Category : Industry Personnel

Problem Code: HRD6

Problem Statement: Block-chain based certificate validation

College code:1-3513699244

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Storing the school/university/board certificates is a recurring process. For the Organization, verifying the authenticity of the certificates is tedious and cumbersome . The proposed solution will help the institutions to store the certificates in the decentralized way using the block-chain system and give access to any organizations or any institution with the consent of the individual using multi-sign. What we want: sharable decentralized storage using digital signature and access

Technology Stack:

- Ethereum Smart Contracts
- Node.js
- Firebase (API)
- Web3js (API)
- Express WEB framework

Now Using

CryptoCerts

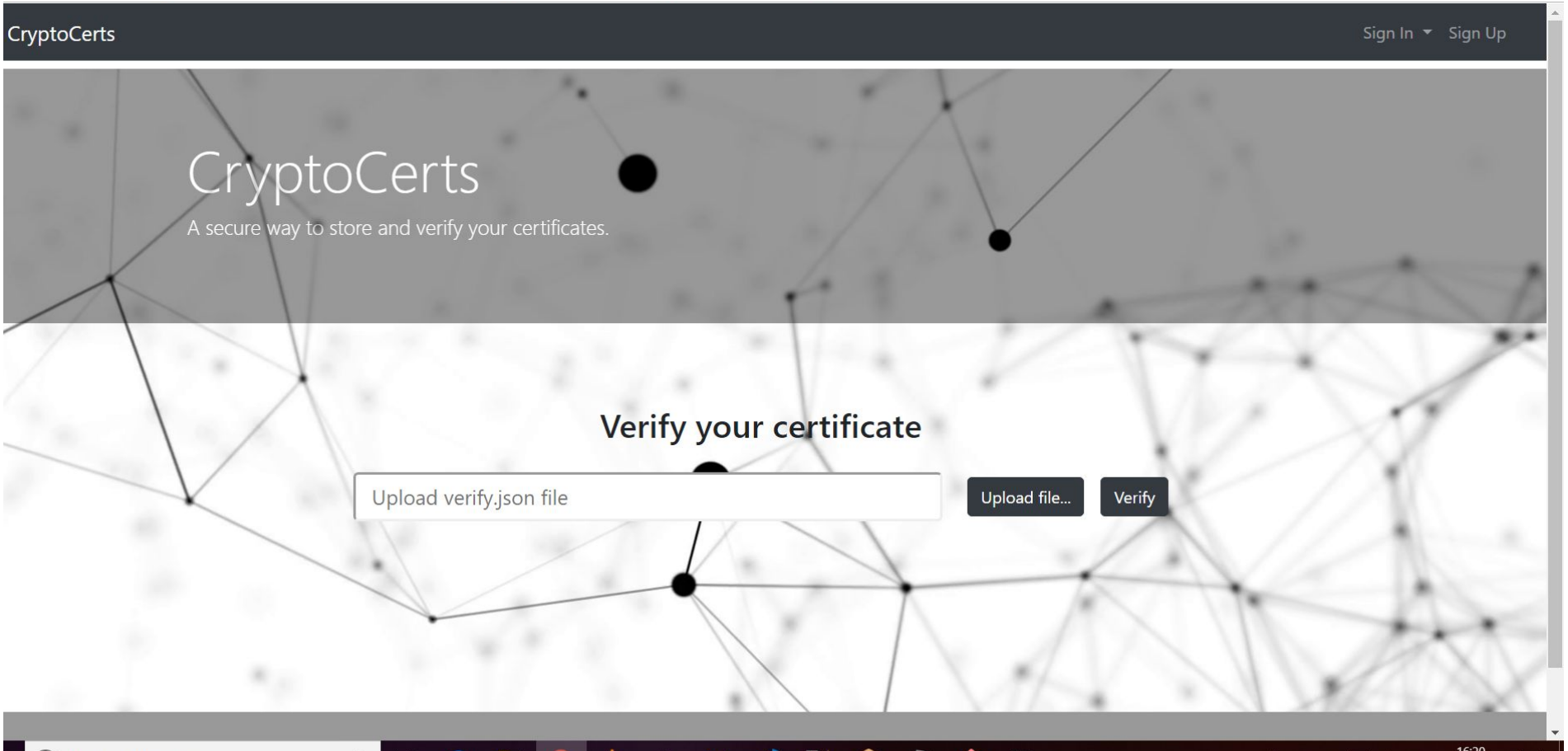
A unique and secure way to store your certificates

Idea

- The basic idea is to create a web based application with interface for Certificate Issuer , verification and access.
- The trusted entities like Universities will have the authority to add new certificates on the blockchain through the CryptoCerts DAPP(Decentralised Application).
- **Verification:** One can verify the Cerificate by uploading json file in the verify page .
- **Multi Signature Wallet:** Every Certificate is tied to three parties namely entitled user, Govt , Issuer.

