BASELIOS POULOSE II CATHOLICOS COLLEGE

BASELIOS MOUNT, PIRAVOM

Re-accredited with 'A' Grade by

NAAC (Affiliated to Mahatma Gandhi University)

DEPARTMENT OF COMPUTER APPLICATIONS

2022-23

Project

Report on

MISSION SEEKER

BASELIOS POULOSE II CATHOLICOS COLLEGE

BASELIOS MOUNT, PIRAVOM

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2022-23

DEPARTMENT OF COMPUTER APPLICATIONS

Project Report

On

MISSION SEEKER

Submitted in partial fulfilment of the requirements for the award of the degree of

BACHELOR OF COMPUTER APPLICATION

Guided by: Ms. Leeja Mathew
(Dept. of Computer application)

Submitted by:
Sanjay Benoy

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DEPARTMENT OF COMPUTER APPLICATIONS

Certificate

This is to certify that the project entitled "MISSION SEEKER" submitted in partial fulfillment for the award of the degree of BACHELOR OF COMPUTER APPLICATION is a bonafide report of the project done by Sanjay Benoy(Reg no: 200021096676) during the year 2022-23.

Internal Guide: **Head of the department:**

Ms. Leeja Mathew **Dr. Kurian MJ**

Examiner: 1 **Department Seal**

College Seal

DECLARATION

I hereby declare that the this project work entitled "MISSION SEEKER" is a record of original work done by me under the guidance of **Ms. Leeja Mathew**, *Assistant Professor, Department of Computer Applications and the work has not formed the basis for the award of any degree or diploma or similar title to any candidate of any university subject.*

Internal Guide: **Signature of Student**

Ms.Leeja Mathew

ACKNOWLEDGEMENT

At the outset, I thank God Almighty for making endeavor a success.

I express my gratitude to **Dr. Tiji Zacharia**, Principal, Baselios Poulose II Catholicos College, for providing me with adequate facilities, ways and means by which I was able to complete the project work. I express my sincere thanks to my internal guide **Ms.Leeja Mathew**, who guide me properly from the beginning to the end of my project and examining the draft of this project, suggestions and modifications. With immense pleasure I take this opportunity to record out sincere thanks to Head of the Department **Dr. Kurian M J**, Associate Professor, Department of Computer Applications for his motivation throughout this project .

Last but not the least, I also express my gratitude to all other members of the faculty and well wishers who assisted me in various occasions during the project work.

:- Sanjay Benoy

ABSTRACT

The web application entitled “MISSION SEEKER” is a python oriented online platform for investigating crimes and other illegal activities that are reported by users through the help of a detective agencies. Detective agencies are professionals who are hired by a person or group to **undertake detection of the legal situation**. Some describe it as a private eye, as most of their activity is carried out unnoticed by the people involved in the cases they are investigating. Users can send request regarding the crime subject and its type to a corresponding detective agency. After the agency accepts the request, then user is given the permission to chat with the agency to describe about the crime. This chat is End-to-end encrypted.

The system consists of three modules : Admin, Agency, User. The admin has the privilege control on the system. The admin can verify and edit the information regarding the servicesand agencies. The admin verifies all detective agencies before they can start service. User are general users who can simply register with basic details and login to send request to detective agencies depending on their caseypes and chat with detective agencies for investigating crimes. After investigation agency can upload report and charge user. Agencies are added by the admin. They could view their profiles and makes changes. They are entrusted with the work on doing their services based on the need of user.

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1. INTRODUCTION

1.1 BACKGROUND AND MOTIVATION

Now public service cannot handle any types of crime in our society as quickly as possible but private agency can investigate any types of crime as quickly as possible. That private agency is not easily accessible to common man. The project entitled “MISSION SEEKER” is python oriented online platform for investigating crimes and other illegal activities that are reported by users through the help of a detective agencies. Customers are general users who can simply register with basic details and login to search for detective agencies according to their case. Staffs are added by the admin. They could view their profiles and makes changes.These web application contain multiple private agencies and users can easily interact with them. This web application is End-to-end encrypted, secure and easy to use. They are entrusted with the work on doing their services based on the need of customer.

1.2 THE PROPOSED SYSTEM

The system is computerized so it is capable of handling all the problems of a manual system. It is highly secured. The security of the system is highly ensured and other validation procedures are included to protect from unauthorized access. The system is helpful in making users communicate with various detective agencies according to their cases. Users can easily search their respective detective agency and send a request to them. Once agency accepts request then user can chat with them.

The system admin has the provision to login to the system by using a uniqueusername and password The administrator of the system is the person who have the permission to add services, to add staff product, service details. The system administrator has the authoritative power to view the details of all the staff and customers who have registered into the system.

The administrator has the right to view all the details of agencies , agency requests and can see complaints and feedbacks submitted by users.

1.3 PROJECT SCOPE

1.3.1. Limitations of Existing System

- **Data storage:-** In manual system paper files require a huge amount of storage space and paper storage creates several problems like spoilage the deterioration by way of aging, humidity etc... Paper based systems are generally very bulky both to handle to store and office space are expensive.

- **Speed of retrieval of information:-** The speed of retrieval information is very slow in this system. Since all details are entered on registers, if we want to retrieve the information about an old customer, we want to go through all the past records until we find the right one.

