



# Privv

Truly Private Messaging App

# PBL II Group No. 43



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# Scope of Project



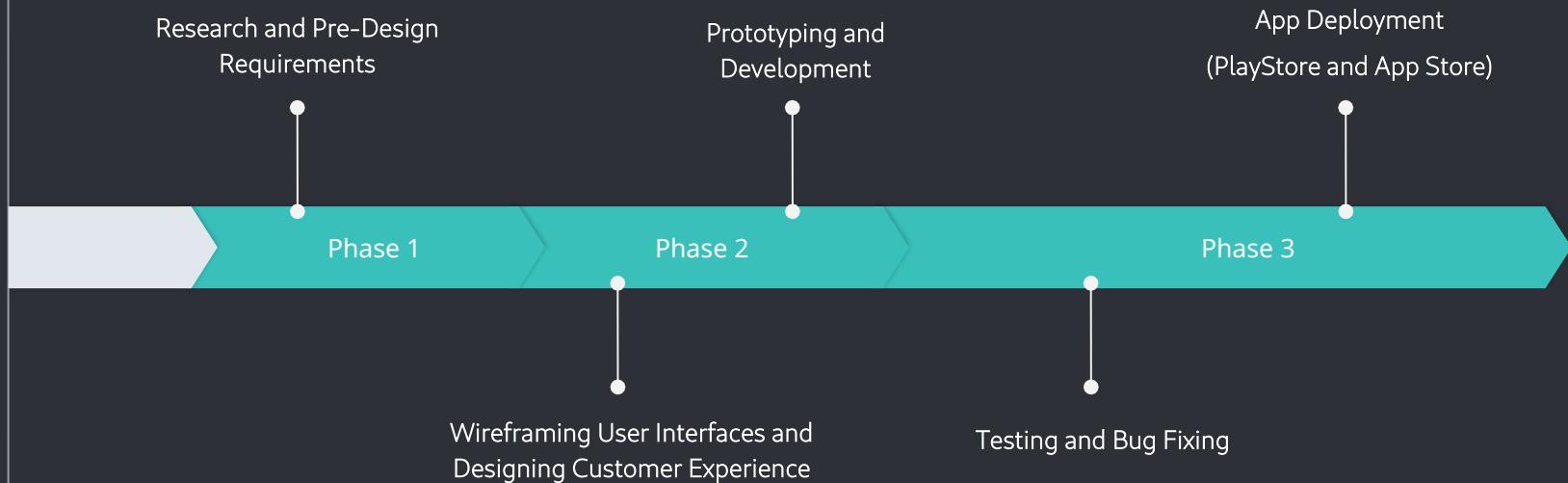
## ● Blockchain & Decentralization

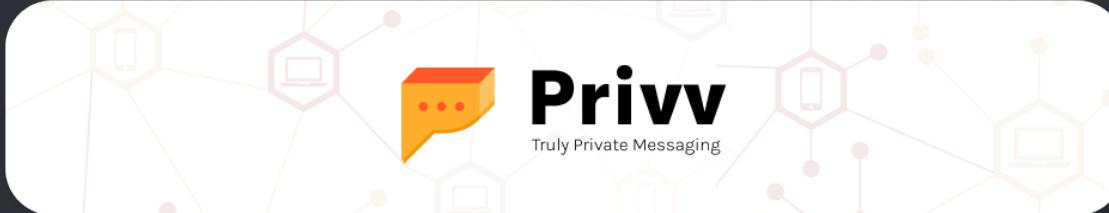
- We have planned to develop a truly private decentralized messaging framework and app – Privv, that will offer ultimate privacy by means of blockchain and decentralization.
- This will solve the numerous problems with the centralized messaging services that are prevalent in the current day. The increasingly common issues that arise from these centralized services include a lack of interoperability and synchronization in communication with the same individual across different platforms, along with a lack of data ownership around the privacy and content of the messages.
- Users are forced to create a separate account with each centralized messaging service (i.e., Facebook, Apple, Google etc.), which means that messaging services ultimately have control over the user's data.

2

# Project Flowchart

- ## App Development Phases





A completely secure and **anonymous sign-up**, only needing a crypto wallet address. No need for names, IDs, or phone numbers. Total user privacy, without compromise.

