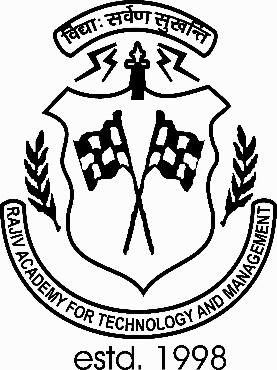
**RAJEEV ACADEMY FOR TECHNOLOGY & MANAGEMENT,**

**Mathura**



MINI-PROJECT REPORT

On

## **CRYPTO BLOCKCHAIN WALLET**

## Submitted for the partial fulfillment towards the award

of the degree in

**MASTER OF COMPUTER APPLICATION**

Of

## **Dr. A.P.J. Abdul Kalam Technical University,**

## **Uttar Pradesh, Lucknow**

Submitted By Under the Guidance of

**Romesh Kumar Tripathi Mr. Saiyam Varshney**

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Session – 2021-23

**Acknowledgment**

A project owes its success from commencement to completion, to the people in love with creativity at various stages. Let’s in this page express my gratitude to all those who helped me in various stage of this study.

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|  |  |
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**Declaration**

I hereby declare that the project work entitled **“Crypto Blockchain Wallet”** submitted to **Rajiv Academy for Technology & Management**, is a record of original work done by me under the guidance of **Mr. Saiyam Varshney**, Faculty of MCA, Rajiv Academy for Technology & Management, Mathura and this report is submitted in the fulfillment of the requirements for the award of the degree of Masters in Computer Applications. The results embodied in this report have not been submitted to any other University or Institute for the award of any degree.

Romesh Kumar Tripathi

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#### **SUMMER TRAINING REPORT SUPERVISIOR CERTIFICATION**

I, ***Mr. Saiyam Varshney***, hereby certify that this research work entitled “***Crypto Blockchain Wallet”*** is the result of research under taken by **Romesh Kumar Tripathi (2101730140024)**. The findings and conclusions expressed in this report are genuine, authentic and are for academic purpose only. Any resemblance to earlier work is purely coincidental.

## Signature

## **Mr. Saiyam Varshney**

**MCA**

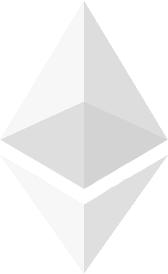
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**INTRODUCTION**

This project is aimed at developing a Crypto Blockchain Wallet. This Blockchain Wallet is an Internet based application that can be accessed throughout the Net and can be accessed by anyone who has an Internet connection. This application will help the client for sending and receiving Ethereum through the blockchain network, A blockchain is a distributed, verifiable data store. It works by public-key cryptography with the Nobel concept of the *proof-of-work*.

Each transaction in the blockchain is signed by the rightful owner of the resource being traded in the transaction. When new coins (resources) created, they are assigned to an owner. This owner, in turn, can prepare new transactions that sends those coins to others by simply embedding the new owner's public key in the transaction and then signing the transaction with the owner's private-key. In this way, a verifiable link of transactions is created; each new transaction, with a new owner, pointing to the previous transaction, with the previous owner.

To order these transactions and prevent the [double-spending problem](https://en.wikipedia.org/wiki/Double-spending), blockchain use the *proof-of-work*. The proof-of-work is a procedure that establishes a cost for grouping transactions in a certain order and adding them to the blockchain. These groups of transactions are called *blocks*. Each block points to a previous block in the chain, thus the name *blockchain.*

This is why cryptocurrencies, like Bitcoin, are built on blockchain technology. Blockchain gives cryptocurrencies the platform and security they need to work. These blocks, or records are stored on online servers, which are publicly accessible, but only by you or anyone else who the block has been shared with. In my project I used web 3.0 which is a third generation of internet services which provide websites and applications with the technology to run. Web 3.0 is set to be powered by AI and peer-to-peer applications like blockchain. The key difference between Web 2.0 and Web 3.0 is that Web 3.0 is more focused on using innovative technologies like machine learning and AI to create more personalized content for each user. It is also expected that Web 3.0 will be more secure than its predecessors because of the system it is built upon.

