

EnQ App-Enquiry system for Pala Taluk Office

A Project Report Submitted
in Partial Fulfilment of the Requirements
for the Degree of

MASTER OF COMPUTER APPLICATIONS
of
APJ Abdul Kalam Technological University

by

JINSA JOY
(Register No. KTE20MCA-2035)

SREELEKSHMI V
(Register No. KTE20MCA-2054)



to

DEPARTMENT OF COMPUTER APPLICATIONS
RAJIV GANDHI INSTITUTE OF TECHNOLOGY

KOTTAYAM - 686501, INDIA

May 2022

DECLARATION

We, **JINSA JOY (Register No: KTE20MCA-2035)** and **SREELEKSHMI V (Register No: KTE20MCA-2054)**, hereby declare that, this report entitled “**EnQ App**” submitted to Rajiv Gandhi Institute of Technology, Kottayam towards partial requirement of **Master of Computer Applications** of APJ Abdul Kalam Technological University is an original work carried out by me under the supervision of Prof.Sonupriya P.S and has not formed the basis for the award of any degree or diploma, in this or any other institution or university. I have sincerely tried to uphold the academic ethics and honesty. Whenever an external information or statement or result is used, then that have been duly acknowledged and cited.

Kottayam - 686501
SREELEKSHMI V

JINSA JOY

May 2022

CERTIFICATE

This is to certify that the work contained in this project report entitled "**Pala Taluk - Enquiry System**" submitted by (**JINSA JOY (Register No: KTE20MCA-2035)** and (**SREELEKSHMI V (Register No: KTE20MCA-2054)**) to Rajiv Gandhi Institute of Technology, Kottayam towards the partial requirement of **Master of Computer Applications** of the APJ Abdul Kalam Technological University has been carried out by her under my supervision and that it has not been submitted elsewhere for the award of any degree.

Kottayam - 686501

Prof.Sonupriya P.S

May 2022

Project Supervisor

External Examiner

Head of the Department

ACKNOWLEDGEMENT

I want to extend a sincere and heartfelt obligation towards all the personages without whom the completion of the project was not possible. I express my profound gratitude and deep regard to Prof.Sonupriya P.S , RIT Kottayam for his guidance, valuable feedback, and constant encouragement throughout the project. His valuable suggestions were of immense help. I sincerely acknowledge his constant support and guidance during the project.

I am immensely grateful to [Insert Names] for their constant support and encouragement. I am also grateful to the Rajiv Gandhi Institute of Technology, Kottayam for allowing me to do this project and providing all the required facilities.

Kottayam - 686501

JINSA JOY SREELEKSHMI V

May 2022

ABSTRACT

Many of the services provided by the government are still in offline i.e, we need to visit offices to submit and to receive certificates. It has been identified as one of the major concerns in today's smart environments .Manual processes place time restrictions on resident interactions. Those with full-time jobs and/or families to care for don't have time to deliver printed materials during government office hours. However, with online government services, anyone with access to a computer and internet can contact their government 24 hours a day, seven days a week. In turn, this enables government employees who operate a lean team to do more with less. With improved processes for online services, employees can spend more time focused on providing more services efficiently. This will improve the overall working of offices and make them able to provide services with less time. The easier it will be for citizens to submit applications online and know the current status up to date. By bringing services online, department is better equipped to process a large range of services like a one-time fee, a calculate etc. Online services also reduce errors by connecting disparate platforms. A fully integrated digital governance platform will connect government officers to front-end processes to automatically associate services with corresponding documents and provide employees with access to real time data. This level of reporting gives government employees added autonomy through detailed information about application,current status ,pending files and more.Perhaps more significant is the cost savings of reduced manpower on manual processes. By providing services through online on any document or web form, employers no longer has to waste time cashing checks, waiting for them to clear, or manually entering data.

Contents

List of Figures

x

List of Tables

xiii

1 Introduction

1

1.1 Purpose	1
1.2 Scope of the project	2
1.3 References	2
1.4 Overview	2
1.5 Motivation	3

2 Literature Review/Background

4

2.1 Overall Description	5
-----------------------------------	---

2.1.1	System Environment	5
2.2	Use Case	6
3	External Interface Requirements	7
3.1	External Interface Requirement	7
3.2	User Interface	7
3.3	Software Interface	8
4	FUNCTIONAL REQUIREMENTS	9
5	NON FUNCTIONAL REQUIREMENTS	11
5.1	Performance Requirement	11
5.2	Security Requirement	12
5.3	Software Specification	12
5.4	Hardware Specification	13
6	SYSTEM MODELING	14
6.1	Introduction	14
6.1.1	Module Description	14
6.1.2	Data Flow Diagram	15

6.2	UML Diagrams	19
6.2.1	Use Cases	19
6.2.2	Activity Diagram	20
7	SYSTEM DESIGN	21
7.1	Introduction	21
7.2	Database Design	22
7.2.1	Tables	22
7.3	User-Interface design	24
7.3.1	The UI screen shots	24
8	SCRUM FRAMEWORK	45
8.1	Product Backlog	45
8.2	Sprint Backlog	47
8.3	Daily Sprint Backlog	47
9	SYSTEM TESTING	50
9.1	Introduction	50
9.2	Unit testing	50

9.3	Integration Testing	52
9.4	User acceptance testing	52
10	SYSTEM IMPLEMENTATION	54
10.1	Implementation Methods	54
10.2	GIT Version History	56
11	Conclusions and Future Scope	58
	Bibliography	60

List of Figures

6.1	Context level DFD	16
6.2	Level 1 Officer	17
6.3	Level 2 Applicant or User	18
6.4	Use Cases	19
6.5	Activity Diagram	20
7.1	Home page	24
7.2	Officer Register page	25
7.3	Welcome page	26
7.4	Officer Login page	27
7.5	Enter Details page	28
7.6	Other Options	29

7.7	Call	30
7.8	Load Contact	31
7.9	Message History	32
7.10	Search Menu	33
7.11	Search with file no	34
7.12	Search with phone no	35
7.13	Search with Date	36
7.14	Search Not Found	37
7.15	SMS Confirm page	38
7.16	Send SMS Successfull	39
7.17	User Register	40
7.18	User Login	41
7.19	Enquiry Request	42
7.20	View Enquiry Request	43
7.21	View Enquiry Request	44
9.1	Unit testing	51
9.2	Integration testing	53

10.1 GIT Version History	57
------------------------------------	----

List of Tables

7.1	Table Register	22
7.2	Table Message History	23
7.3	Table user request	23
7.4	Table user Login	23

Chapter 1

Introduction

The software specification requirement (SRS) provides an overview of entire SRS with purpose, scope and references. It also explains what the system will do, the constraints under which it must operate and how the system will react to external stimuli.

1.1 Purpose

The purpose of the document is to collect and analyse all assorted ideas that have come up to define the system's requirements with respect to clients. The purpose of the SRS is to provide a detailed description of our software products, its parameters and goals.

1.2 Scope of the project

The software system is an android application for enquiry system of Taluk office,Pala.The system will be designed to reduce the efforts accompanied in existing system. In the existing system,people who need updatations about their application has to either visit office or make a phone call.After that, the file number and phone number of the applicant is noted by one in enquiry.Then it must be checked manually.Finally , a reply call is made to make the applicant aware about the current status.In some cases,applicant may need to pay some fee or submit any certificates for further processing .The proposed system tries to ease the efforts by making the whole process partially automatic.

1.3 References

Kottayam Taluk Office

1.4 Overview

The next chapter, the overall description section of the document gives an overview of the functionality of the project. It also describes external interface requirements, functional requirements and non-functional requirements. The requirement analysis and system specification is included in chapter 2. It provides a model of system information, function and behavior. System modeling is described in chapter 3, chapter 4 has the review of overall system design. Testing 1 methods and system testing reports are included in chapter 5.

Future enhancement of the project is discussed in chapter 6. Conclusion of the project included in chapter 7.