All messaging history and files are on anonymous, independent, and non-connected nodes, on the **Ethereum network**. This eliminates all points of failure and, as it grows and expands its nodes, becomes increasingly secure.



Hey! Welcome

Privv's focus is strictly on data security. We offer ultimate privacy by means of Blockchain and Decentralization.

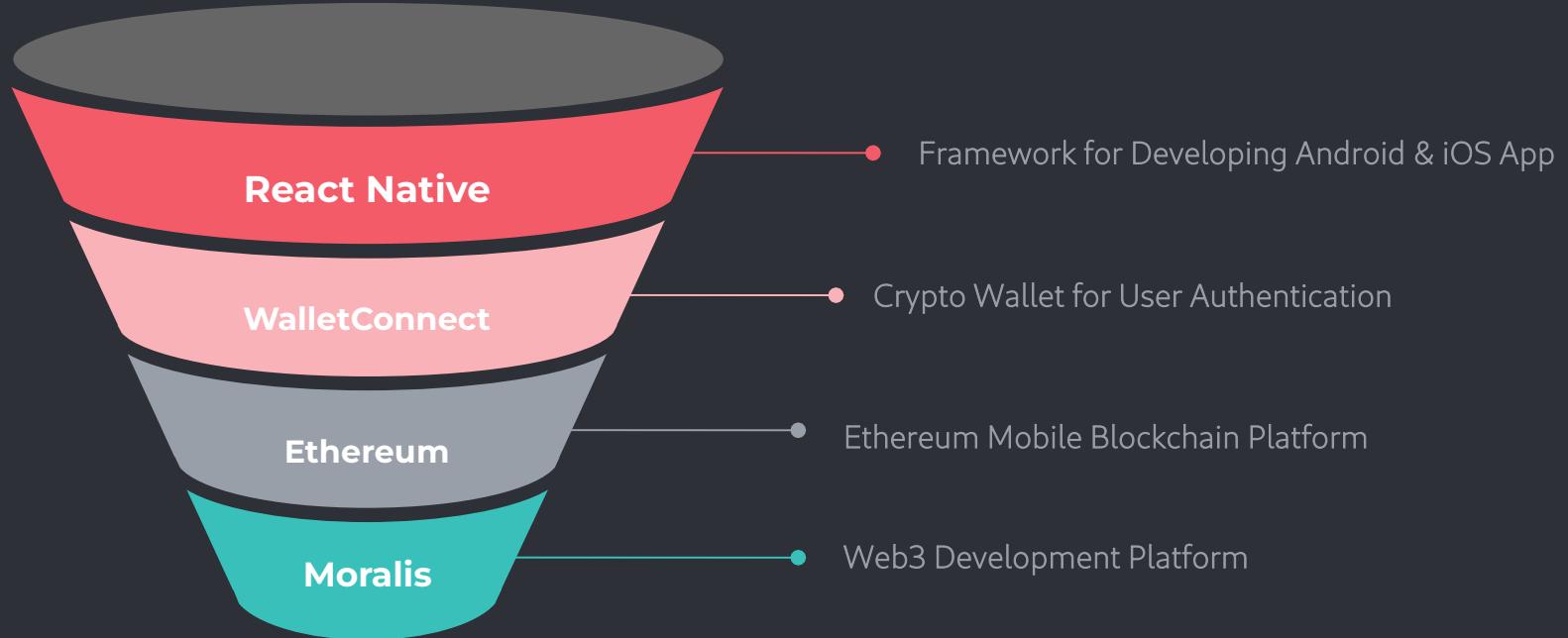
[Wallet Login](#)

[What are wallets?](#)

Privv Logo & App UI

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## **Methodology of Implementation**



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# Plan of Work



## • **5 Step Plan of Work**

- **Moralis Setup**

Setting up Moralis Server to obtain backend functionality. Moreover, this step is also essential to use the Ethereum mobile boilerplate.

- **Ethereum Platform**

Ethereum mobile boilerplate enables to create Android and iOS applications simultaneously. Moralis and mobile dApp boilerplate provides simplicity and speed.

- **User Login**

Like most centralized applications, the ability to log in is also normal for decentralized apps. However, instead of using emails and passwords, we will use a crypto wallet.