- **Time and manpower consuming:-** A considerable amount of time is required for recording details into the system. Report generation of variousareas is done manually using great amount of manpower and time. Erroneous records may lead to misleading information, which is more likely in manual system.

- **Accuracy:-** In the existing system the error rate is high and it is difficult to locate the errors and correct them. Calculations made on papers often leads to cash mismatch and inaccurate results.
- **Redundancy:-** If a customer gives different works at different time, each time the customer arrives, the administrator want to store the personnel details repeatedly with each work.
- **Back up:-** Back up of data cannot be done easily since all data are in different registers and are written on paper.

1.3.2 Advantages Of Proposed System

Data entry screens are designed such that they are very user friendly and minimum typing is required from the user,

- Not much training required.
- System provides various information's report quickly and accurately in easily understandable formats.
- The new web application is more user friendly.
- It aims on paperless work.
- Fast access information.
- Efficient traceability.
- Talking into the speed of computer access, large data in less time and facilitiesprovided by the access.
- Duplication of data will be avoided.
- Menu driven interface provides ease to use.
- Availability of previous data for future reference.

1.4 PYTHON

Python is a general purpose, dynamic, high-level, and interpreted programming language. It supports Object Oriented programming approach to develop applications. It is simple and easy to learn and provides lots of high-level data structures. Python is easy to learn yet powerful and versatile scripting language, which makes it attractive for Application Development. Python's syntax and dynamic typing with its interpreted nature make it an ideal language for scripting and rapid application development.

Python supports multiple programming pattern, including object-oriented, imperative, and functional or procedural programming styles. Python is not intended to work in a particular area, such as web programming. That is why it is known as multipurpose programming language because it can be used with web, enterprise, 3D CAD, etc. We don't need to use data types to declare variable because it is dynamically typed so we can write a=10 to assign an integer value in an integer variable. Python makes the development and debugging fast because there is no compilation step included in Python development, and edit-test-debug cycle is very fast.

2. SYSTEM ANALYSIS

2.1 INTRODUCTION

Software Engineering is the analysis, design, construction, verification and management of technical or social entities. To engineer software accurately, a software engineering process must be defined. System analysis is a detailed study of the various operations performedby the system and their relationship within and module of the system. It is a structured method for solving the problems related to the development of a new system. The detailed investigation of the present system is the focal point of system analysis. This phase involves the study of parent system and identification of system objectives. Information has to be collected from all people who are affected by or who use the system. During analysis, data are collected on the variable files, decision point and transactions handled by the present system. The main aim of system is to provide the efficient and user friendly automation. So the system analysis process should be performed with extreme precision, so that an accurate picture of existing system, its disadvantages and the requirements of the new system can be obtained.

System analysis involves gathering the necessary information and using the structured tool for analysis. This includes the studying existing system and its drawback, designing a new system and conducting cost benefit analysis. System analysis is a problem solving activity that requires intensive communication between the system users and system developers. The system is studied to the minute detail and analyzed. The system is viewed as a whole and the inputs to the system are identified. The outputs from the organization are traced through various phases of processing of inputs.

There are a number of different approaches to system analysis. When a computer based information system is developed, systems analysis (according to the Waterfall model) would constitute the following steps:

- The development of a feasibility study, involving determining whether a project is economically, technologically and operationally feasible.

- Conducting fact-finding measures, designed to ascertain the

requirements of the system's end-users. These typically span interviews, questionnaires, or visual observations of the work of existing system.

- Gauging how the end-users would operate the system (in terms of general experience in using computer hardware or software), what the system would be used for and so on.

Techniques such as interviews, questionnaires etc. can be used for the detailed study of these processes. The data collected by these sources must be scrutinized to arrive at a conclusion.

The conclusion is an understanding of how the system functions. This system is called the Existing System. The Existing system is then subjected to close observation and the problem areas are identified. The designer now functions as a problem solver and tries to sort out the difficulties that the enterprise faces. The solutions are given as a proposal which is the Proposed System. The proposal is then weighed with the existing system analytically and the best one is selected. The proposal is then presented to the user for an endorsement by the user. The proposal is reviewed on user request and suitable changes are made. This is a loop that ends as soon as the user is satisfied with the proposal.

2.2 STAKE HOLDERS OF THIS PROJECT

2.2.1 Admin

Administrator is the person who manages the software. He is the person

who focuses on the data and reports of the software. He/she is the person who add crime types , agencies and modules.In the case of other stakeholders, they have only access to read or search the questions provided in the database. But in the case of administrator he is the top person, he can view and access all details.

2.2.2 Agency

They can also view and update their own information. In addition, they can view the investigation case given by user. r

2.2.3 User

They are main users of this application. They will be able to search specialized detective agencies according to their case and can send request regarding the case. Users are also needed to register by providing their basic information such as name, email address, phone number, address, etc. They can also view and update their information. They can also post feedbacks.