1.5 Motivation

We are living in a technologically developing environment . our elders are also familiar with the smart phones .many of the government offices provided their services via online ,still some of the government offices keeps their files and services in offline mode.If we want to apply or to know the current status of our application we need to visit the or make a phone call.

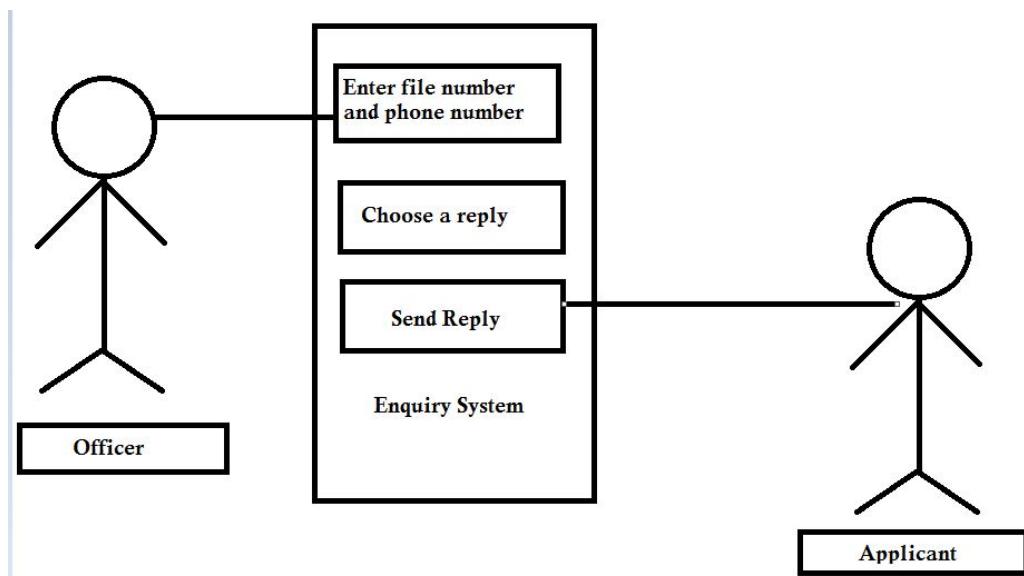
- To provide services from government office with less time and effort
- To make aware about the current status of application in a convenient way for both government employee and also the applicant

Chapter 2

Literature Review/Background

2.1 Overall Description

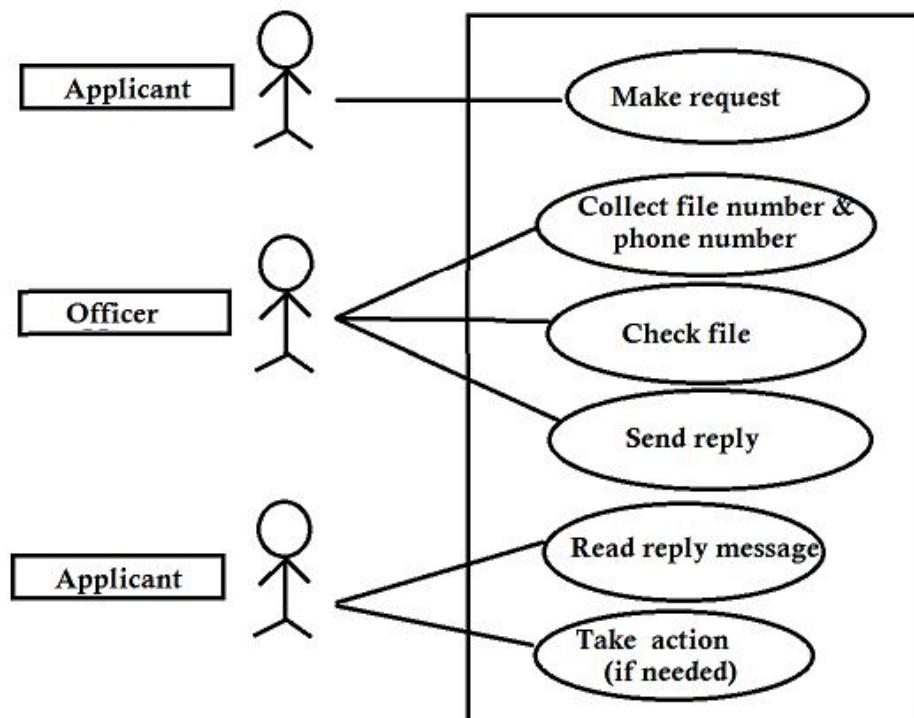
2.1.1 System Environment



The Enquiry system has two active users, the enquiry officer and applicant. The officer checks the file and send sms reply corresponding to applicant's request.

2.2 Use Case

- The Applicant make a request to know about the status of their application.
- The Officer gathers file details and phone number of applicant. Then check current status of file and send reply
- The applicant receives the reply message and proceed with actions if necessary.



Chapter 3

External Interface Requirements

3.1 External Interface Requirement

The enquiry system has two external links.one is when the applicant approaches the system to be aware about their application status by providing file details and phone number. The other comes in end where applicant receives a reply message.

3.2 User Interface

The user interface for the software shall be compatible to any android device. The user interface shall be implemented using any tools or packages like java,xml etc.

3.3 Software Interface

In the software interface, the collected file number and phone number are entered . Then required reply content is added and the message is sent to the applicant.

Chapter 4

FUNCTIONAL REQUIREMENTS

The project is an Android App. It is developed to reduce efforts of employees in Taluk office

some of the important functionalities provided by the system are listed below :

- There must be a provision to choose office by the employee
- The employer can search their office names from the list
- There must be a provision to login
- Every office should possess their own username and password
- There must be a provision to enter file number and mobile number
- The mobile number can be retrieved from call log
- There is a facility to choose an appropriate reply from dropdown list

- if the required reply is not in list ,it can be added externally
- The entered reply content can be viewed before the message send
- the reply can be send to the applicant as a SMS
- view all sms
- search Sms with date ,file no,phone no
- the applicant can view the reply to take further actions

Chapter 5

NON FUNCTIONAL REQUIREMENTS

5.1 Performance Requirement

The product shall be based on Android devices .the product shall take initial loading time depend on the android device. Some Performance requirements identified is listed below:

1. The database shall be able to accommodate around thousand records to store.
2. The software shall support use of multiple users at a time.

5.2 Security Requirement

The system backend database shall be encrypted .The system backend database can only be accessed by authentication administrator.The system shall automatically logout all the employees after a period of in activity. Some of the factors that are identified to protect the software from accidental or malicious access, use, modification, destruction, or disclosure are described below.

1. Keep specific log or history data sets.
2. Assign certain functions to different modules.
3. Restrict communications between some areas of the program.
4. Check data integrity for critical variables.
5. Techniques in the user/licence authentication process.

Safety Requirements

The database may get crashed at any certain time due to virus or operating system failure. Therefore, it is required to take the database Backup.

5.3 Software Specification

- Platform
- Frontend

- Backend

5.4 Hardware Specification

- Processor
- Display
- Memory Size
- Hard Disk

Chapter 6

SYSTEM MODELING

6.1 Introduction

System modeling is the inter disciplinary study of the model to conceptualize and construct in business and IT development[6]. A common type of systems modeling is function modeling, with specific techniques such as the Data Flow Diagram. These models can be extended using functional decomposition, and can be linked to requirements models for future system partition

6.1.1 Module Description

A module is a software component or part of a program that contains one or more routines. One or more independently developed modules make up a program. An enterprise-level software application may contain several different modules, and each module serves

unique and separate business operations.

Officer

Officer is the main module who can send messages and can view the message history with the provision of searching by file number,date and phone number.Also he/she can make call,load contact and can view enquiries and can send reply message without entering file details and contact number directly.

Applicant

Applicant is another module who can send enquiry requests.They also can view the replies to their enquiries.

