

**Tamil Nadu Urban Finance and Infrastructure
Development Corporation Ltd (TUFIDCO)**

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

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APRIL 2023



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING BONAFIDE CERTIFICATE

This is to certify that this Project Report is the bonafide work of **SIVA SAIKUMAR REDDY KOMMA (Reg.No.39110953)** and **DURGAPRASAD SASUBILLI (Reg.No: 39110905)** who underwent the professional training in “Tamil Nadu Urban Finance and Infrastructure Development Corporation Ltd. (TUFIDCO)” under my supervision from June 2022 to October 2022.

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Submitted for Viva voce Examination held on 20.4.2023

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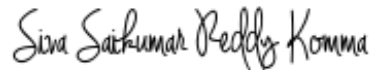
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DECLARATION

I, **SIVA SAIKUMAR REDDY KOMMA (RegNo:39110953)** hereby declare that the Project Report “**Tamil Nadu Urban Finance and Infrastructure Development Corporation Ltd. (TUFIDCO)**” done by me under the guidance of **Dr. Albert Mayan J, M.E., Ph.D.** Department of Computer Science and Engineering at SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY is submitted in partial fulfilment of the requirements for the award of Bachelor of Engineering degree in Computer Science and Engineering.

DATE: 20-04-2023

PLACE: CHENNAI



SIGNATURE OF THE CANDIDATE

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ABSTRACT

The primary aim of this project is to create a user-friendly complaint-raising interface that facilitates seamless communication between citizens and officials. The interface has been developed using advanced Flutter technology to provide users with a convenient and easy-to-use platform. With this application, users can quickly and efficiently raise complaints by sharing photos of infrastructural damages and specifying the location of the incident. This feature eliminates the communication barriers between users and officials, streamlines complaint processing, and ensures swift resolution of issues. The application also features an administrator dashboard that enables officials to access the complaint database and track complaint information. Additionally, the application allows multiple users to view and upvote complaints raised by others in their community.

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CHAPTER 1

INTRODUCTION

1.1 AIM OF THE PROJECT

The aim of this project is to develop a complaint reservation system for Tamil Nadu Urban Finance and Infrastructure Development Corporation (TUFIDCO) to improve its customer service and grievance redressal mechanisms. The project aims to provide a user-friendly platform for citizens and stakeholders to register complaints related to TUFIDCO's schemes, projects, and services and to facilitate timely and transparent resolution of complaints.

The overall goal is to create a fully functional and responsive mobile application in accordance with government regulations and to assist them in deploying their application throughout the Apple App Store and Google Play Store. We utilised Figma to construct this application's user interface design based on wireframes. This application is compatible with all smartphone platforms.

To comprehend the actual development process. To use skills and expertise in the actual project. To put innovative ideas and solutions into action. To integrate a cross-platform application built with Flutter, MongoDB, NodeJS, ReactJS, JWT Authentication, Flask, and Django.

1.2 DESIGN PHASE OF PROJECT

The design phase goal is to acquire a clear grasp of what the government expects from their project. The overall system design aim is to provide an efficient, modular design that will reduce complexity for the client, facilitate change and result in an easy implementation. This will be accomplished by developing a strong cohesion system with minimal connections. The system necessities and logical description of the entities, relationships and attributes of the info that were documented throughout the need analysis section are additionally refined and allotted into system and info style specifications that are organized during an approach appropriate for implementation at intervals the constraints of a physical setting. Prior to the detailed design of the application, a formal high-level architectural design review is performed to ensure that the design meets the Client's requirements, conforms to the organization's

architecture, and meets established design standards, and to raise and resolve any significant issues related to the technical project.

1.3 PHASES DESCRIPTION OF PROJECT

During the first of these phases, known as the start phase, the project's aim or requirement, which might be a business challenge or opportunity, is recognised. A business case with proposed solution alternatives documents an appropriate response to the issue. A feasibility study is carried out to ensure that each alternative satisfies the project aim, and a suggested final solution is chosen.

The project team begins to take shape when the primary deliverables and working groups involved are established. The project manager then seeks clearance to proceed to the detailed planning step. The following stage, planning, is when the project solution is established in as much detail as feasible and the procedures required to attain the project goal are planned. The team decides all of the work to be done in this stage. The project's tasks and resource requirements, as well as its production strategy, are specified. This is also known as domain management. A project plan is developed that details the activities, tasks, dependencies, and deadlines.

The following step is the implementation phase, in which the project plan is put into action and the project work is completed. During implementation, it is critical to maintain control and communicate as needed. Progress is constantly tracked, and any necessary revisions are performed and documented as deviations from the original plan. We created a sketch file design for the customer to display a prototype of the project using all industrial infrastructure.

Once we receive clearance from the company/client after this stage of design creation. Later in the project, we begin build the mobile application utilising some of the most popular languages, frameworks, and libraries (Flutter, MongoDB, NodeJS, ReactJS, JWT Authentication, Flask, and Django).

All industrial structured code types are used in the project's development. It is also created in the form of a simple and intelligible coding structure. This allows other developers to reuse the code in later phases.

Finally, it is necessary to track project progress and performance to ensure that everything is going as planned. The quality of deliverables determines whether or not certain task ones are reached. A project deliverable is created and finished in accordance with a predetermined plan. The project monitoring phase happens concurrently with the execution phase and is primarily concerned with measuring project performance and progress in accordance with the project plan.

CHAPTER 2

LITERATURE SURVEY

Dhanalakshmi et al [1] The studies propose a mobile app that users can use to complain about goods or services received from a business. The program aims to simplify the complaint submission process and provide users with a convenient way to track the status of their complaints. User registration, complaint registration, complaint tracking, and complaint resolution are the four core modules of the complaint management system. Consumers can file complaints by registering with their mobile number and email address and submitting information about the product or service, the type of complaint, and a description of the problem. The customer can use the mobile application to follow the progress of their complaint in real time after it has been filed. Moreover, buyers can check the history.

Rajasekaran et al [2] The paper introduces a mobile application that enables users to submit complaints, photographs, and location information via smartphones. The application designates the appropriate authorities to handle the complaints. According to the authors, mobile technology may increase the effectiveness and accountability of the complaint redressal process. The design, development, user interface, and functioning of the mobile application are all discussed in the paper. The usage of location-based services, cloud storage, and SMS notifications are just a few of the technological aspects of the program that the writers cover in their discussion. The authors polled users who had filed complaints via the mobile application to assess the app's performance. According to the poll, most users were happy with the application and thought it was simple. The authors propose integrating the mobile application to increase the efficiency and effectiveness of current complaint redressal systems.

Sharma et al [3] The design and development of the Android-based mobile application, which has functions including speech recognition, image and video upload, and location-based services, are discussed in the article. Additionally, the application uses a machine learning algorithm to group complaints into different groups and designate the proper authorities to handle them. The authors polled users who had complained about using the application to assess the efficiency of the grievance redressal system. According to the poll, most users were happy with the application and thought it enhanced the appeals

process. According to the authors, the program can be connected with current government systems to increase their effectiveness and efficiency.

Li, L. et al [4] The study indicates an Android-based system for managing complaints in residential communities, allowing people to voice concerns about maintenance, cleanliness, and security. The system is designed to enhance communication and collaboration among residents, managers, and service providers to raise community living standards and quality of life. The design and development of the mobile application for Android, which has features like complaint submission, complaint tracking, and notification alerts, are discussed in the article. Community managers can use the application's dashboard to track complaints and allocate resources for resolving them.

