



## A SECURE FRAME WORK FOR GOVERNMENT TENDER ALLOCATION USING BLOCK CHAIN

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### Abstract

Block chain technology is an advanced database mechanism that allows transparent information sharing within a business network. It stores data in block that are linked together in a chain. It most safe,secure and fast. Our project is to create web application to the people who lodge a complaints to the government regarding common problems. The complaint where move to the respective departments and the problem which can be solved were hold and report back to the government. The government will allocate the tender to the contractors the satisfying coded amount is chosen then transactions starts more secure using block chain technology.

The existing system is lacking to process the data in a short period of time with the less efficiency and implemented in block chain technology the existing algorithm used consensus mechanism, ECDSA and RSA.In the proposed system to overcome the existing implementing SHA 256 algorithm in the real time database collected from the website gov.tender.an and in the existing datasets government procedure and comparing them. The performance measures of this experimental results are explained in the comparison, accuracy, precision, recall and efficiency. This project gives the good result in the SHA 256 than consensus algorithm.

**Keyword---Block chain, SHA256 algorithm, Distributed Ledger Technology** INTRODUCTION

There have been different endeavors to carry out the innovation to make government processes paperless and immediate, for example, web based tagging frameworks, internet giving of tenders, documenting expense forms, and so on. Albeit a large portion of these frame works appear to be hearty and very much carried out, everyone of them depend on the possibility of a focal server that has a weak link, as

programmers can undoubtedly hack or disturb its working by assaults, like DOS, Slow-loris, SYN Flooding, and so forth. In many states, convoluted administrative frameworks frequently bring about exceptionally wasteful work process laden with debasement, bungle, and human blunders. A portion of the administration processes, for example, government tenders incorporate misbehavior like data spills ,debasement, pay off, and so on. The greater part of the current electronic administration processes and IT foundation have the previously mentioned limits, be that as it may, new advances, for example block chain can possibly incredibly improve the current issues.A permission-ed block chain organization can give the important straight forwardness to execute government strategies to serve the residents of the nation and fix liabilities in the event of maltreatment of the framework successfully.

## SHA ALGORITHM

In the field of cryptography and cryptanalysts, the SHA-1 algorithm is a crypt-formatted hash function that is used to take a smaller input and produces a string that is 160 bits, also known as 20-byte hash value long. The hash value therefore generated, is known as a message digest which is typically rendered and produced as a hexadecimal number which is specifically 40 digits long

### Uses of SHA Algorithm:

These SHA algorithms are widely used in security protocols and applications, including the ones such as TLS, PGP, SSL, IP sec, and S/MIME. These also find their place in all the majority of cryptanalytic techniques and coding standards which is mainly aimed to see the functioning and working of majorly all government as well as private organizations and institutions. Major giants today such as Google, Microsoft, or Mozilla have started to recommend the use of SHA- 3 and stop the usage of the SHA-1 algorithm.

## LITERATURE SURVEY

Proof - of - PUF Enabled Block chain: Concurrent Data and Device Security for Internet-of-Energy was published by the author RamzAsif ,KinanGhanem andJames Irvine in the year of 2020. This hybrid approach, hereinafter termed as PUF Chain, provides device and data provenance which records data origins, history of data generation and processing, and clone-proof device identification and authentication, thus possible to track the sources and reasons of any cyber attack.[1]

### A Block chain and Edge Computing-

Block chain technology is an example of such technology that has been attracting the attention of Governments across the globe in recent years. Enhanced security, improved traceability and lowest cost infrastructure empower the block chain to penetrate various domains.[2]

### A Survey on IoT Security:

Application Areas, Security Threats, and Solution Architectures was published by vikas hassija,vinay chamola,vikas saxena, divyanshjain,pranav and bi plab sikdar in the year of 2019.This article explains The Internet of Things (IoT) is the extra of communication. Using the IoT, physical

objects can be empowered to create, receive, and exchange data in a seamless manner. Various IoT applications focus on automating different tasks and are trying to empower the inanimate physical objects to act without any human intervention.[3]

A Survey on IoT Security: Application Areas, Security Threats, and Solution Architectures was published by Vikashas sija, Vinayc hamola, Vikas saxena, Divyan shjain, Pranav goyal, Bi plab sikdar in the year 2019. This article explains the Internet of Things (IoT) is then extended a of communication. Using the IoT, physical objects can be empowered to create, receive, and exchange data in a seamless manner.[4]

