TrustDer - KeyMaker

Development Plan

Build a blockchain network running Keymaker protocol as a smart contract

Process Framework:

Based on the context of this project, a hybrid approach with a combination of Agile and Lean philosophies will be an appropriate choice for effective development and management of the project.

Some of the key practices adopted in development and management of the project under this approach are:

1. Kan-ban boards for task management
2. Sprint planning (Sprint duration of two weeks)
3. Implement in iterations and limit work in progress at focus
4. Standup meetings - Instead of daily, the team preferred to meet alternate days to be effective and productive in updates.
5. Continuous development and continuous delivery
6. Dev testing : We don't have a designated testing resource for the project. Dev testing would be an effective practice for this project
7. Build prototypes and proof of concepts to validate and explore.
8. Agility in Requirements management - Although we have a high level project direction, the team is flexible to absorb outcomes of the exploration in the process
9. Self-managed team: As a team, each of us decided to take ownership of individual pieces to reduce traditional management overhead
10. Collaborative communication among the team (Distributed team)

Tools and Technologies:

Blockchain Technology	Algorand
Cloud	AWS
Languages	Python, Golang
Source Control	Github
Hardware	Raspberry Pi

Project Management	Trello, Google Drive
Communication	Slack, Gmail, Zoom
Project Record	Google Docs

Roles and Responsibilities:

Name and Role	Responsibilities
Pramod Illuri : Project Manager	Project management, and team facilitation
Keshava Srinivas : Cloud Engineer	Works with the blockchain engineers on the development of the system. Decides on:- ● What resources need to be provisioned from the cloud ● What AWS tools need to be used for the development and implementation of the keymaker protocol Implements the following:- ● API gateways with specific tasks for the nodes to communicate and pull resources from ● Works with the integration engineer on deciding and implementing how shards are distributed in the network
Nithin Ram Gomatam Vasudevan : Integration Engineer, Technical Lead	● Drive the weekly sprint meetings and technical discussions with the sponsor ● Works with Cloud Engineer and Blockchain Engineers to develop the protocol ● Create a network of Raspberry Pis ● Install smart contracts and blockchain-related code on the Pis ● Test the protocol on the Pis
Noora Alfayez : Blockchain Engineer, Technical Lead (Pittsburgh)	● Support the weekly sprint meetings and technical discussions with the sponsor ● Maintain communication and updates with faculty advisor ● Build a blockchain network running Keymaker protocol as a smart contract ● Work with integration and cloud engineers to design and implement verification process that accounts for scalability constraints (speed and cost)

Prerit Pathak : Blockchain Engineer	- Research about and go through Algorand documentation - Write smart contracts to implement the KeyMaker protocol - Work with the Cloud Engineer to use AWS in association with the blockchain
Vaanya Gupta : Blockchain Engineer	- Research and get familiarized with the blockchain technology (Algorand) - Build a blockchain network running Keymaker protocol as a smart contract - Focus on improving speed and reliability - Integrate the cloud technologies (AWS) with the help of the Cloud Engineer