Goyal et al. [5] The paper proposes an intelligent waste management system that leverages Android-based mobile technology to improve waste collection and disposal efficiency and effectiveness. The system includes a mobile application that enables waste collectors to track waste collection and transportation and a web-based dashboard for waste management officials to monitor and manage the waste collection process. The authors describe the development and implementation of the Android-based mobile application, which includes features such as real-time tracking of waste collection, route optimization, and data analytics for waste management. Providing services depends upon the location. The application also enables citizens to report waste-related issues, such as overflowing garbage bins and littering.

Rahman et al [6] The paper presents an Android-based traffic management system that uses GPS technology to manage and control traffic in urban areas. The system is designed to reduce traffic congestion and improve road safety by providing real-time traffic information and intelligent traffic control. The authors describe the development of the Android-based mobile application, which uses GPS data to track and monitor traffic flow. The application also provides real-time traffic updates to drivers, including alternate routes and traffic alerts. The system also includes a web-based dashboard for traffic management officials to monitor and manage traffic flow.

Mandal et al [7] Presents an IoT (Internet of Things)-based intelligent forest fire detection system on Android. The system uses a network of in-forest sensors that track temperature, humidity, and smoke levels over time. These sensors send their data to a central server, which examines it and looks for any irregularities that would point to the presence of a

forest fire. Also, the technology notifies local homeowners and forest officials of the location and progress of the fire in real time. The scientists discovered that their technique was efficient at spotting forest fires and could aid in reducing the harm they cause.

Kumar et al [8] Demonstrates the conception and execution of an Internet of Things (IoT)-based intelligent home automation system. Via a mobile app downloaded to their Android devices, users of the system may operate various home equipment, including lights, fans, and air conditioners. The system also has sensors that may change the settings of household appliances in response to variations in temperature, humidity, and light levels. The authors discovered that their method gave users more convenience and control over their household appliances.

Nirmala et al [9] Presents a mobile application designed for public healthcare services in rural areas, which aims to improve the accessibility and quality of healthcare services. The system enables patients to register for healthcare services, book appointments with doctors, receive notifications for medicine reminders, and access health-related information. The app also allows doctors to manage patient records, prescribe medicines, and communicate with patients through video consultations. The study concluded that the system effectively improved the accessibility and quality of healthcare services in rural areas.

Singh, S et al [10] The development of an intelligent agriculture system that uses Android and IoT technologies to monitor and control various aspects of agricultural production. The system includes sensors to monitor soil moisture, temperature, and humidity and uses an Android app to provide real-time data and allow farmers to control irrigation and fertilization remotely. The system is also integrated with a weather forecasting system to provide farmers with timely information about weather conditions. The authors demonstrate the system's effectiveness through field testing on an agricultural farm in India.

Pandey et al [11] Presents a system that monitors air quality in real-time using IoT devices and an Android application. The system consists of sensors that measure various pollutants in the air, an IoT module that collects data from these sensors, and an Android application that displays the data to the user in a user-friendly manner. The system allows users to monitor air quality in their vicinity and take necessary precautions to avoid health hazards. The paper provides a detailed description of the system architecture,

implementation, and experimental results. The authors also discuss the potential applications of the system and its future scope.

Gupta, V et al [12] Proposed a mobile application called "Samarth", developed using Flutter technology, a cross-platform development framework similar to React Native, for citizen grievance redressal in intelligent cities. The application enables citizens to report grievances related to municipal services such as garbage collection, water supply, and streetlights. The authors found that the application improved citizen engagement and reduced the time to resolve complaints. The study highlights the potential of mobile applications for citizen engagement and improved service delivery in intelligent cities.

CHAPTER 3

REQUIREMENT ANALYSIS

3.1 Flutter

Flutter is an open-source UI software development kit created by Google. It is used to develop cross-platform applications for Android, IOS, Linux, macOS, Windows, Google Fuchsia, and the web from a single codebase.

3.1.1 Dart Language

Flutter apps are written in the Dart language and use many of the language's more advanced features. While writing and debugging an application, Flutter runs in the Dart virtual machine, which features a just-in-time execution engine. This allows for fast compilation times as well as "hot reload", with which modifications to source files can be injected into a running application. Flutter extends this further with support for stateful hot reload. In most cases, changes to source code are reflected immediately in the running app without requiring a restart or any loss of state. For better performance, release versions of Flutter apps on all platforms use ahead-of-time compilation, except on the web where code is transpired to JavaScript. Flutter inherits Dart's package manager and software repository, which allows users to publish and use custom packages as well as Flutter-specific plugins.

3.1.2 Flutter Engine

Flutter's engine, written primarily in C++, provides low-level rendering support using either Google's Skia graphics library or the custom "Impeller" graphics layer. Additionally, it interfaces with platform-specific SDKs such as those provided by Android and iOS to implement accessibility, file and network I/O, native plugin support, and more.

3.2 MongoDB

MongoDB is a source-available cross-platform document-oriented database program. Classified as a NoSQL database program, MongoDB uses JSON-like documents with optional schemas.

3.2.1 File Storage

MongoDB can be used as a file system, called GridFS, with load balancing and data replication features over multiple machines for storing files. This function, called a grid file system, is included with MongoDB drivers. MongoDB exposes functions for file manipulation and content to developers. GridFS can be accessed using the mongo files utility or plugins for Nginx and Lightd. GridFS divides a file into parts, or chunks, and stores each of those chunks as a separate document.

3.3 Nodejs

Nodejs is an open-source, cross-platform, back-end JavaScript runtime environment that runs on a JavaScript Engine (i.e. V8 engine) and executes JavaScript code outside a web browser, which was designed to build scalable network applications. Node.js lets developers use JavaScript to write command line tools and for server-side scripting—running scripts server-side to produce dynamic web page content before the page is sent to the user's web browser. Consequently, Node.js represents a "JavaScript everywhere" paradigm, unifying web application development around a single programming language, rather than different languages for server-side and client-side scripts. Node.js has an event-driven architecture capable of asynchronous I/O. These design choices aim to optimize throughput and scalability in web applications with many input/output operations, as well as for real-time Web applications (e.g., real-time communication programs and browser games). The Node.js distributed development project was previously governed by the Node.js Foundation and has now merged with the JS Foundation to form the OpenJS Foundation, which is facilitated by the Linux Foundation's Collaborative Projects program. Corporate users of Node.js software include GoDaddy, Groupon, IBM, LinkedIn, Microsoft, Netflix, PayPal, SAP, Walmart, Yahoo!, and Amazon Web Services.

3.4 ReactJS

ReactJS tutorial provides basic and advanced concepts of ReactJS. Currently, ReactJS is one of the most popular JavaScript front-end libraries which has a strong foundation and a

large community. React JS is a **declarative, efficient**, and flexible **JavaScript library** for building reusable UI components. It is an open-source, component-based frontend library which is responsible only for the view layer of the application. It was initially developed and maintained by Facebook and later used in its products like WhatsApp & Instagram. Our ReactJS tutorial includes all the topics which help to learn ReactJS. These are ReactJS Introduction, ReactJS Features, ReactJS Installation, Pros and Cons of ReactJS, ReactJS JSX, ReactJS Components, ReactJS State, ReactJS Props, ReactJS Forms, ReactJS Events, ReactJS Animation and many more.

3.5 JWT (JSON Web Token)

JSON Web Token (JWT) is an open standard that defines a compact and self-contained way for securely transmitting information between parties as a JSON object. This information can be verified and trusted because it is digitally signed. JWTs can be signed using a secret (with the **HMAC** algorithm) or a public/private key pair using **RSA** or **ECDSA**. Although JWTs can be encrypted to also provide secrecy between parties, we will focus on *signed* tokens. Signed tokens can verify the *integrity* of the claims contained within it, while encrypted tokens *hide* those claims from other parties. When tokens are signed using public/private key pairs, the signature also certifies that only the party holding the private key is the one that signed it.