### **Related work**

Block chain for government services-Use cases, security benefits and challenges was published by AhmedAlketbi; QassimNasir; ManarAbu Talibin the year 2018. This article explains Public sector and governments have been actively exploring new technologies to enable the smart services transformation and to achieve strategic objectives such as citizens satisfaction and happiness, services efficiency and cost optimization.[5]

A permissioned block chain network can provide the necessary transparency to effectively implement government policies for the benefit of the citizens of the country and fix responsibilities in case of abuse of the system. It gives convenience to identify and compare the data. The role and duties of users in the proposed system are discussed further in the following section.

### **SYSTEM PARTICIPANTS AND COMPONENTS**

This section outlines the responsibilities of government solve the public common problems. It also highlights the secure and most safe dealing with the contractors. The status will be transparent to the public. The main components and system participants of our proposed system are discussed as follows:

#### **Public Complaint**

In this module in our project, here symbolizes a unit of work performed within a database management system. Public add complaint something about some issues about his/her area or zone such as water department issue, Electricity related issue with the picture of that.

#### **Department Upload:**

The register module provides a conceptual frame work for uploading data on those department in a way that: eases data entry & accuracy by matching the department entry to the data source (usually paper files created at point of care), ties easily back to individual department records to connect registers to department data, and collects data elements to enable better supervision of donation programs.

#### **Government Tender Allocation:**

In this module the government will allocate the tender for the government project. Analysis the details will be responsible for your files to redin database.

### Contractor Tender Request:

In this module the contractor will also view the request .And analysis the details will be responsible for your file. Block chain technology is an advanced database mechanism that allows transparent information sharing within a business network. It stores data in block that are linked together in a chain . It most safe, secure and fast. Some of the governance processes, such as government tenders include malpractices like in formation leaks, corruption, bribery, etc. Most of the existing electronic services and IT infrastructure have some limitations. It takes too long time to process the data with less efficiency.

### Government Approve:

In this module is used to help to the contract or to request the tender with the land longitude and the contract or will update the report along with their opinion and the will be stored the database.

### Contractor Appointment:

In this module is used to help to the contractor t o request the tender with the appointment by the government and the contractor will update the report along with their opinion and the will be stored the database.