Blockchain serves as the foundation of Web 3.0; Web 3.0 would not be possible without the systems provided by blockchain. The enhanced security and privacy offered with blockchain is something that the developers of Web 3.0 are using to appeal to internet users. Since blockchain is a decentralized system, there is no single point of control that could be easily hacked. this means the websites and the internet, in general, would be much more secure against attacks. Users would not have to worry about their information being deleted or compromised. Together, Web 3.0 and blockchain will allow for better [crypto currency](https://blog.simbachain.com/blog/what-to-know-before-investing-in-crypto) trading and [mining.](https://blog.simbachain.com/blog/is-bitcoin-mining-profitable)

These applications include the transaction of Ethereum from one wallet to other or receive Ethereum from others. It also kept all the data of transaction details like how many Ethereum are sent address of the receiver and timing of the transactions. This is one of the important features of our system.

Project Overview & Summary

**2.1 Purpose** o**f Project*:***

* The main purpose of this project is to provide our customers with fast and secure way to buy send and receives Ethereum over blockchain; you can easily saw your last transaction detail easily. In fact, there is similar system on the internet, but they are less secure found in the existing system.
* The goals of our system are:
  + To provide anytime anyplace service for the customer
  + To promote the cryptocurrency
  + To increase the profit
  + To obtain statistic information from the transactions record

**2.2 Scope of Project:**

* Ethereum is also the cryptocurrency of the Future because of its scope. The world progressively is moving to the digital platforms. Most industries and Future companies will be based online. This means that a suitable infrastructure is needed to match the demand of future organizations. Ethereum will be able to address these needs through it inventive tools. Smart contracts will, for instance, be used for fulfilling agreements made between two parties.
* Smart contracts are much more efficient than ordinary contracts because the terms of the agreement are made using code. The flexibility of smart contracts also means that they can be designed to serve a plethora of purposes. With a range of conditions being put in place to ensure that the contracts are foolproof, it is almost expected that Ethereum will be a go-to platform for businesses
* Ethereum proposed to utilize blockchain technology not only for maintaining a decentralized payment network but also for storing computer code that can be used to power temper-proof decentralized financial contracts and applications

**2.3 Overview of Project:**

Our Krypto is a decentralized blockchain platform that establishes a peer-to-peer network that securely executes and verifies application code, called smart contracts. Smart contracts allow participants to transact with each other without a trusted central authority. Transaction records are immutable, verifiable, and securely distributed across the network, giving participants full ownership and visibility into transaction data. Transactions are sent from and received by user- created Ethereum accounts. A sender must sign transactions and spend Ether, Ethereum native cryptocurrency, as a cost of processing transactions on the network

**2.3.1 Features:**

**Blockchain wallet**: A blockchain wallet is a cryptocurrency wallet that allows users to manage different kinds of cryptocurrencies—for example, Bitcoin or Ethereum. A blockchain wallet helps someone exchange funds easily. Transactions are secure, as they are cryptographically signed. The wallet is accessible from web devices, including mobile ones, and the privacy and identity of the user are maintained. So, a blockchain wallet provides all the features that are necessary for safe and secure transfers and exchanges of funds between different parties.

* Easy to use. It’s just like any other software or a wallet that you use for your day-to- day transactions
* Highly secure. It is just a matter of securing your private key
* Allows instant transactions across geographies. And these are barrier-free, without intermediaries
* Low transaction fees. The cost of transferring funds is much lower than with traditional banks.
* Allows transactions across Ethereum. This helps you do easy currency conversions
* Every node on the network has a copy of the digital ledger. To add a transaction every node needs to check its validity. If the majority thinks its valid, the it’s added to the ledger. This promotes transparency and makes it corruption-proof

**HARDHAT: -** Hardhat is a development environment to compile, deploy, test, and debug your Ethereum software. It helps developers manage and automate the recurring tasks that are inherent to the process of building smart contracts and Apps, as well as easily introducing more functionality around this workflow. This means compiling, running and testing smart contracts at the very core.

Hardhat comes built-in with Hardhat Network, a local Ethereum network designed for development. Its functionality focuses around Solidity debugging, featuring stack traces, console.log () and explicit error messages when transactions fail. A lot of Hardhat's functionality comes from plugins, and, as a developer, you're free to choose which ones you want to use. Hardhat is unopinionated in terms of what tools you end up using, but it does come with some built-in defaults. All of which can be overridden.

It runs as either an in-process or stand-alone daemon, servicing JSON-RPC and Web Socket requests.

By default, it mines a block with each transaction that it receives, in order and with no delay.