- **Authorization:** This is the most common scenario for using JWT. Once the user is logged in, each subsequent request will include the JWT, allowing the user to access routes, services, and resources that are permitted with that token. Single Sign On is a feature that widely uses JWT nowadays, because of its small overhead and its ability to be easily used across different domains.
- **Information Exchange:** JSON Web Tokens are a good way of securely transmitting information between parties. Because JWTs can be signed—for example, using public/private key pairs—you can be sure the senders are who they say they are. Additionally, as the signature is calculated using the header and the payload, you can also verify that the content hasn't been tampered with.

3.6 Flask

Flask is a micro web framework written in Python. It is classified as a microframework because it does not require particular tools or libraries. It has no database abstraction layer, form validation, or any other components where pre-existing third-party libraries provide common functions. However, Flask supports extensions that can add application features as if they were implemented in Flask itself. Extensions exist for object-relational mappers, form validation, upload handling, various open authentication technologies and several common framework related tools.

3.7 Flow Chart

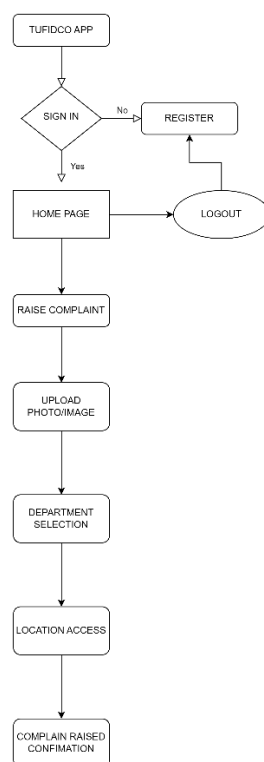


Fig 3.1 Working process

CHAPTER 4

DESCRIPTION OF PROPOSED SYSTEM

4.1 SPECIFICATION

The start-up screen displays a picture of the Tamil Nadu Government emblem and a Clicking on the logo refreshes the page and displays the login screen. After logging in, the main page displays posts about society. The main page has many parts that provide information about the status of your compliant, User profile, and Camera to click the image. When the main page is scrolled down, there are simple animations that have been incorporated to make the UI accessible to the user.

4.2 DESIGN

When designing the UI, there will be many challenges. Some of them are using trendy elements and technological advancements to make it capable of standing out from the crowd. Considering all these constraints, the application is created following the principles of design like balance, contrast, emphasis, rhythm, and unity and the design elements like lines, shapes, texture, colour, and direction. The application also follows the principles of digital communication.

4.3 IDEATION MAP



Fig 4.1 Ideation Map

4.4 POTENTIAL IMPROVEMENTS

There may be some enhancements that can be made to make the application more user-friendly.

Web Testing

Web testing, or web application testing, is a software practice that ensures quality by testing that the functionality of a given web application is working as intended or as per the requirements. Web testing allows you to find bugs at any given time, prior to a release, or on a day-to-day basis.

Testing is a highly important part of application development. Whenever there's a change in the code, no matter how small, bugs can appear somewhere else in the system. The cost of fixing these bugs also rises with time, so having effective web testing in place will ensure your time and money in the development of your application.

4.5 SYSTEM ARCHITECTURE

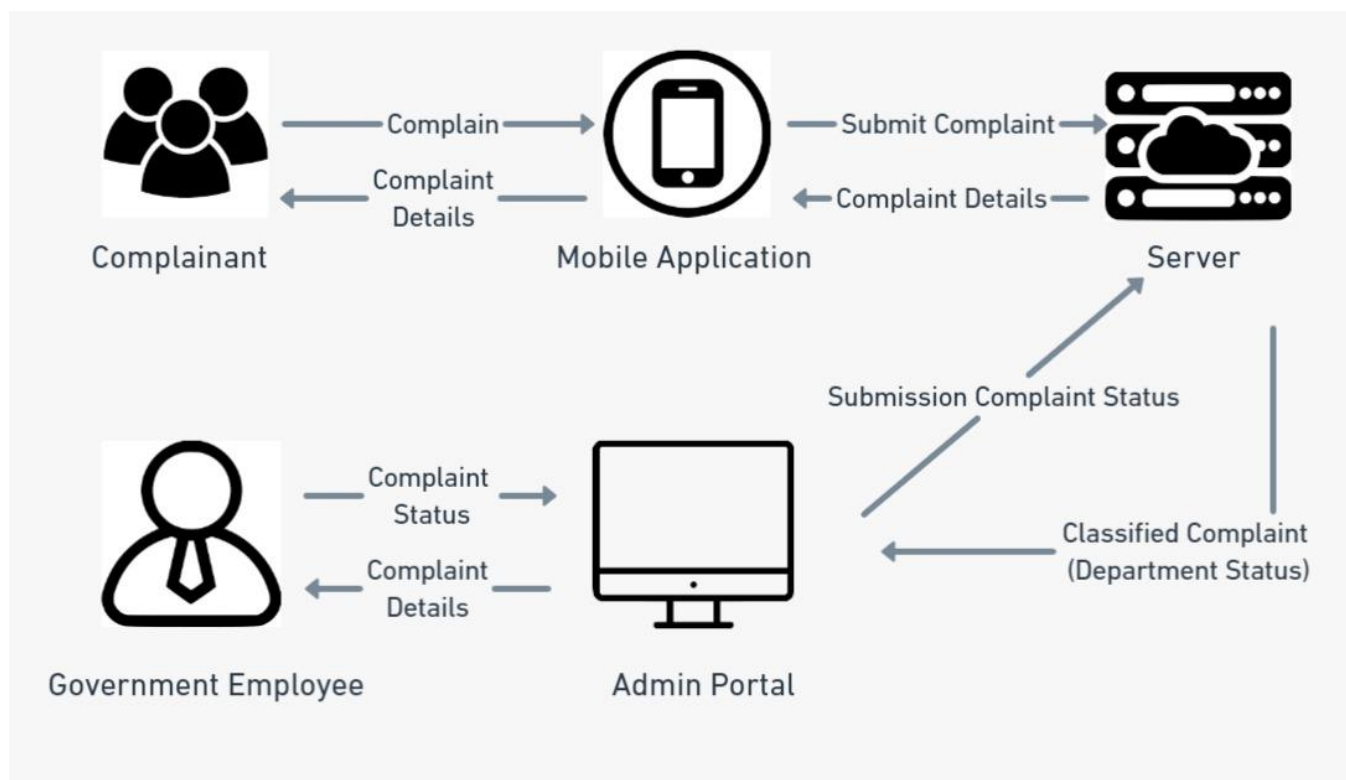


Fig 4.2 System Architecture

4.6 GENERAL FLOW

Complaint Registration: A citizen or stakeholder can register a complaint through the complaint reservation system by providing their personal details and the nature of the complaint. The system will generate a unique complaint ID and provide an acknowledgment to the complainant. **Complaint Tracking:** The complainant can track the status of their complaint through the system by using the unique complaint ID. The system will provide regular updates on the status of the complaint, including its current stage of resolution and estimated time of completion.

Complaint Resolution: Once the complaint is registered, the system will assign it to the relevant TUFIDCO department or personnel for resolution. The assigned personnel will update the system with the progress of the complaint resolution and any necessary actions taken to resolve the complaint. **Feedback and Closure:** Once the complaint is resolved, the system will send a notification to the complainant requesting feedback on the resolution.

process. The complainant can provide feedback through the system, which will be recorded and analysed for quality improvement purposes. The system will then close the complaint. Reporting and Analysis: The system will generate regular reports on the number and nature of complaints registered, their resolution status, and the time taken for resolution. The reports will be analysed to identify trends and areas for improvement in TUFIDCO's service delivery and grievance redressal mechanisms.