2.3 SOFTWARE REQUIRMENT SPECIFICATION

2.3.1 Admin

1. The admin has supreme power over the system.
2. The admin enter valid username and password then go to the admin home page Otherwise display the error message like invalid username and password.
3. .The admin can add various crime case types to the system.
4. The admin should have the permission to view the details of cases like description, images and can also edit them if required.
5. The admin is responsible for maintaining and updating the whole system.
6. Admin should have the permission to view the feedbacks and ratings from the customers.
7. Admin should have the provision to add detective agencies.
8. The system should have the provision to logout.

2.3.2 Agency

1. The system should have a provision to login the staff by entering agency Username and password.
2. After logging in the agency have the permission to view and edit their profile.
3. The agency should have the permission to edit the password.
4. The agency should have the permission to view the crime case requests send by users
5. Agency should have the provision to chat and update the investigation report to users and charge user
6. System should have the provision to logout.

2.3.3 User

1. They can visit the site and view services and its details as a guest.
2. In order to submit a crime case to investigate, he/she should register to the system by giving their name, address, contact number, password etc.
3. The user name, address and contact number cannot be empty.
4. The user registration form should be validated.
5. User gets a confirmation mail after successful registration to mission seeker
6. The system shall allow the user to login using their contact name and password.
7. The system shall allow the user to view and edit their account information.
8. The user shall post feedbacks and add regarding the services.
9. The user should have the provision to logout.
10. The user should get a mail when the agency accepts his/her request.

Table 2.1 Sign of table

Sl. No.	.Name & Designation	Date	Accepted (Yes/No)
1	Ms. Leeja Mathew Assistant Professor, Dept of ComputerApplication BPC College, Piravom		
2	Sanjay Benoy Developer		

2.4 FEASIBILTY STUDY

Feasibility is defined as the practical extent to which a project can be performed successfully. To evaluate feasibility, a feasibility study is performed, which determines whether the solution considered to accomplish the requirements is practical and workable in the software. Information such as resource availability, cost estimation for software development, benefits of the software to the organization after it is developed and cost to be incurred on its maintenance are considered during the feasibility study. The objective of the feasibility study is to establish the reasons for developing the software that is acceptable to users, adaptable to change and conformable to established standards. Various other objectives of feasibility study are listed below.

• To analyse whether the software will meet organizational requirements.

• To determine whether the software can be implemented using the current technology and within the specified budget and schedule.

• To determine whether the software can be integrated with other existing software.

- When our project guide as well as our client Sindhu Hari told us regarding the main project and about Word to the Wise for getting the desired product developed, it comes up with rough idea about what all functions the software must perform and which all features are expected from the software.
- Referencing to this information, we does a studies and discussions about whether the desired system and its functionality are feasible to develop and the output of this phase is a feasibility study report that should contained adequate comments and recommendations.
- Various types of feasibility that we checked include technical feasibility, operational feasibility, and economic feasibility.

2.4.1 Technical Feasibility

Technical feasibility assesses the current resources (such as hardware and software) and technology, which are required to accomplish user requirements in the software within the allocated time and budget. For this, the software development team ascertains whether the current resources and technology can be upgraded or added in the software to accomplish specified user requirements. Technical feasibility also performs the following tasks.

• Analyses the technical skills and capabilities of the software development team members.

• Determines whether the relevant technology is stable and established.

• Ascertains that the technology chosen for software development has a large number of users so that they can be consulted when problems arise or improvements are required.

From our perspective there are two languages PHP, HTML and database MySQL which are used to develop this web based applications. PHP is used in the front end and MySQL is used in the back end. The Word to the Wise is web based and thus can be accessed through any browsers. As we are using these latest technologies

which are currently trending and used by a number of developers across the globe, we can say that our project is technically feasible.

2.4.2 Operational Feasibility

Operational feasibility assesses the extent to which the required software performs a series of steps to solve business problems and user requirements. This feasibility is dependent on human resources (software development team) and involves visualizing whether the software will operate after it is developed and be operative once it is installed. Operational feasibility also performs the following tasks.

- Determines whether the problems anticipated in user requirements are of high priority.
- Determines whether the solution suggested by the software development team is acceptable.
- Analyses whether users will adapt to a new software.
- Determines whether the organization is satisfied by the alternative solutions proposed by the software development team.

We found that our project will be satisfied for the client since we were discussing every detail about the software with the client at every step. The most important part of operational feasibility study is the input from client. So the software is built completely according to the requirements of the client. We have used the current industry standards for the software. Hence we can say that this software is operationally feasible.

2.4.3 Economic Feasibility

Economic feasibility determines whether the required software is capable of generating financial gains for an organization. It involves the cost incurred on the software development team, estimated cost of hardware and software, cost of performing feasibility study, and so on. For this, it is essential to consider expenses made on purchases (such as hardware purchase) and activities required to carry out software development. In addition, it is necessary to consider the benefits that can be achieved by developing the software. Software is said to be economically feasible if it focuses on the issues listed below.

• Cost incurred on software development to produce long-term gains for an organization.

• Cost required to conduct full software investigation (such as requirements elicitation and requirements analysis).

• Cost of hardware, software, development team, and training.

It is estimated that our project is economically feasible as development cost is very minimal since the tools and technologies used are available online. It's a group student project so there are no personnel costs. Development time is well planned and will not affect other operations and activities of the individuals. Once the system has been developed, the companies purchasing the system will be providing with a manual for training purposes. There is no need to purchase new hardware since the existing computers can still be used to implement the new system.