It's backed by the @ethereumjs/vm EVM implementation, the same one used by ganache, Remix and Ethereum Studio

**TAILWIND**: - Tailwind CSS is as told in its documentation is a **utility-first CSS framework**. With this it means that it doesn’t have those predesigned elements and components. All you get with tailwind CSS is a bunch of classes which you can use in combination to create a beautiful UI. **Tailwind CSS doesn’t have these inbuilt pre styled components**. It will give you the classes and you can style it yourselves for example the container in the tailwind just gives you a width no padding and no margin. Tailwind also offers the best UI components but they are paid but still here are some of the best libraries or websites that offer pre built tailwind blocks. And the best part about them is first they all are responsive and secondly you don’t have to add or install anything

* It saves time. Pinning using Tailwind takes much less time than pinning in the normal way. I estimate that I probably save 2-3 hours a week by using Tailwind.
* You can pin more pins. Because pinning using Tailwind is far quicker than pinning the conventional way, you can pin many more pins to many more boards, greatly increasing ...
* Spread out you’re pinning. If you pin your pins the standard way, they are pinned immediately – this means every time you have a pinning session, all those pins ...
* Optimized schedule. Tailwind takes the guesswork out of ‘when’ to pin.
* You get more page views. The fact that you can pin more pins, that you can spread out your pins and have Tailwind pin your pins at the best time.

**METAMASK**: - Meta mask is a popular **crypto currency wallet**, surpassing 10 million monthly active users. It is a crypto wallet that you can use while browsing the web to interact with decentralized applications. It can store multiple private keys and can work on multiple networks, such as the **Ethereum network** and the **Finance Smart Chain** network. If you’ve been hearing news about [Axe Infinity](https://www.hongkiat.com/blog/axie-infinity/) and other [blockchain games](https://www.hongkiat.com/blog/top-nft-games/), at one point you’ve probably heard of Meta Mask to. It allows you to do transactions between decentralized applications like [Unisa](https://uniswap.org/), [Pancake Swap,](https://pancakeswap.finance/) Shiba Swap, and so on, with just a few clicks. You can also use Meta Mask to register on marketplaces. Imagine going to the mall to buy groceries, would you have to memorize your banking credentials to have access to your funds inside it? No, you have your credit/debit card for that. It’s automatic, you will just need to swipe your card, type your PIN (if they require it), and voila! Meta Mask works like that, making your life much easier, but for crypto.

* Its amazing technological abilities make transactions fast and easy.
* It also has Built-in Token purchasing which allows you to buy the token that you want with just a few clicks.
* And of course, the fact that it’s free!

**VITE: -** "Viet (French word for "fast", pronounced /vit/) is a build tool that aims to provide a faster and leaner development experience for modern web projects. It consists of two major parts:

* + A dev server that provides rich feature enhancements over native ES modules, for example extremely fast Hot Module Replacement (HMR).
  + A build command that bundles your code with Rollup, pre-configured to output highly optimized static assets for production

Viet is opinionated and comes with sensible defaults out of the box, but is also highly extensible via its Plug-in API and JavaScript API with full typing support.

.

#### **SYSTEM SPECIFICATIONS**

* 1. Hardware Requirements:
     + Pentium-IV (Processor) or more.
     + 512 MB Ram
     + 512 KB Cache Memory
     + Hard disk 100 GB (for full node)
     + Microsoft Compatible 101 or more Key Board.

#### **Software Requirements:**

##### Operating System: Windows 10 Pro

* Programming language: Solidity code
* Smart Contracts
* Cryptocurrency Wallet: Meta mask pairing
* Front-End: html, CSS, React.js
* Back-End: MySQL