CHAPTER 5

PERFORMANCE ANALYSIS

In System Engineering and Software Engineering, performance analysis comprises the duties that go into establishing the demands or criteria to satisfy for a new or revised one, while taking into consideration the sometimes-competing requirements of the many stakeholders, such as beneficiaries or users. The success of a development project is dependent on performance analysis. All requirements must be documented, actionable, quantifiable, testable, tied to identified business needs or opportunities, and described to a degree of detail adequate for system design. Architectural, structural, behavioural, functional, and non-functional requirements can all be specified.

Some conditions are required for the creation of this project in order for it to work well and achieve its aim. The capabilities of IOS or Android, as well as hardware capability, have a large influence on project quality while designing TUFIDCO applications. The project

creator should establish the minimal hardware and software requirements for developing a good and appealing project.

It is a systematic investigative procedure that gathers data, interprets facts, diagnoses problems, and uses this information to either construct an entirely new system or make modifications to an existing system. A satisfying performance analysis entails the process of investigating in order to improve it through improved techniques and processes. In its most basic form, this phase describes the system's needs and the issue that the user is attempting to address, regardless of how the criteria will be accomplished.

It is an analytical approach that offers a foundation for constructing a project model. The effectiveness involved visualising the features that needed to be assembled in the system and the output that needed to be created once the system was operational. They supplied us with specs that demonstrated how the new system should appear, which helped us comprehend the core structure of the application that they were intended to construct. Another method we used to learn more about the project was to visit the client's location where the system would be placed.

A thorough system analysis was conducted, with the goal of replicating the present system with our technology. It is also possible to immediately watch the system's activity. This knowledge assists us in understanding how the system should function. It is the process of determining whether or not a project is worthwhile. These are completed in a short period of time and usually result in a written report.

It is also included to establish whether the project's work can be completed with the existing equipment, software technology, and available employees. It is also technically feasible, as the system benefits from having a soundproof system with new technological components. The other one is operational feasibility, which measures how people perceive the system. It assesses the problem's urgency or the acceptability of a solution. The initiative is dependent on human resources. If the final users are satisfied with the current system and perceive no need to change it, then resistance to its operation will be minimal.

This project was created with the general public in mind, who have very little expertise of computer operation but can quickly obtain their connected information. The capacity to correctly anticipate the project's schedule is required to complete the project. Thus, our TUFIDCO Mobile application project is based on the project scope description and metrics

to determine the present status of goals and objectives in terms of continuous development.

The TUFIDCO Mobile application was developed for this project. Performance management is a collection of operations that ensures goals are accomplished in an effective and efficient manner. It might concentrate on the performance or the mechanisms in place to manage certain activities. Their standards are normally structured and distributed. It allows us to fulfil a variety of functions, including demonstrating that the system meets performance standards. Many of these actions are conducted without a suitably realistic environment. goal-oriented goals.

It is usually necessary to describe performance requirements and record them in any performance plan. Nobody will have specified the maximum acceptable response time for a specific set of criteria. There will always be a component of the system that, if made to respond faster, will result in the total system operating faster. It might be difficult to determine which component of the system constitutes this key route. It is usually useful to include a statement of the estimated peak number of people who will utilise the system during peak times.

It is necessary to determine the test and production environments, as well as the tools and resources accessible to the specific team. Finally, it is the process of establishing the users' expectations for a new or changed programme. It includes all of the actions that are performed to identify the needs of recorded, actionable, quantifiable, tested, and traceable, which aids in the identification of opportunities and is specified to enable system design.

It is critical for project success to examine project requirements when they are obtained as well as during the project's lifespan. It aids in keeping the criteria relevant to the situation. So, this is how we all look at each need at the right level. Finally, it must verify that each need is atomic, uniquely recognised, and complete, among other things.

It might be difficult to determine which component of the system constitutes the critical route. It is usually useful to include a statement about the projected peak number of people who may be expected to utilise the system during peak hours. It allows us to fulfil a variety of functions, including demonstrating that the system meets performance standards. Many of these actions are conducted without a suitably realistic environment. goal-oriented performance objectives This project was created with the general public in mind, who have

very little expertise of computer operation but can quickly obtain their connected information. Finally, it is the process of establishing the user's expectations for the necessary Application.

CHAPTER 6

RESULTS AND DISCUSSION

The application stands as an excellent interface for interacting with the officers. Below is the snapshot of the user interface of the complaint-raising application is the complaint-raising interface, the image selection interface, location accessing interface and the snapshot of the final page of complaint raising. The administration dashboard snapshot is also attached below .

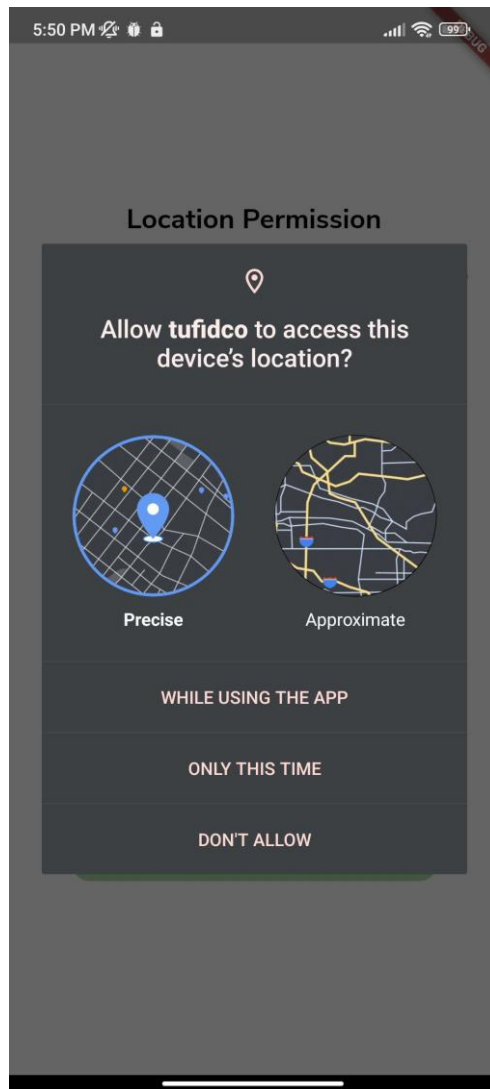
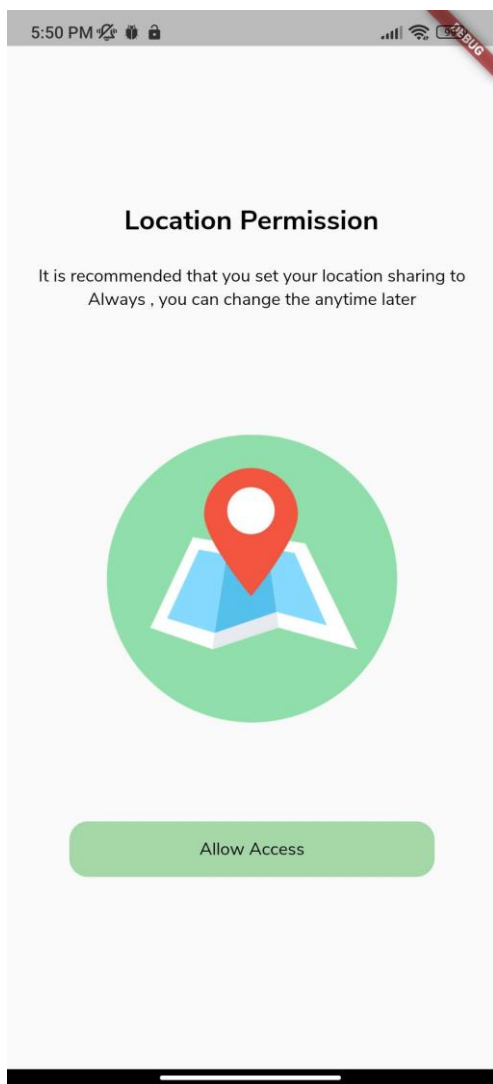


