

DECENTRALIZED LEDGER FOR GOVERNMENT FUND ALLOCATION

Submitted in partial fulfillment of the requirements for the award of
Bachelor of Engineering degree in Computer Science and Engineering

By

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BONAFIDE CERTIFICATE

This is to certify that this Project Report is the bonafide work of **MANCHALA SHASHANK** (Reg. No - 40111592) and **B SAI CHAITHNYA** (Reg. No - 40111588) who carried out the Project entitled "**DECENTRALIZED LEDGER FOR GOVERNMENT FUND ALLOCATION**" under my supervision from November 2023 to April 2024.

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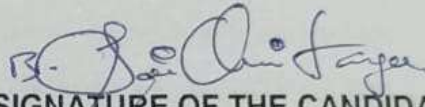
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DECLARATION

I, BOYA SAI CHAITHNYA (Reg. No - 40111588), hereby declare that the Project Report entitled **DECENTRALIZED LEDGER FOR GOVERNMENT FUND ALLOCATION** done by me under the guidance of Dr.P. AJITHA, M.E.,Ph.D. is submitted in partial fulfillment of the requirements for the award of Bachelor of Engineering degree in **Computer Science and Engineering**.

DATE: 16-04-2024

PLACE: CHENNAI


SIGNATURE OF THE CANDIDATE

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ABSTRACT

State Governments need to cater to a huge number of responsibilities of a state. The working of state governments involves huge number of transactions towards various operations that need to be carried out throughout the state. This includes new projects, repair and maintenance works, awarding contracts, paying of government employees, farmer schemes and so on. A major hurdle that the top government face is the low level corruption that is sometimes impossible to track which deprives the state progress. Tracking it is a very difficult task due to the current system. Here we propose a smart system to track funds allocated to the state government as they travel through the government process at each stage. We here make use of blockchain technology to secure the transactions at every stage while maintaining transparency in every transaction sealing every transaction with proofs as the funds move ahead. This allows to maintain crystal clear record with on demand right to transactional data on a need to know basis. The system makes use of encryption to secure transactional data using hashes to maintain a block of transactions in a chain manner which is maintained and verified by every node involved to verify the transaction and save the data in a transparent form within the government. The system allows for a full proof, secure and authentic fund allocation and fund tracking system to help form an incorruptible government process.

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CHAPTER 1

INTRODUCTION

Blockchain is one of the technologies that have created a disruptive change in several industries. Currently, Blockchain is getting used in numerous places and there are more applications of Blockchain yet to be discovered and implemented. Blockchain is characterized by its decentralized nature, the integrity of the information stored within the chain, and its openness. Due to these characteristics, another area in which Blockchain can be used is to release funds for government projects. Governments have to cater to an enormous number of responsibilities of a state. The working of state governments involves numerous transactions towards various operations that require to be applied throughout the state. This includes new projects, repair, and maintenance work, awarding contracts, paying off government employees, farmers schemes, and so on.

A serious hurdle that the highest government faces is the low-level corruption that's sometimes impossible to trace, which deprives the state of progress. Tracking it's a really difficult task because of the present system. Blockchain is touted for its capability to reinforce the trust and ease of information-based exchanges among people and associations. The innovation offers a guarantee when deliberately applied within the proper settings. Customarily, associations working their own, singular IT frameworks trying to group must pander to difficulties including compromise of data, recognizing a solitary wellspring of truth, and provoking establishment. Blockchain innovation tends to those difficulties by giving a specialized establishment that underpins the execution of shared business forms, such that no single substance controls the complete framework. Government incorporates a characteristic need to assemble, support, and ensure open trust in data and frameworks. In such kinds of situations, blockchain may help to boost this trust

How is data added to a blockchain?

Beyond being transparent with data, the blockchain is also a secure way to store it. Using Bitcoin as an example, here's how a transaction is added to a new block:

When a bitcoin user sends a transaction, a message is created with both the sender's and the receiver's public addresses and the amount being transacted. The sender takes this data, adds their private key to the mix and then creates a hash of it (turns it into a fixed-length code.) This creates a digital signature to confirm the person who owns the amount of bitcoin intends to send it to the receiver.

The sender then packages this digital signature with the message and their own public key and broadcasts it to the network. It's kind of like saying, "Hey, everyone! I want to send this person bitcoin."

(Note: For most wallets and other applications, all this happens "under the hood" and users don't have to actually deal with the processes themselves.)

The packaged transaction joins a waiting room filled with other unconfirmed transactions looking to be added to the blockchain, known as a "mempool."

In the case of the Bitcoin network, miners who have successfully discovered new blocks through proof-of-work then take a batch of transactions from the mempool (usually based on which ones have the highest fees attached), verify each transaction to make sure each sender actually has the amount of bitcoin in their wallets they want to send, run it through software to make sure the packaged data (digital signatures, messages and public keys) are legitimate, add it to the new block and finally broadcast the proposed new block to the network so that other miners can double-check everything is correct.

This is similar to the process used in proof-of-stake blockchains, except instead of mining nodes discovering and verifying transactions, users who have locked away an amount of cryptocurrency – known as "stakers" or "validators" – carry out the process.

Nodes can perform a variety of tasks. These include keeping a historical record of all transaction data, verifying transactions, and, in the case of mining nodes or validator nodes, adding new blocks to the blockchain. Once a transaction has been approved and added, the information cannot be altered or rewritten. That is why data stored on a blockchain network is described as “immutable.”

The blockchain simply records every transaction that has ever taken place on its network. For example, the Ethereum blockchain is a record of all ether transactions that have ever taken place. So if there are updates that need to be made around a previous transaction, rather than going back to the initial data, a new record is made about the change.

Other blockchain technology use cases

The blockchain removes the need for intermediaries like banks. The peer-to-peer network cuts out the middleman and allows transactions to be secure, cutting down on costs, and can be reviewed by anyone.

Beyond being used for finances, blockchain technology has many other functions. Hospitals are integrating the blockchain to help track medical record data and improve their accuracy. Agricultural firms use it logistically to track the supply chain of food. Smart contracts rely on it to keep a record of all agreements and state changes. More recently, it has become a means to trade, sell and authenticate original digital pieces of art.

Blockchains are becoming an increasingly important part of how we live, work and interact with our digital information. Like with every other new, revolutionary technology, there is no one set of standards, and the overall impact is still being discovered. But there's no doubt it is here to stay.

CHAPTER 2

LITERATURE SURVEY

2.1 Inferences from Literature Survey:

Blockchain is referred to as the Digital ledger, same as the ledger maintained financial institutions for keeping the track of records. Blockchain technology harnesses the distributed software and provides a shared ledger with a single source of truth for the recorded transactions without depending on a centralized entity for trust. Hence, it helps in trust in the digital world using technology. Any tangible or intangible asset can be represented and tracked on a Blockchain network, which brings transparency, increases processing speed and reduces cost. On top of Blockchain, can be automated through smart contracts. Therefore, benefits of Blockchain technology include transparency, security, and efficiency, which make it in enabling a layer of trust over Internet for various applications. Each block in a blockchain is linked to one another forming a chain of, that's why the name "Blockchain". Each block has certain information like number of transactions and every time a transaction happens the record gets updated in peer network.

GOVERNMENT SCHEMES, 2022

In this paper, the writer attempted to discover the ability of block chain technology to decrease embezzlement which can also additionally arise for the duration of the fund's switch of government schemes. Also discovered 8 appropriate traits of any virtual fund switch method which incorporates a sequence of layers. To make certain equity on this form of the virtual method the writer has proposed to apply block chain-based technology through the usage of mathematical model transaction traits to officially make certain equity at all levels. This system also can be audited through common human beings to trace the cash flow of any schemes, making the system absolutely obvious and fair.

SECURE TRANSACTIONAL DATA USING HASHES ,2020

This system makes use of encryption to secure transactional data using hashes to take care of a block of transactions in a very chain manner which is maintained and verified by every node involved to verify the transaction and save the information in a very transparent way. Using the system, a transparent, incorruptible government process can be formed by providing a completely secure, authentic, and reliable system of allocation and tracking of funds

SECURE TRANSACTIONAL DATA USING HASHES, 2022

in this paper, the author considered block chain applications that allow maintaining crystal clear records with the on-demand right to transactional data on a need-to-know basis. the system makes use of encryption to secure transactional data using hashes to take care of a block of transactions during a chain manner which is maintained and verified by every node involved to verify the transaction and save the info in an exceedingly transparent form within the government. in order to form a completely incorruptible government process, the system provides a way to allocate funds securely and track them authentically.

GOVERNMENT ISSUES FUNDS, 2021

This paper discusses the use of block chain technology for tracking government funds. When the government issues funds for projects, often a large part of it is unutilized and is barely used for the actual project, one of the main causes being corruption. So, if block chains are introduced here, everyone can track all the amounts regarding when and where it is being utilized. This technology is utilized in the government sector and can have a major impact on the growth and economy of a country.

2.2 OPEN PROBLEMS IN EXISTING SYSTEM:

In existing system during a project report is that section that suggests the numerous analyses and studies made in the discipline of your interest and consequently the outcomes already published, thinking of the varied parameters of the project and additionally the extent of the project.

A literature survey is the maximum substantial step in any reasonable study. Before beginning development, we need to test the preceding papers of our area in which we're operating and the idea of the look at what we're capable of expecting or generate the downside and start operating with the reference of preceding papers.

During this phase, we briefly evaluate the associated work on the Government Fund Allocation & Tracking System and the usage of Block-chain Technology

LANGUAGE OVERVIEW

Introduction to Java

Java is one of the world's most important and widely used computer languages, and it has held this distinction for many years. Unlike some other computer languages whose influence has wearied with passage of time, while Java's has grown.

Java is a computing platform, class-based, high-level object-oriented programming language that has been first released in the year 1995 by Sun Microsystems. From humble beginnings, it has evolved to power a large share of today's digital world by giving a reliable platform using which many different services, as well as applications, are built. New, innovative products and digital services that are designed for the future will also continue to rely on Java. Java is a programming language that is secure, fast, and reliable for coding everything from enterprise software to server-side technologies and big data applications.

Application of Java

Java is widely used in every corner of world and of human life. Java is not only used in software but is also widely used in designing hardware controlling software components. There are more than 930 million JRE downloads each year and 3 billion mobile phones run java.

Following are some other usage of Java:

- Developing Desktop Applications
- Web Applications like LinkedIn.com, Snapdeal.com etc
- Mobile Operating System like Android
- Embedded Systems
- Robotics and games etc.

Java - A Popular Language

Java is an easy-to-use language which makes it popular among programmers or developers. A few reasons why Java is still a popular language is mentioned below:

Excellent Learning Resources

Since Java language is there in the market for a long time, there are a lot of good comprehensive materials that are available in the market. Different courses, comprehensive books, and detailed documentation support the developer in learning the concepts quickly.

Inbuilt Libraries and Function

In Java, developers are not required to write each and every new function from scratch. In lieu of that, Java is rich in in-built libraries and functions for developing different ranges of applications.