6.1.2 Data Flow Diagram

A graphical representation is used to describe and analyze the movement of data through a system manual or automated including the processes, storing of data and delays in the system .Data flow diagrams are the central tool and the basis from which other components are developed. The transformation of data, from input to output through process may be described logically and of the physical components associated with the system. They are termed logical dataflow diagrams, showing the actual implementation and the movement of data between people, departments and workstations. DFD is one of the most important modelling tools used in system design.DFD shows the flow of data through different process in the system.There are various symbols used in a DFD. Bubbles represent

the processes. Named arrows indicate the data flow. External entities are represented by rectangles and are outside the system such as vendors or customers with whom the system interacts. They either supply or consume data. Entities supplying data are known as sources and those that consume data are called sinks. Data are stored in a data store by a process in the system. Each component in a DFD is labelled with a descriptive name.

Context level DFD

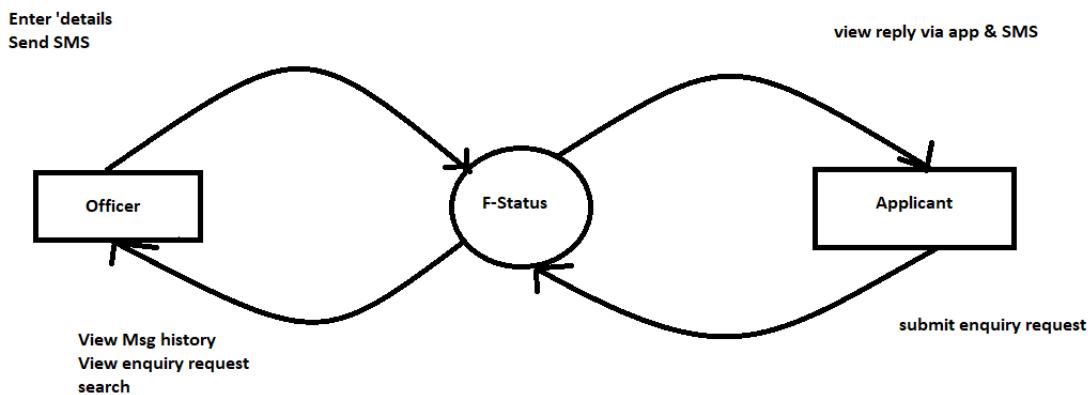


Figure 6.1: Context level DFD

DFD Officer

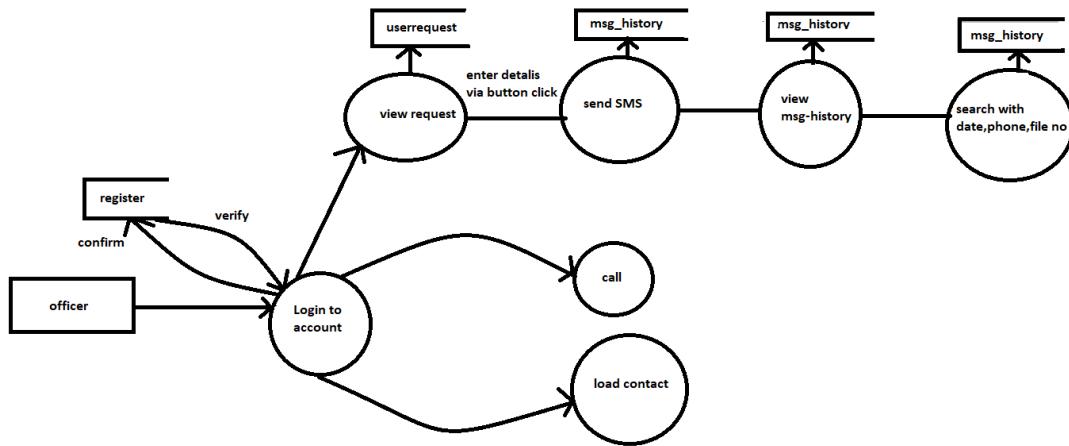


Figure 6.2: Level 1 Officer

DFD Applicant or user

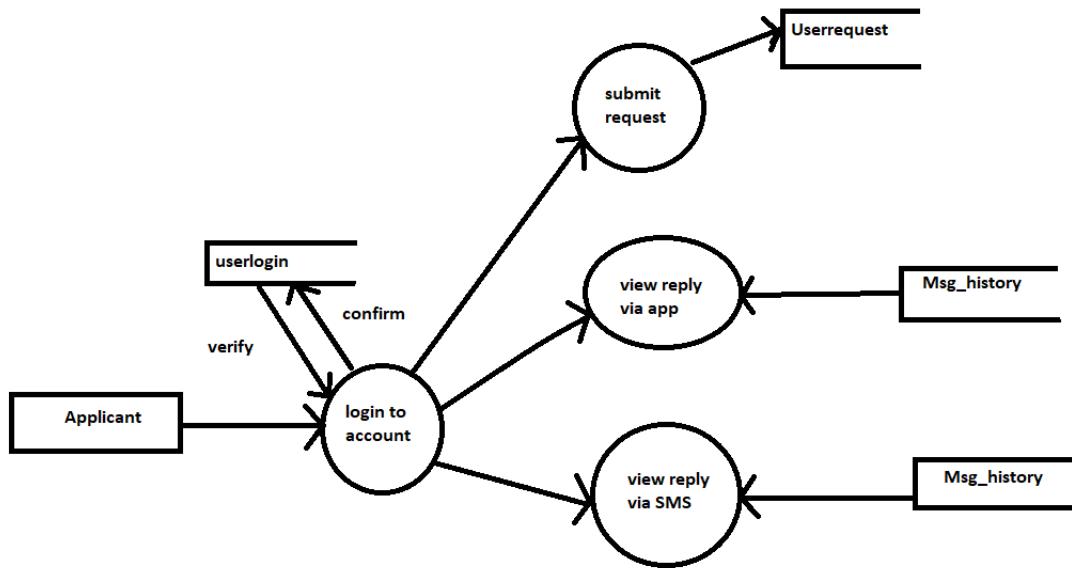


Figure 6.3: Level 2 Applicant or User

6.2 UML Diagrams

6.2.1 Use Cases

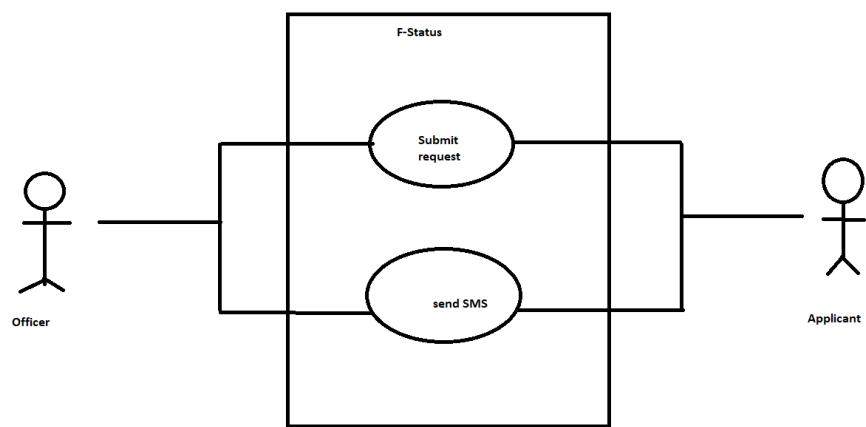


Figure 6.4: Use Cases

6.2.2 Activity Diagram

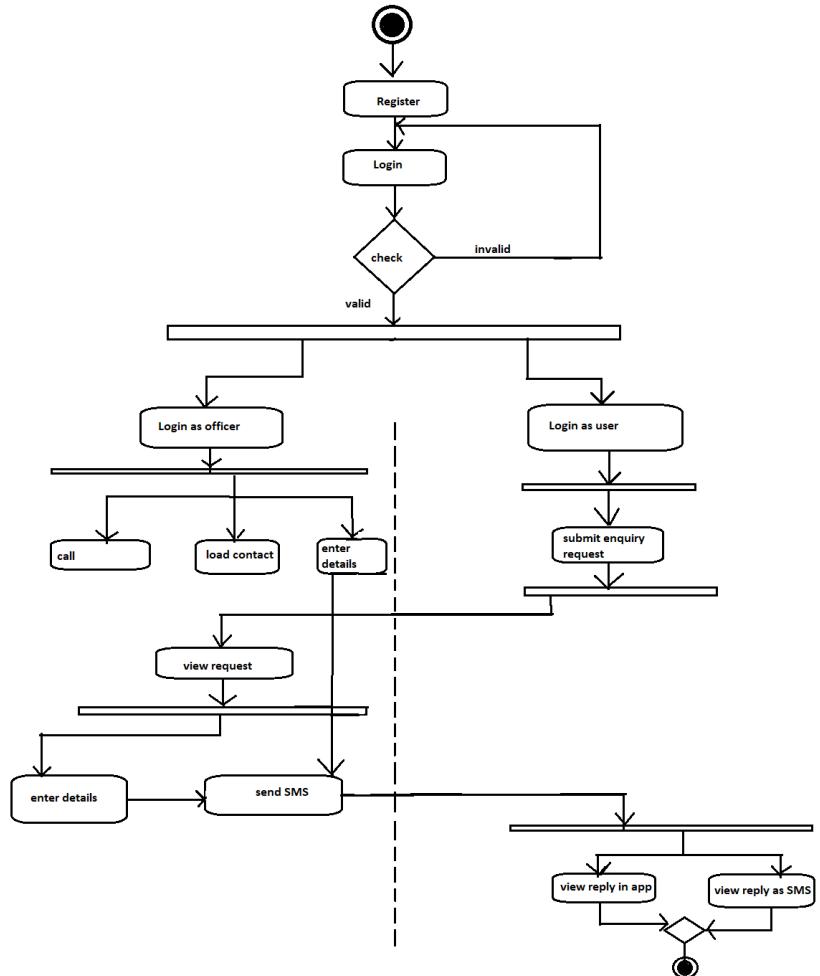


Figure 6.5: Activity Diagram

Chapter 7

SYSTEM DESIGN

7.1 Introduction

Database design is the organization of data according to a database model. The designer determines what data must be stored and how the data elements interrelate. With this information, they can begin to fit the data to the database model.

- Determining data to be stored : This process is one which is generally considered part of requirements analysis, and requires skill on the part of the database designer to elicit the needed information from those with the domain knowledge.
- Determining data relationships : Once a database designer is aware of the data which is to be stored within the database, they must then determine where dependency is within the data.

