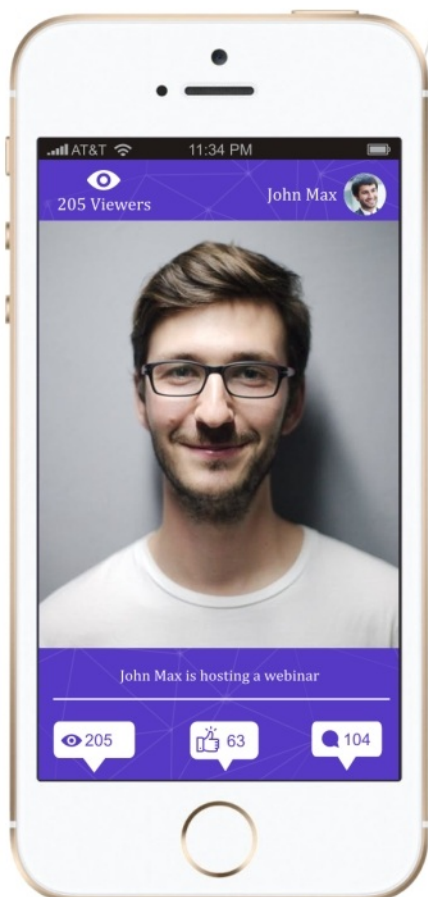
WEBINARS

Users will be able to host or attend webinars through this feature that comes in- built in the TOK application. A first of its kind feature in an instant messaging app, Webinars will be the game changer. Users will need to purchase TOK credits to avail this feature. People hosting webinars will have the option of hosting a free or a paid webinar. The free webinars will have a time restriction and will be available for a limited period for viewing. For the paid webinars, the audience will require TOK credits to attend or view the webinar later.

WALLET

The in- built light weight cryptocurrency wallet is one of the core features of TOK. Our users will be able to send and receive amongst the TOK community through the wallet. Using TOK tokens, users will also be able to buy or subscribe to premium services like Webinars.
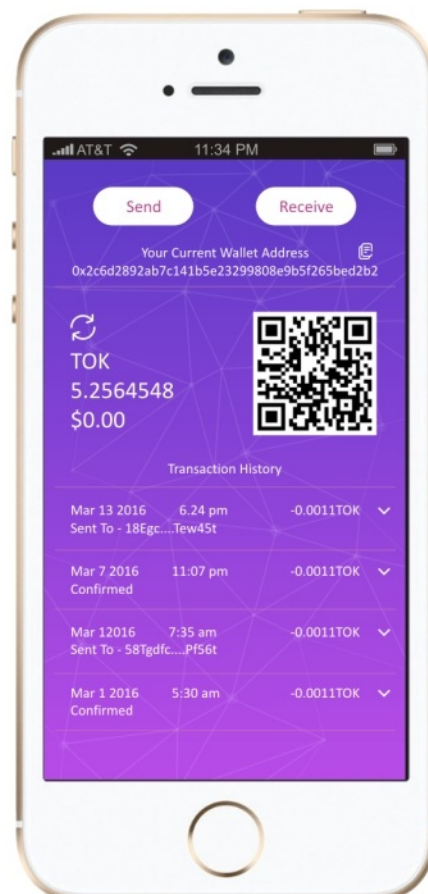
TOK TECHNICAL ADVANTAGES

Decentralized Architecture.

TOK architecture is developed based on P2P communication without the participation of servers and hence the data does not get stored anywhere at any given time.

Application of Smart Contracts.

To attend or view a webinar, users will be needed to pay. Either the host or the attendees pay to use this service payment for which are carried out via smart contracts on the Ethereum platform using the TOK Token.

Security.

The use of asymmetric end-to-end encryption along with peer-to-peer connections on TOK eliminates the possibility of intercepting user correspondence.

Confidentiality.

The absence of servers that store user correspondence excludes the disclosure of this information at the request of government agencies or hacker attacks.

Absence of Single Point of Failure.

TOK doesn't use a server to exchange messages, as well as to make audio and video calls, therefore, there is no central link, the malfunction of which could lead to unavailability of the service.

Cross-platform Versions.

Versions of the TOK application are developed for all popular platforms.

TOK WALLET FUNCTIONALITY

The TOK application will contain a built-in lightweight wallet that will allow users to safely store and transact using the TOK tokens and any other ERC20 compatible tokens. Users will be able to buy and sell products or simply transfer tokens to one another using the Wallet.