ADVERTISEMENT

Support From The Active Community

Many active communities and users can support the developers when they are stuck in some coding issues.

High-quality Tools for Development

Various tools are offered by Java in order to support automated testing, debugging, change management, and deployment. Java becomes cost, and time efficient with these tools.

Platform Independent

The introduction of byte code (.class file) in Java makes the code written in the Java language run on any platform like Linux, Android, MacOS, or Windows without rewriting anything. Code can run on any underlying platform like Windows, Linux, iOS, or Android without rewriting. Platform independent feature makes Java a very powerful and effective language as we want to run various applications on various devices.

Security

Over the different networks, the untrusted code can be downloaded by the and can be run in a secure environment inside which it can never do any damage. The host system will not be affected by the untrusted code containing the virus, nor can it write or read files from the hard drive. The restrictions and the levels of security are highly configurable in Java.

Usages of Java Programming Language

Because Java is a versatile and free-to-use language, it builds distributed and localized and distributed software. Some common uses of Java include:

1. Game Development

Many popular computer and mobile video games use the Java language. Even modern games that use advanced technology like virtual reality or machine learning are made with Java technology.

2. Cloud computing

The term WORA - Write Once and Run Anywhere, is applicable to the Java language. Because of this, it is used in various decentralized cloud-based applications. Java language is picked by the Cloud service providers to execute programs on various platforms.

3. Big Data

Data processing engines also use Java to deal with real-time and complex data sets.

4. Artificial Intelligence

Java is also the powerhouse of ML (machine learning) libraries. Its speed and stability make it perfect for the development of AI (Artificial Intelligence) application development like deep learning and NLP (Natural Language Processing).

5. IOT (Internet of Things)

Java is also used to do the programming of hardware and sensors in edge devices that can independently connect to the internet.

Features of Java

The prime reason behind creation of Java was to bring portability and security feature into a computer language. Beside these two major features, there were many other features that played an important role in moulding out the final form of this outstanding language. Those features are;

1) Simple

Java is easy to learn and its syntax is quite simple, clean and easy to understand. The confusing and ambiguous concepts of C++ are either left out in Java or they have been re-implemented in a cleaner way.

2) Object Oriented

In java everything is Object which has some data and behaviour. Java can be easily extended as it is based on Object Model.

3) Robust

Java makes an effort to eliminate error prone codes by emphasizing mainly on compile time error checking and runtime checking. But the main areas which Java improved were Memory Management and mishandled Exceptions by introducing automatic Garbage Collector and Exception Handling.

4) Platform Independent

Unlike other programming languages such as C, C++ etc. which are compiled into platform specific machines. Java is guaranteed to be write-once, run-anywhere language. On compilation Java program is compiled into byte code. Any machine with Java Runtime Environment can run Java Programs.

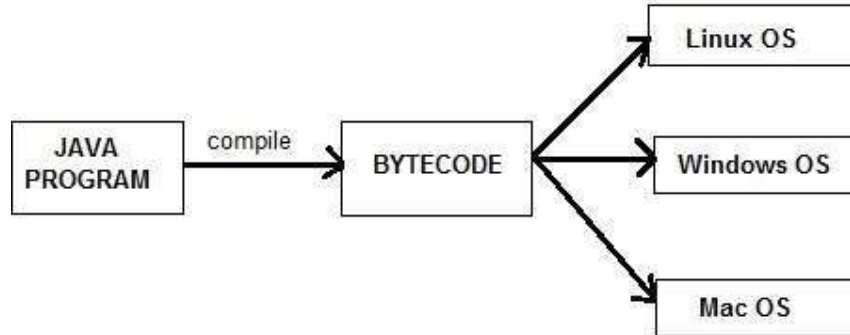


Fig:2.1: Java Compilation

5) Secure

When it comes to security, Java is always the first choice. With java secure features it enable us to develop virus free, temper free system. Java program always runs in Java runtime environment with almost null interaction with system OS, hence it is more secure.

6) Multi-Threading

Java multithreading feature makes it possible to write program that can do many tasks simultaneously. Benefit of multithreading is that it utilizes same memory and other resources to execute multiple threads at the same time, like While typing, grammatical errors are checked along.

7) Architectural Neutral

Compiler generates byte codes, which have nothing to do with a particular computer architecture, hence a Java program is easy to interpret on any machine.

8) Portable

Java Byte code can be carried to any platform. No implementation dependent features. Everything related to storage is predefined, example: size of primitive data types.

CHAPTER 3

REQUIREMENT ANALYSIS

Requirement analysis, also called requirement engineering, is the process of determining user expectations for a new modified product. It encompasses the tasks that determine the need for analyzing, documenting, validating and managing software or system requirements. The requirements should be documentable, actionable, measurable, testable and traceable related to identified business needs or opportunities and define to a level of detail, sufficient for system design.

FUNCTIONAL REQUIREMENTS

It is a technical specification requirement for the software products. It is the first step in the requirement analysis process which lists the requirements of particular software systems including functional, performance and security requirements. The function of the system depends mainly on the quality hardware used to run the software with given functionality.

Usability

It specifies how easy the system must be use. It is easy to ask queries in any format which is short or long, porter stemming algorithm stimulates the desired response for user.

Robustness

It refers to a program that performs well not only under ordinary conditions but also under unusual conditions. It is the ability of the user to cope with errors for irrelevant queries during execution.

Security

The state of providing protected access to resource is security. The system provides good security and unauthorized users cannot access the system there by providing high security.

Reliability

It is the probability of how often the software fails. The measurement is often expressed in MTBF (Mean Time Between Failures). The requirement is needed in order to ensure that the processes work correctly and completely without being aborted. It can handle any load and survive and even capable of working around any failure.

Compatibility

It is supported by version above all web browsers. Using any web servers like localhost makes the system real-time experience.

Flexibility

The flexibility of the project is provided in such a way that it has the ability to run on different environments being executed by different users.

Safety

Safety is a measure taken to prevent trouble. Every query is processed in a secured manner without letting others to know one's personal information.

NON- FUNCTIONAL REQUIREMENTS**Portability**

It is the usability of the same software in different environments. The project can be run in any operating system.

Performance

These requirements determine the resources required, time interval, throughput and everything that deals with the performance of the system.

Accuracy

The result of the requesting query is very accurate and high speed of retrieving information. The degree of security provided by the system is high and effective.

Maintainability

Project is simple as further updates can be easily done without affecting its stability. Maintainability basically defines that how easy it is to maintain the system. It means that how easy it is to maintain the system, analyse, change and test the application.

Maintainability of this project is simple as further updates can be easily done without affecting its stability.

About conclusion

The only thing you need to remember is that the conclusion of an essay is not just the last paragraph of an academic paper where you restate your thesis and key arguments. A concluding paragraph is also your opportunity to have a final impact on your audience. Feeling Overwhelmed Writing Your Essay Conclusion?

A good conclusion will tie together all the key points you made in your essay and forcefully drive home the importance or relevance of your argument, thesis statement, or simply your topic so the reader is left with one strong final point to ponder. Dr. Chris Drew is the founder of the Helpful Professor.

Make sure you write your conclusion in your own words. Below is a range of copy- and-paste essay conclusions with gaps for you to fill-in your topic and key arguments. Browse through for one you like (there are 17 for argumentative, expository, compare and contrast, and critical essays).

3.1 FEASIBILITY STUDY

The feasibility of the project is analyzed in this phase and business proposal is put forth with a very general plan for the project and some cost estimates. During system analysis the feasibility study of the proposed system is to be carried out. This is to ensure that the proposed system is not a burden to the company. For feasibility analysis, some understanding of the major requirements for the system is essential.

The feasibility study investigates the problem and the information needs of the stakeholders. It seeks to determine the resources required to provide an information systems solution, the cost and benefits of such a solution, and the feasibility of such a solution.

The goal of the feasibility study is to consider alternative information systems solutions, evaluate their feasibility, and propose the alternative most suitable to the organization. The feasibility of a proposed solution is evaluated in terms of its components.

ECONOMICAL FEASIBILITY

This study is carried out to check the economic impact that the system will have on the organization. The amount of fund that the company can pour into the research and development of the system is limited. The expenditures must justified. Thus the developed system as well within the budget and this was achieved because most of the technologies used are freely available. Only the customized products had to be purchased.

TECHNICAL FEASIBILITY

This study is carried out to check the technical feasibility, that is, the technical requirements of the system. Any system developed must not have a high demand on the available technical resources. This will lead to high demands on the available technical resources. This will lead to high demands being placed on the client. The developed system must have a modest requirement, as only minimal or null changes are required for implementing this system.

SOCIAL FEASIBILITY

The aspect of study is to check the level of acceptance of the system by the user. This includes the process of training the user to use the system efficiently. The user must not feel threatened by the system, instead must accept it as a necessity.

PROCESS MODEL:

- Government
- Authority (TPA)
- User (Customer)

3.2 SYSTEM REQUIREMENTS

What is System Requirements Document?

System Requirements Document is also known as **System Requirements Specifications**. System requirements document is a set of documentation that describes the behavior and features of a software or system. It comprises of various

elements that attempt to characterize the functionality needed by the client to satisfy their users. In other words, the system requirements document (SRD) describes the system-level performance and functional requirements for a system.

System Requirements Document or System Requirements Specification is defined as a document which defines what the software will do and how it will be required to perform, and it also defines the functionality the software needs to satisfy all stakeholders (users, business) requirements.

What is Included in a System Requirement Document?

While the SRD capacities as an outline for dealing with the extent of a project, it eventually characterizes the functional and non-functional requirements of the system. The document doesn't layout design or technology solutions. These decisions will be taken by the developers later.

HARDWARE REQUIREMENTS

System	: Pentium i3 Processor
Hard Disk	: 500 GB.
Monitor	: 15" LED
Input Devices	: Keyboard, Mouse
Ram	: 2 GB

SOFTWARE REQUIREMENTS

Operating system	: Windows 10
Coding Language	: Java

CHAPTER 4

DESCRIPTION OF PROPOSED SYSTEM

PROPOSED SYSTEM

The project's major objective is to develop a platform that tracks government fund allocation using blockchain technology. The platform aims to accomplish the following goals: Making the work of government fund allocation with reporting documentation is more convenient. Due to the fact that the data on donations will be aggregated in one place, it will allow us to prepare reports automatically. By developing a blockchain- based system, charitable foundations can become more transparent. To maintain transparency and security at every stage. In order to create a government procedure that is incorruptible. To provide an immutable environment for funds tracking. Utilization of funds

ADVANTAGES OF PROPOED SYSTEM

- Easy to track the funds granted to the state government as they go through the government process.
- It uses blockchain technology to safeguard transactions at each level while retaining transparency in every transaction and sealing every transaction with proof as the money goes forward

4.1 Selected Methodology

For developing a decentralized ledger system for government fund allocation, you would want to select a methodology or process model that emphasizes security, transparency, and efficiency. One of the widely used methodologies for such systems is the Agile methodology, particularly in combination with Blockchain technology.