Fig: 6.1 LOCATION PERMISSION SCREEN



Fig 6.2 Language Selection

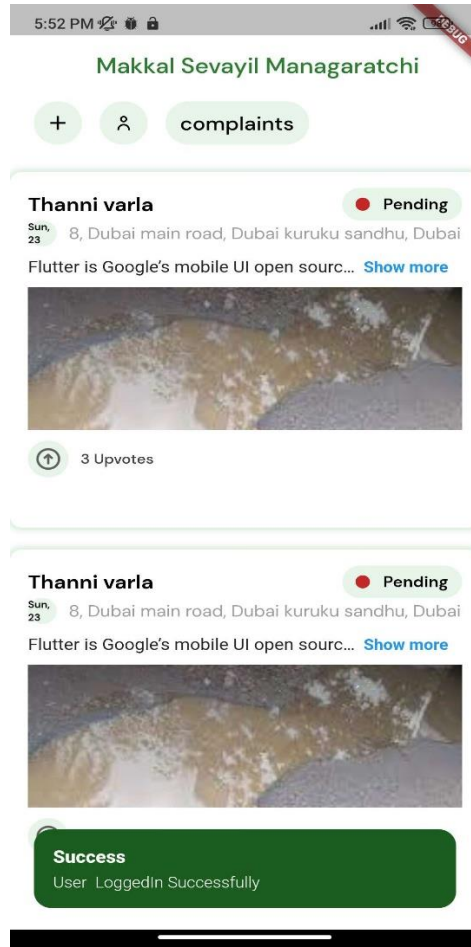


Fig 6.3 Home Screen

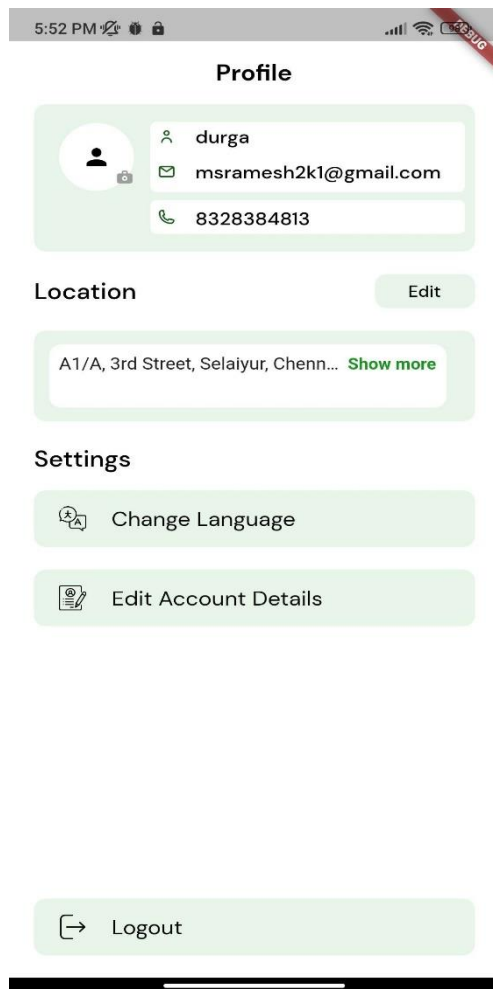


Fig 6.4 Profile Page

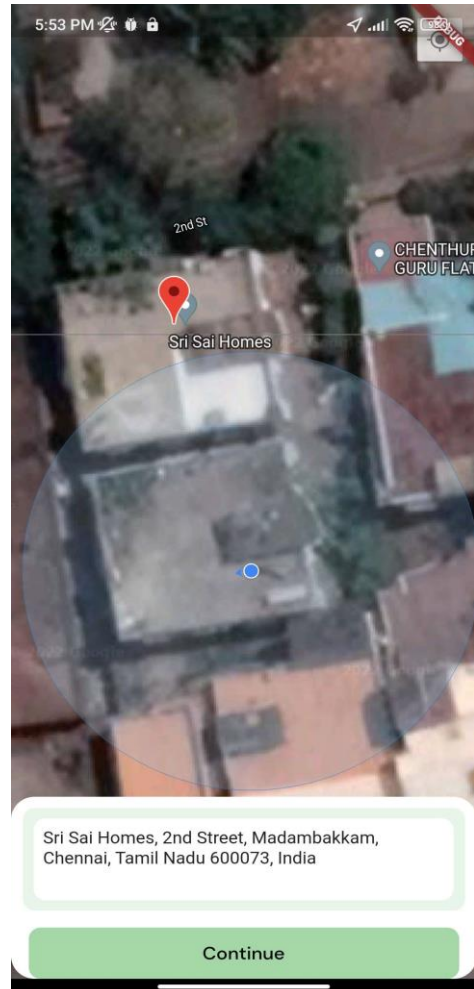


Fig 6.5 User Address Update Screen

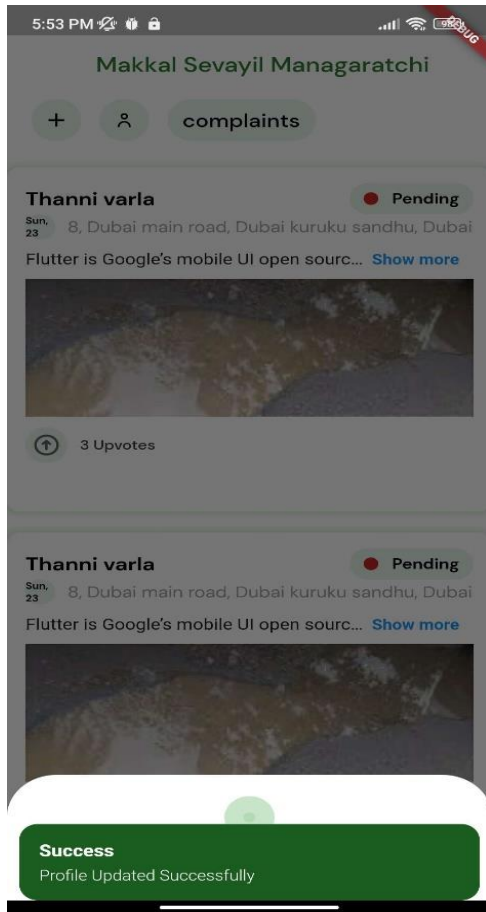


Fig 6.6 Profile Update Screen

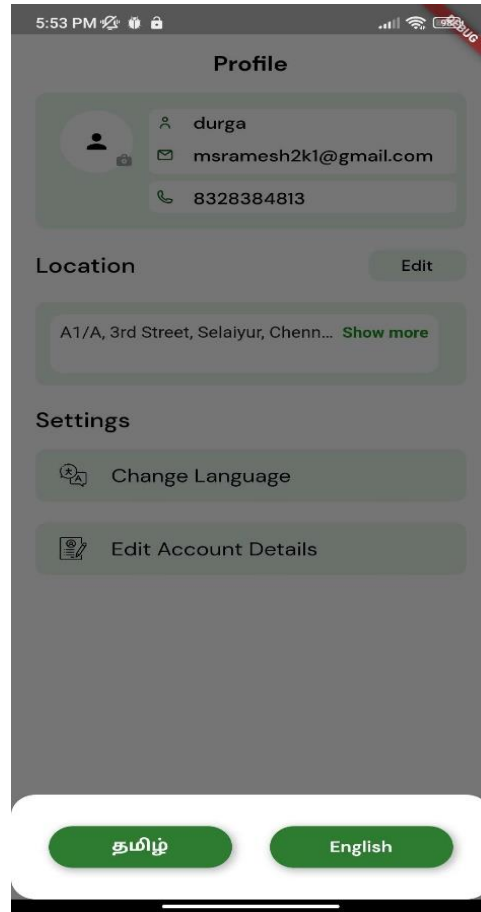


Fig 6.7 Language Change Screen

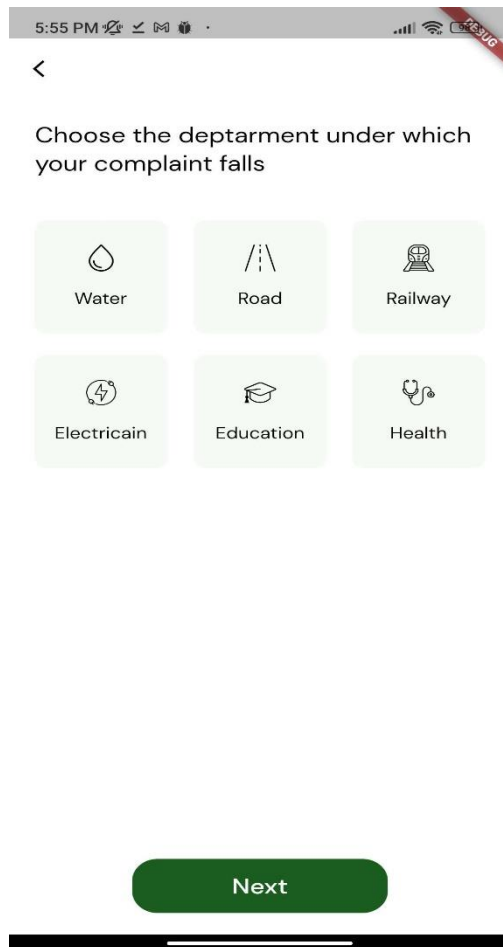


Fig 6.8 Department Selection Screen

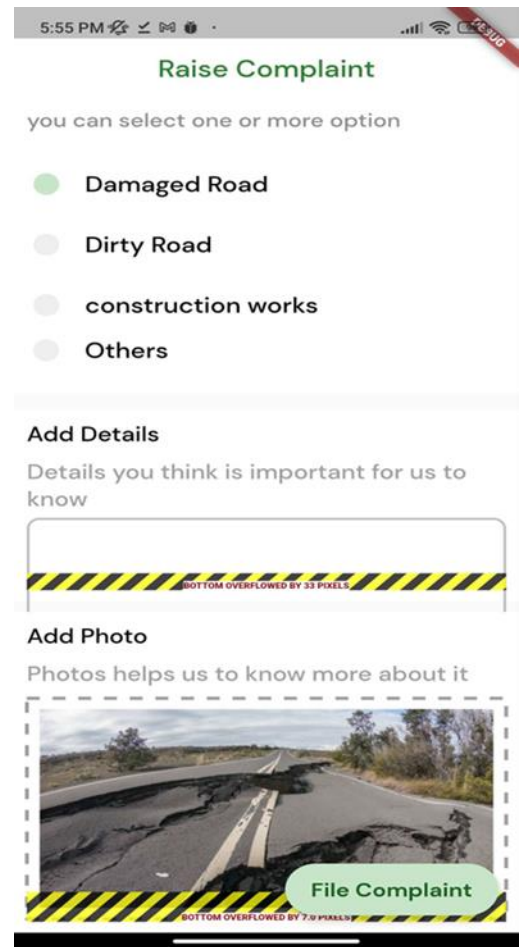


Fig 6.9 Raise Complaint Screen

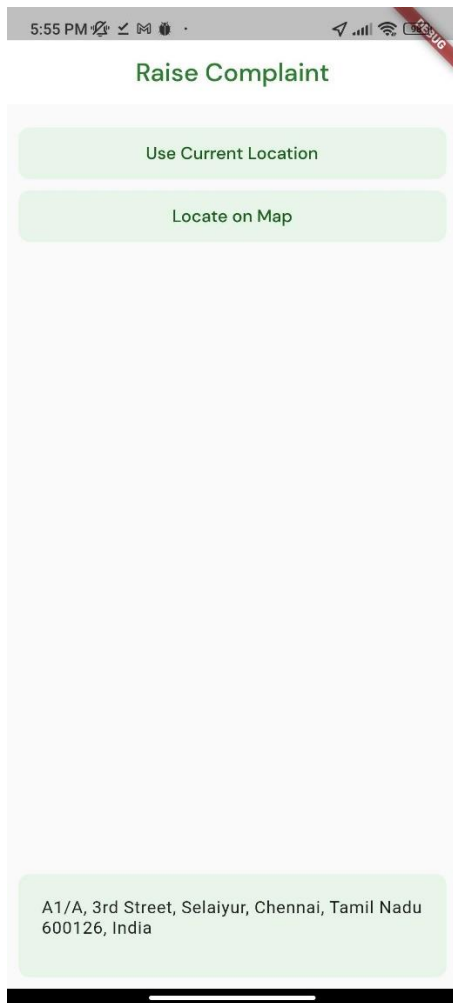


Fig 6.10 Complaint Location Screen

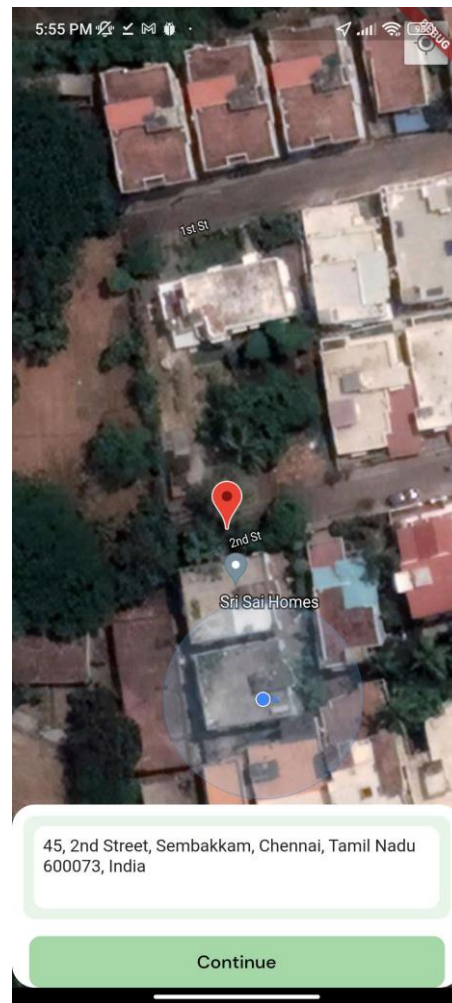


Fig 6.11 Locating On Map

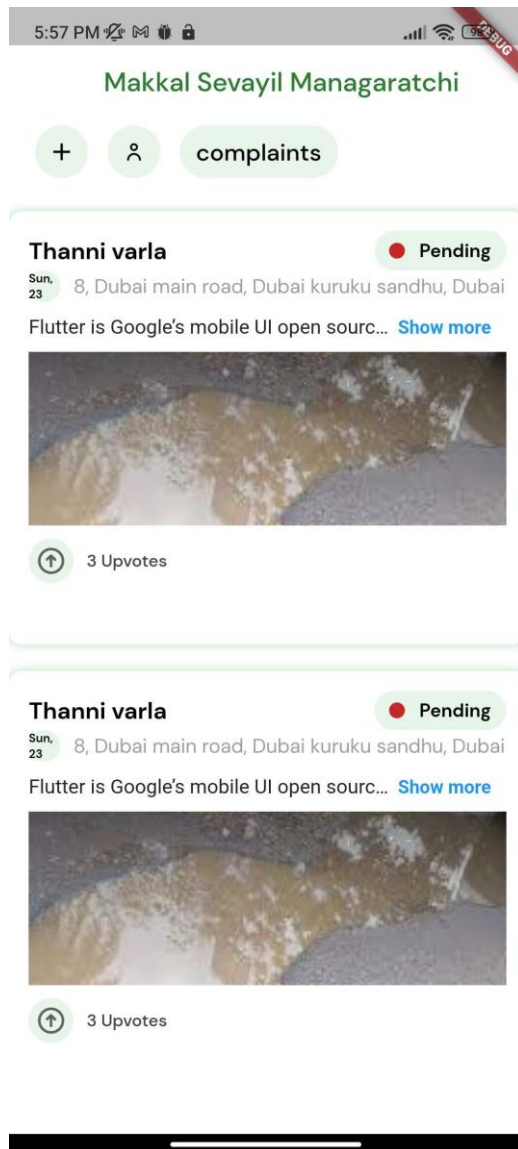


Fig 6.12 Complaint Status Screen

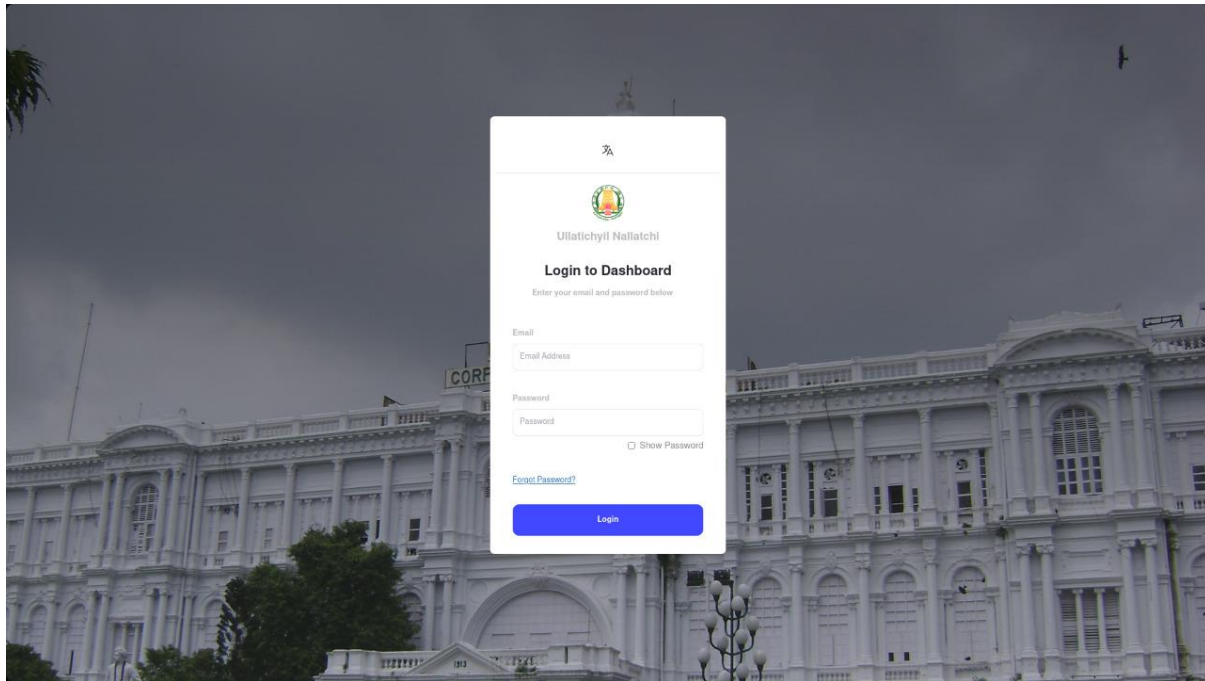


Fig 6.13 Dashboard Login Screen

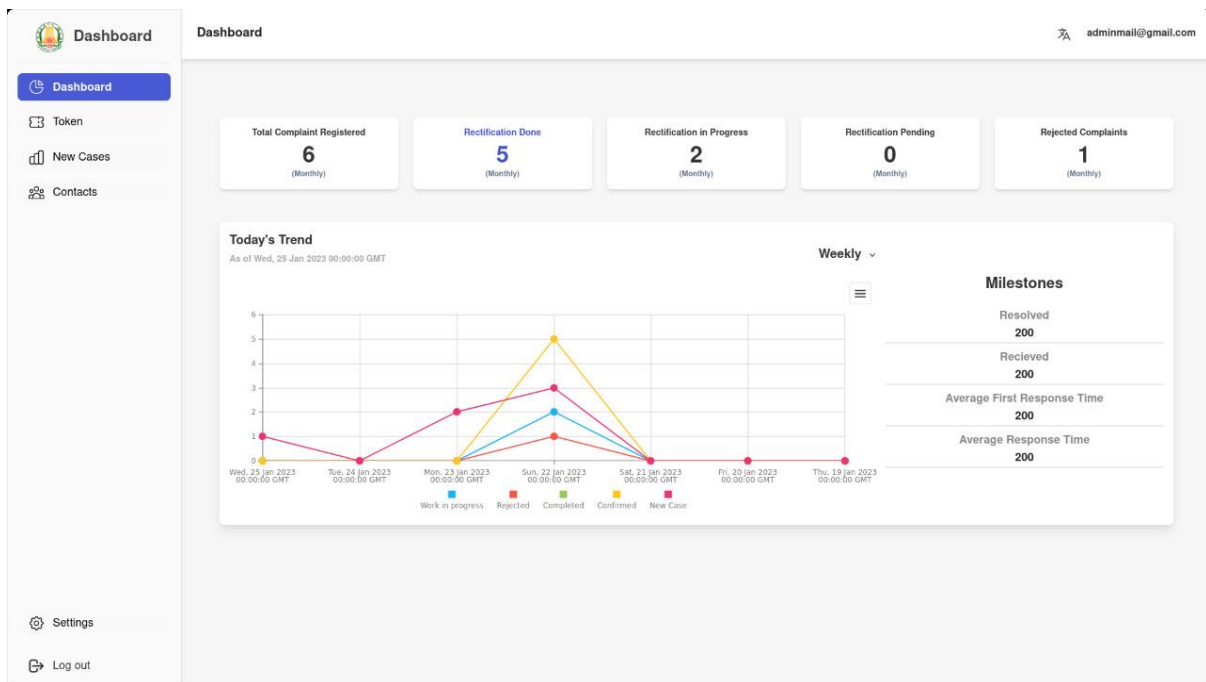


Fig 6.14 Dashboard Screen

Dashboard

Dashboard

Token

New Cases

Contacts

Settings

Log out

Token

adminmail@gmail.com

View Post	Complaint ID	Title	Status	Image	Category	Likes	Address
View Post	Road-67890-676d767fc...	Road damaged	Completed	View Image (2)	Road	14	kamarjar road, chennai
View Post	Road-67890-676d767fc...	Road damaged	Confirmed	View Image (0)	Road	6	kamarjar road, chennai
View Post	Road-67890-676d767fc...	Road damaged	Confirmed	View Image (0)	Road	1	kamarjar road, chennai
View Post	Road-67890-676d767fc...	Road damaged	Confirmed	View Image (0)	Road	1	kamarjar road, chennai
View Post	Road-67890-676d767fc...	Road damaged	Confirmed	View Image (0)	Road	1	kamarjar road, chennai
View Post	Road-67890-676d767fc...	Road damaged	Confirmed	View Image (0)	Road	0	kamarjar road, chennai
View Post	Road-67890-676d767fc...	Road damaged	Confirmed	View Image (0)	Road	0	kamarjar road, chennai
View Post	Road-67890-676d767fc...	Road damaged	Confirmed	View Image (0)	Road	0	kamarjar road, chennai