For using the Webinar service, users will be required to purchase TOK credits in advance using the TOK token.

All transactions that happen using the TOK wallet will get recorded on the Ethereum Blockchain.

INSTANT MESSAGING APPS

The increased use of smartphones and internet penetration gave birth to numerous instant messaging applications in online communication. People preferred using IMs over the conventional text communication methods of SMS and MMS. Instant messaging allowed users to interact real time, check if their message has been received or even read by the users, making it a lot more convenient. One of the major advantage of instant messaging is its free usage, the simplicity of their user interfaces (ease of use) and its extensive availability on all platforms and mobile devices.

There are so many instant messaging apps across platforms that are available to users globally. These applications have inculcated features that are redefine the texting experience, surpassing the abilities and costs of traditional SMS texts. In instant messaging apps the length of the message is not limited to a few words or character and users can share different formats like photos, videos, voice notes in a seamless manner.

Following are the major factors that have influenced the development of the instant messaging market:

1. The ease of using internet enabled mobile devices and its growing popularity.

2. The adoption and increase in use of social networking sites.

3. The growing need of communicating real time.

4. Increasing importance to intimate forums, groups chat or discussion platforms.

5. The multimedia features that enhanced the online communication experience offered by instant messaging apps.

6. The increasing trust in peer-to-peer payments and E-commerce.

TECHNOLOGY - ETHEREUM BLOCKCHAIN
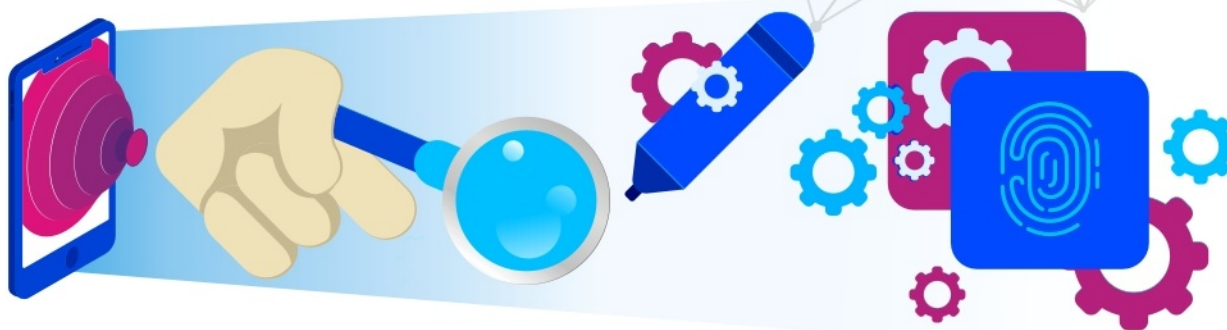
The Ethereum Blockchain was not created to be a platform that creates and records ledger information of transfers of the blockchain's native tokens. It was instead created with a lot more in mind- a generalised and public blockchain with a Truing- complete programming language. This enabled people to write programs with customised transaction formats and even specifically stated transition functions, basically specifying the rules they wanted to govern their transactions and allowing the blockchain to interpret these rules. This is what is called the Smart Contract.

These smart contracts on the Ethereum blockchain have their own addresses and digital assets, which means that these have the capability of sending such assets to other parties using the rules that have been predefined within the programming code of the contract. What's brilliant is that the transactions are visible to every party in the network. Smart contracts can be used across board to serve a variety of purposes, as they can enforce complicated rules and even automated incentive structures for not only cryptocurrencies, but also multi-party protocols such as auctions and more.

Such advanced features and the active ecosystem of the Ethereum blockchain make it the best fit for the TOK Protocol.

Earlier, for users of any kind of technological platform, would need a medium to interact or carry out exchange of any form of information. With traditional instant messaging platforms, the trusted intermediary that acted as the medium for such exchanges was the "owner" of the platform. However, with the creation of the Ethereum public blockchain and all its sub-protocols it has formed the backbone of the Web 3.0 – Swarm for decentralised file storage and Whisper for p2p communication. Both have provided users with a medium of agreement that is decentralised with no interference, cryptographically verifiable, permissionless and has fair access. The decentralised Ethereum network creates a fixed record of all transactions and information exchanged for as long as most of the network agrees.

In the last few years, the true capacity of the Blockchain framework has been realised and it created the need for its utility to be maximised among all non- technical areas as well. The blockchain needs to be accessible anywhere and should be integrated into the day-to-day lives of the users without compromising on its de-centrality. Hence its use on the TOK App.