Agile Methodology

Agile is an iterative approach to software development that emphasizes collaboration, customer feedback, and small, rapid releases. It's well-suited for projects where requirements may evolve over time and where flexibility is key. In the context of a decentralized ledger for government fund allocation, Agile can help in adapting to

changing regulations or requirements and ensuring that the system remains responsive to the needs of stakeholders.

Scrum Framework

Within the Agile methodology, you might consider using the Scrum framework. Scrum divides the project into small iterations called sprints, typically lasting 2-4 weeks. Each sprint results in a potentially shippable product increment. This can be beneficial for a decentralized ledger project as it allows for regular releases of new features or updates to the system, ensuring that progress is visible and stakeholders are continuously involved.

Blockchain Development Process

Since you're working on a decentralized ledger system, incorporating Blockchain technology, you'll need to adapt the Agile methodology to suit the unique aspects of Blockchain development. This may involve integrating tasks specific to smart contract development, consensus mechanisms, security audits, and regulatory compliance into your sprint cycles.

User-Centric Design

Given that government fund allocation affects a wide range of stakeholders, including citizens, government officials, auditors, and potentially third-party organizations, it's important to prioritize user-centric design principles. Agile methodologies typically include user stories and regular feedback loops to ensure that the system meets the needs of its users.

Continuous Testing and Quality Assurance

Implementing a decentralized ledger for government fund allocation requires a high level of reliability and security. Therefore, integrating continuous testing.

MODULE DESCRIPTION

Module 1 - Government: - Government will give the fund which is requested by the user.

2. Module 2 – Authority (TPA):- This will authorize or verify the user that it is a valid user as well as valid request or not.

3. Module 3 - User (Customer):- User will request for the fund according to their needs.

Encryption and Decryption:

For encrypting metadata file we are using AES encryption algorithm.

In Method follows a process which is before reconstructing the File joiner needs the sequence of chunks in which they are being joined. This sequence information is stored in a metadata file which is being encrypted before storing it in the cloud. So the decryption module decrypts the metadata file for file joiner

Algorithms:

AES with SHA Key: For encrypting metadata file we are using AES encryption algorithm. The encryption process generates a symmetric key called around a key.

SHA-1 is applied on this key which creates block of data which is hold by an array of data called the state array.

4.2 SYSTEM ARCHITECTURE

Software architecture is a set of principles that define the way software is designed and developed. Architecture defines the structure of the software system and how it is organized. It also describes the relationships between components, levels of abstraction, and other aspects of the software system.

Architecture can be used to define the goals of a project, or it can be used to guide the design and development of a new system. Software architecture is a set of principles that define the way software is designed and developed.

Describing the overall features of the software is concerned with defining the requirements and establishing the high level of the system. During architectural design, the various web pages and their interconnections are identified and designed. The major software components are identified and decomposed into processing

modules and conceptual data structures and the interconnections among the modules are identified. The following modules are identified in the proposed system.

Introduction

The architecture of a system reflects how the system is used and how it interacts with other systems and the outside world. It describes the interconnection of all the system's components and the data link between them. The architecture of a system reflects the way it is thought about in terms of its structure, functions, and relationships.

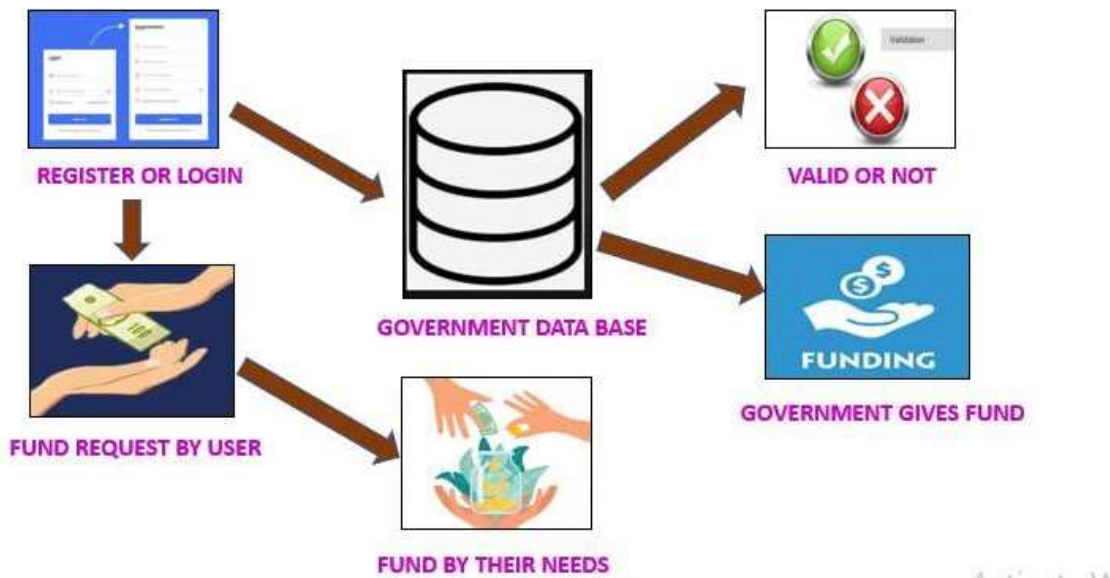


FIG:4.1: SYSTEM ARCHITECTURE

DATA FLOW DIAGRAM

1. The DFD is also called as bubble chart. It is a simple graphical formalism that can be used to represent a system in terms of input data to the system, various processing carried out on this data, and the output data is generated by this system.
2. The data flow diagram (DFD) is one of the most important modeling tools. It is used to model the system components. These components are the system process, the data used by the process, an external entity that interacts with the system and the information flows in the system.
3. DFD shows how the information moves through the system and how it is modified by a series of transformations. It is a graphical technique that depicts information flow and the transformations that are applied as data moves from input to output.

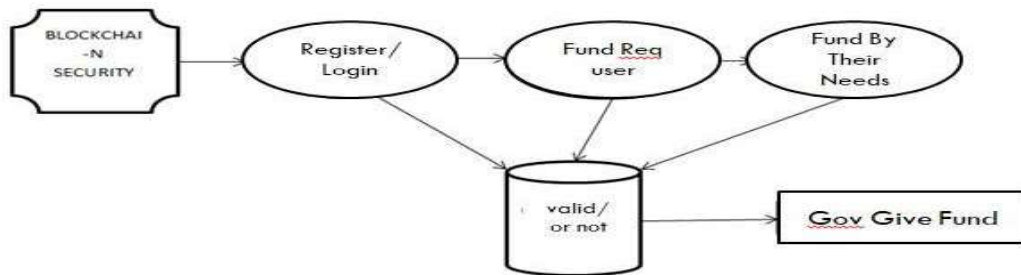


FIG:4.2: DATA FLOW DIAGRAM

4. DFD is also known as bubble chart. A DFD may be used to represent a system at any level of abstraction. DFD may be partitioned into levels that represent increasing information flow and functional detail.

GOALS

We are going to achieve this project in block chain:

The Primary goals in the design of the UML are as follows:

1. Provide users a ready-to-use, expressive visual modeling Language so that they can develop and exchange meaningful models.
2. Provide extendibility and specialization mechanisms to extend the core concepts.

Provide extendibility and specialization mechanisms to extend the core concepts

1. Be independent of particular programming languages and development process.
2. Provide a formal basis for understanding the modeling language.
3. Encourage the growth of OO tools market.
4. Support higher level development concepts such as collaborations, frameworks, patterns and components
5. Integrate best practices

USE CASE

A use case diagram in the Unified Modeling Language (UML) is a type of behavioral diagram defined by and created from a Use-case analysis. Its purpose is to present a graphical overview of the functionality provided by a system in terms of actors, their goals (represented as use cases), and any dependencies between those use cases. The main purpose of a use case diagram is to show what system functions are performed for which actor. Roles of the actors in the system can be depicted

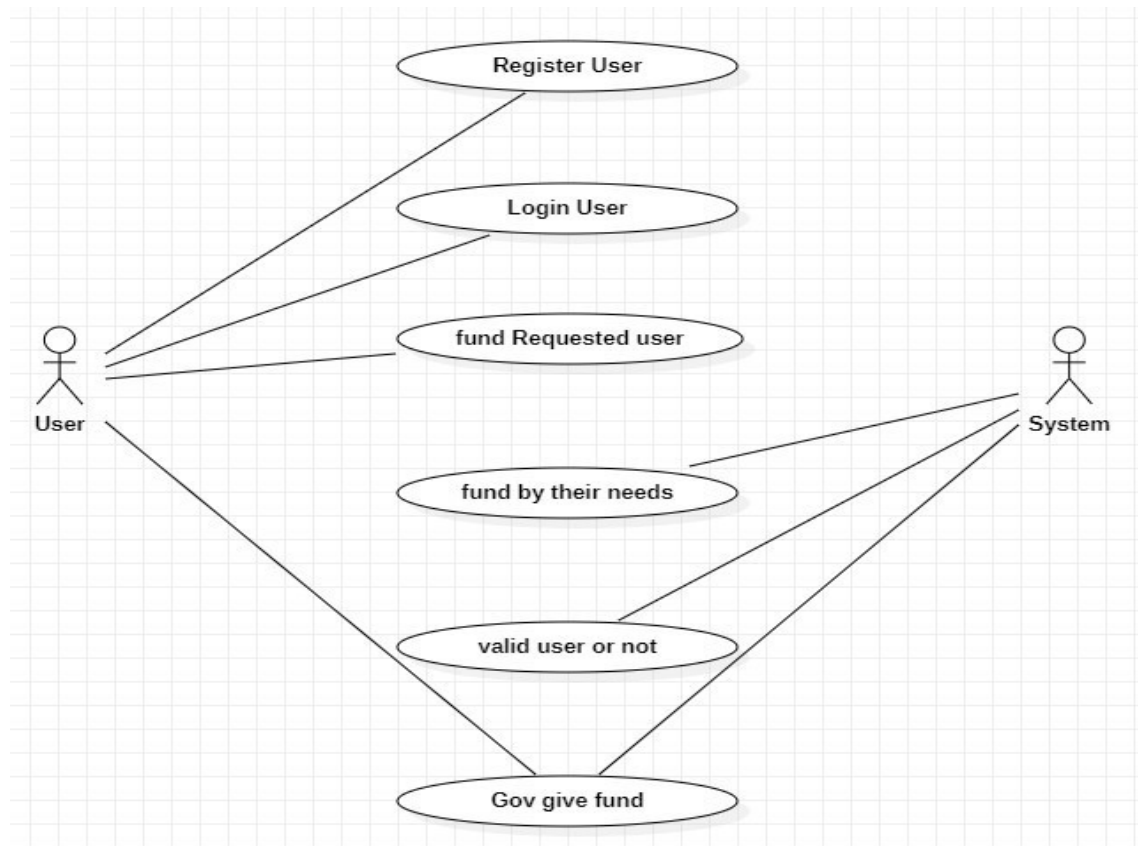


FIG:4.3: USE CASE DIAGRAM

ACTIVITY DIAGRAM

This activity diagram contains three activities that are Server, TPA, Client and. This diagram of control shows the flow between these activities.

