Bytom Dev Competition Stage 1 Idea

Authour : Tapaswin Padhy

Problem Statement :

Easing accessibility to vote by bringing centres nearby voters.

Idea / Solution / Prototype :

Problem :

Voting in India was held peacefully on April 26 2019, recording polling percentages of 65 percent and 62 percent respectively. There are numerous reasons for this.

- **Some of the people between the age 18-22 are living away from their home to pursue their higher/professional studies.**
- **Some people beyond that age group (in fact a large number) are working in metro cities.**
- **Difficult for aged people to actually go to the booth**
- **Fear of being attacked by suppressive groups, etc.**

Goals

1. Set up the development environment.
2. Write a contract, compiling it and deploying it in our development environment.
3. Interact with the contract on the blockchain through a node js console.
4. Interact with the contract through a simple web app.

Solution :

As a developer, the best way to design a new technology is by diving in and building toy applications. In this project, we'll be building a simple a Voting application using the concept of blockchain and computer vision (face identification and recognition). We are bringing Voting application near to users by enabling vote counting in Multi-agent system using blockchain and a two user Authentication system for both voter and electoral commissioner.

Project Outline:

The app we are proposing is distributed, i.e, no centralised server has access to the data. Hence, this voting app is unhackable. On the voting day, a voter has access to the app for 15 min. and if in any case he fails to vote in that 15 min. he gets a last chance after sometime. The voter can be anywhere across the Indian subcontinent. He first needs to verify his/her identity on the basis of a facial scan and Aadhaar card number. Then the party's agendas pops out to which a voter can refer to before giving a vote. The time slots given to the voters would be decentralised, dynamic and random, leaving no scope for suppression by powerful groups. The app would work on 4 stages:

- Data is generated. This is the voters facial identity, retina scan, his aadhaar number, etc.
- The data is encrypted and given an ID that is stored on the voters blockchain. This data is sent to the cloud storage.
- Data is requested by the election commissioner. The ID on the blockchain is used to retrieve the encrypted data.
- The data is decrypted and the vote is counted accordingly

Here are some ideas of Voting App we will make

10:59
12th March 2016

Name: Sweta
Age :23
Voted :No

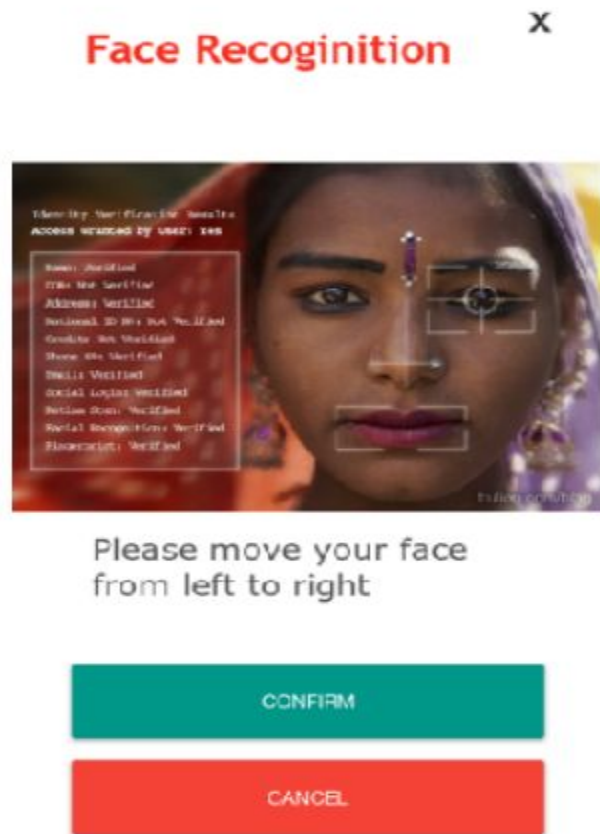106 Meeanee Rd Napier, Hawkes Bay,
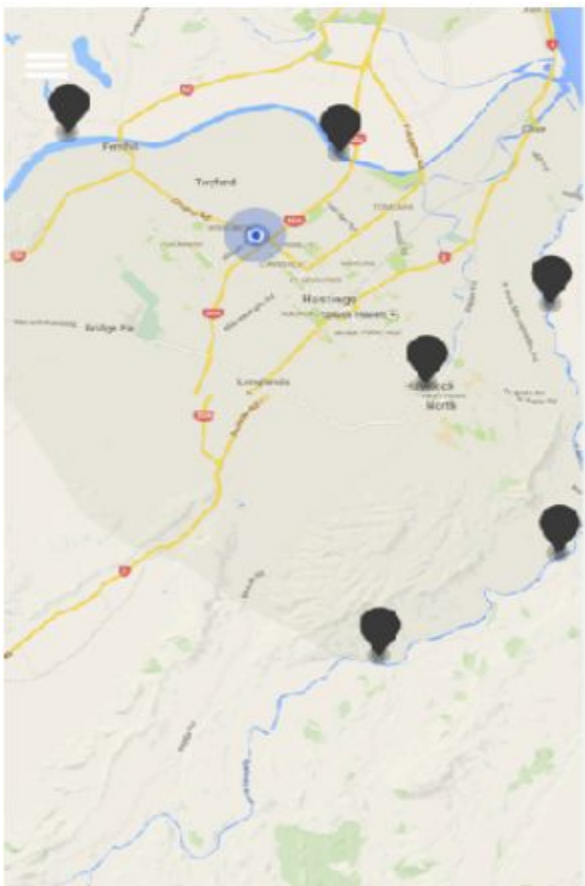4123, Rajasthan

Vote NOW

Issues while voting

Are you sure this report has been resolved?