## Proposed Block Chain- Enabled SHA Based Solution

### Architecture

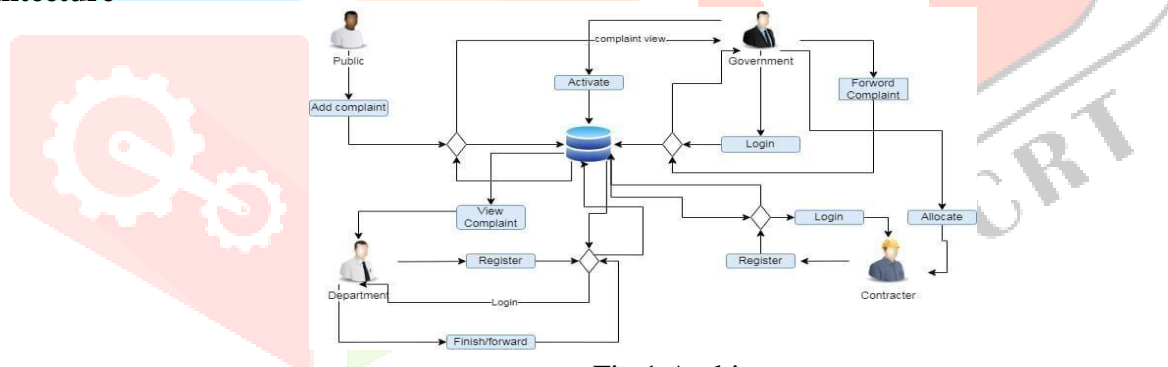


Fig.1.Architecture

### Experimental Results

#### HOME PAGE:

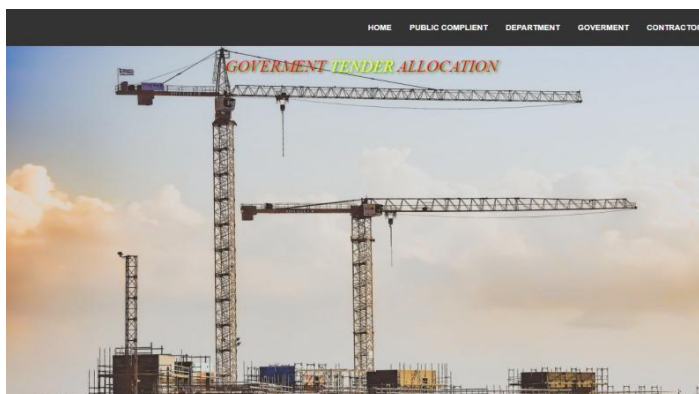
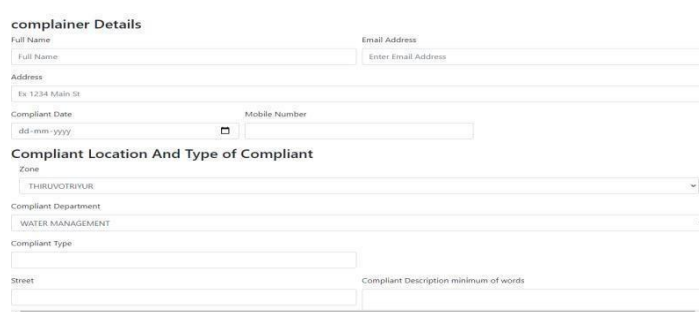


Fig.2.Homepage

This is the home page of the web application ,here the login for the page has public complaint login, Department login page, Government login page and Contractor login.

### Public Complaint Page:



The screenshot shows a web form titled "complainer Details". It includes fields for "Full Name" and "Email Address", both with "Enter" prompts. Below these is an "Address" field with an example "Ex 1234 Main St". There are also fields for "Complaint Date" (format dd-mm-yyyy) and "Mobile Number". A section titled "Compliant Location And Type of Compliant" contains a "Zone" dropdown menu (selected "THIRUVOTRIYUR"), a "Compliant Department" dropdown menu (selected "WATER MANAGEMENT"), and a "Compliant Type" text input field. At the bottom, there are "Street" and "Compliant Description minimum of words" fields.

Fig.3.PublicComplaintPage

Using the page public can complaint the problems in their area and surroundings. By filling the complaint form.

### Department MainPage:

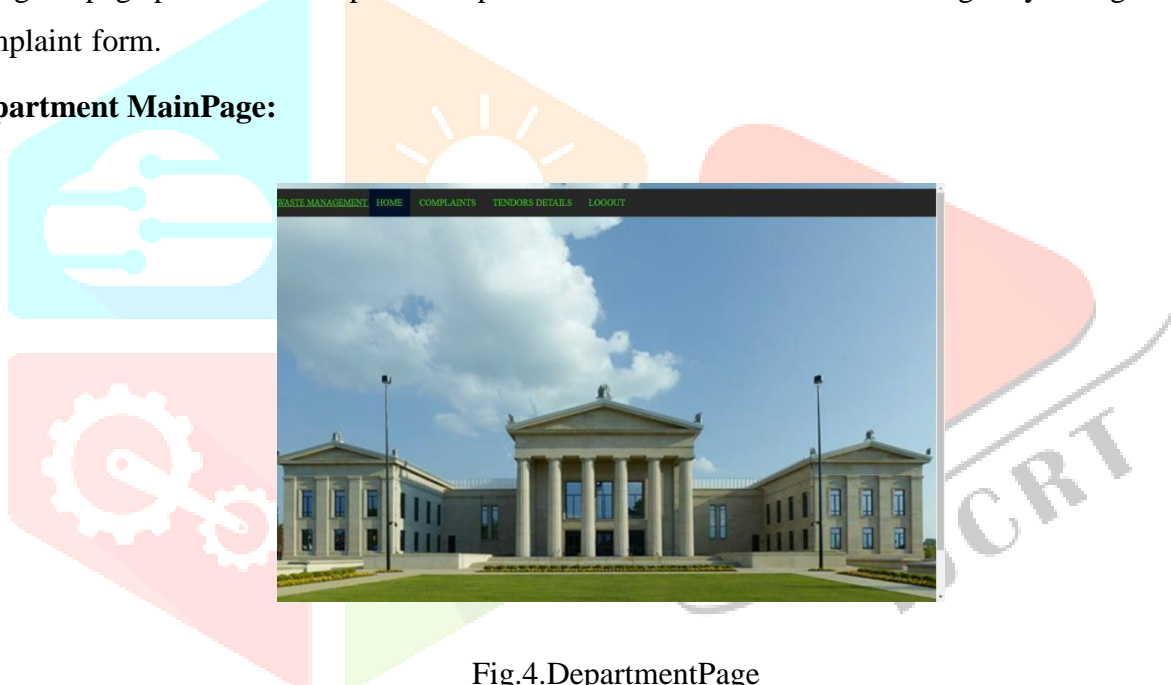
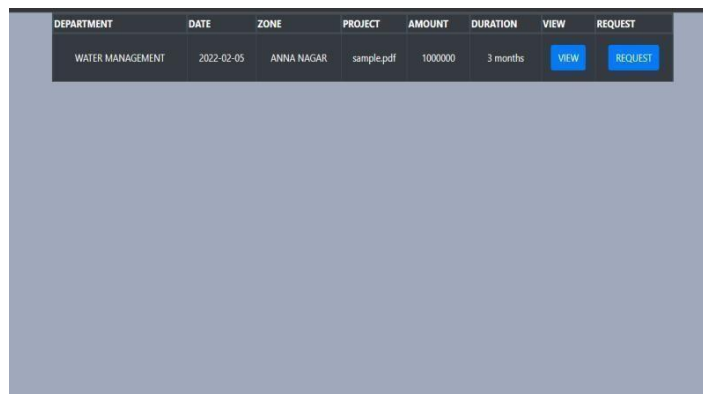