- **5 Step Plan of Work** (contd.)

- **Message Communication**

After successfully logging in, users are immediately directed to the chat window. There, they can read and send text and emojis.

- **Additional Features**

The “typing” functionality is by no means essential; however, it provides a nice touch since it’s nice to know when other users are typing. As such, we need to track users’ typing and animate it in the chat.

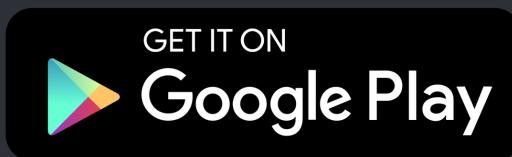
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# Costing of Project

- **App Deployment Costs**

- **Google Play Store (Android)**

To get an app published on Google Play Store, an amount of \$25 USD as the registration fee is charged by Google. This is a one-time fee, which allows to have a developer account and through that, a developer can publish as many applications as he wants.



- **App Deployment Costs** (contd.)

- **App Store (iOS)**

Speaking about the cost to App Stores, multiple App Stores have specific amounts to pay to launch the software. The expense of getting the developer account approved to launch the iOS app is \$99 a year. That's when you're signed up as a person or organization.



Download on the  
**App Store**

6

# Virtual Group Meeting

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Nodes are only connected to peers

connected to other blocks forming a chain. As the name suggests, a decentralized application does not have a centralized server. It is basically a peer-to-peer network. Also the data that is stored in block is almost impossible to view as a very secure encryption and hashing functions (256 bits) are used. Also if a hacker tries to make changes to the information in block then, he/she will have to make changes to all the copies of that block on whole blockchain network and that can be quite impossible. Though block are on all nodes, they cannot access the information in it,

**Figure 1.1 Decentralized Application Structure**

Decentralized Application consists of multiple nodes connected to each other in a mesh topology type network. They are connected to each other in a Peer-to-Peer fashion. Blockchain is a sequence of blocks, which holds a complete list of transaction records like conventional public ledger.

Block Header Parent Block Hash

Block Header Parent Block Hash

Block Header Parent Block Hash

Transaction Counter

TX TX TX

TX TX TX

TX TX TX

Block i-1 Block i Block i+1

**Figure 1.2 an example of blockchain which consists of a continuous sequence of blocks**

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Firewall Authentication Keep WhatsApp Inbox (1,041) - arshdeep.singh.btech2019 priv - Figma Build a Decentralized Messa... Playing https://www.youtube.com/watch?v=SSo\_ElwH5d4

YouTube Search

Let's take an example.