DEVELOPMENT

In carrying out the development of the platform we would be making use of the following software and protocols.
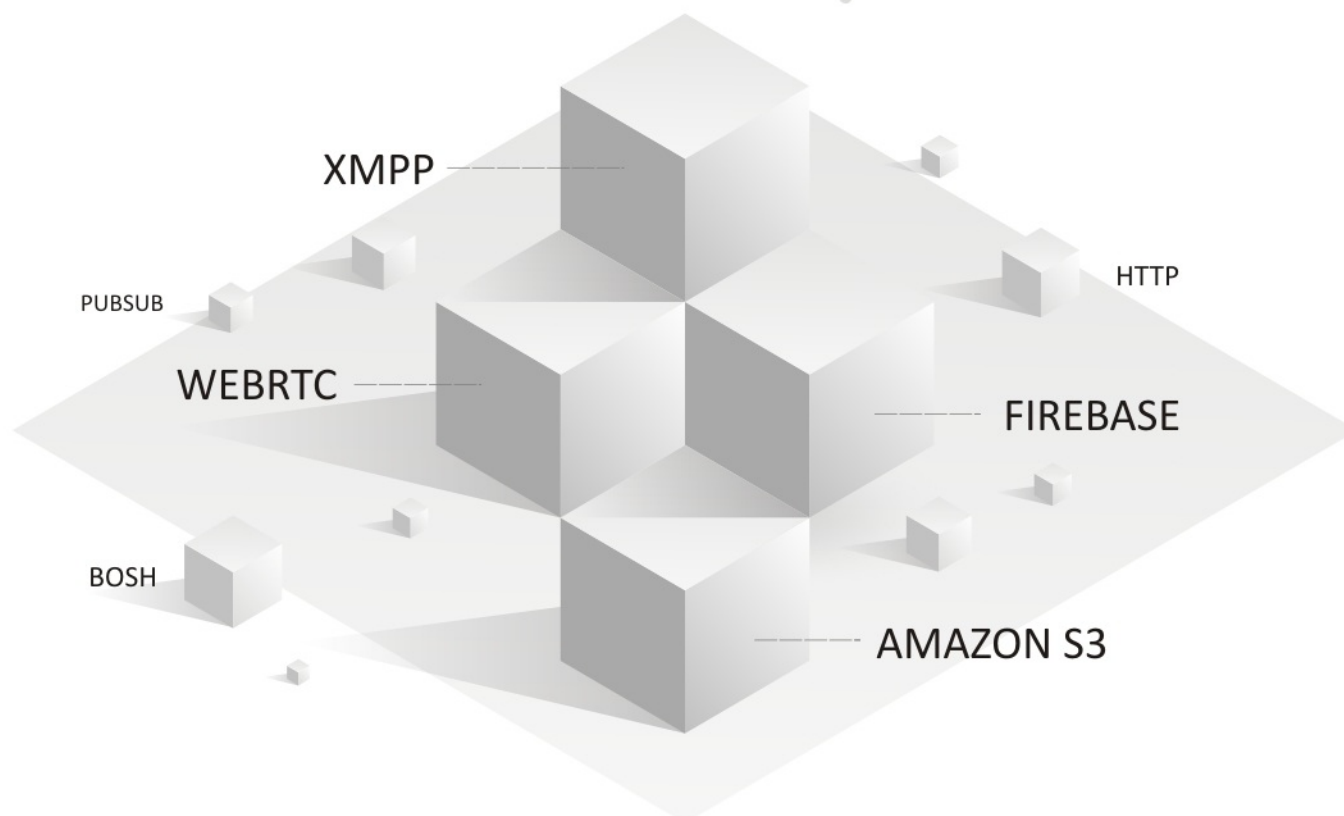

Extensible Messaging and Presence Protocol (XMPP) is an open XML technology for real-time communication, which powers a wide range of applications including instant messaging, presence and collaboration. It is a tech used for enabling various forms of communication such as group chats, audio- video calls, content collaboration and collaborative workspaces. The architecture of this protocol gives its users the ability to set up their own protocol server like what's found with email. The XMPP technologies that will be used in developing TOK include; Multi- user chat- to permit group chats; PubSub- which enables the alerts and notification system; and BOSH, an HTTP binding for traffic.