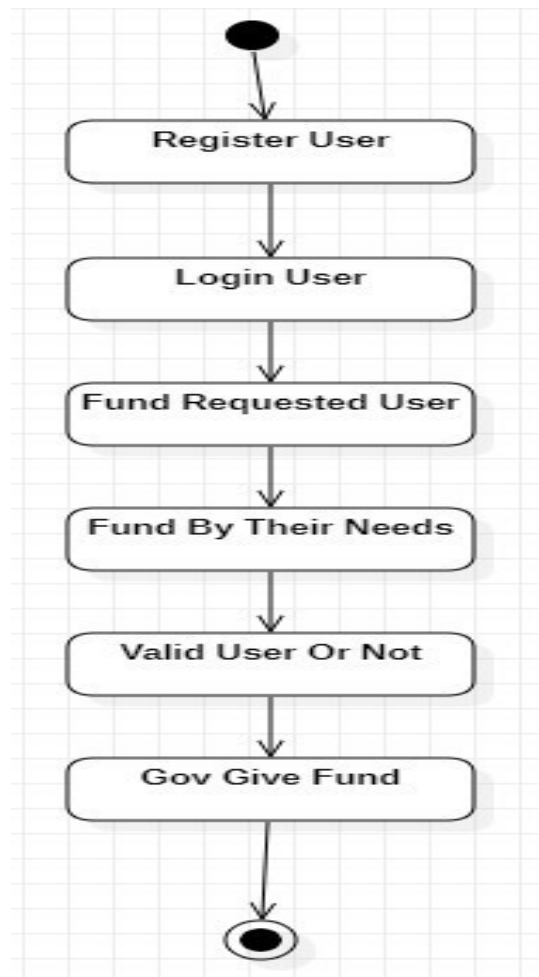


FIG:4.4: ACTIVITY DIAGRAM

SEQUENCE DIAGRAM

A sequence diagram in Unified Modeling Language (UML) is a kind of interaction diagram that shows how processes operate with one another and in what order. It is a construct of a Message Sequence Chart. Sequence diagrams are sometimes called event diagrams, event scenarios, and timing diagrams

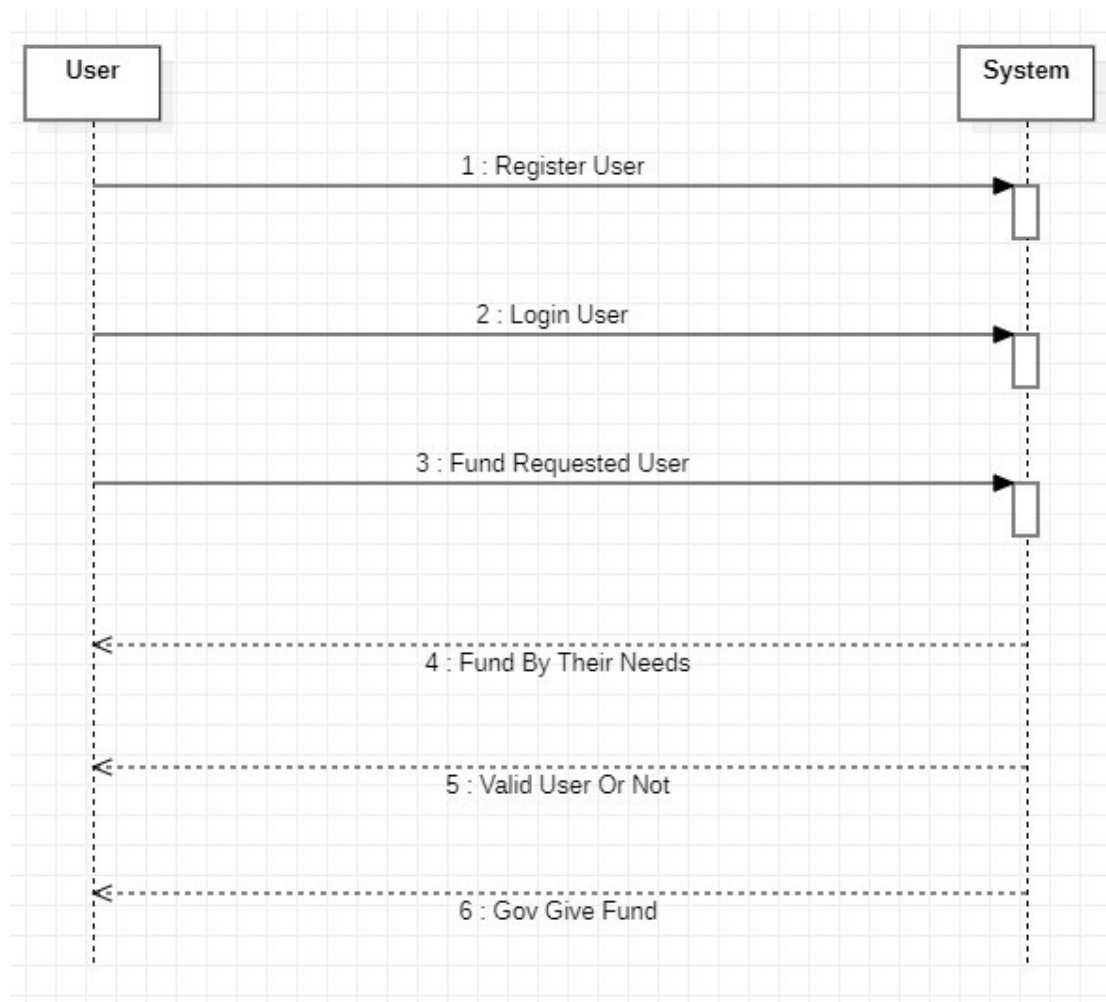


FIG:4.5: SEQUENCE DIAGRAM

4.3 SYSTEM TESTING

Test plan

Software testing is the process of evaluation a software item to detect differences between given input and expected output. Also to assess the feature of a software item. Testing assesses the quality of the product. Software testing is a process that should be done during the development process. In other words software testing is a verification and validation process.

Verification

Verification is the process to make sure the product satisfies the conditions imposed at the start of the development phase. In other words, to make sure the product behaves the way we want it to.

Validation

Validation is the process to make sure the product satisfies the specified requirements at the end of the development phase. In other words, to make sure the product is built as per customer requirements.

Basics of software testing

There are two basics of software testing: black box testing and white box testing.

Black box Testing

Black box testing is a testing technique that ignores the internal mechanism of the system and focuses on the output generated against any input and execution of the system. It is also called functional testing.

White box Testing

White box testing is a testing technique that takes into account the internal mechanism of a system. It is also called structural testing and glass box testing.

Types of testing

There are many types of testing like

- Unit Testing
- Integration Testing
- Functional Testing
- System Testing
- Stress Testing
- Performance Testing
- Usability Testing
- Acceptance Testing
- Regression Testing
- Beta Testing

Unit Testing

Unit testing is the testing of an individual unit or group of related units. It falls under the class of white box testing. It is often done by the programmer to test that the unit he/she has implemented is producing expected output against given input.

Integration Testing

Integration testing is testing in which a group of components are combined to produce output. Also, the interaction between software and hardware is tested in integration testing if software and hardware components have any relation. It may fall under both white box testing and black box testing.

Functional Testing

Functional testing is the testing to ensure that the specified functionality required in the system requirements works. It falls under the class of black box testing.

System Testing

System testing is the testing to ensure that by putting the software in different environments (e.g., Operating Systems) it still works. System testing is done with full system implementation and environment. It falls under the class of black box testing.

Stress Testing

Stress testing is the testing to evaluate how system behaves under unfavorable conditions. Testing is conducted at beyond limits of the specifications. It falls under the class of black box testing.

Performance Testing

Performance testing is the testing to assess the speed and effectiveness of the system and to make sure it is generating results within a specified time as in performance requirements. It falls under the class of black box testing.

Usability Testing

Usability testing is performed to the perspective of the client, to evaluate how the GUI is user-friendly? How easily can the client learn? After learning how to use, how proficiently can the client perform? How pleasing is it to use its design? This falls under the class of black box testing.

Acceptance Testing

Acceptance testing is often done by the customer to ensure that the delivered product meets the requirements and works as the customer expected. It falls under the class of black box testing.

Regression Testing

Regression testing is the testing after modification of a system, component, or a group of related units to ensure that the modification is working correctly and is not damaging or imposing other modules to produce unexpected results. It falls under the class of black box testing.

CHAPTER 5

IMPLEMENTATION DETAILS

5.1 DEVELOPMENT AND DEPLOYMENT SETUP

To achieve our goal of developing a decentralized Government funding system, we have designed and implemented a robust platform that leverages smart contracts to securely and transparently store and verify users' data transactions. Our system has undergone extensive evaluation, taking into consideration key factors such as security, ease of use, and decentralization. At the core of our decentralized government funding system, we have created several classes to effectively manage and store users' identity, name, location, and other relevant information. These classes serve as the foundation for maintaining a reliable and organized user database within the system. By utilizing cryptographic hashing, we can verify the integrity of the transaction at any point in the future, providing assurance that no tampering has occurred.

In order to implement a government fund allocation system using blockchain, several technical steps were undertaken. Firstly, the system requirements were defined, which included identifying the government entities involved, specifying the types of funds to be allocated, and determining transparency and security requirements. Smart contracts were designed to govern the fund allocation process, including contracts for fund request, approval, disbursement, and auditing. These contracts incorporated the necessary data structures and functions to enforce fund allocation rules and ensure transparency.

Extensive testing was conducted to validate the functionality and security of the smart contracts. A user-friendly frontend interface was developed to allow government officials, fund recipients, and auditors to interact with the system. This frontend was integrated with the blockchain backend using appropriate APIs. The blockchain network was set up, either on a private or public network, and the smart contracts were deployed. Thorough testing was performed to ensure the system's performance, scalability, and security. The implemented system provided enhanced transparency, accountability, and efficiency in the government fund allocation process. The proposed

system aims to track the journey of funds allocated to the government at each stage of the government process. To achieve this, the researcher proposes the utilization of key pair generation algorithms to establish secure communication channels between relevant entities involved in the fund allocation process. Key pairs, consisting of public and private keys, can provide secure and authenticated transactions within the blockchain network. This process allows for the verification of transaction details and improves the transparency of the fund allocation process.

A smart contract is a self-executing digital contract with the terms of the agreement written directly into code on a blockchain. It automatically enforces the terms, verifies transactions, and facilitates interactions between parties without the need for intermediaries. Smart contracts provide transparency, security, and efficiency in various decentralized applications and eliminate the need for trust in traditional contract enforcement.

Smart contracts are used in blockchain-based voting systems for several reasons:

Transparency: Smart contracts provide transparency in this process. The code of the smart contract is visible to all participants, ensuring that the rules and procedures are clear and cannot be altered without consensus.