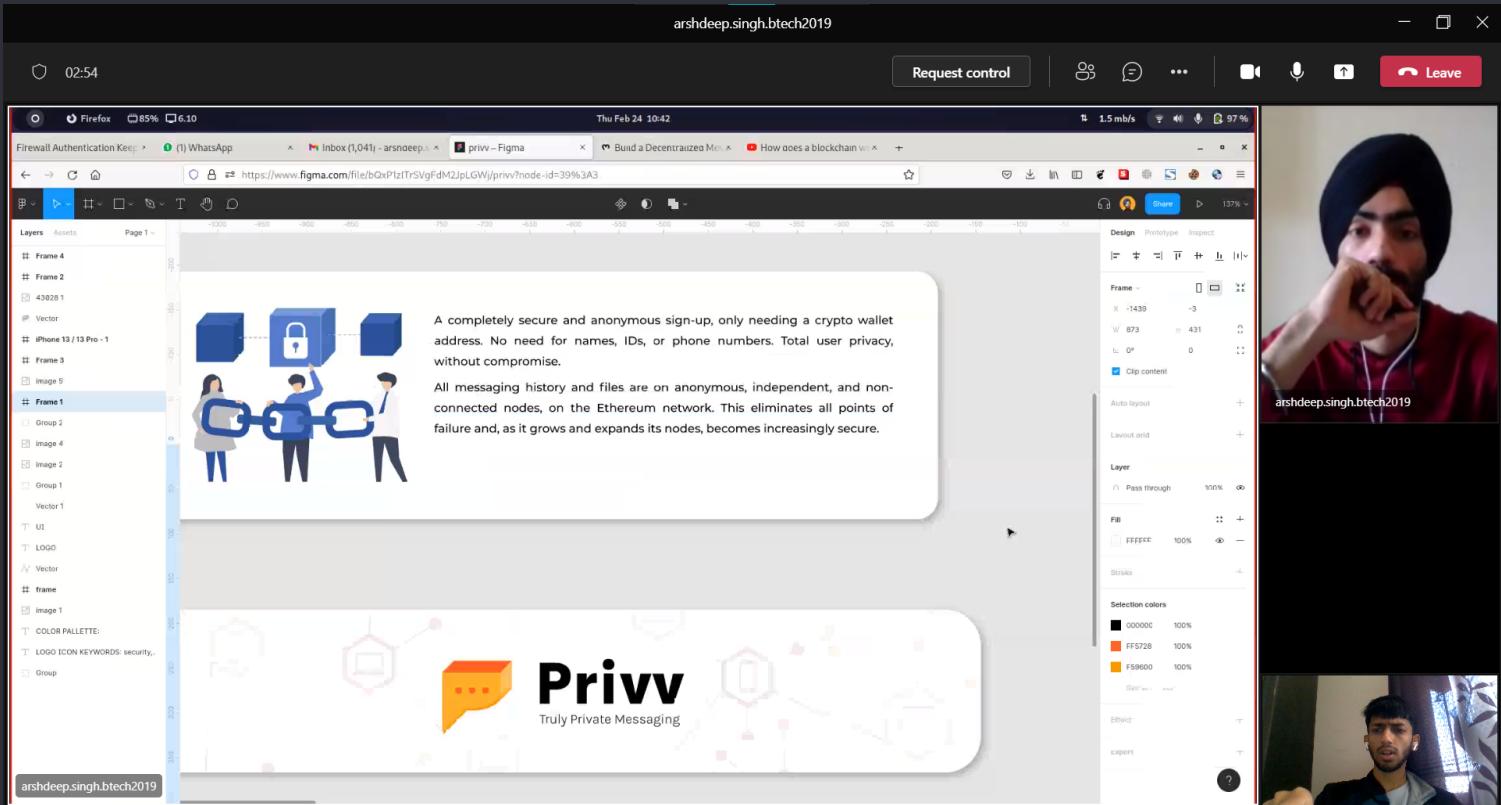
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But how does bitcoin actually

The image shows a video call interface with a central video player and two video feeds on the right. The video player displays a YouTube video titled 'How does a blockchain work - Simply Explained' by 'arshdeep.singh.btech2019'. The video content shows three 3D cubes (green, yellow, and orange) connected by purple rings, representing a blockchain structure. Below the video, a caption reads 'Let's take an example.' The top bar of the video player shows the title, date (Thu Feb 24 10:41), and a speed indicator (1.4 mb/s). The top right corner of the video player has a 'Leave' button. To the left of the video player is a vertical timeline with a blue dot at the top and a white circle below it. The video feed on the right shows a man with a beard and a red shirt, and another video feed at the bottom shows a man with a beard and a black shirt. The overall interface is dark-themed.



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**Privv : Truly Private Messaging App**

**Privacy Issues with other Messaging Apps:**

- Users have to submit sensitive data, like name, date of birth, and phone number.
- Apps like WhatsApp are often misused to spread fake news and misinformation.
- Many messaging applications store the data on the cloud, which is not encrypted, exposing it to vulnerabilities.
- Several apps use personal information for unethical purposes. Facebook allegedly shared the data acquired from WhatsApp and Facebook Messenger with advertisers.

Cases of **privacy and data leaks** have already happened with our favourite apps like WhatsApp and Facebook Messenger.

The biggest wave happened earlier this year when WhatsApp rolled out its new must-accept privacy notification. However, at the time, plausible solutions like Signal and Telegram surfaced. But it also utilizes cloud-based framework architecture, allowing non-encrypted messages to non-users.

A plausible solution to such issues lies in **blockchain technology**.



7

# Review 1 Meeting

Meeting in "General"

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4 of 22

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Vijayshri Khedkar



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(Research Paper by Raman Singh and Hitesh Tewari)
- Blockchain Chat App with JavaScript (<https://www.youtube.com/c/devslopes>)
- **Secretum** : The Blockchain Messaging App



# Thank You!

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