- Logically structuring data : Arrange the data into a logical structure which can then be mapped into the storage objects supported by the database management system. In the case of relational databases the storage objects are tables which store data in rows and columns.
- Normalization : Normalization is a systematic way of ensuring that a database structure is suitable for general-purpose querying and free of certain undesirable characteristics—insertion, update, and deletion anomalies that could lead to loss of data integrity. Normalization consists of normal forms that are 1NF, 2NF, 3NF, BOYCE-CODD NF (3.5NF), 4NF and 5NF.

7.2 Database Design

7.2.1 Tables

1. Table Name : register

Table description : Table contains details such as username , email, password etc.

Field name	Data Type	Size	Constraints	Description
Username	Varchar	50	Not null	User name
Email	varchar	50	Primary key,Not null	Email id
Password	varchar	30	Not null	password

Table 7.1: Table Register

- Table Name : Msg-History

Table description : Table contains details such as fileno , phone no, reply send etc.

Field name	Data Type	Size	Constraints	Description
id	int		Primary key,Not null	id
fileno	Varchar	50	Not null	file no
Reply	varchar	500	Not null	Reply send to user
phone	long int	10	Not null	phone no

Table 7.2: Table Message History

2. Table Name : User-request

Table description : Table contains details such as file no and phone no of users who submit enquiry request

Field name	Data Type	Size	Constraints	Description
id	int		Primary key,Not null	id
fileno	Varchar	50	Not null	fileno
phone	varchar	30	Not null	phone

Table 7.3: Table user request

3. Table Name : Userlogin

Table description : Table contains details such as username and password of users

Field name	Data Type	Size	Constraints	Description
id	int		Primary key,Not null	id
Username	Varchar	50	Not null	User name
Password	varchar	30	Not null	password

Table 7.4: Table user Login

7.3 User-Interface design

User interface is the front-end application view to which user interacts in order to use the application. The UI of the proposed system is designed using Unity. Unity is a cross-platform game engine developed by Unity Technologies. The engine can be used to create both three-dimensional and two-dimensional games as well as simulations for its many platforms. The UI is designed to be user friendly and easy to use.