2.5 SOFTWARE DEVOLPMENT LIFECYCLE MODEL

One of the basic notions of the software development process is SDLC models which stand for Software Development Life Cycle models. SDLC – is a continuous process, which starts from the moment, when it's made a decision to launch the project, and it ends at the moment of its full remove from the exploitation. Software development lifecycle (SDLC) is a framework that defines the steps involved in the development of software. It covers the detailed plan for building, deploying and maintaining the software. SDLC defines the complete cycle of development i.e. all the tasks involved in gathering a requirement for the maintenance of a Product.

Some of the common SDLC models are Waterfall Model, V-Shaped Model, Prototype Model, Spiral Model, Iterative Incremental Model, Big Bang Model, Agile Model. We used Agile Model for our Project.

Agile Model

Agile Model is a combination of the Iterative and incremental model. This model focuses more on flexibility while developing a product rather than on the requirement. In the agile methodology after every development iteration, the client is able to see the result and understand if he is satisfied with it or he is not. Extreme programming is one of the practical use of the agile model. The basis of this model

consists of short meetings where we can review our project. In Agile, a product is broken into small incremental builds. It is not developed as a complete product in one go. At the end of each sprint, the project guide verifies the product and after his approval, it is finalized. Client feedback is taken for improvement and his suggestions and enhancement are worked on in the next sprint. Testing is done in each sprint to minimize the risk of any failures.

Advantages of Agile Model:

- It allows more flexibility to adapt to the changes.
- The new feature can be added easily.
- User satisfaction as the feedback and suggestions are taken at every stage.
- Risks are minimized thanks to the flexible change process

Disadvantages:

- Lack of documentation.
- If a user is not clear about how exactly they want the product to be,then the project would fail.
- With all the corrections and changes there is possibility that the project will exceed expected time

2.6. HARDWARE AND SOFTWARE REQUIRMENTS

2.6.1 Software Specifications

This project is built upon the latest technology software.

Operating System	:	Windows 11
IDE	:	Visual Studio Code
Front-end	:	Python Django
Scripting Language	:	HTML, JavaScript
Back-end	:	Microsoft SQL Server 2010
Browser	:	Internet Explorer, Google Chrome, Mozilla Firefox

Hardware Requirements

The selection of hardware configuring is a very task related to the software development, particularly inefficient RAM may affect adversely on the speed and corresponding on the efficiency of the entire system. The processor should be powerful to handle all the operations

The hard disk should have the sufficient to solve the database and the application.

Minimum hardware requirement:

CPU : Pentium IV Processor

Memory : 256 MB Above

Cache : 512 KB Above

Hard disk : 20 GB Above

Monitor : Any

Keyboard : Any

Mouse : Any

3. SYSTEM DESIGN

3.1 SYSTEM ARCHITECTURE

A system architecture or system's architecture is the conceptual model that defines the structure, behaviour, and more views of a system. An architecture description is a formal description and representation of a system, organized in a way that supports reasoning about the structures of the system, System architecture can comprise system components, the externally visible properties of those components, the relationships (e.g. the behaviour) between them. It can provide a plan from which products can be procured, and systems developed, that will work together to implement the overall system. There have been efforts to formalize languages to describe system architecture; collectively these are called architecture description languages (ADLs). The system architecture can best be thought of as a set of representations of an existing (or to be created) system. It is used to convey the informational content of the elements comprising a system, the relationships among those elements, and the rules governing those relationships. The architectural components and set of relationships between these components that architecture describes may consist of hardware, software, documentation, facilities, manual procedures, or roles played by organizations or people. System architecture is primarily concerned with the internal interfaces among the system's components or subsystems, and the interface between the system and its external environment, especially the user.

The structural design reduces complexity, facilitates change and result in easier implementation by encouraging parallel development of different parts of the system. The procedural design transforms structural elements of program architecture into a procedural description of software components. The architectural design considers architecture as the most important functional requirement. The system is based on the three-tier architecture.

The first level is the user interface (presentation logic), which displays controls, receives and validates user input. The second level is the business layer (business logic) where the application specific logic takes place. The third level is the data layer where the application information is stored in files or database. It contains logic about to retrieve and update data. The important feature about the three-tier

design is that the information only travels from one level to adjacent level.

3.2 MODULE DESIGN

1. **LOGIN**

   This module allows the users to login to the website using his/her unique faculty identity card number and password so that he/she can can search agencies and send requests to them. Along with viewing the status of requests

2. **REGISTRATION**

   This module helps the admin, agency, user to register to our website. He/she can use the registration form for registering his/her account. While registering the faculty needs to provide some data for example email id, password etc.

3. **REPORTS**

   This module allows the admin of the site to view the details of the site through various reports. This includes pie chart and some table reports. All these reports provide information about the crime cases, detective agencies, users. So that the administrator can easily manage the website.

4. **CRIME CASE MANAGEMENT**

   This module allows the admin to add crime casetypes provided by the system.

5. **REQUEST MANAGEMENT**

   This modules includes in managing crime case requests. Users can send requests to respective agencies regarding the crime. Once accepted by agency then users are given permission to chat with them. Users can check the status of investigation ,Once investigation finishes user have to pay the fees to agency and can download report associated with the case.