View Post	Road-67890-676d767fc...	Road damaged	Confirmed	View Image (0)	Road	0	kamarjar road, chennai
View Post	Road-67890-676d767fc...	Road damaged	Confirmed	View Image (0)	Road	0	kamarjar road, chennai
View Post	Road-67890-676d767fc...	Road damaged	Confirmed	View Image (0)	Road	0	kamarjar road, chennai
View Post	Road-67890-676d767fc...	Road damaged	Confirmed	View Image (0)	Road	0	kamarjar road, chennai
View Post	Road-67890-676d767fc...	Road damaged	Confirmed	View Image (0)	Road	0	kamarjar road, chennai
View Post	Road-67890-676d767fc...	Road damaged	Confirmed	View Image (0)	Road	0	kamarjar road, chennai
View Post	Road-67890-676d767fc...	Road damaged	Confirmed	View Image (0)	Road	0	kamarjar road, chennai
View Post	Road-67890-676d767fc...	Road damaged	Confirmed	View Image (0)	Road	0	kamarjar road, chennai
View Post	Road-67890-676d767fc...	Road damaged	Confirmed	View Image (0)	Road	0	kamarjar road, chennai
View Post	Road-67890-676d767fc...	Road damaged	Confirmed	View Image (0)	Road	0	kamarjar road, chennai

Fig 6.15 Complaints Screen

Dashboard

Dashboard

Token

New Cases

Contacts

Settings

Log out

Complaint

adminmail@gmail.com

Complaint ID: Road-67890-676d767fcb28dd

Road

Sun, 15 Jan 2023 17:38:37 GMT

Road damaged

Complaint Description

Potholes

Phone Number

1234567890

Last Updated On

Sun, 15 Jan 2023 17:38:37 GMT

Status

Completed

Taluk

Chennai

Address

kamarjar road, chennai

Open in Google Maps

Change Status

Completed

Change Department

Road

Remark

The submitted photos are validated and action will be taken soon

Update Remark

Image

Fig 6.16 Detailed View Screen

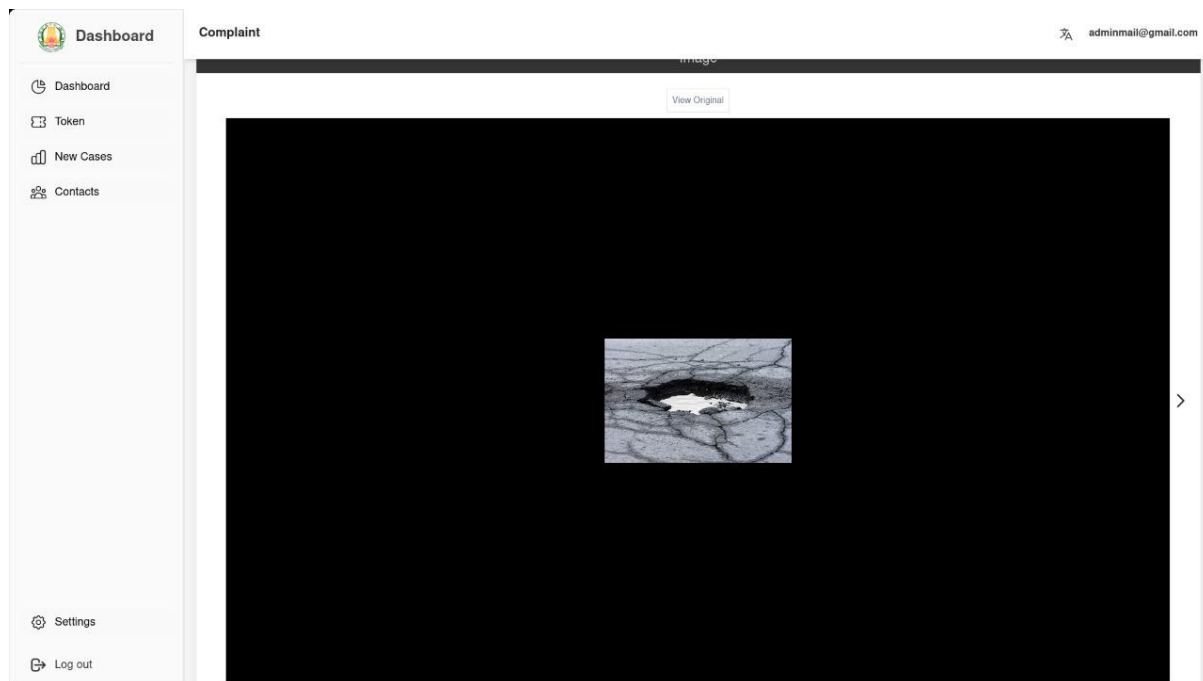


Fig 6.17 View Image Screen

6.1 FUTURE SCOPE