Security: Smart contracts utilize cryptographic techniques to secure the voting process. The immutability of the blockchain ensures that once a vote is recorded, it cannot be altered or tampered with.

Decentralization: Blockchain-based systems leverage the decentralized nature of the technology. Smart contracts are executed on a network of nodes, eliminating the need for a centralized authority or trusted intermediaries. This decentralized approach ensures that no single entity has control over the process, making it more resistant to censorship and manipulation.

Our decentralized system combines smart contracts, advanced encryption techniques, and secure validation processes to create a secure and transparent platform.

It focuses on enhancing the security of the government fund allocation process using blockchain algorithms. Specifically, the Advanced Encryption Standard (AES) algorithm is employed for encryption and decryption. AES is a widely recognized.

CHAPTER 6

RESULTS AND DISCUSSION

The estimates of expenditure and revenue are then compared to one another. This provides the initial estimate of the anticipated revenue shortfall necessary to cover projected expenses. After that, the government and the chief economic advisor work together to figure out the best amount of borrowing to cover this deficit.

This proposed system is added to help the specialists to reduce defilement and proposition straightforwardness in all exchanges due to the elements of block chain- like unchanging nature, confirmation of work, and security.



FIG:6.1: HOME PAGE

The significant objective of the errand is to make a stage to screen the dissemination of public cost range the use of block chain innovation. The stage is intended to do the accompanying: Work on open asset circulation more without trouble in expressions of records. It offers the right administration and Straightforwardness. It will keep up with track of all exchanges made.



FIG:6.2: REGISTRATION PAGE

The significant objective of the errand is to make a stage to screen the dissemination of public cost range the use of block chain innovation. The stage is intended to do the accompanying: Work on open asset circulation more without trouble in expressions of records.



FIG:6.3: LOGIN PAGE

This proposed system is added to help the specialists to reduce defilement and proposition straightforwardness in all exchanges due to the elements of block chain- like unchanging nature, confirmation of work, and security. It offers the right administration and Straightforwardness. It will keep up with track of all exchanges made.

CHAPTER 7

CONCLUSION

In this full-proof, secure government fund allocation and tracking system, the allotted funds are tracked at each level until it reaches the beneficiaries. This proposed framework is added to assist the authorities to lessen corruption and offer transparency in all transactions because of the functions of blockchain-like immutability, proof of work, and security. It offers the right governance and transparency. It will maintain track of all transactions made. As blockchain technology is used the transactions as soon as made cannot be changed and if there's any try of tempering, we can get to recognize approximately that easily. There might be no requirement for the outsider and the exchanges might be regulated all the extra sturdily and transparently. In addition to preventing human errors and delays, it will help eliminate human errors. This framework will make the general public authority framework activities appreciably extra stable and productive. We can nevertheless upload customary schemes from everywhere in the world for fundraising to take it to the subsequent stage for big price range required the humans in need.

REFERENCES

- [1] M. Moser, R. Bohme noD. Breuker, "An investigation into fraudulent tools in the Bitcoin ecosystem," 2013 APWG at Crime Researchers Summit, San Francisco, CA, 2013, pages 1-14, doi: 10.1109 / CRS. 2013.6805780.
- [2] Mohanta, Bhabendu & Jena, Debasish & Panda, Soumyashree & Sobhanayak, Srichandan. (2019). Blockchain Technology: A Survey on Applications and Security Privacy Challenges. 8. 100107. 10.1016/j.iot.2019.100107.
- [3]D. A. Wijaya, "Extending asset management system functionality in bitcoin platform," 2016 International Conference on Computer, Control, Informatics and its Applications (IC3INA), Tangerang, 2016, pp. 97-101, doi: 10.1109/IC3INA.2016.7863031.
- [4] K. Saito and H. Yamada, "What's So Different about Blockchain? — Blockchain is a Probabilistic State Machine," 2016 IEEE 36th International Conference on Distributed Computing Systems Workshops (ICDCSW), Nara, 2016, pp. 168-175, doi: 10.1109/ICDCSW.2016.28.
- [5] G. Hurlburt, "Could Blockchain Outlive Bitcoin ?," in IT Professional, vol. 18, no. 2, pages 12-16, Mar.- Apr. 2016, i-doi: 10.1109 / MITP.2016.2

APPENDIX

SCURCE CODE

```
<%@page import="algo.CipherHelper"%>

<%@page import="java.util.Random"%>

<%@page import="java.sql.*"%>

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="utf-8">

    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">


    <!-- SEO Meta Tags -->

    <meta name="description" content="Description">

    <meta name="author" content="Author">


    <!-- OG Meta Tags to improve the way the post looks when you share the page on Facebook, Twitter, LinkedIn -->

    <meta property="og:site_name" content="" /> <!-- website name -->

    <meta property="og:site" content="" /> <!-- website link -->

    <meta property="og:title" content="" /> <!-- title shown in the actual shared post -->

    <meta property="og:description" content="" /> <!-- description shown in the actual shared post -->
```

```
<meta property="og:image" content="" /> <!-- image link, make sure it's jpg -->  
  
<meta property="og:url" content="" /> <!-- where do you want your post to link  
to -->
```

```
<meta name="twitter:card" content="summary_large_image"> <!-- to have  
large image post format in Twitter -->
```

```
<!-- Webpage Title -->
```

```
<title>Fund Allocation</title>
```

```
<!-- Styles -->
```

```
<link  
href="https://fonts.googleapis.com/css2?family=Open+Sans:ital,wght@0,400;0,600;0  
,700;1,400&display=swap" rel="stylesheet">
```

```
<link href="css/bootstrap.css" rel="stylesheet">
```

```
<link href="css/fontawesome-all.css" rel="stylesheet">
```

```
<link href="css/swiper.css" rel="stylesheet">
```

```
<link href="css/magnific-popup.css" rel="stylesheet">
```

```
<link href="css/styles.css" rel="stylesheet">
```

```
<!-- Favicon -->
```

```
<link rel="icon" href="images/favicon.png">
```

```
</head>
```

```
<body data-spy="scroll" data-target=".fixed-top">
```

```
<!-- Navigation -->
```

```

<nav class="navbar navbar-expand-lg fixed-top navbar-dark">

  <div class="container">

    <!-- Text Logo - Use this if you don't have a graphic logo -->

    <!--      <a      class="navbar-brand      logo-text      page-scroll"
href="index.html">Revo</a> -->

    <!-- Image Logo -->

    <a  class="navbar-brand  logo-image"  href="index.html"  style="  text-
decoration:none;"><p style="  color:#ffff; font-size:20px; font-weight:bolder;" >Fund
Allocation</p></a>

    <button  class="navbar-toggler  p-0  border-0"  type="button"  data-
toggle="offcanvas">

      <span class="navbar-toggler-icon"></span>

    </button>

    <div      class="navbar-collapse      offcanvas-collapse"
id="navbarsExampleDefault">

      <ul class="navbar-nav ml-auto">

        <li class="nav-item">

          <a class="nav-link page-scroll-active" href="ahome.jsp" style="color:
#ffff; ">HOME <span class="sr-only">(current)</span></a>

        </li>

        <li class="nav-item">

```

```

        <a class="nav-link page-scroll" href="acat.jsp" style=" color: #ffff;">Add
Category</a>

    </li>

    <li class="nav-item">

        <a class="nav-link page-scroll" href="apro.jsp" style=" color:
#ffff;">Add Scheme</a>

    </li>

    <li class="nav-item">

        <a class="nav-link page-scroll" href="amanage.jsp" style=" color:
#ffff;">Manage Scheme</a>

    </li>

    <li class="nav-item">

        <a class="nav-link page-scroll" href="aneworder.jsp" style=" color:
#ffff;">New User Request</a>

    </li>

    <li class="nav-item">

        <a class="nav-link page-scroll" href="apurchase.jsp" style=" color:
#ffff;">Scheme Status</a>

    </li>

    <li class="nav-item">

        <a class="nav-link page-scroll" href="atopk.jsp" style=" color:
#ffff;">Top k Reviews</a>

    </li>

    <li class="nav-item">

        <a class="nav-link page-scroll" href="adrug.jsp" style=" color:
#ffff;">Scheme Reviews</a>

```

```

        </li>

        <li class="nav-item">

            <a class="nav-link page-scroll" href="index.html" style=" color:
#ffff;">Logout</a>

        </li>

    </ul>

</span>

</div> <!-- end of navbar-collapse -->

</div> <!-- end of container -->

</nav> <!-- end of navbar -->

<!-- end of navigation -->


<!-- Header -->

<header id="header" class="header">

    <div class="container">

        <div class="row">

            <div class="col-lg-12">


<style>

h1.hover{

    color:#3dcac8;

    margin-bottom:200px;

```

```

    }

h1{
    font-size:25px;
    margin-top:-50px;
}

table,tr,td,th{
    padding:5px;
    margin-left:-40px;
    border:2px solid black;
    padding:3px;
    margin-left:100px;
    text-align:center;
}

th{
    color:#3dcac8;
}
</style>

<%
    String cate=request.getParameter("cate");
%>

    <h1 style=" text-align:center; margin-top:-50px;">View <%=cate%>
Block</h1>

    <br>

    <%

```

```

Class.forName("com.mysql.jdbc.Driver");

Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/block","root","root");

PreparedStatement query=con.prepareStatement("select * from
upload where cate= '"+cate+"' ");

System.out.println(query);

ResultSet rs=query.executeQuery();

    while(rs.next()){

        String did=rs.getString("did");

        String sub=rs.getString("sub");

        String dname=rs.getString("dname");

        String dprice=rs.getString("dprice");

        String des=rs.getString("des");

        String hashkey=rs.getString("hashkey");

        %>

<table>

    <tr>

        <th>Scheme ID</th>

        <th>Scheme Name</th>

        <th>Scheme Category</th>

        <th>Sub-Category</th>

        <th>Drug Price</th>

        <th>Description</th>

        <th>Hash Value</th>

```

```

        <tr>

            <td><%=did%></td>

            <td><%=dname%></td>

            <td><%=cate%></td>

            <td><%=sub%></td>

            <td><%=dprice%></td>

            <td><%=des%></td>

            <td><%=hashkey%></td>

        </tr>

    </table>

        <%}%>

    </center>

</form>

</div> <!-- end of col -->

</div> <!-- end of row -->

<br>

</div> <!-- end of container -->

</header> <!-- end of header -->

<!-- end of header -->

<!-- end of details 1 -->

```

```
<!-- Copyright -->
```

```
<div class="copyright">
```

```
  <div class="container">
```

```
    <div class="row">
```

```
      <div class="col-lg-12">
```

```
        <p class="p-small">Copyright © <a href="#your-link">Drug</a></p>
```

```
      </div> <!-- end of col -->
```

```
    <!-- end of col -->
```

```
  </div> <!-- enf of row -->
```

```
</div> <!-- end of container -->
```

```
</div> <!-- end of copyright -->
```

```
<!-- end of copyright -->
```

```
<!-- Scripts -->
```

```
  <script src="js/jquery.min.js"></script> <!-- jQuery for Bootstrap's JavaScript  
plugins -->
```

```
  <script src="js/bootstrap.min.js"></script> <!-- Bootstrap framework -->
```

