

Minor project Synopsis
Bachelor Of Technology
INFORMATION TECHNOLOGY
MARKETSELLER-Blockchain product selling

Vivek, Dhiman
1905415
1921116

Vishal, Mauriya
1905414
1921114

Mansi,
1905362
1921063

April 20, 2022



GURU NANAK DEV ENGINEERING COLLEGE LUDHIANA-141006,
INDIA

Contents

1	Introduction	3
2	Objectives	3
3	Feasibility Study	3
3.1	Front-end and Back-end selection	3
4	Methodology/Planning of Work	4
5	Facilities required for proposed work	4

1 Introduction

This application is covering the creation of an interactive marketplace. Clients of this application will purchase products with Ether Digital Currency.

The marketplace page with real updates of Ether Currency and course prices compared to the US Dollar.

This application will be built in the Next JS Framework with Tailwind as the CSS framework. Next JS is internally using React Library. It's straightforward to use and offers SSR (Server-side Rendering) by default.

The most mentionable topics covered in this application are;

- O Next JS (SSR) Integration with Web3 and Blockchain.
- O Creation of more complicated Smart Contract
- O Email Hashing and Order Verification feature
- O Testing Solution (Tests will cover every feature of the Smart Contract)
- O Pagination and Filtering of orders

2 Objectives

1. Create a web3 application as a visualization tool.
2. A single page web application built using modern Blockchain Technology using Solidity Programming Language that will help to create Smart Contracts which makes a decentralized applications.
3. Ethereum Technology is used that lets you send cryptocurrency to anyone, but in the first place it also powers applications that everyone can use, no one can takedown.
4. Wallets (Metamask) to allow users to store, send and retrieve funds for non-fungible Tokens in real time.

3 Feasibility Study

A study of resource availability that may affect the ability to achieve an acceptable system. This Evaluation determines whether the technology needed for proposed system is available or not.

Can the work for project be done with current equipment existing software technology and available personal?

Can the system be upgraded if developed?

If new technology is needed then what can be developed?

This is concerned with specifying equipment and software that will successfully satisfy the user requirements.

3.1 Front-end and Back-end selection

An important issue for the development of the project is the selection of suitable front-end and back-end. When we decided to develop the project we went through an extensive study to determine the most suitable platform that suits the needs of the organisation as well as helps in development of the project.

The front end for dapps covered in the project was used React Library and Next JS Framework. CSS and design are built with the help of Bulma and Tailwind.

The back end for dapps covered in the project was used Solidity, Truffle, Ganache, Metamask.

4 Methodology/Planning of Work

Here are the tools that were used in the project to create the visualization tool with a Web Application.

Ganache CLI is a personal Blockchain for rapid Ethereum and corda distributed application development. you can use Ganache accross the entire development cycle; enabling you to develop, deploy, test you dApps in a safe and deterministic environment.

Truffle is a world class development environment,testing frameworkand asset pipeline for blockchains using the Ethereum Virtual Machine, aiming to make life as a developer easier. Withe Truffle you get:

- 1.Built in smart contract compilation,linking deployment and binary management.
- 2.Automated contract Testing for rapid development.
- 3.Scriptable,extensible deployment and migrations framework.
- 4.Network management for deploying to any number of public and private networks.
- 5.Package Management with EthPM ndNPM, Usind ERC190 Standard.
- 6.interactive console for direct contract communication.
- 7.Configurable build pipeline with support for tight integration.

Metamask was createdto meet the needs of secure and usable Ethereum based web-sites. In particular,it handles account management and connecting the user to the blockchain.

5 Facilities required for proposed work

Visual Studio Code IDE(Integrated Development Environment) required to code various NextJS,JSX,Solidity.IDE also helps to maintain the project files.

Any browser to run and view the code output.

GitHub is an online software development platform used for storing, tracking, and collaborating on software projects. It enables developers to upload their own code files and to collaborate with fellow developers on open-source projects.

References

- Blockchain roadmap. <https://www.androidtask.com/BlockChain-RoadMap/>
- Solidity language. <https://www.github.com/protofire/blockchain-learning-path>.