Integrating Machine Learning for Object Recognition to Enhance Efficiency and Reduce Spamming in a Complaint-Raising Interface Application. The proposed complaint-raising interface using Flutter technology efficiently addresses infrastructural issues, but there is potential for spam complaints. To improve the efficiency of the complaint-handling process, machine learning techniques can be implemented to train datasets for object recognition. This can help classify images based on their content and determine whether they contain valid or spam complaints, improving the accuracy and speed of the complaint-handling process. Additionally, machine learning algorithms can help analyse the data gathered from complaints, identify patterns, and predict potential future issues. Implementing machine learning in the proposed interface can significantly enhance the application's effectiveness and efficiency, leading to better governance and improved public satisfaction.

6.2 DISCUSSION

The base paper proposes implementing an automated complaint monitoring system for rural development using a combination of technologies, including Java-based Android, MongoDB, Flask, and email-based authentication. NLP and SVM algorithms are used for text classification of complaints and are used for text classification of complaints. Python is the primary programming language used for the system, while MongoDB is used as the database for storing the complaint data. Flask is used to create a REST API for accessing the complaint data stored in MongoDB. The system also uses email-based authentication for user authentication. Overall, the proposed system aims to automate the complaint monitoring process using a combination of programming languages, algorithms, databases, and web frameworks to improve rural development. Flutter is a relatively new technology that allows for the development of high-quality, cross-platform mobile applications that can run on both the Android and iOS platforms. Flutter uses a reactive programming model, which allows developers to easily build flexible and responsive user interfaces. The hot-reload feature of Flutter enables developers to see changes made to the