Formerly known as Google Cloud Messaging (GCM), Firebase Cloud Messaging (FCM) is a cross-platform solution for messages and notifications for Android, iOS, and web applications. For developing our mobile and web application with no server- side programming, we will be using Firebase. To enable device to device real time communication, TOK will be using WebRTC. WebRTC (Web Real- Time Communication) is an open-source project that provides web browsers and mobile applications with real-time communication via simple application programming interfaces (APIs). It allows audio and video communication to work inside web pages by allowing direct peer-to-peer communication, eliminating the need to install plugins or download native apps.

We will also be using Amazon S3 or Amazon Simple Storage Service. This would provide us with storage to make our web-scale computing easier. Amazon S3 is an IaaS with a worldwide reach that would help facilitate highly scalable, secure and low activity data storage from the cloud.

COMPARISON

There are several hundred applications in the market today and here is a comparison of the top six with TOK.
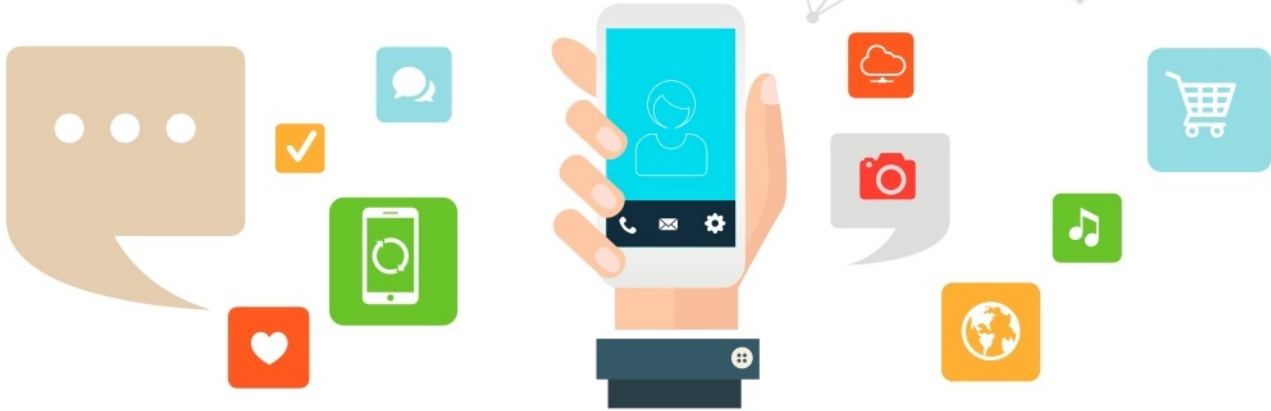
Features	amazon Chime	Cisco Webex	zoom	Webinars OnAir	Skype	GoToWebinar	TOK
Decentralized	✗	✗	✗	✗	✗	✗	✓
Accept Cryptocurrencies	✗	✗	✗	✗	✗	✗	✓
Live Webinar Recorder	✓	✓	✓	✓	✓	✓	✓
Analysis	✗	✓	✓	✓	✓	✓	✓
Insights	✗	✓	✓	✓	✓	✓	✓
User Management	✓	✓	✓	✗	✓	✓	✓
Unlimited Users	✗	✗	✗	✗	✗	✗	✓
Webinar Outside App	✗	✓	✓	✗	✗	✓	✓
Mic Transfer	✗	✓	✓	✓	✓	✓	✓
Chat	✓	✗	✓	✓	✓	✓	✓
Create Groups	✓	✗	✓	✓	✓	✗	✓
Personalized WebPages	✗	✗	✓	✓	✗	✗	✓
Whitelabelling	✗	✗	✗	✗	✗	✗	✓
Recorded Webinars	✓	✓	✓	✓	✓	✓	✓
Broadcasts	✗	✓	✗	✓	✓	✗	✓
Private A/V calls	✓	✗	✗	✓	✗	✗	✓
Group A/V calls	✓	✗	✓	✓	✓	✗	✓
Screen Sharing	✗	✓	✓	✓	✓	✓	✓
File Sharing	✓	✓	✓	✓	✓	✓	✓
Collaborative Document	✗	✗	✗	✗	✗	✗	✓
Whiteboard	✗	✗	✓	✗	✗	✗	✓
Charge Attendees	✗	✗	✗	✓	✗	✗	✓
100% Private & Secure	✗	✓	✓	✗	✓	✓	✓

TOKonomics

FUND ALLOCATION

Distribution	Token	
Pre-Sale and ICO	65%	325,000,000
Core Team	10%	50,000,000
Growth Fund & Reserve	10%	50,000,000
Market Penetration	6%	30,000,000
Board of Advisors	4%	20,000,000
Bounty, Referrals, Community Bldg	5%	25,000,000
Total	100%	500,000,000