By selecting 'confirm' the report will be removed off the admin and public maps and the reporter will be notified.
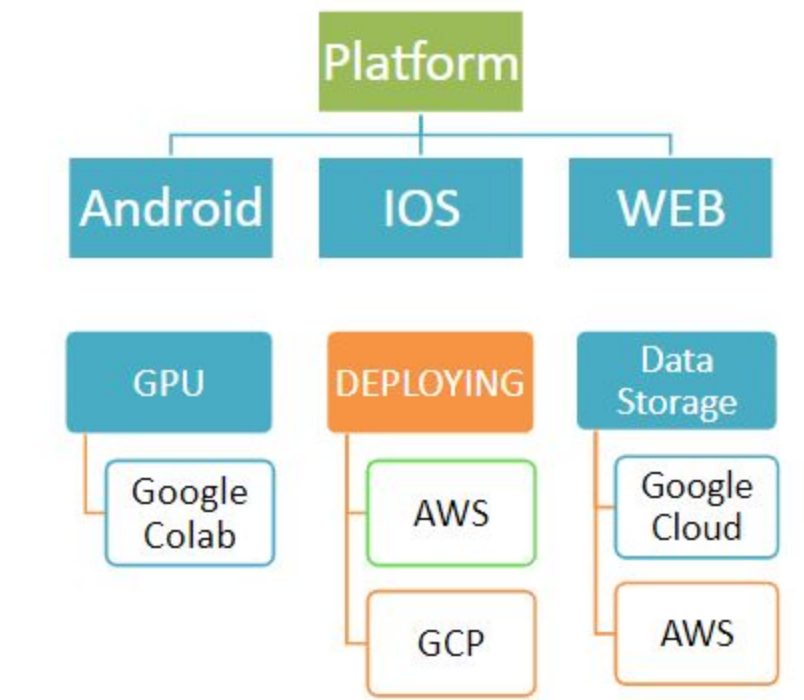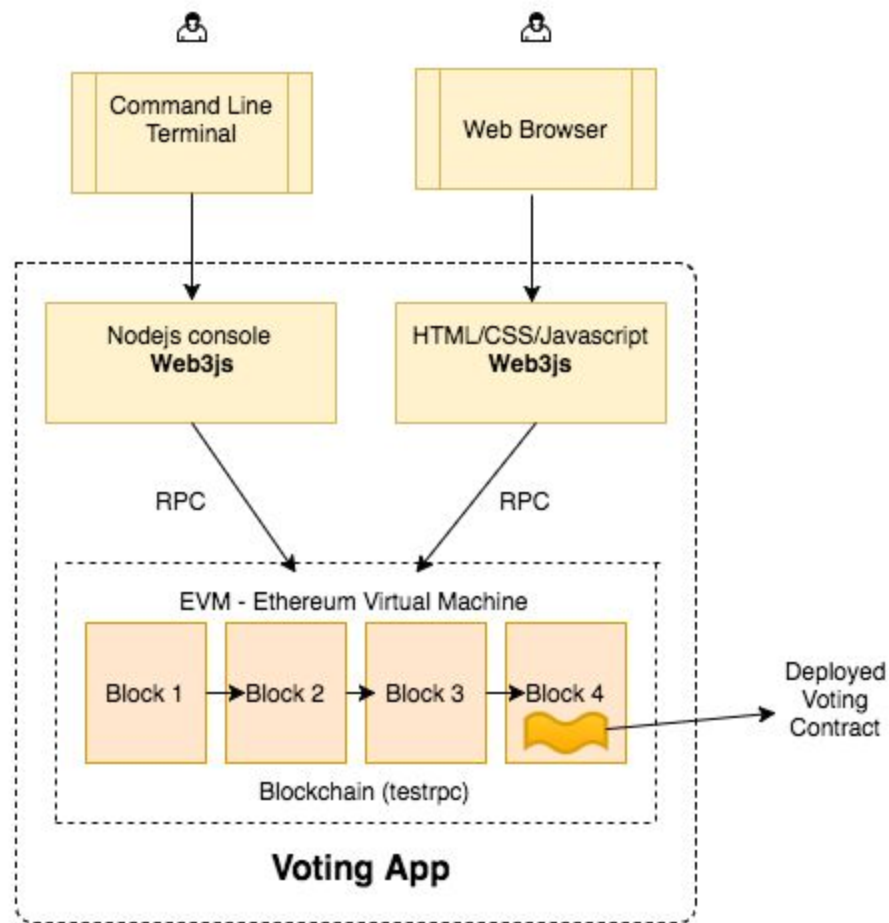
CONFIRM