7.3.1 The UI screen shots

Home page



Figure 7.1: Home page

Officer Register page

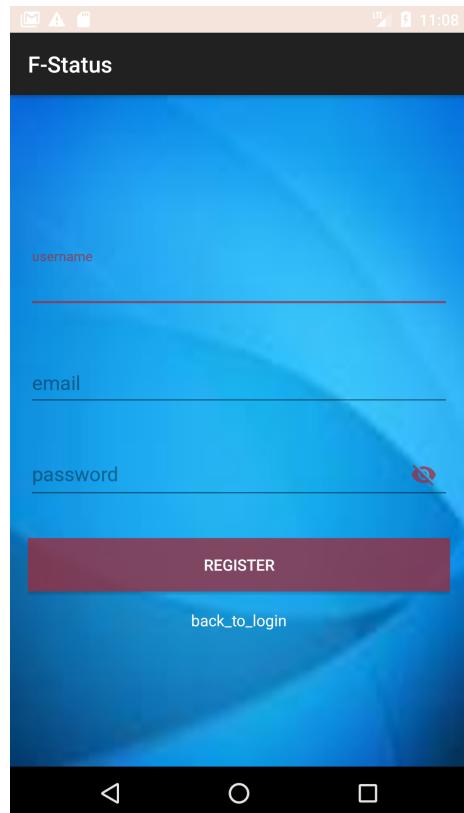


Figure 7.2: Officer Register page

Welcome Page

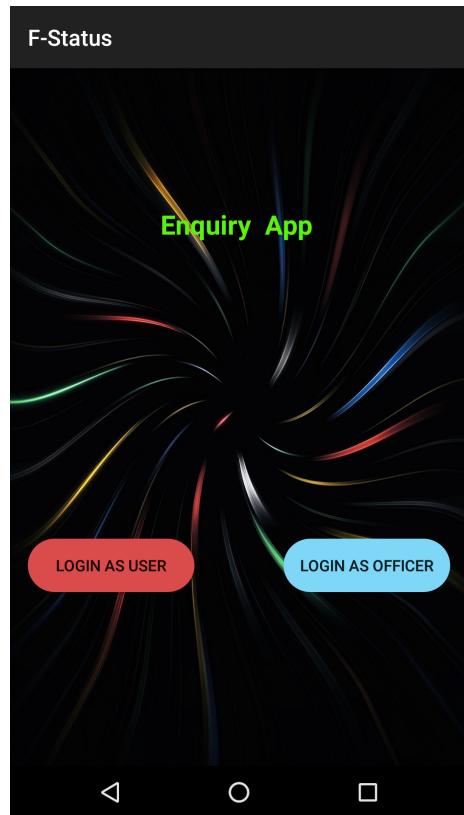


Figure 7.3: Welcome page

Officer Login page

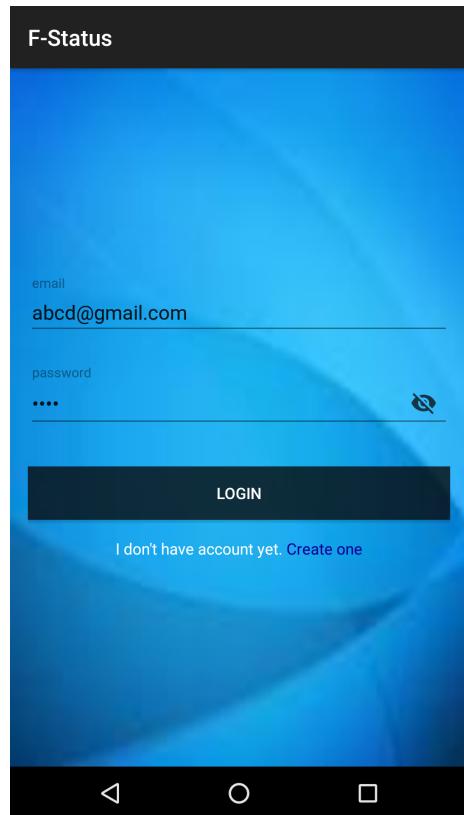


Figure 7.4: Officer Login page

Enter Details page

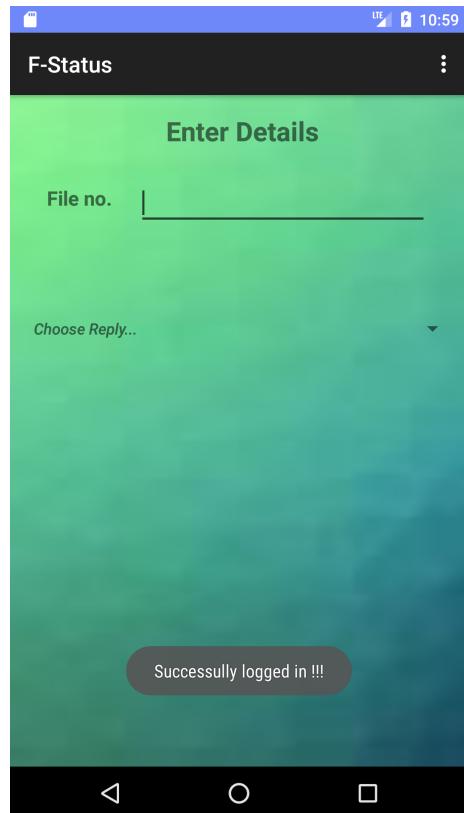


Figure 7.5: Enter Details page

Other Options

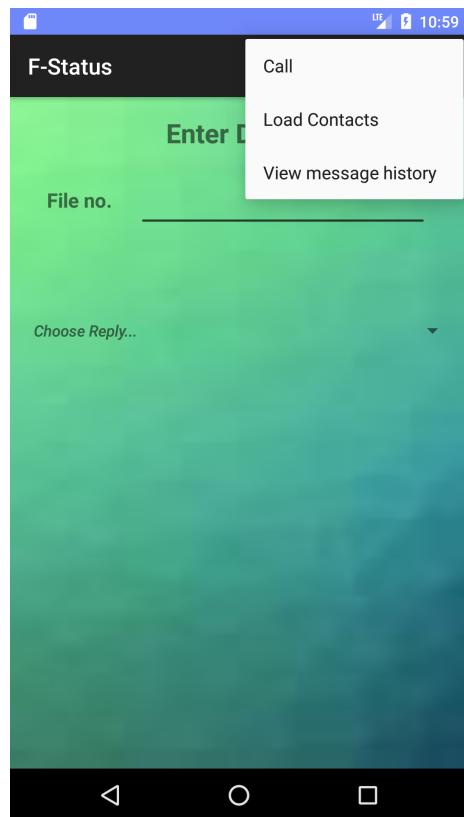


Figure 7.6: Other Options

Call



Figure 7.7: Call

Load Contact

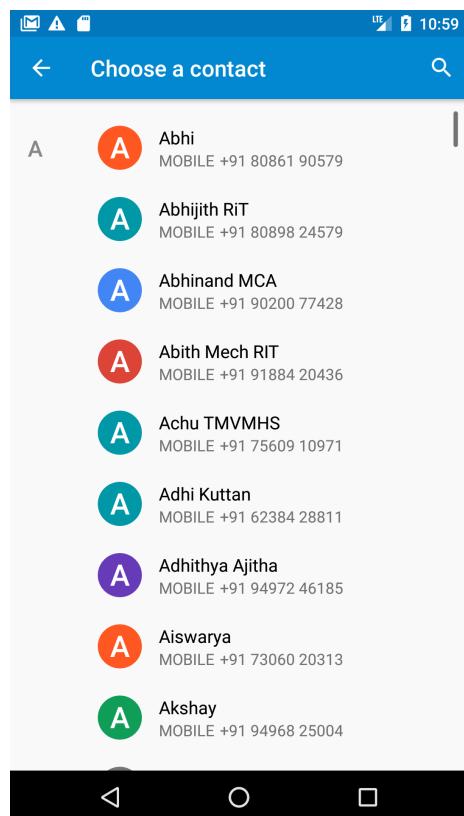


Figure 7.8: Load Contact

Message History



Figure 7.9: Message History

Search Menu

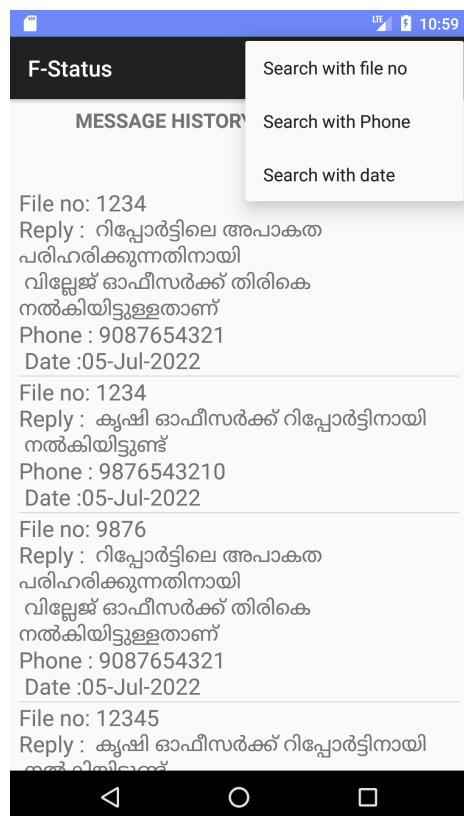


Figure 7.10: Search Menu

Search with file no



Figure 7.11: Search with file no

Search with phone no

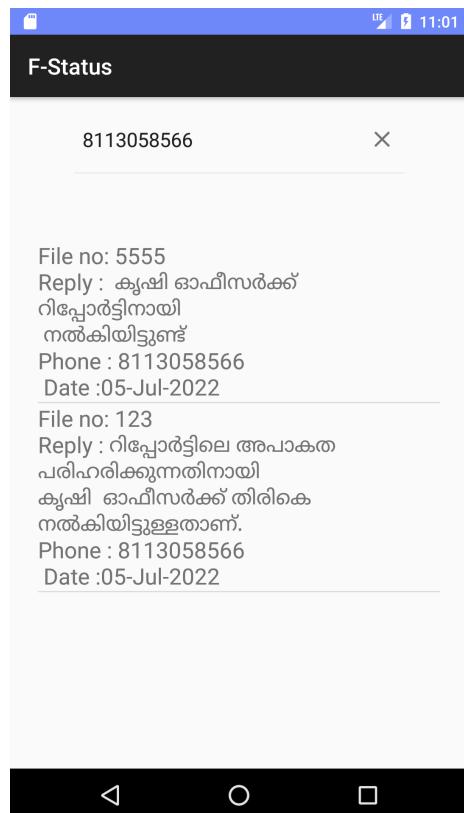


Figure 7.12: Search with phone no

Search with Date

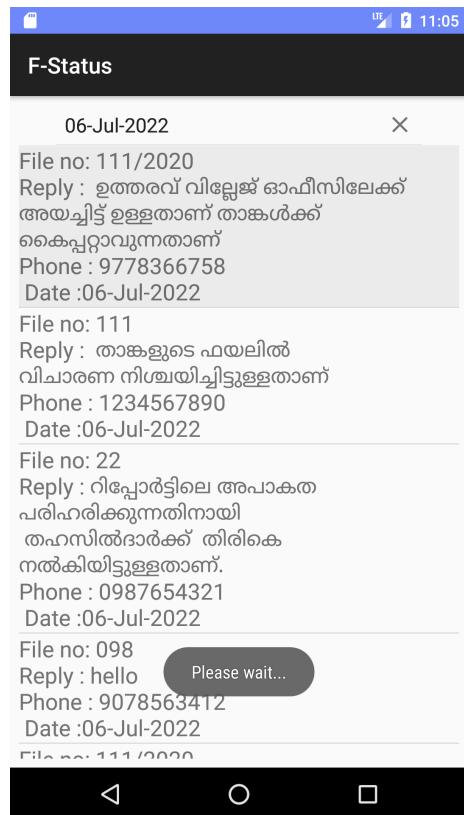


Figure 7.13: Search with Date

Search Not Found

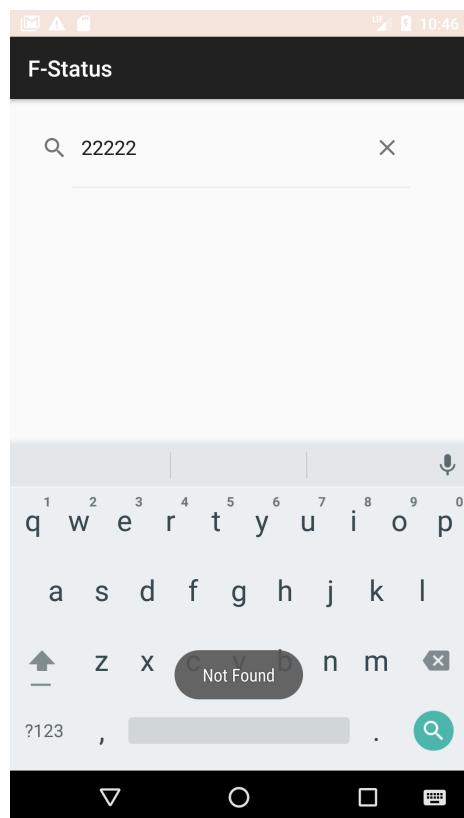


Figure 7.14: Search Not Found

SMS Confirm page

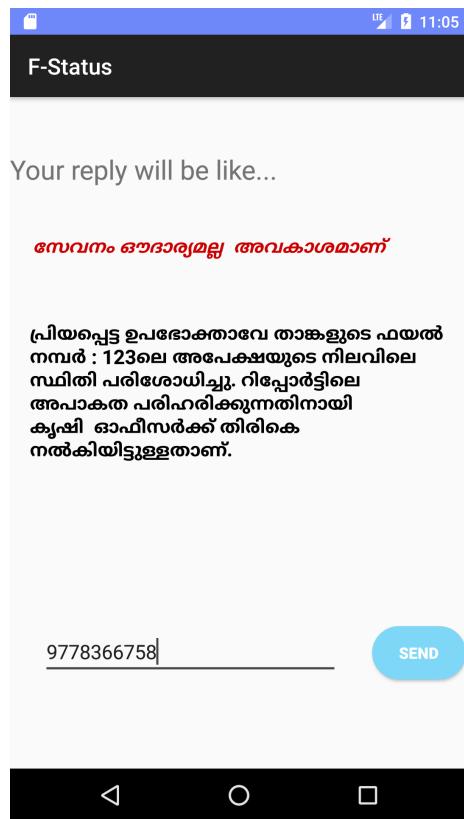


Figure 7.15: SMS Confirm page

Send SMS Successfull

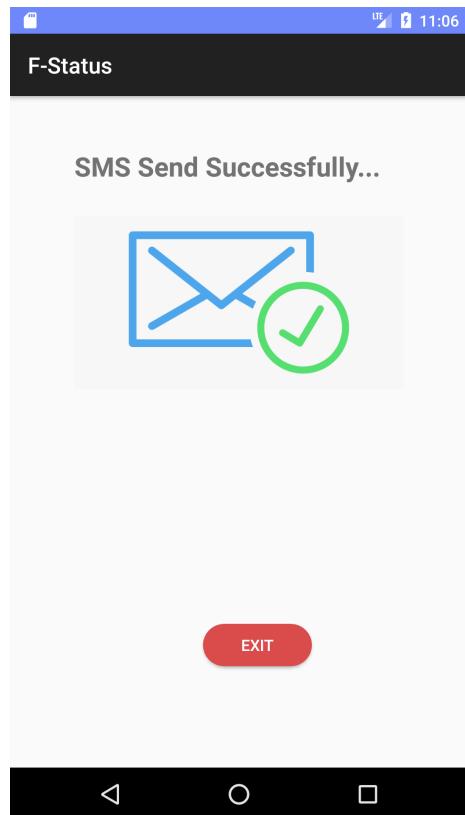


Figure 7.16: Send SMS Successfull

User Register

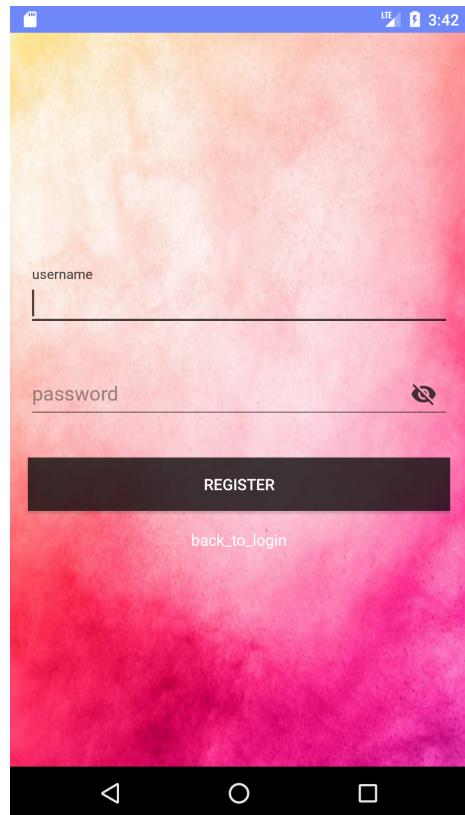


Figure 7.17: User Register

User Login

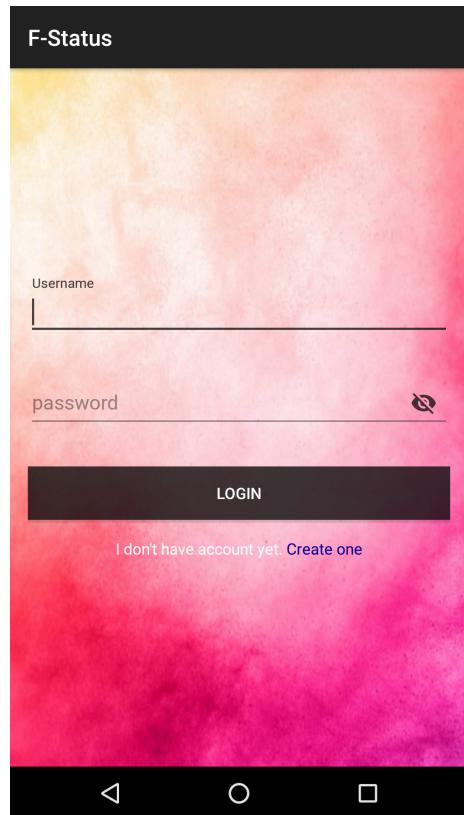


Figure 7.18: User Login

Enquiry Request

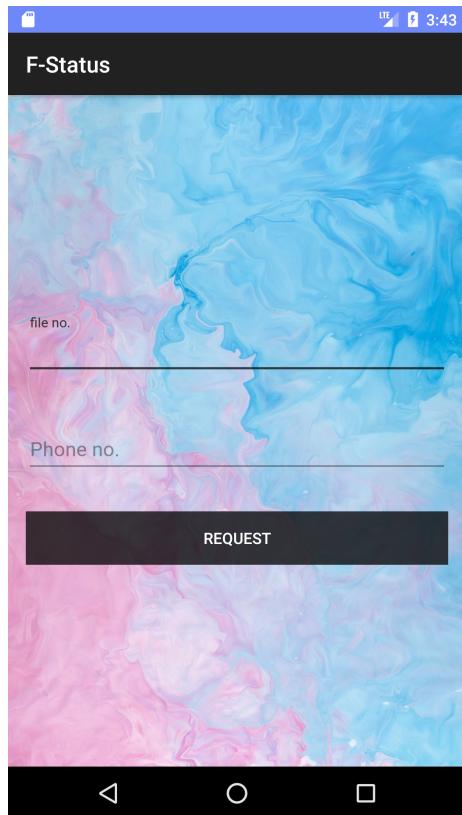


Figure 7.19: Enquiry Request

View Enquiry Request

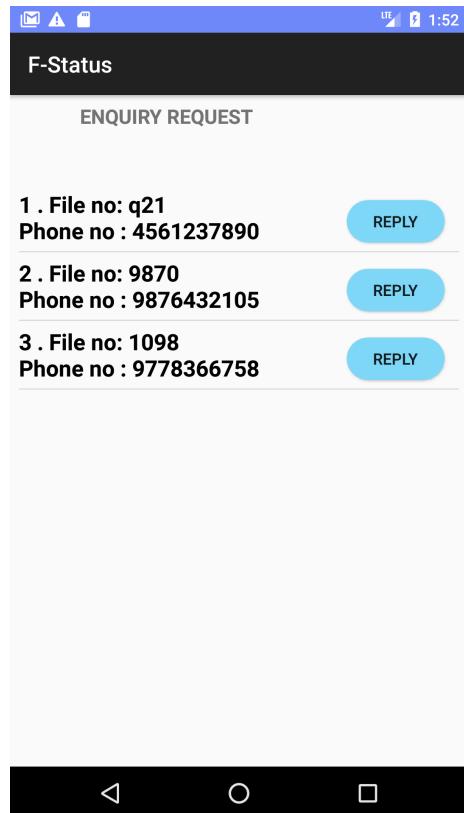


Figure 7.20: View Enquiry Request

View Enquiry Request

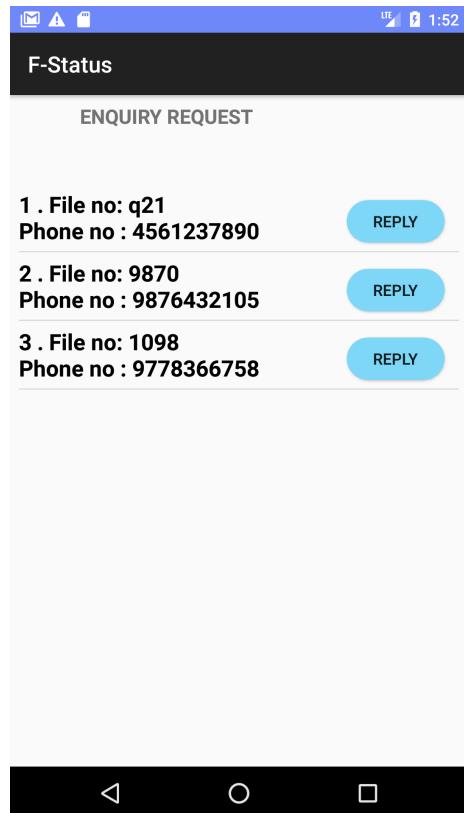


Figure 7.21: View Enquiry Request

Chapter 8

SCRUM FRAMEWORK

8.1 Product Backlog

It is a decision-making artifact that helps you estimate, refine, and prioritize everything you might sometime in the future want to complete. It helps ensure the team is working on the most important and valuable features, fixing the most important bugs, or doing other important work critical to product development. The product backlog is a container for work you think you will do in the future to keep your product competitive. It is the output of the product owner in collaboration with stakeholders (customers, team, analysts). It will change frequently, with items being added or taken out on a regular basis. It will be larger than the sprint backlog, generally. It will also have items with a mix of granularity; with fewer items broken down below the user story level. It is overseen by the product owner.

The Product backlog is shown below :