3.3 DATABASE DESIGN

A database is a collection of interrelated data stored with minimum redundancy to serve many users quickly and efficiently. The general objective is to make information access easy, quick, inexpensive and flexible for the users. The general theme behind a database is to integrate all information. Database design is recognized as a standard of management information system and is available virtually for every computer system. In database design several specific objectives are considered:

- Ease of learning and use
- Controlled redundancy
- Data independence
- More information at low cost
- Accuracy and integrity
- Recovery from failure
- Privacy and security
- Performance

A database is an integrated collection of data and provides centralized access to the data. Usually the centralized data managing the software is called RDBMS. The main significant difference between RDBMS and other DBMS is the separation of data as seen by the program and data has in direct access to stores device. This is the difference between logical and physical data.

3.3.1 Normalization

Designing a database is complete task and the normalization theory is a useful aid in the design process. The process of normalization is concerned with transformation of conceptual schema into computer representation form. There will be need for most databases to grow by adding new attributes and new relations. The data will be used in new ways. Tuples will be added and deleted. Information stored may undergo updating also. New association may also be added. In such situations the performance of a database is entirely depend upon its design. A bad database design may lead to certain undesirable things like:

- Repetition of information
- Inability to represent certain information
- Loss of information

To minimize these anomalies, Normalization may be used. If the database is in a normalized form, the data can be growing without, in most cases, forcing the rewriting application programs. This is important because of the excessive and growing cost of maintaining an organization's application programs and its data from the disrupting effects of database growth. As the quality of application programs increases, the cost of maintaining the without normalization will rise to prohibitive levels. A normalized database can also encompass many related activities of an organization thereby minimizing the need for rewriting the applications of programs. Thus, normalization helps one attain a good database design and there by ensures continued efficiency of database.

Normalization theory is built around the concept of normal forms. A relation is said to be in normal form if it satisfies a certain specified set of constraints. For example, a relation is said to be in first normal form (1NF) if it satisfies the constraint that it contains atomic values only. Thus every normalized relation is in 1NF.Numerous normal forms have been defined. Code defined the first three normal forms.

All normalized relations are in 1NF, some 1NF relations are also in 2NF and some 2NF relations are also in 3NF.2NF relations are more desirable than 1Nf and 3NF are more desirable than 2NF. That is, the database designer should prefer 3NF than 1NF or 2NF.Normalization procedure states that a relation that is in some given normal form can be converted into a set of relations in a more desirable form. We can define this procedure as the successive reduction of a given collection of relations to some more desirable form. This procedure is reversible. That is, it is always possible to take the output from the procedure and convert them back into input. In this process, no information is lost. So it is also called "no loss decomposition".

First Normal Form

A relation is in first normal form (1NF) if and all its attributes are based on single domain. The objective of normalizing a table is to remove its repeating groups and

ensure that all entries of the resulting table have at most single value.

Second Normal Form

A table is said to be second Normal Form (2NF), when it is in 1NF and every attribute in record is functionally dependent upon the whole key, and not just a part of the key.

Third Normal Form

A table is in third Normal Form (3NF), when it is in 2NF and every non-key attribute is functionally dependent on just the primary key.

3.3.2 Table Structure

Table is a collection of complete details about a particular subject. These data are saved in rows and Columns. The data of each Row are different units. Hence, rows are called RECORDS and Columns of each row are called FIELDS.

Data is stored in tables, which is available in the backend the items and data, which are entered in the input, form id directly stored in this table using linking of database. We can link more than one table to input forms. We can collect the details from the different tables to display on the output.

There are mainly 6 tables in the project. They are,

1. agency
2. user
3. admin
4. request
5. district
6. place
7. casetype
8. feedback
9. complaint
10. chat

1. Table: Agency

Description: This table is used to store the details of detective agencies

Slno	Field Name	Data type	Size	Constraints
1	agency_id	INT	50	Primary key
2	agency_name	VARCHAR	50	
3	agency_address	VARCHAR	200	
4	agency_mail	VARCHAR	100	
5	agency_pass	VARCHAR	50	
6	agency_proof	FILE		
7	agency_photo	FILE		
8	agency_contact	VARCHAR	50	
9	place_id	VARCHAR	50	Foreign key
10	agency_vstatus	INT		
11	casetype_id	VARCHAR	50	Foreign key
12	agency_regdate	DATE		
13	key	BINARY	1000	

2. Table: User

Description: This table is used to store the details of users

Slno	Field Name	Data type	Size	Constraints
1	user_id	INT	50	Primary key
2	user_name	VARCHAR	50	
3	user_address	VARCHAR	100	
4	user_mail	VARCHAR	50	
5	user_contact	VARCHAR	50	
6	user_photo	FILE		
7	place_id	VARCHAR	50	Foreign key
8	user_pass	VARCHAR	50	
9	user_regdate	DATE		
10	key	BINARY	1000	

3. Table: Admin

Description: This table is used to store the details of admin

Slno	Field Name	Data type	Size	Constraints
1	admin_id	INT	50	Primary key
2	admin_mail	VARCHAR	100	
3	aadmin_pass	VARCHAR	50	

4. Table: Request

Description: This table is used to store the details of crime case requests of users

Slno	Field Name	Data type	Size	Constraints
1	request_id	INT	50	Primary key
2	request_details	VARCHAR	50	
3	request_date	DATE		
4	request_status	INT		
5	agency_id	INT		Foreign key
6	casetype_id	VARCHAR	50	Foreign key
7	user_id	VARCHAR	50	Foreign key
8	report	FILE		
9	amount	VARCHAR	50	
10	payment_status	INT		

5. Table: District

Description: This table is used to store Districts.