CANCEL

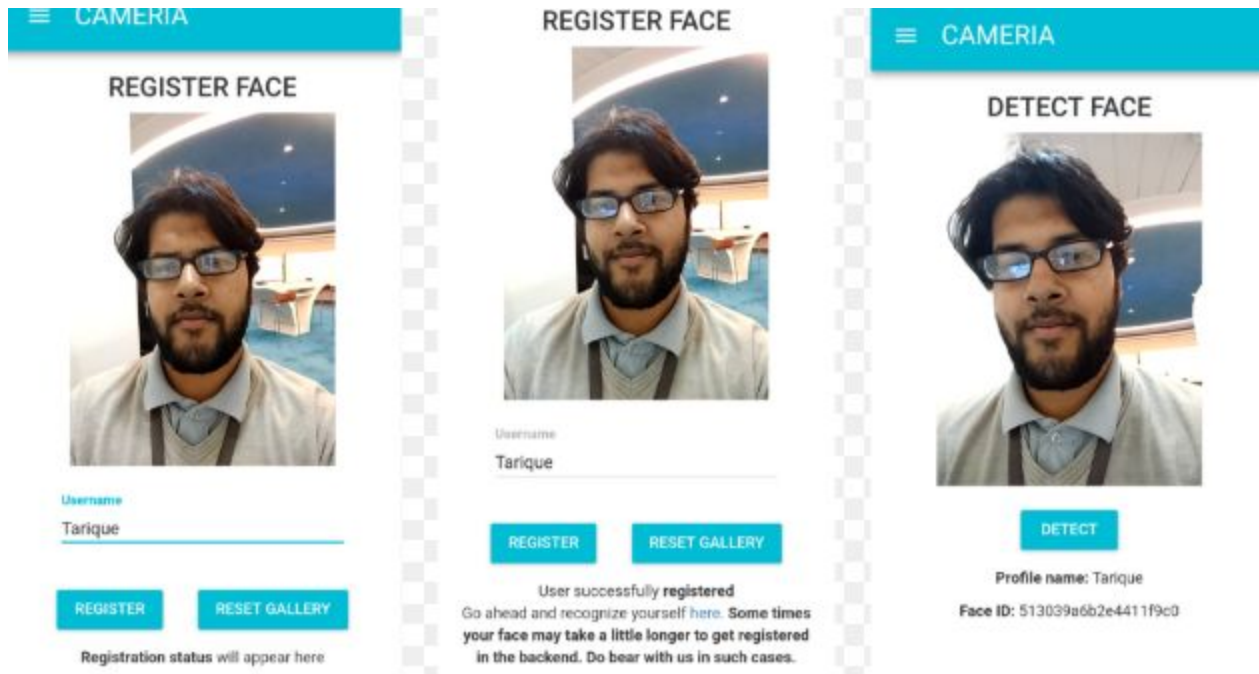Voting Centres near by

Technology stack :

This is what Voting App would look like

A Simple Hello World Voting Application

Candidate	Votes
Rama	1
Nick	1
Jose	0

Facial Recognition using Kairo API (Proposed App look)

How we can use camera based parking will be done

Use Case :

Name	My Poll
Description	This app is powered by Blockchain and Kairo API in backend which helps users to find nearest Voting centre and identifies voters.
Participating actors	Voters , electoral commissioners and admin election controllers in an area
Entry conditions	Uses enter into our app and find the nearest voting centre and goes there after facial verification and iris verification one can cast a vote in the 15 minutes that will be noted in Smart contract .
Exit conditions	User can't be verified or someone is peeking while voting in a centre to protect someone vote

Perceived challenges to implementation (Top 3 challenges you foresee)

- Blockchain voting also brings new twists to the age-old problem of voter coercion: "If I can verify that my vote was correctly recorded, then your local mob boss can also use my receipt to verify the same thing," and thus can exert pressure to vote a particular way
- "While the notion of using a blockchain as an immutable ballot box may seem promising, blockchain technology does little to solve the fundamental security issues of elections, and indeed, blockchains introduce additional security vulnerabilities," the report said. "In particular, if malware on a voter's device alters a vote before it ever reaches a blockchain, the immutability of the blockchain fails to provide the desired integrity, and the voters may never know of the alteration."

While there are many downsides but this is the future as advantages take over these a lot

Are there alternatives to proposed solution/implementation? If so, why were they not considered?

There are many alternatives like ballot voting, EVM voting which are currently extensively used in many counties but they all come with some flaws that make them less secure.Our Proposed solution is better as it covers all of these in many ways and provide far more secure better and cost effective approach for that