Fig.4.DepartmentPage

In this department can view the complaint and solve it and send the status to the government or send back the complaint to the government.

## Contractors Request:

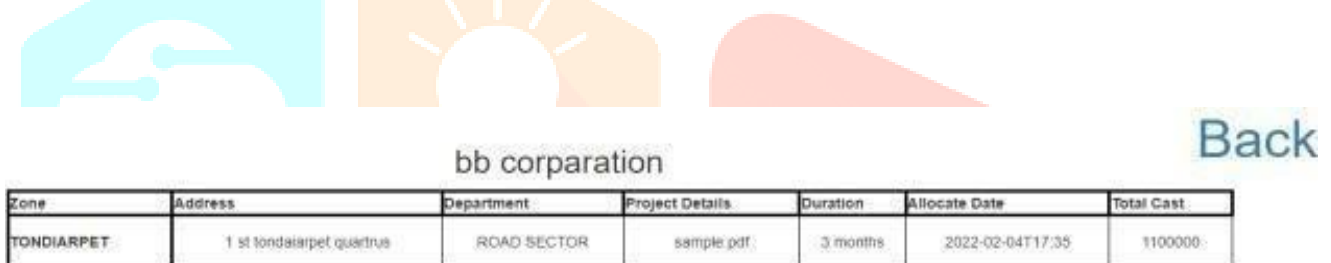


DEPARTMENT	DATE	ZONE	PROJECT	AMOUNT	DURATION	VIEW	REQUEST
WATER MANAGEMENT	2022-02-05	ANNA NAGAR	sample.pdf	1000000	3 months	VIEW	REQUEST

Fig.5.ContractorsRequest

Here the contractor make the request to the government for the tender with possible quoted amount.

## Confirmation View:



Zone	Address	Department	Project Details	Duration	Allocate Date	Total Cost
TONDIARPET	1 st tondaiarpet quarters	ROAD SECTOR	sample.pdf	3 months	2022-02-04T17:35	1100000

Fig.6.Confirmation View

Once the tender is confirmed with government the transaction will starts in secured way using SHA algorithm.

## CONCLUSION

In this article, we have examined on the need and advantages of utilizing block chain innovation in the public authority delicate task process. We have used to execute the start to finish edge registering system for an administration delicate Workprocess. The SHA calculation is proposed to relate the most appropriate constructors to the delicate ventures, consequently upgrading the benefit of both the public authority Tenders and the development organizations. We have additionally concentrated on the presentation assessment of the proposed model. The proposed model demonstrates to give improved brings about terms of various delicate boundaries when contrasted with its partners.

## FUTURE ENHANCEMENT

Implementing a real-world database system to the government projects. Improving the efficiency of protocols, in terms of number of tender exchanged and in terms, as well. Implement using two are more algorithms.

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