- Since the hashes are stored on the blockchain rather than the actual certificates the privacy and identity theft is prevented.
- The MultiSignature wallet allows the control over the wallet be shared between entities rather than a single authority to prevent misuse.
- Since the certificates are stored on blockchain and because of its immutability it’s tamper proof and fraud resistant.

Web App - Home Page



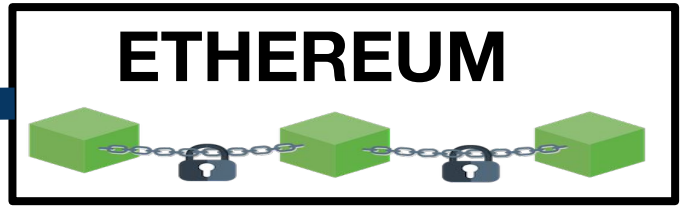
Architecture

Certificate Owner

ISSUE CERTIFICATES

SENDS AN EMAIL

LINKS THE CERTIFICATE



WEB APP(DAPP)

Verifies on blockchain

Submits a verification file

Student

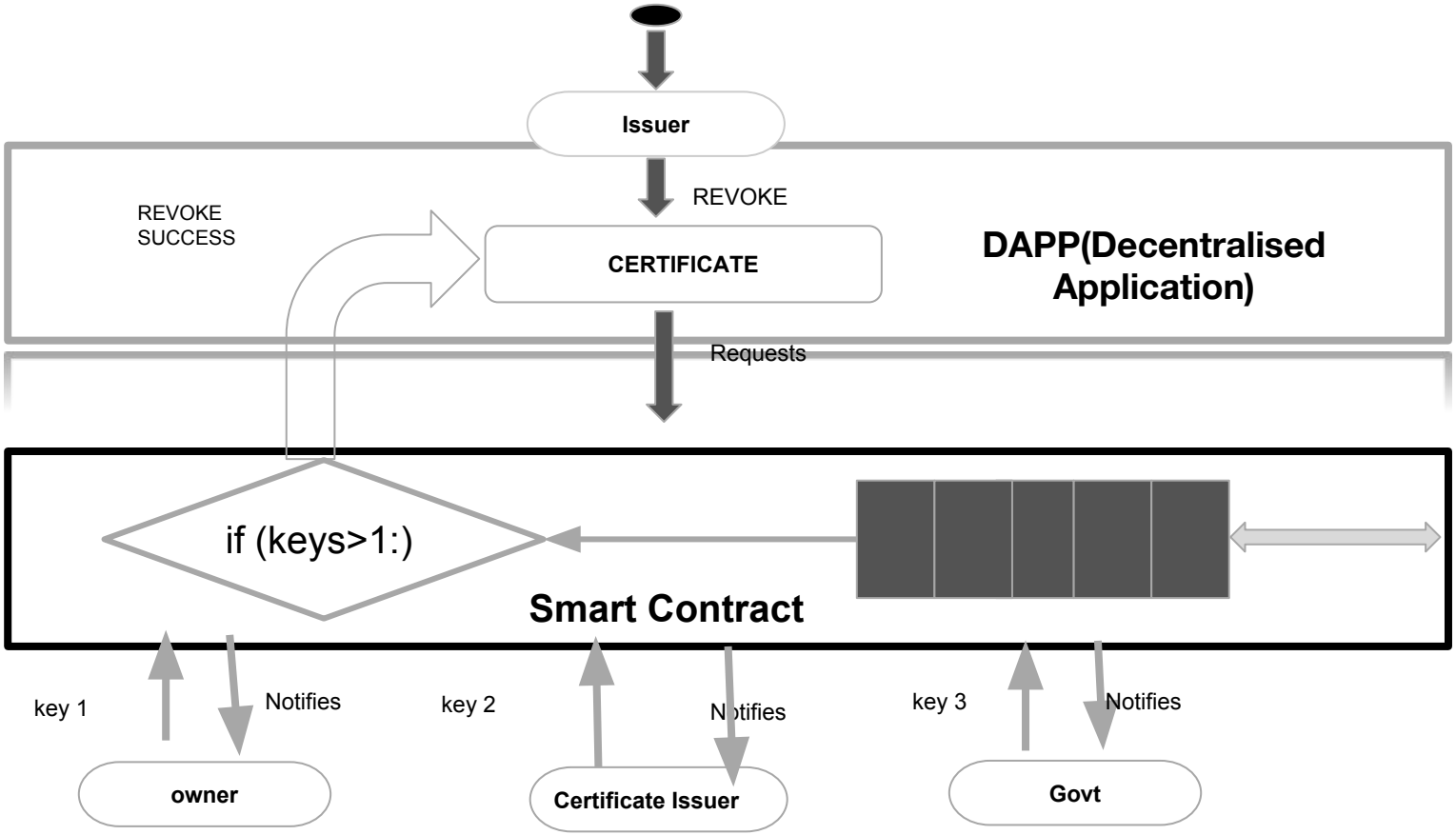