PRODUCT BACKLOG

SL NO	REQUIREMENTS	PRIORITY
1	As an officer ,I need to register	1
2	As an officer ,I need to login	2
3	As an officer ,I need to enter details such as file no and phone no	3
4	As an officer ,I need to choose a reply	5
5	As an officer ,I need to add another reply if the corresponding reply not found in the choose reply	6
6	As an officer ,I need to send SMS to the requested applicant	4
7	As an officer ,I need to make a phone call if needed	10
8	As an officer ,I need to load contact from my phone	11
9	As an officer ,I need to see all the sms send.	8
10	As an officer ,I need to search specific message by date,file no and phone no	9
11	As an applicant , I need to view message send by the officer	7
12	As a user,I need to login	12
13	As a user,I need to submit enquiry request	13
14	As an officer ,I need to view all the enquiry request send by the user	14
15	As an officer ,I need to reply to corresponding request.	15

8.2 Sprint Backlog

8.3 Daily Sprint Backlog

DAILY SPRINT		
sl no	Date	Work Done
1	04-05-2022	The project coordinator gave some instructions about the project and discussed some recent project topics.
2	05-05-2022	We had decided to choose Pala Taluk office project .As a first step we need to meet the client so we do it tommorrow.
3	06-05-2022	today we meet RDO Rajendra Babu sir ,collected the requirements about the pala taluk project
4	09-05-2022	We meet our project coordinator and got approval from him he said to submit the wireframe model tommorrow
5	10-05-2022	The wireframe model model of project submitted today .Our guide said some updatons .
6	11-05-2022	We make some modifications in wireframe and resubmitted it.
7	12-05-2022	We just Started the designing .As a welcome page created a splash screen for 4 sec
8	13-05-2022	As per the requirement of client ,the app's icon changed to Government symbol.Aslo completed the design of login page
9	16-05-2022	Completed the designing of both login and register page of officer
10	17-05-2022	Complete the coding i.e the DB connection of both login and register with sqlite database.,decided the connection with server also .
11	18-05-2022	47 Meet our project guide ,update the current status about project. Adviced to change some modification in design .so we do that also

12	19-05-2022	Designed a page for entering the details such as file no, and phone no by the officer .And also added a drop down menu for choosing the appropriate reply.
13	20-05-2022	As per the clients requirements ,the officer need to add another reply if corresponding reply is not in the list. completed it.
14	23-05-2022	Make modification in overall design of App.