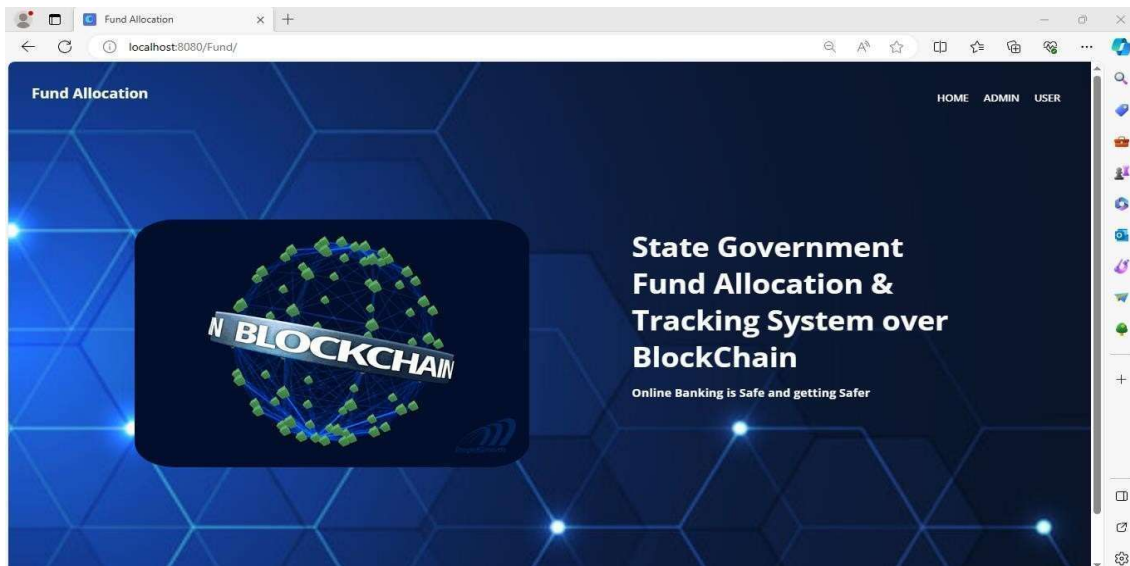
```
  <script src="js/jquery.easing.min.js"></script> <!-- jQuery Easing for smooth  
scrolling between anchors -->
```

```
  <script src="js/swiper.min.js"></script> <!-- Swiper for image and text sliders -->
```

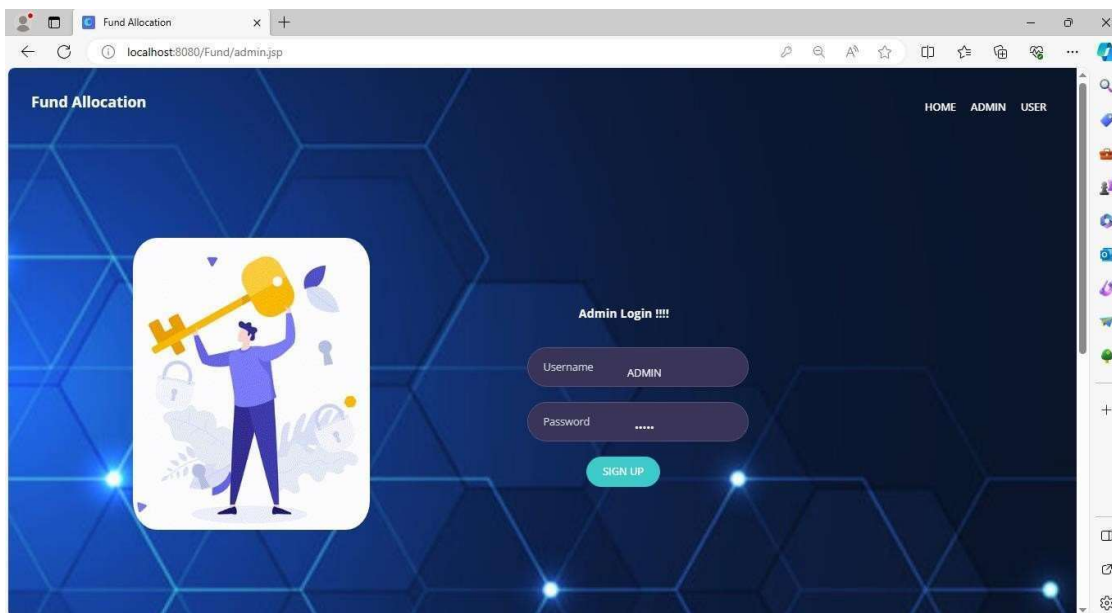
```
  <script src="js/jquery.magnific-popup.js"></script> <!-- Magnific Popup for  
lightboxes -->
```

```
  <script src="js/scripts.js"></script> <!-- Custom scripts --></body></html>
```