MultiSig

Cerificate Issuer

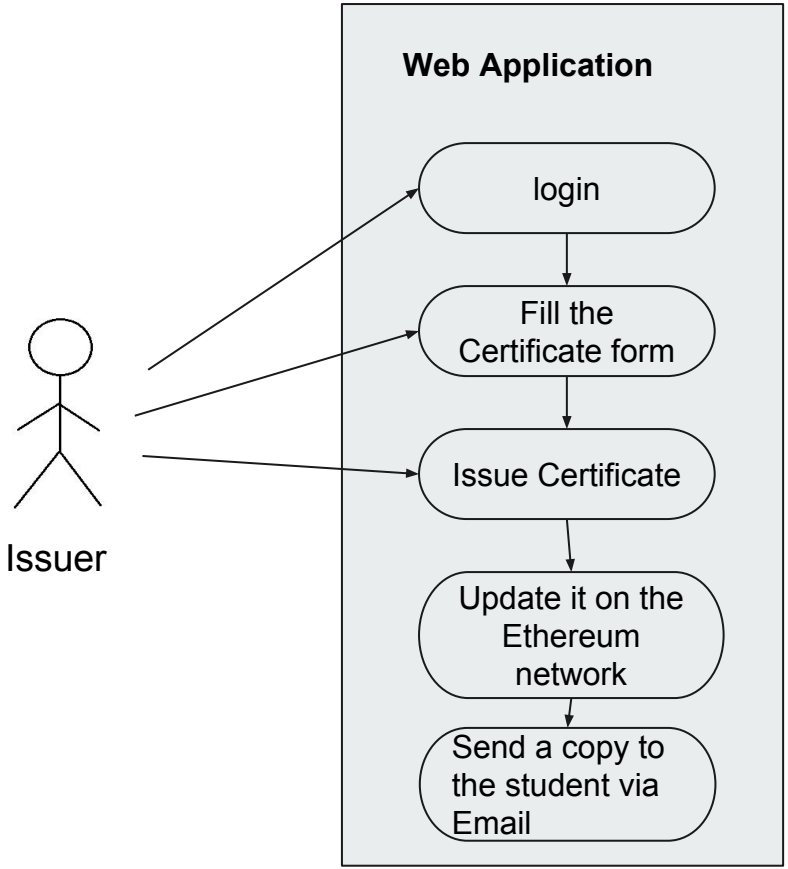
Govt Body

Certificate Owner

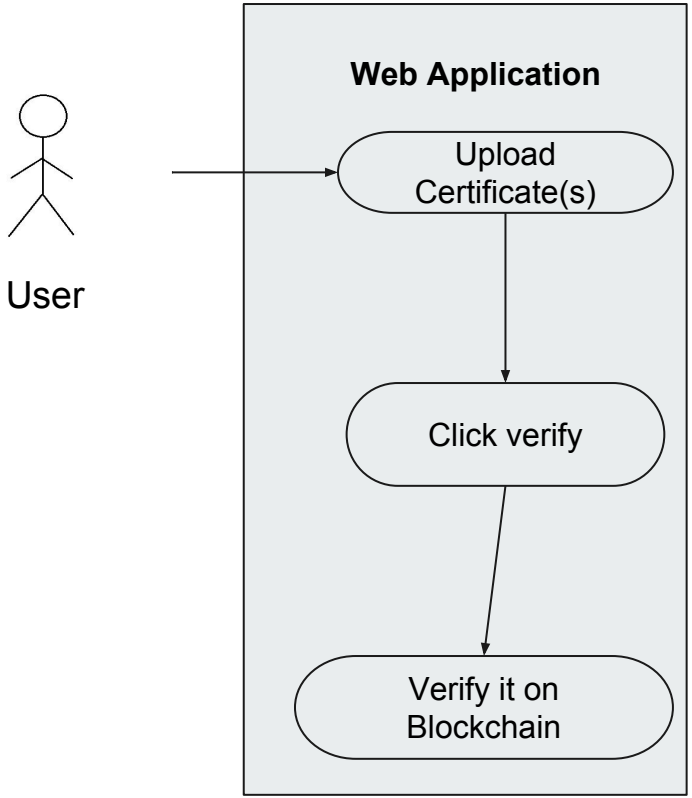
Multisig Revoke



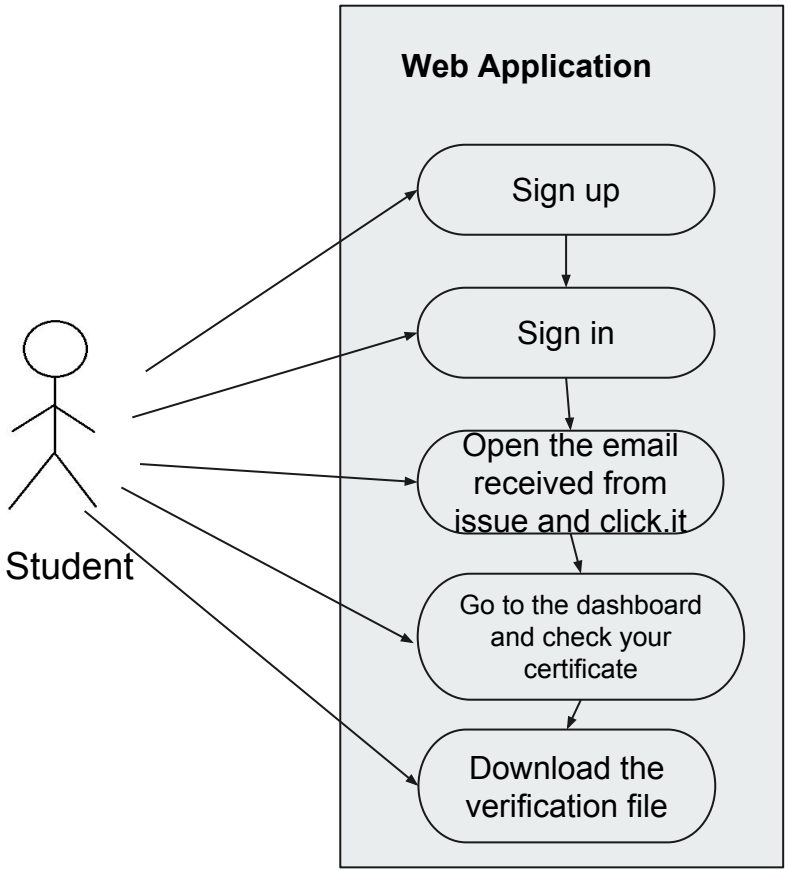
Issuing Certificates