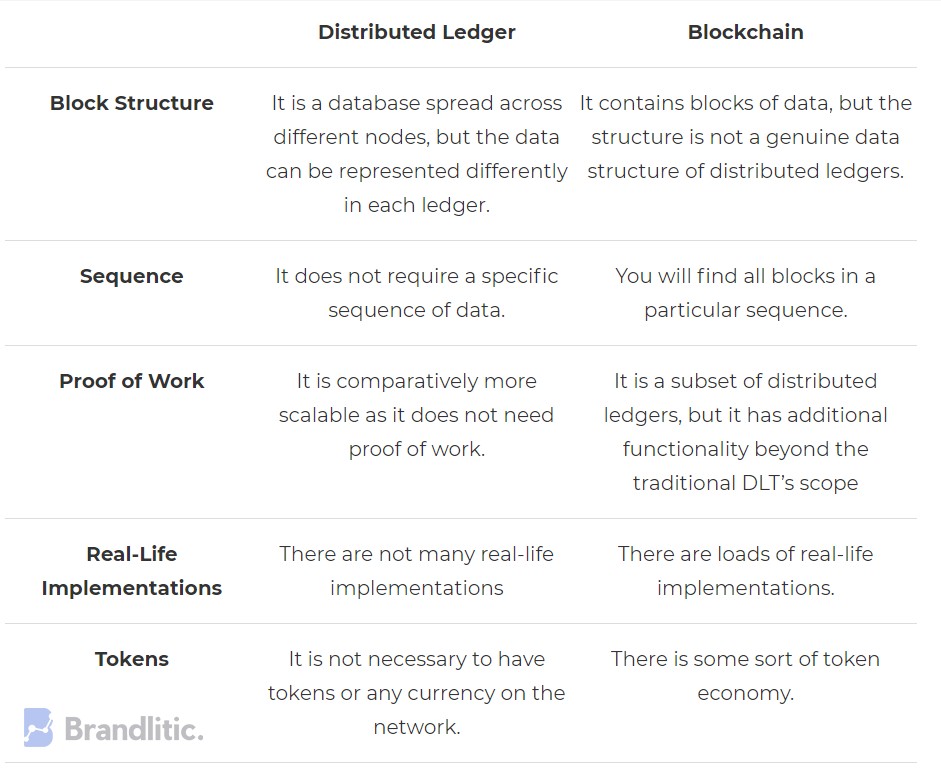
SYSTEM ANALYSIS

* 1. Existing System

Although distributed ledgers or distributed file systems already existed before the term blockchain was coined (for example distributed file systems and Bit Torrent), Bit coin was the first blockchain.

#### 4.2Proposed System

A basic blockchain system is characterized as the ordered list for the used nodes and links where these nodes are entitled for storing information and chains connect these links. This technology mainly facilitates the development and management of the availability for the publicly available and required resources and ledger of transactions. This technology also supports the development of the cryptocurrency-based operation and performance evaluation for the technological management. This paper has analyzed different components of Blockchain concepts and evaluated the potential development, structural components, risks, applications within the present-day technological world.



**FUNCTIONALITIES OF THIS SYSTEM**

A person should be able to

* Connect his crypto wallet using meta mask.
* The address of the wallet has been visible to the Ethereum card.
* Check amount of ether in his wallet.
* Able to send Ethereum to different wallet.
* Able to send GIF with the ether as a gift.
* Able to send message with ether.
* Able to check all the Transaction details.
* Able to interact with solidity Ethereum with smart contracts.

## **PROJECT MODULE**

Since the users are the main target group of our software, we will only concern about some important functions for the user. The user can send the Ethereum by typing account address of the receiver.

#### **Sending Ethereum**:

Sending Ethereum is the most important part of our system. We will describe this process in details: -

* Firstly, use need to connect his wallet to our website. He/she can do it by clicking on connect wallet button.
* This will immediately be going to trigger meta mask connection, which going to choose the account which we want to connect.
* After choosing the account click on next and click on connect.
* Instantly the address of your account is visible on the Ethereum card.
* Now write address of the account where you want to send Ethereum.
* After that write the amount of Ethereum you want to send.
* Now you can write specific keyword that you want to attach with your transaction. This keyword saved as data in blockchain.
* Now you can also pass additional piece of data or message in message box.
* Now click on the send button.
* Meta mask will ask you to confirm the transaction.
* By Clicking on confirm button the transaction has been executed successfully.
* The Ethereum will visible on receiver wallet.
* User can also check the latest transaction details by scrolling down to the application.

#### **My modules**:

* Login
* Connect Wallet
* Choose Accounts
* Send Ethereum
* Send gif

• Check latest Transactions

## **CONCLUSION**

The project was designed in such a way that future modifications can be done easily. The following conclusions can be deduced from the development of the project.

* + 1. We can provide user the Customer Support System.
    2. We can also create sign in, sign up, sign out function into our system.
    3. Can also make Customer to Post their View on Website.
    4. The System has adequate scope for modification in future if it is necessary.
    5. In future we are going to add crypto market into our system.
    6. We will also add crypto exchange feature into our system.
    7. In future user will be able to send different crypto’s from their account.
    8. We are also going to add tutorials of the functionality of our system.

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