15	24-05-2022	Created a final page to view the whole message in the same format as the applicant get,like a confirmation page
16	26-05-2022	Done the coding for send SMS function .Build the .apk Installed App in phone send SMS from phone .
17	27-05-2022	Our first review of Main Project is conducted today. so we meet our guide presented slides and run our App during review.Our guide advised to add some more features like an option to search the send SMS with filters like date,file no. etc
18	01-06-2022	Send the .apk file to our client "pala revenue office". they suggested some modifications .Done the modifications .
19	02-06-2022	Our client "Pala Revenue Office" its a government Project .So they need the whole message content in malayalam,so done that.
20	03-06-2022	To send SMS with malayalam content we need to add some additional functions, so we done that
21	04-06-2022	We had completed the requirements of our client .So we Designed two more pages for call and load contact options
22	07-06-2022	Completed the coding of call and load contact .Buid apk and installed in phone .All functionalities work successfully

22	07-06-2022	Completed the coding of call and load contact .Build apk and installed in phone .All functionalities work successfully
23	10-06-2022	Modify the overall design ,add some more validations in every fields of form in our App.
24	11-06-2022	At the beginig we had decided to do the register and login page Db connection with server so every one in same office with same userid
25	15-06-2022	Our 2nd review will bw in 21st so we stats preparing the documentation
26	16-06-2022	We need to complete 60% of project .We checked the whole project the problem now we are facing is version issue .Our App will not work in 12 Version of android
27	21-06-2022	our 2nd review conducted today. We run our App in front in front of pannel .They suggested to add some more functions in app
28	22-06-2022	Created a login and register for User .In earlier version user has the only permission to view SMS send by officer
29	23-06-2022	Create a home page make two options ,login as officer and login as User .Done the DB connection with server
30	24-06-2022	Create a table User request and add a functionality for user to submit enquiry request directly in app without making a phone call to enquiry section in taluk office
31	25-06-2022	created a page in officer module to view the request submitted by user.
32	28-06-2022	Modify the whole App as ,user submit enquiry request. Officer view the request ,a button corresponding to the request pass the file no i.e no need to enter fileno and phone number .