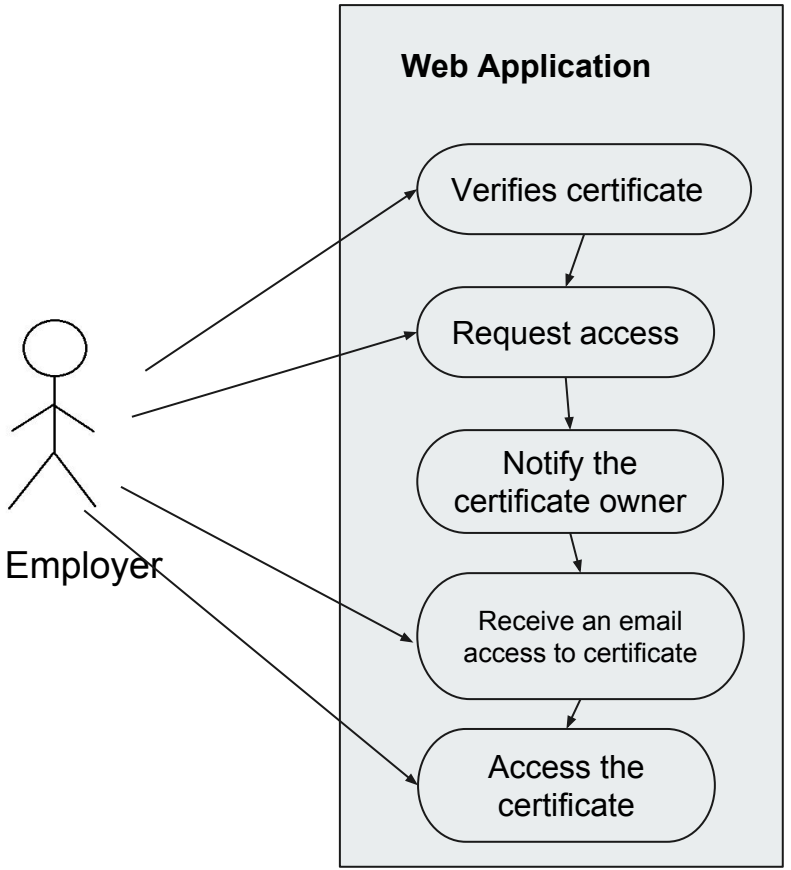
Verification



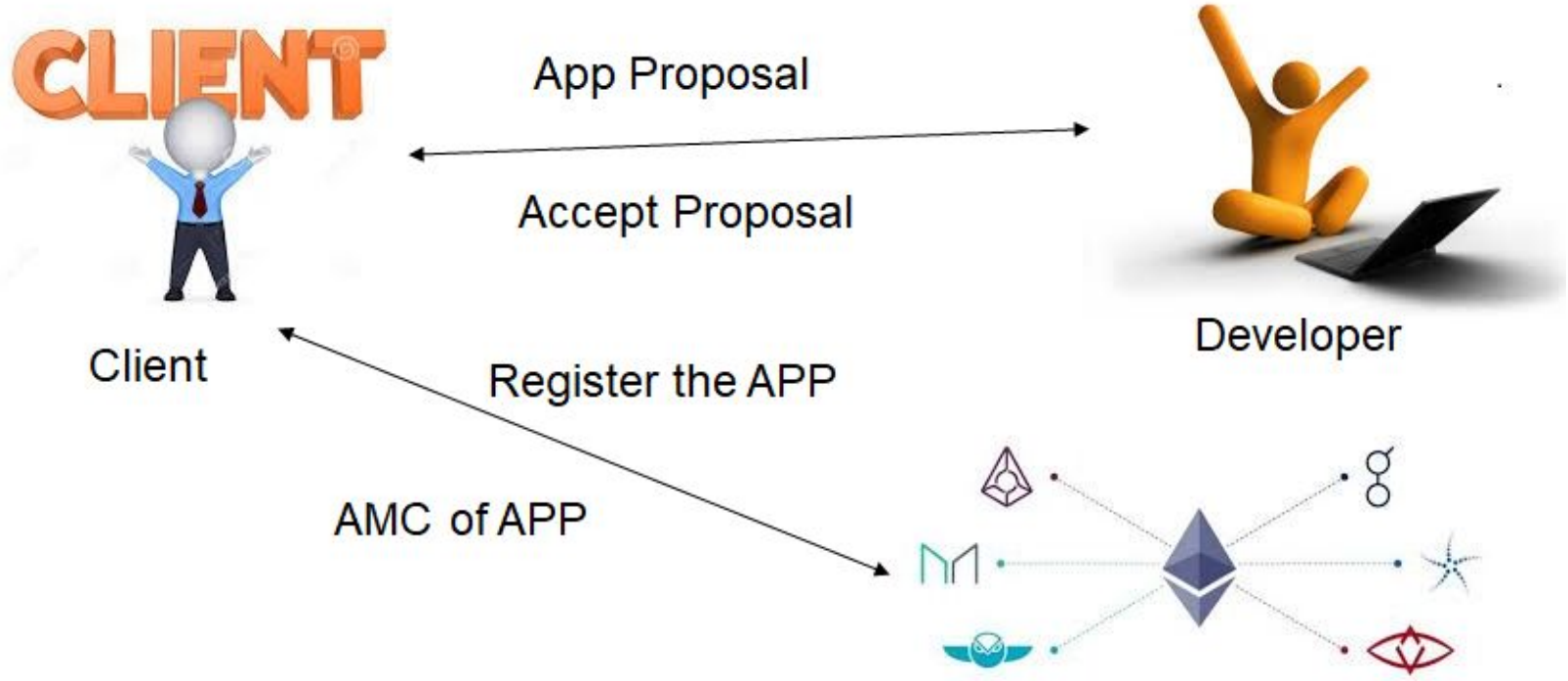
Certificate owner



Access

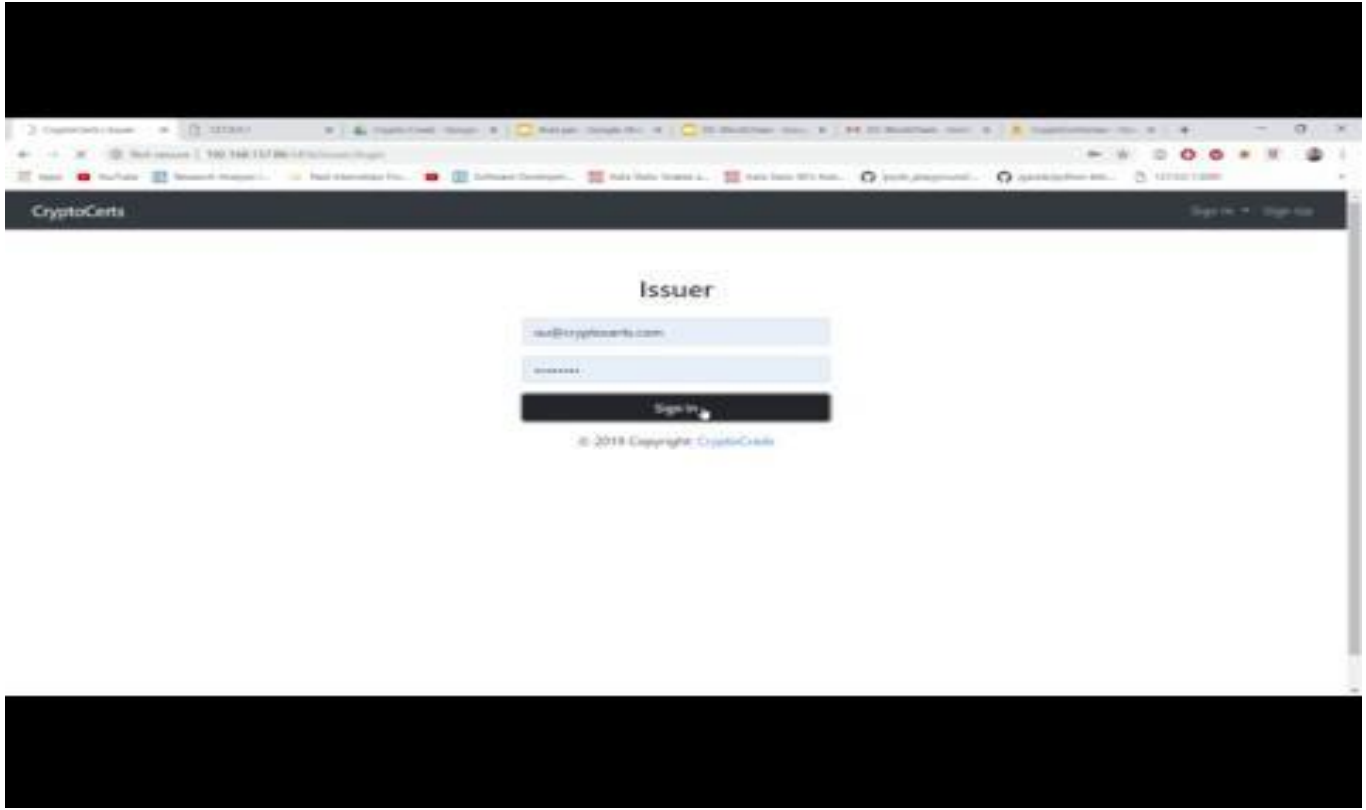


REVENUE MODEL

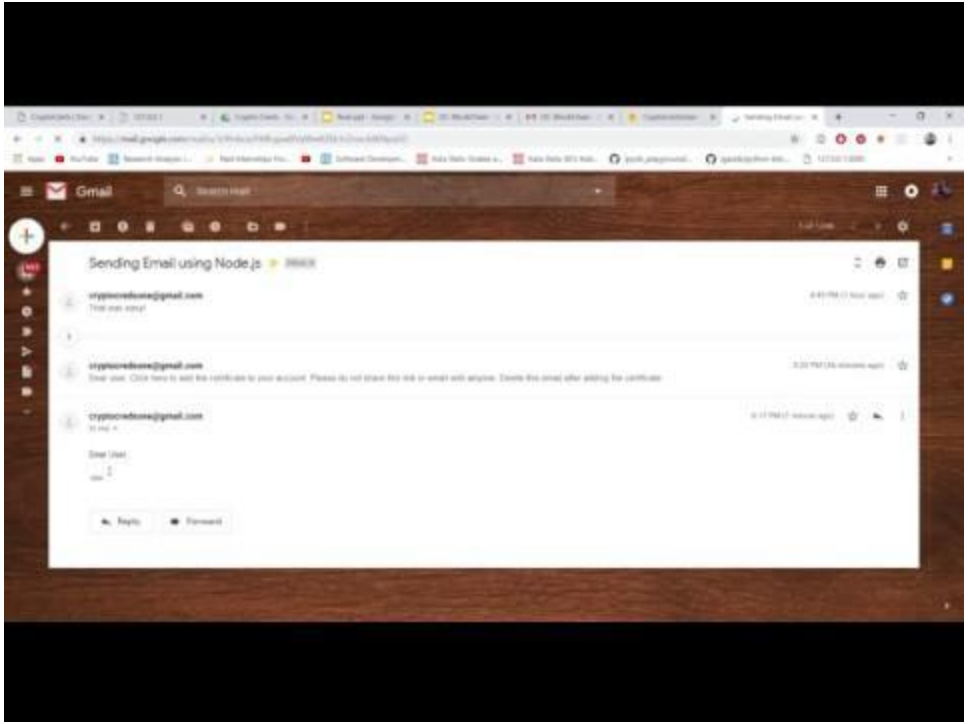