application's code immediately, without the need for recompilation or restarting the application. Flutter also provides a rich set of widgets, which can be customised to fit the application's design requirements. Compared to Java-based Android, Flutter offers several advantages. Java is a popular programming language that has been widely used for developing Android applications. However, Java-based Android development requires significant effort and resources. Java code needs to be compiled, which can be timeconsuming, and Java-based applications tend to have a larger footprint, which can affect performance. In contrast, Flutter uses the Dart programming language, which is optimised for the development of reactive applications and has a smaller footprint than Java. Compared to Flask and MongoDB, Flutter provides a complete development environment, which includes a robust framework, widgets, and tools for building mobile applications. Flask is a lightweight web framework that can be used to create REST APIs, but it requires additional libraries and tools to build a complete application. MongoDB is a NoSQL database that is popular for storing unstructured data, but it requires additional configuration and setup to work with Flask. In contrast, Flutter provides

a comprehensive development environment that eliminates the need for additional tools and libraries. In summary, Flutter technology offers several advantages compared to other technologies, including reactive programming, cross-platform support, the hot-reload feature, and a rich set of widgets. These features make Flutter a suitable choice for developing mobile applications that require a responsive and customizable user interface. However, it is essential to note that each technology has its strengths and weaknesses, and the choice of technology depends on the specific requirements of the application.

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