Chapter 9

SYSTEM TESTING

9.1 Introduction

Software testing is a critical element of software quality assurance and represents ultimate review of specification, design and code generation. Once the source code has been generated the program should be executed before the customer gets it with the specific intend of finding and removing all errors, test must be conducted systematically and test must be designed using disciplined techniques.

9.2 Unit testing

Unit testing is a level of software testing where individual units/ components of the software are tested. The purpose is to validate that each unit of the software performs as

Name of Control	Validation	Input	Response
Textbox (staff name)	name validation	Ram	success
		Ram1	Not Valid
Testbox (mobile)	mobile validation	8965327845	success
		896234763	Not Valid
Textbox(email)	email validation	ram@123	Not valid
		ram@gmail.com	success

Figure 9.1: Unit testing

designed. In the proposed android application unit test is performed by tested individual components such as Registration, Home screen displays, 6 types of games, 6 types of surveys, sending messages etc separately and each module passes the test cases successfully. In each unit, its working is monitored so that it works safely and accurately. Thus we can monitor the working of each unit.

9.3 Integration Testing

Integration Testing is a level of software testing where individual units are combined and tested as a group. The purpose of this level of testing is to expose faults in the interaction between integrated units. During the Integration testing phase of my project its clear that the combined components/units don't affect the expected processes and other modules.

Here we mixed up the units that have passed the test cases during unit test. And check-out the workflow of the modules. For example in the case a parent complete 6 surveys, 6 games, the result is forwarded into the doctor, the doctor view the results and send consultation tips to the parent. Thus we can find all the processing that are happening in the application. In this manner, each integrated modules are considered for the predicted outcomes.

9.4 User acceptance testing

User acceptance testing is a key factor that counts the success of the application. To know the acceptance, the application was provided to different users and a feedback from the users about their experience regarding the application was collected. Many changes were made, and some possible additional requirements were satisfied based on such user feedbacks.

Name of Control	Validation	Input	Response
Textbox(username)	text validation	ram1	success
		ram.a2	invalid username
Testbox (password)	password validation	Ram12345!	success
		mahesh123	invalid password

Figure 9.2: Integration testing

Chapter 10

SYSTEM IMPLEMENTATION

10.1 Implementation Methods

After testing, the app "EnQ-App" is ready for the implementation. Implementation is the stage of the project when the theoretical design is turned in to a working system. A crucial phase in system life cycle is the successful implementation of the new system designed. Implementation is an activity that brings the developed system into operational use without disrupting the functioning of the organization. Here the performance of the system is reviewed to evaluate criteria. Implementation is the stage of the project where the theoretical design is turned into a working system. At this stage the main workload, the greatest upheaval and the major impact on the existing system shift to user department. If the implementation is not carefully planned and controlled it can cause chaos and confusion. Implementation includes all those activities that take place to convert from the old system to new one. Proper implementation is essential to provide a reliable system to meet the organization requirements. Successful implementation may

not guarantee improvement in the organization using the new system, but improper installation prevents it. The process of putting the developed system in actual use is called system implementation. This includes those activities that take place to convert from old system to new system. The system can be implemented only after thorough testing is done and if it is found to be working according to the specifications. The actual user must be aware of the benefit of using the system. Their confidence in software that is built up. Proper guidance should be imparted to the user so that comfortable in using application. The implementation procedure involves careful planning, investigation of the current system and the constraints on implementation, design methods to achieve the changeover, an evaluation of changeover method. Apart from planning, major task of preparing the implementation procedure are education and training to users. The implementation process begins with preparing a plan for the implementation of the system. According for this plan, the activities have been carried out; discussions have been made regarding the equipment and resources. According to above plan the necessary equipment has to be acquired to implement the new system. Implementation is the process of bringing a newly developed system or revised into operational one. The new system and its components are to be tested in a structured and planned manner. There are some challenges faced by the me while implementing the software. Some of them are

- Code-reuse: There are huge issues faced by me for compatibility checks and deciding how much code to re-use.
- Version Management: Every time a new releases is issued to the product owner, i have to maintain version and configuration related documentation. Git hub helps me to solve such version control issues.

10.2 GIT Version History

Project_report_Latex files/Thesis-Final/git.png

Figure 10.1: GIT Version History

Chapter 11

Conclusions and Future Scope

Due to the rapid rise of the internet and digitization, Governments all over the world are initiating steps to involve IT in all governmental processes. This is the concept of e-government. This is to ensure that the Govt. administration becomes a swifter and more transparent process. It makes the whole administrative process convenient, efficient, transparent, fully accountable and responsible. One way the government is working to improve the way they relay information to citizens is by developing mobile apps either for officers or for citizens. This project also is such an android application for government officers and citizens. They can easily install the app on their android devices and can handle with ease as the interface is much user friendly. It reduce the efforts of an enquiry request and replying mode in existing system as it replaces the process by sending enquiry request from applicant and reply message by officer via this app. As frequent replies are saved, an immediate response can be made using the app. Officers can make a rapid response and applicant can view message as per their convenience rather than waiting for reply call every time. From applicant's aspect, they have to merely submit a

request instead of telephonic conversation or office visit. So the android application saves time and efforts accompanied in the current system.

Bibliography

- [1] K. Andrews and B. Rajiv. On some applications of eigenvalues of toeplitz matrices. *Journal of Mathematical Analysis and Applications*, 56(2):237–239, 2007.
- [2] Imad El Bouchairi, Abderrahim El Moataz, and Jalal Fadili. Discrete p -bilaplacian operators on graphs. In *Image and Signal Processing - 9th International Conference*, volume 12119 LNCS, pages 339–347, ICISP 2020, Marrakesh, Morocco, June 2020. Springer.
- [3] C. C. Chang. Algebraic analysis of many valued logics. *Transactions of American Mathematical Society*, 88:467–490, 1958.
- [4] Abderrahim Elmoataz, Matthieu Toutain, and Daniel Tenbrinck. On the p -laplacian and ∞ -laplacian on graphs with applications in image and data processing. *SIAM Journal on Imaging Sciences*, 8:2412–2451, 10 2015.
- [5] B. Gerla. Automata over MV-algebras. In *ISMVL '04: Proceedings of the 34th International Symposium on Multiple-Valued Logic*, pages 49–54, Washington, DC, USA, 2004. IEEE Computer Society.
- [6] G.H. Golub and C.F. Van Loan. *Matrix Computations*. Second Edition. The John Hopkins University Press, 1989.

- [7] John M. Neuberger, Nándor Sieben, and James W. Swift. Automated bifurcation analysis for nonlinear elliptic partial difference equations on graphs. *International Journal of Bifurcation and Chaos*, 19(08):2531–2536, 2009.
- [8] R. Younsi, editor. *Navier-Stokes Equations - Properties, Description and Applications*. Nova Science Publishers, Inc., New York, 2012.