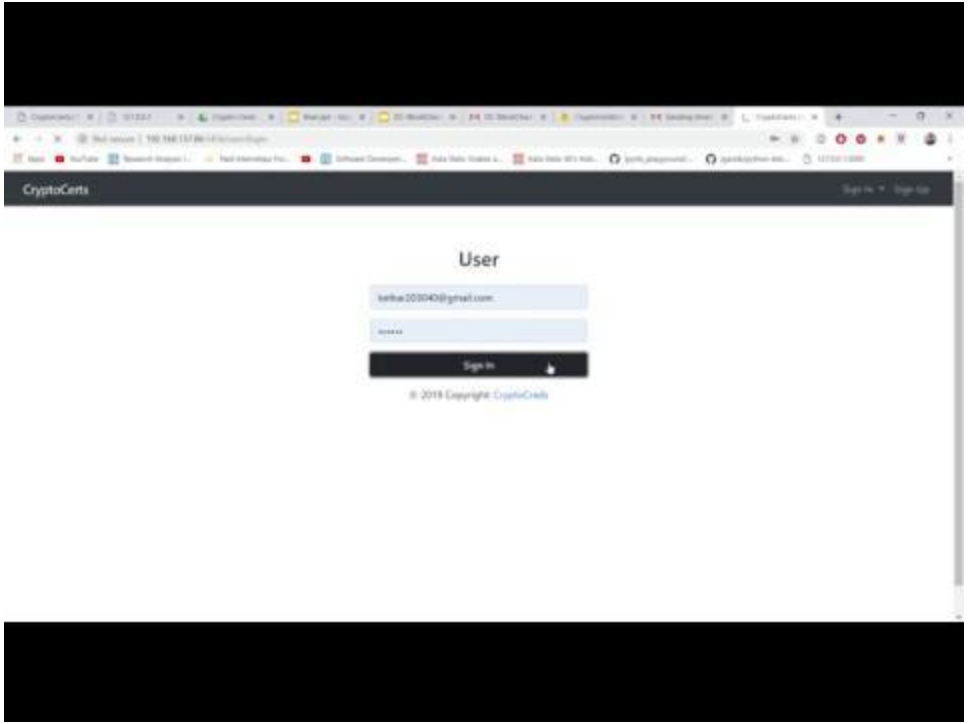


Transaction Count	Ether	In Rupees	In USD	Time
1	.01		1.33	Few minutes
2	.1		13.3	Few seconds

Issuer Walkthrough



User Walkthrough



Verification Walkthrough