Slno	Field Name	Data type	Size	Constraints
1	district_id	INT	50	Primary key
2	district_name	VARCHAR	100	

6 .Table: Place

Description: This table is used to store Places.

Slno	Field Name	Data type	Size	Constraints
1	place_id	INT	50	Primary key
2	place_name	VARCHAR	50	
3	district_id	INT	50	Foreign key

7 .Table: Casetype

Description: This table is used to store the crime case types.

Slno	Field Name	Data type	Size	Constraints
1	casetype_id	INT	50	Primary key
2	casetype_name	VARCHAR	50	

8 .Table: Feedback

Description: This table is used to store user feedbacks

Slno	Field Name	Data type	Size	Constraints
1	feedback_id	INT	50	Primary key
2	feedback_details	VARCHAR	100	
3	user_id	INT	50	Foreign key

9 .Table: Complaint

Description: This table is used to store user complaints

Slno	Field Name	Data type	Size	Constraints
1	complaint_id	INT	50	Primary key
2	complaint_title	VARCHAR	50	
3	complaint_details	VARCHAR	100	
4	user_id	INT	50	Foreign key
5	complaint_status	INT		
6	complaint_reply	VARCHAR	100	

10 .Table: Chat

Description: This table is used to details of user-agency chat.

Slno	Field Name	Data type	Size	Constraints
1	chat_id	INT	50	Primary key
2	date	DATE		
3	from_user_id	INT	50	Foreign key
4	to_user_id	INT	50	Foreign key
5	from_agency_id	INT	50	Foreign key
6	to_agency_id	INT	50	Foreign key
7	content	BINARY	10000	

3.3.3 Data Flow Diagram

3.3.3.1 Introduction to Data Flow Diagram

Data Flow Diagram is a network that describes the flow of data and processes that change, or transform, data throughout the system. This network is constructed by use a set of symbols that do not imply a physical implementation. It is a graphical tool for structured analysis of the system requirements. DFD models a system by using external entities from which data flows to a process, which transforms the data and creates, output-data-flows which go to other processes or external entities or files. Data in files may also flow to processes as inputs.

There are various symbols used in a DFD. Bubbles represent the processes. Named arrows indicate the data flow. External entities are represented by rectangles. 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. Process names are further identified with a number.

The Data Flow Diagram shows the logical flow of a system and defines the boundaries of the system. For a candidate system, it describes the input (source), outputs (destination), database (files) and procedures (data flow), all in a format that meet the user's requirements.

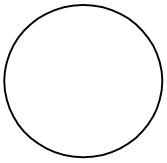
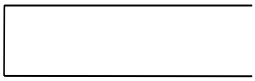
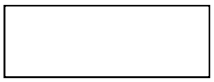
The main merit of DFD is that it can provide an overview of system requirements, what data a system would process, what transformations of data are done, what files are used, and where the results flow.

This network is constructed by use a set of symbols that do not imply a physical implementation. It is a graphical tool for structured analysis of the system requirements. DFD models a system by using external entities from which data flows to a process, which transforms the data and creates, output-data-flows which go to other processes or external entities or files. External entities are represented by rectangles. 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. It is a graphical tool for structured analysis of the system requirements. DFD models a system by using external entities from which data flows to a process, which transforms the data and creates, output-data-flows which go to other processes or external entities or files. Data in files may also flow to processes as inputs.

Rules for constructing a Data Flow Diagram

1. Arrows should not cross each other
2. Squares, circles and files must bear names.
3. Decomposed data flow squares and circles can have same time
4. Choose meaningful names for data flow
5. Draw all data flows around the outside of the diagram