- Pre-Sale and ICO
- Core Team
- Growth Fund & Reserve
- Market Penetration
- Board of Advisors
- Bounty, Referrals, Community Bldg
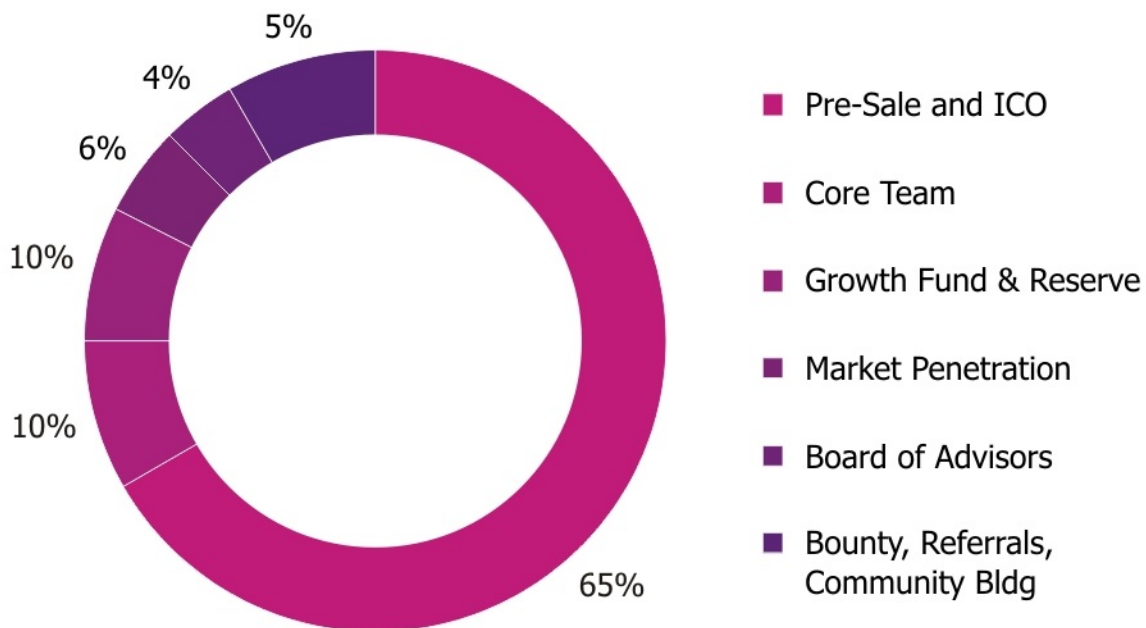
Stages	Discount	Distribution	Total Sale
Price of 1 Token (in USD)			1
Tokens in Private Sale	80%	3%	15,000,000
Tokens in Pre ICO	75%	20%	100,000,000
Tokens in Tranche I - 1st lot	50%	14%	70,000,000
Tokens in Tranche II - 2nd lot	25%	14%	70,000,000
Tokens in Tranche III - 3rd lot	10%	14%	70,000,000
		65%	325,000,000

FUND UTILIZATION

Distribution	Percentage
Marketing (Promotion, Community, Market Growth)	32%
Research and Development	27%
Operational Cost	20%
Computer Hardware	7%
Technology Infrastructure	5%
Indirect costs (Legal, Office)	4%
API Ecosystem Developers	3%
Misc. and Unexpected	2%
Total	100%

Marketing (Promotion, Community, Market Growth)

Research and Development

Operational Cost

Computer Hardware

Technology Infrastructure

Indirect costs (Legal, Office)

API Ecosystem Developers

Misc. and Unexpected

ROADMAP

MAY

Whitepaper
Launch of
Private Sale

2018

AUGUST

2018

Launch of Pre ICO
Beta Testing Cross
Platform Functionality

SEPTEMBER

Launch of ICO
Advisory reachout

2018

OCTOBER

2018

Marketing Partnerships and Bounty Program

FEBRUARY

Lunch of Mini Version

2019

MARCH

2019

Listing of Token on Exchanges
Development of Phase II

JUNE

IEO Promotion
Application Bounty

2019

JULY

2019

Launch of IEO

AUGUST

Exchange Listing
Launch of Phase II
(Centralized application)

2019

DECEMBER

2019

Launch of Decentralized TOK App

Contact & Support

If you have any questions about TOK, our team, the TOK technology, or anything else, feel free to reach out to us.

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Email: team@thetokapp.com