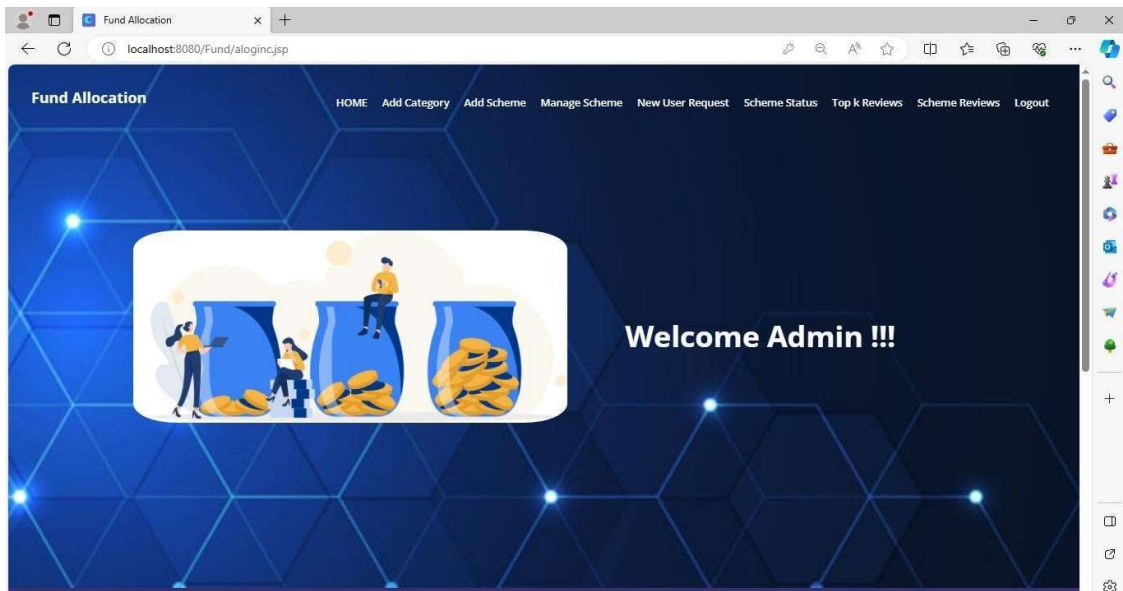
SCREEN SHOTS



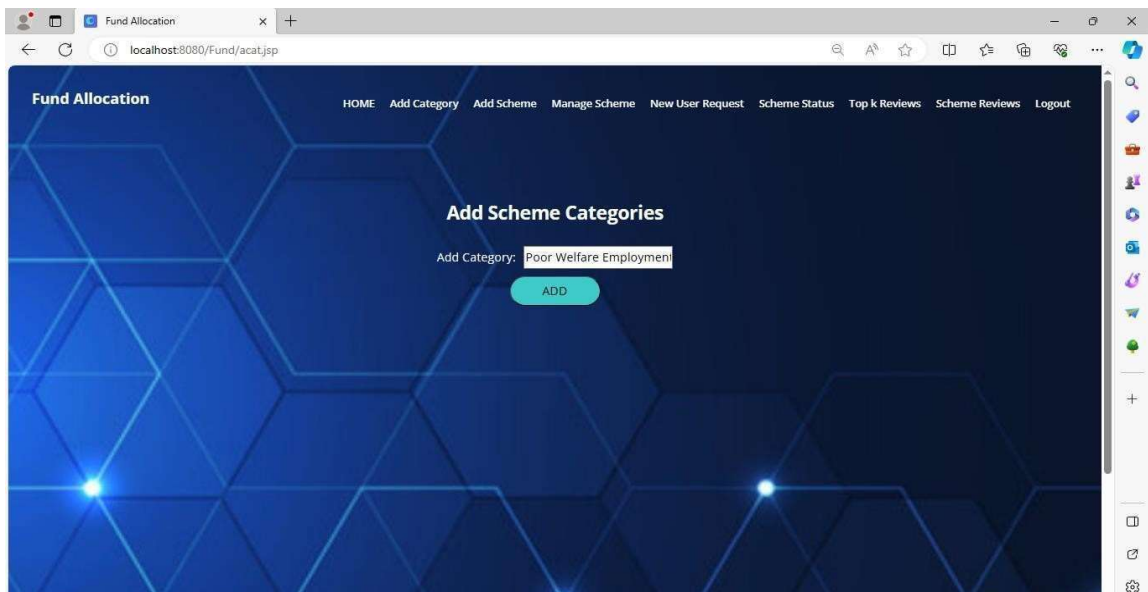
HOME PAGE



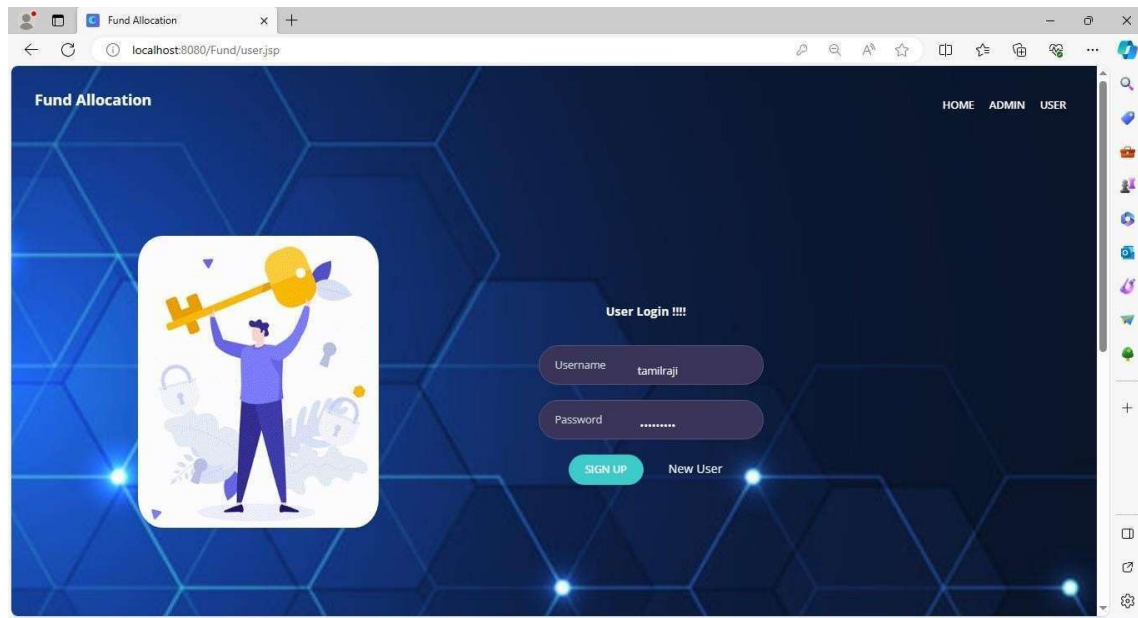
LOGIN PAGE



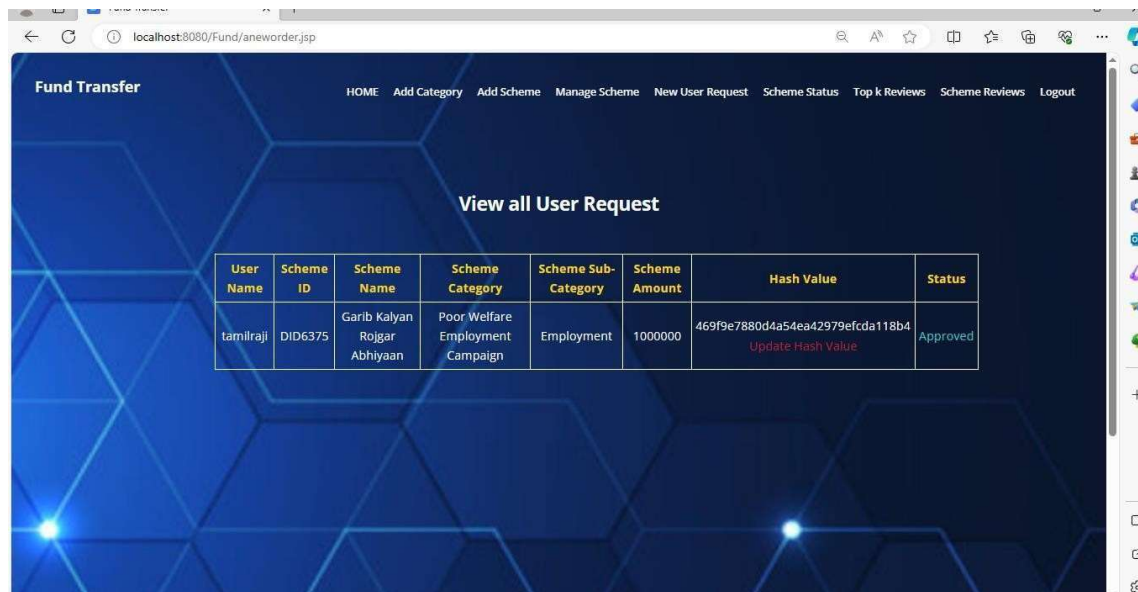
ADMIN PAGE



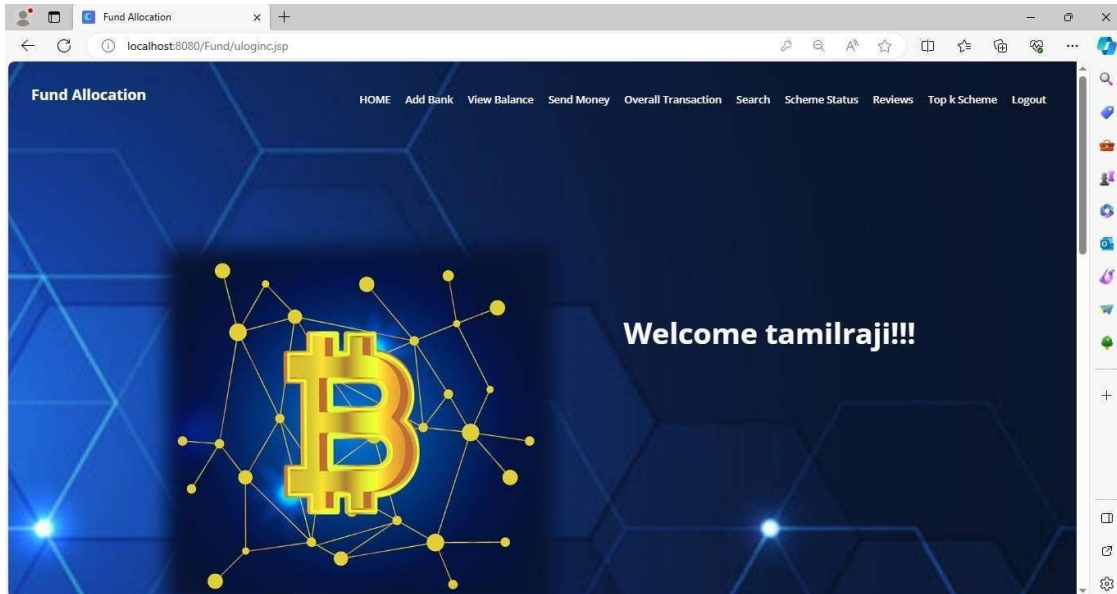
SCHEME CATEGORIES



USER LOGIN PAGE



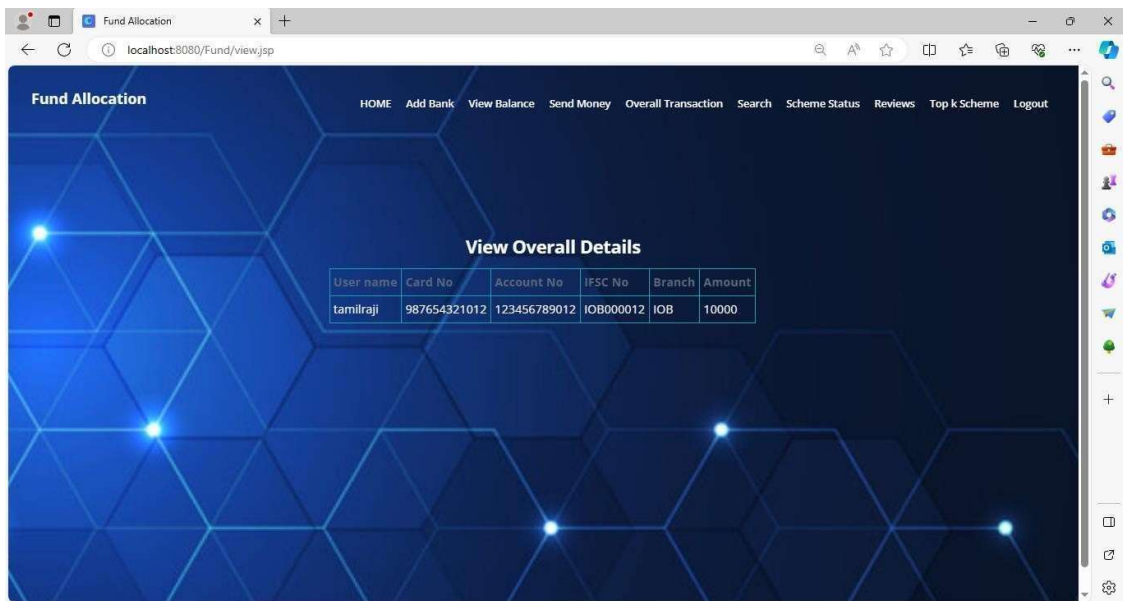
USER REQUEST PAGE



USER PAGE

A screenshot of a web browser displaying the 'Fund Allocation' bank details page. The browser's address bar shows 'localhost:8080/Fund/add.jsp'. The page has a dark blue background with a hexagonal pattern. A navigation bar at the top includes links: HOME, Add Bank, View Balance, Send Money, Overall Transaction, Search, Scheme Status, Reviews, Top k Scheme, and Logout. The main content area is titled 'Add Bank Details' and 'Add Amount'. It contains a form with the following fields: User Name, Select Card Type, Account Holder Name, Account Number, Card Number, IFSC Number, Branch Name, and CVV Number.

BANK DETAILS PAGE



SCREENSHOT OF OVERALL DETAILS

RESEARCH PAPER

DECENTRALIZED LEDGER FOR GOVERNMENT FUND ALLOCATION

ABSTRACT: State governments should carry out many country duties. The business of public administration covers a wide variety of companies they goal various activities might be prepared across the country. This additionally consists of new initiatives, restore and protection work, achievement of contracts, bills government personnel, agricultural machinery and so on. Over the barrier the face of presidency is the bottom level of corruption, which every so often is going undetected to deprive of advanced repute. Buying and selling could be very difficult here we present a clever machine for tracking forex machine investments State governments undergo the manner of governance at every degree. We are we use block chain technology to manage transactions sequentially Store the readability of each challenge in the reminiscence of every challenge Proof of development for cash. This permits the crystal to be marked\ Requests the right to acquire transactional data on a want to understand basis. Its miles

highbrow it makes use of hashes to hold blocks of enterprise information through encryption Transactions inside the shape of chains that are moderated and proven by every node Participates in undertaking discovery and stores data internally in a obvious shape Government. The machine affords entire proof, safety and authentication of budget. A device of dispensing and monitoring cash to help create a risky authorities Process.

KEYWORDS: Block chain, Transactions, Security, Tracking, Transparency, Encryption

INTRODUCTION

Lock is one of the technology that introduced many disruptive changes Diligence is now increasingly more blocked in lots of places Application classes are nonetheless to be diagnosed and finalized. Block chain is one of a kind Due to its decentralized nature, the integrity of the information stored at the chain and it due to these characteristics transparency is every other area where the module may be

used the authorities ought to offer price range for the initiatives. There are many governments to serve those Public Duties the position of public administration entails many troubles. Used for numerous purposes across the USA. This additionally includes new Projects, restore and upkeep works, contracts, payments to the state Employees, agricultural regulations and greater. The largest impediment is the high command and the corruption of humility, occasionally undetected, deprives the country of Due to the present device the course of development could be very hard. It is a block chain it reflects its potential to facilitate accept as true with and verbal exchange. People and congregations. Innovation affords safety while used consciously inside a framework correct settings. Generally, businesses construct their own IT infrastructure. The group wants to interact you in problems whilst spotting the compromises among the given options. The best source of fact and formidable status quo. Block chain innovation is famous these issues with the aid of presenting a specialised company that helps the overall implementation Businesses are established so that no unmarried entity controls the whole gadget. Government There is an

inherent need to gather, shop and provide accept as true with on open statistics Structure In such situations, prevention can assist increase confidence.