Basic Data Flow Diagram Symbols

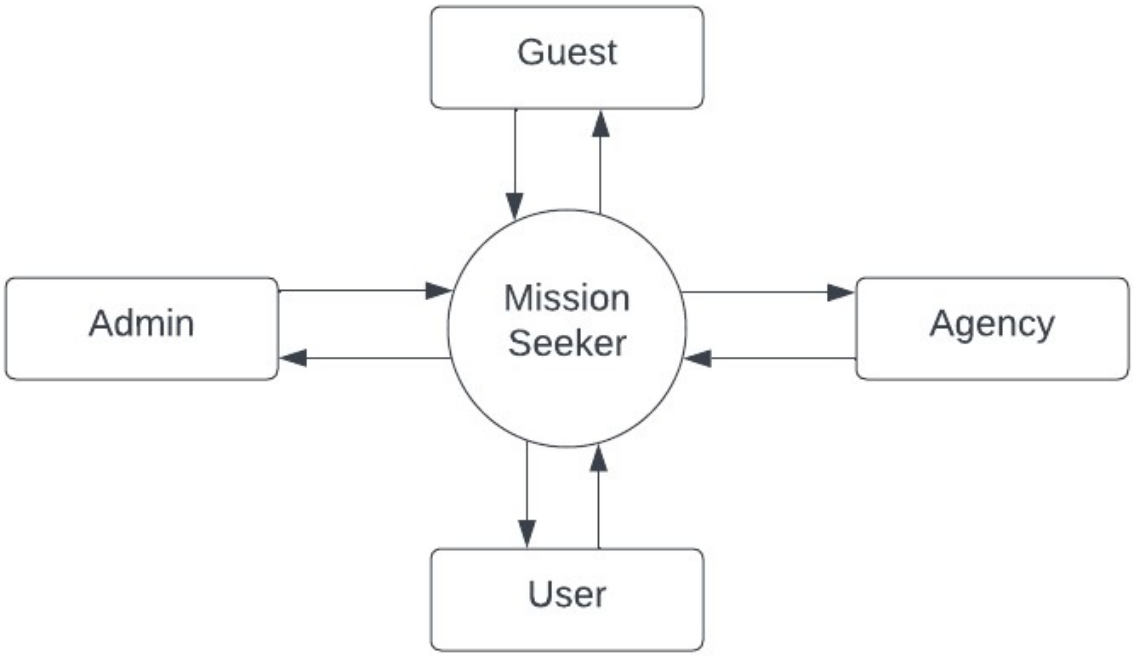
	A data flow is a route, which enables packets of data to travel from one point to another. Data may flow from a source to a process and from data store or process. An arrow line depicts the flow, with arrow head pointing in the direction of the flow.
	Circles stands for process that converts data in to information. A process represents transformation where incoming data flows are changed into outgoing data flows.
	A data store is a repository of data that is to be stored for use by a one or more process may be as simple as buffer or queue or sophisticated as relational database. They should have clear names. If a process merely uses the content of store and does not alter it, the arrowhead goes only from the store to the process. If a process alters the details in the store then a double-headed arrow is used.
	A source or sink is a person or part of an organization, which enters or receives information from the system, but is considered to be outside the contest of data flow model.

3.3.3.2 Data Flow Diagram

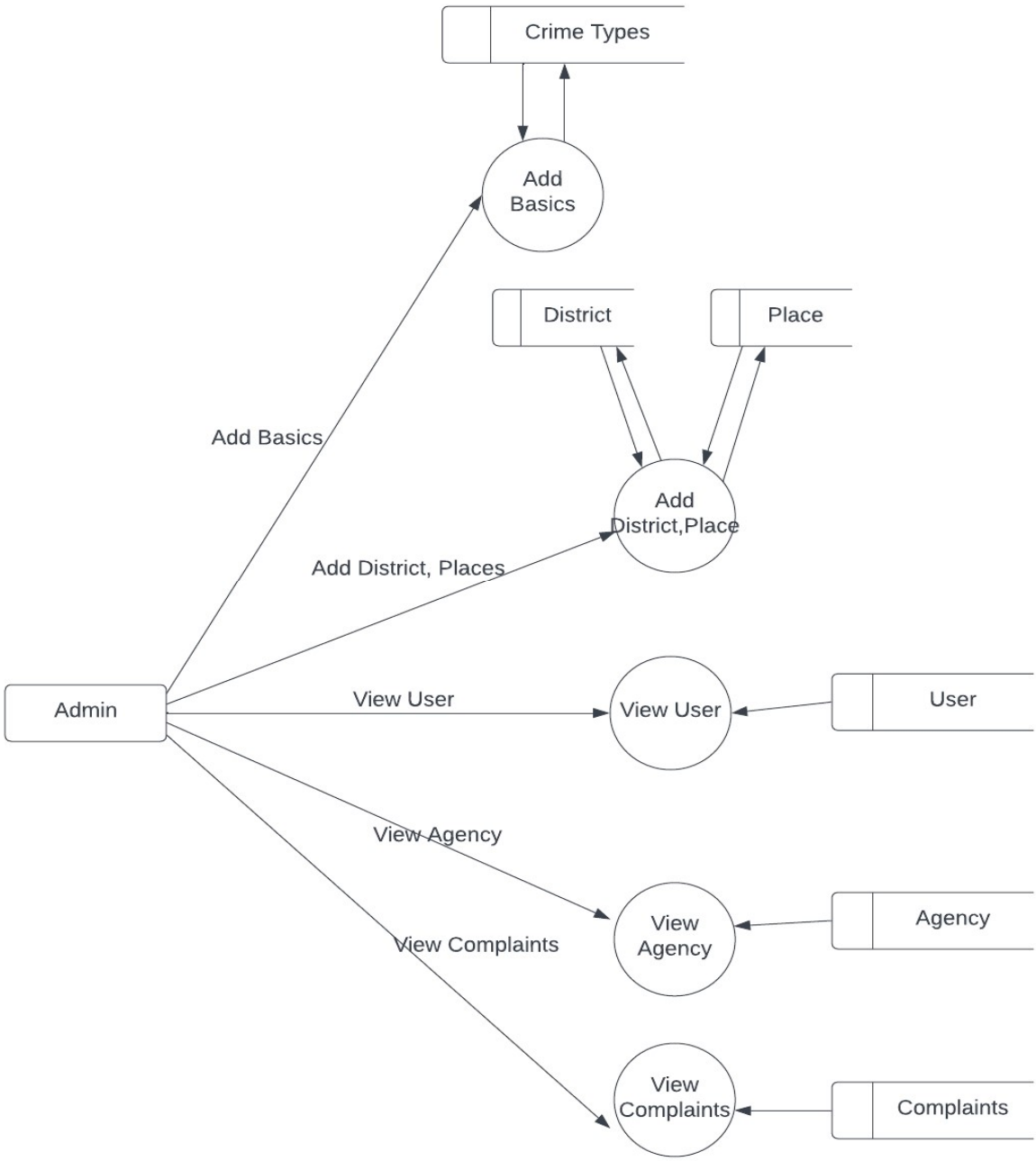
Each component in a DFD is labelled with a descriptive name. Process name are further identified with number. Context level DFD is draw first. Then the process is decomposed into several elementary levels and is represented in the order of importance. A DFD describes what data flow (logical) rather than how they are processed, so it does not depend on hardware, software, and data structure or file organization.