OBJECTIVE

A large variety of human beings are worried in authorities work Business activities related to numerous sports the metropolis's new sports, initiatives, projects include; Allocation agreements, rural schemes and others. Senior governments are one of the maximum tough cases Face is low stage corruption, every now and then hard to detect and denying theadvanced country. In this case, we use a module that allows us to applycryptography. And transaction safety, security at every level obviously to help in any commercial enterprise supply of his religion

RELATED WORK

1 Provincial Plan/Shejin Cherian/2022

In this article, the author explores the potential of generation to lessenrobbery of exchequer via remodellingauthority's packages. We have diagnosed eight acknowledged characteristics of any digital energy conversion approach, including sequential steps. To make certain a few

equity on this form of virtual system, the author proposed to use block-based totally generation by making use of mathematical residences to the version to ensure systematic fairness at all stages. The gadget can be confirmed by means of not unusual human beings to tune the motion of price range for any venture, making the gadget absolutely open and honest.

2. Current Transaction Data Using Hash / Shetty NT Rajeev / 2022

In this text, the authors of Block chain have a look at packages that allow the renovation of clean records with the right to get entry to transaction data as needed. The gadget makes use of encryption to protect transaction statistics by the use of hashes to verify transaction facts on the chain, which may be created by using each collaborating node to verify transactions inside the government and keep the facts in a greater obvious format. Is maintained and proven via. This system gives the capacity to distribute funds and song them reliably, creating a totally indestructible authorities system.

3 Finance Government / Kumar Patel, Saurav and Tenkrishna / 2021

This article discusses using technology to display authority's price range. When the government releases cash for tasks, it often is going unused and has little relevance, corruption being one of the primary motives for this. So, if trains are lively here, we are able to music while and wherein they're getting used. This generation is used inside the public area and may have a exceptionaleffect on the improvement and economy of the united states.

4. Secure Data Transactions the usage of Hash Sheran, Lavanya, Kunal Patel and Ahmed/2020

The device makes use of encryption to protect transaction information, which verifies transactions the usage of a manner of transaction data on the real chain this is maintained and tested by using every participating node to shop information in a more obvious way. Is carried out. By using computer systems, it could create a obvious, corruption-loose authorities method, presenting a totally comfortable, actual, and dependable manner to distribute and music finances.

EXISTING SYSTEM

In the prevailing system, statistics approximately that phase has to take delivery of to the country. It includes

numerous research and research carried out within the field. Therefore, the observations and consequences have already been published; Also, thru numerous references; stand outside the steps Letter assessment is an important step in any system. Fair trial. Before we start development, we need to test Former newspapers of our location in which we work and an idea of what we can assume or create in the opposite path to the preceding movement paper At this point, we briefly compare related paintings allocation and use of public price range prevention technology.

Disadvantages of Existing System

Possibility of candidates or veterans getting their tickets cut. Not each veterinarian has get right of entry to a network or laptop. Voters also can solid their votes through going to polling stations there

PROPOSED SYSTEM

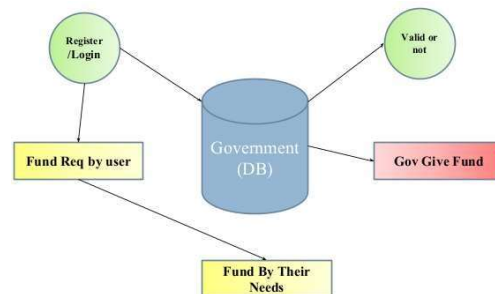
The important goal of the task is to create a platform to monitor the distribution of public price range the usage of block chain technology. The platform is designed to do the following: Work on public fund distribution more without difficulty in phrases of documents. Aggregating donation

information in one location will allow for automatic reporting. Donations can become greater transparent via developing a sign in-based totally technique. Maintain transparency and protection at all ranges. Develop corruption free control processes. To offer a consistent fee of return on funding. Use of cash.

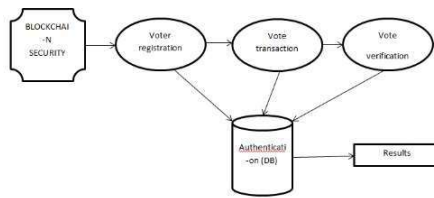
Advantages of Proposed System

A funding pathway is easily provided to the country government to move thru the authority's technique. It makes use of technology to maintain transparency in every business and attain corporations at every stage with subjects along with cash drift and balancing of each case.

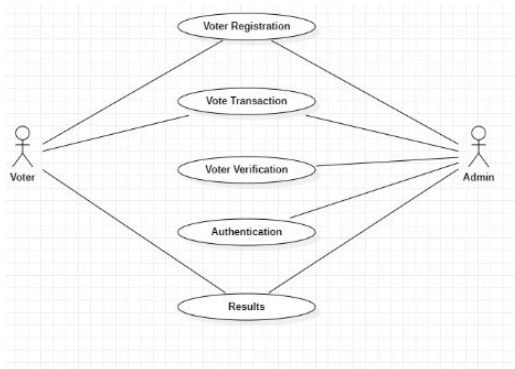
BLOCK DIAGRAM



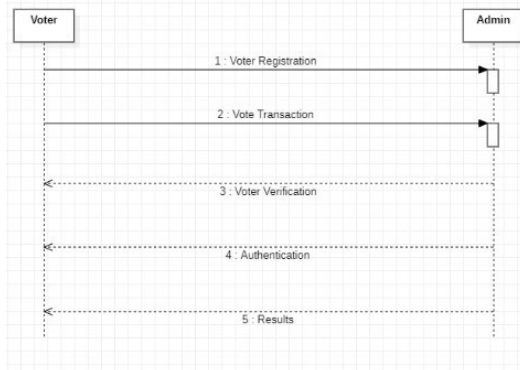
DATA FLOW



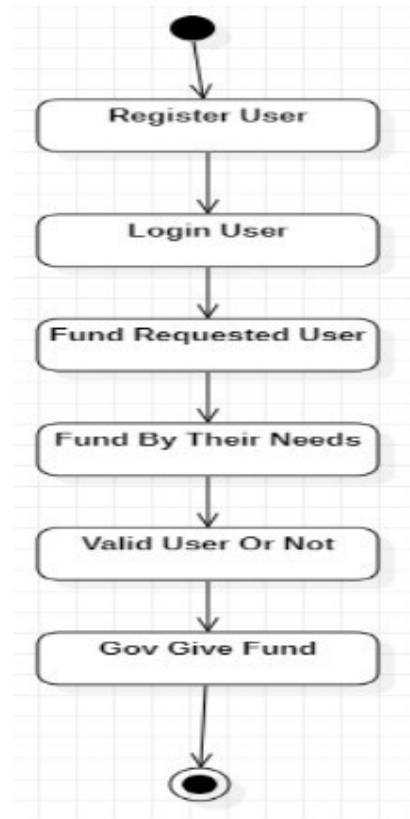
USECASE Diagram



Sequence Diagram



Activity Diagram



SYSTEM REQUIREMENTS

Hardware Requirements

System: Pentium i3 Processor.

Hard Disk: 500 GB.

Monitor: 15" LED

Input Devices: Keyboard, Mouse

Ram: 4 GB

Software Requirements

Operating system: Windows 10.

Coding Language: .Net

IDE: Visual Studio

MODULES

1. Government
2. Authentication (TPA)
3. User (Customer)
4. Encryption and Decryption

1. Government: Government will provide the amount of money requested by the user.

2. Authentication (TPA): Check the authentication of the user or check if he is a valid user and check if the request is valid or not.

3. User (Customer): User will request payment as per his requirement.

4. Encryption and Decryption:

We use the AES encryption set of rules to encrypt document metadata. This technique follows a procedure that requires a chain of concatenated fragments earlier than reconstructing the record structure. This series of information is stored in a metadata report, that's encrypted before being saved inside the cloud. So the decryption module decrypts the metadata documents associated with the files.

PROPOSED ALGORITHM

AES with SHA key: We use the AES encryption algorithm to encrypt metadata files. The encryption process generates a symmetric key, known as a circular key.

SHA-1 is used for this key, which creates a block of facts saved in an array of information known as reputation arrays.

RESULT AND DISCUSSION

The estimates of expenditure and revenue are then compared to one another. This provides the initial estimate of the anticipated revenue shortfall necessary to cover projected expenses. After that, the government and the chief economic advisor work together to figure out the best amount of borrowing to cover this deficit.

SCREENSHOTS

Home Page



Register Page



Login Page



The significant objective of the errand is to make a stage to screen the dissemination of public cost range the use of block chain innovation. The stage is intended to do the accompanying: Work on open asset circulation more without trouble in expressions of records. This proposed system is added to help the specialists to reduce defilement and proposition straightforwardness in all exchanges due to the elements of block chain-like unchanging nature, confirmation of work, and security. It offers the right administration and Straightforwardness. It will keep up with track of all exchanges made.

CONCLUSION

A budget helps maintain financial stability. A financial plan simplifies it to cover bills on time, lay out a secret stash, and save for significant consumptions like a vehicle or home by following costs and sticking to an arrangement. In general, a budget improves a person's short- and long- term financial foundation.

FUTURE SCOPE

We learned about the world's ongoing government reserve distribution, but there we are modelling the current reality using a hash, which is secure thanks to block-chain security. In the future, I will visually demonstrate how each block generates and distributes its hash code.

REFERENCES

- [1] Prof. Mrunal Pathak , Amol Suradkar , Ajinkya Kadam , Akansha Ghodeswar , Prashant Parde's "Blockchain Based EVoting System"-International Journal of Scientific Research in Science and Technology (2021).
- [2] Abishek Yadav, Ashish Uttamrao, Yash Urade "E-Voting using Blockchain Technology" International Journal of Engineering Research & Technology, July-2020.

[3] Friðrik Þ. Hjálmarsson, Gunnlaugur K. Hreiðarsson “Blockchain Based E-voting System” International Journal of Scientific Research in Science and Technology (2019).

[4] Ashish Singh and Kakali Chatterjee “Secure Electronic Voting System Using Blockchain” International Conference on Computing, Power and Communication Technologies (GUCON) Galgotias University, Greater Noida, UP, India. Sep 28-29, 2018.

[5] D. Dwijesh Kumar , D. V. Chandini , B. Dinesh Reddy , Debnath Bhattacharyya and Tai-hoon Kim “Secure Electronic Voting System using Blockchain” International Journal of Advanced Science and Technology Vol.118 (2018).

[6] Cosmas Krisna, Rikard Hjort, Hiroyuki Sato “A Proposal of

Blockchain-based Electronic Voting System” 2018 Second World Conference on Smart Trends in System, Security and Sustainability (2018).

[7] Kashif Mehboob, Junaid Arshad, Muhammad Mubashir Khan “Secure Digital Voting System based on Blockchain Technology” International Journal of Electronic Government Research (2018).

[8] Yash Dalvi, Shivam Jaiswal, Pawan Sharma, “E-voting using Blockchain”, International Journal of Engineering Research & Technology (IJERT), 2021.

[9] Bhavani Thuraisingham “Blockchain Technologies and their Applications in Data Science