A DFD methodology is quite effective; especially when the required design.

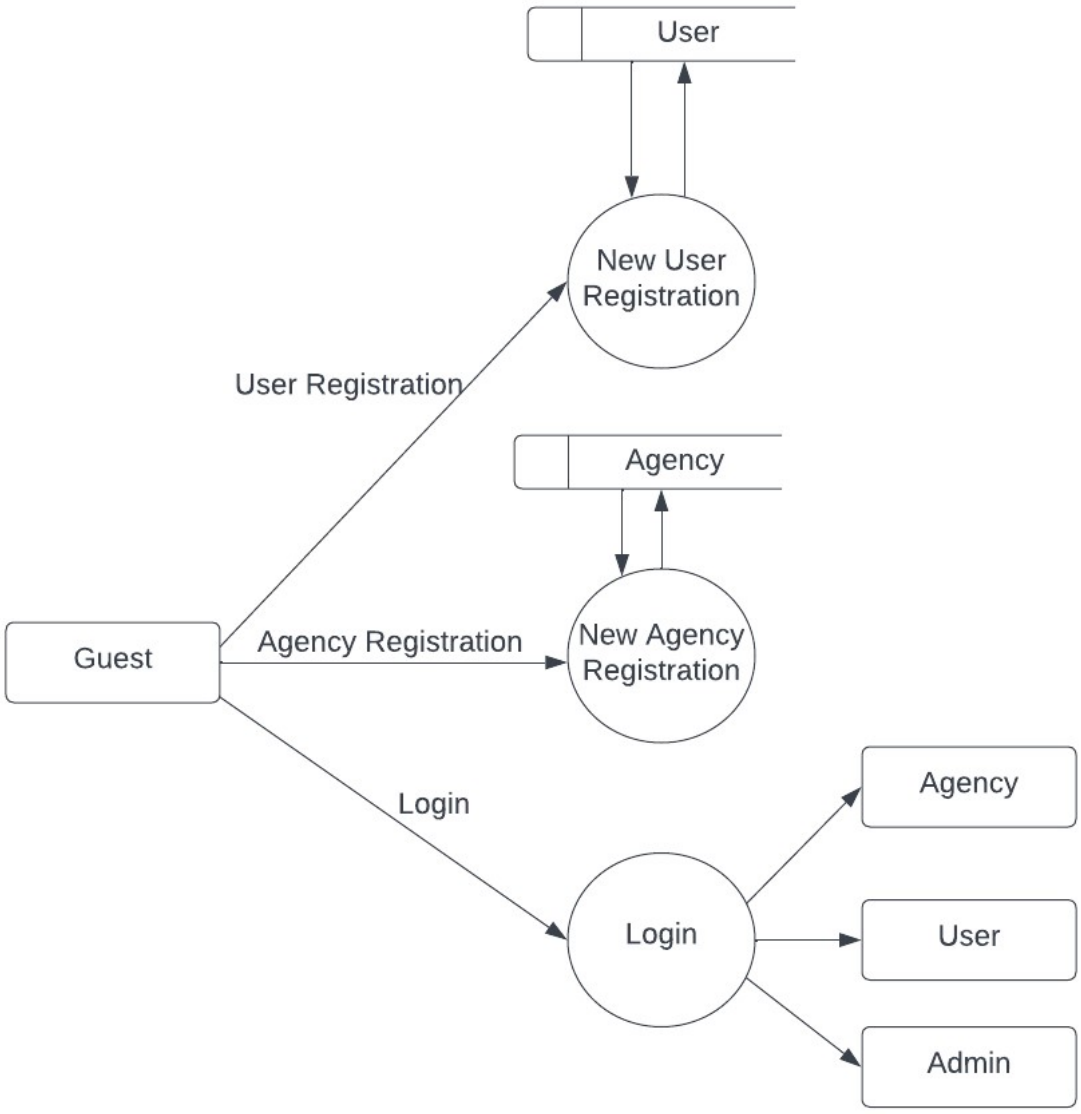
Zeroth Level DFD for Mission Seeker



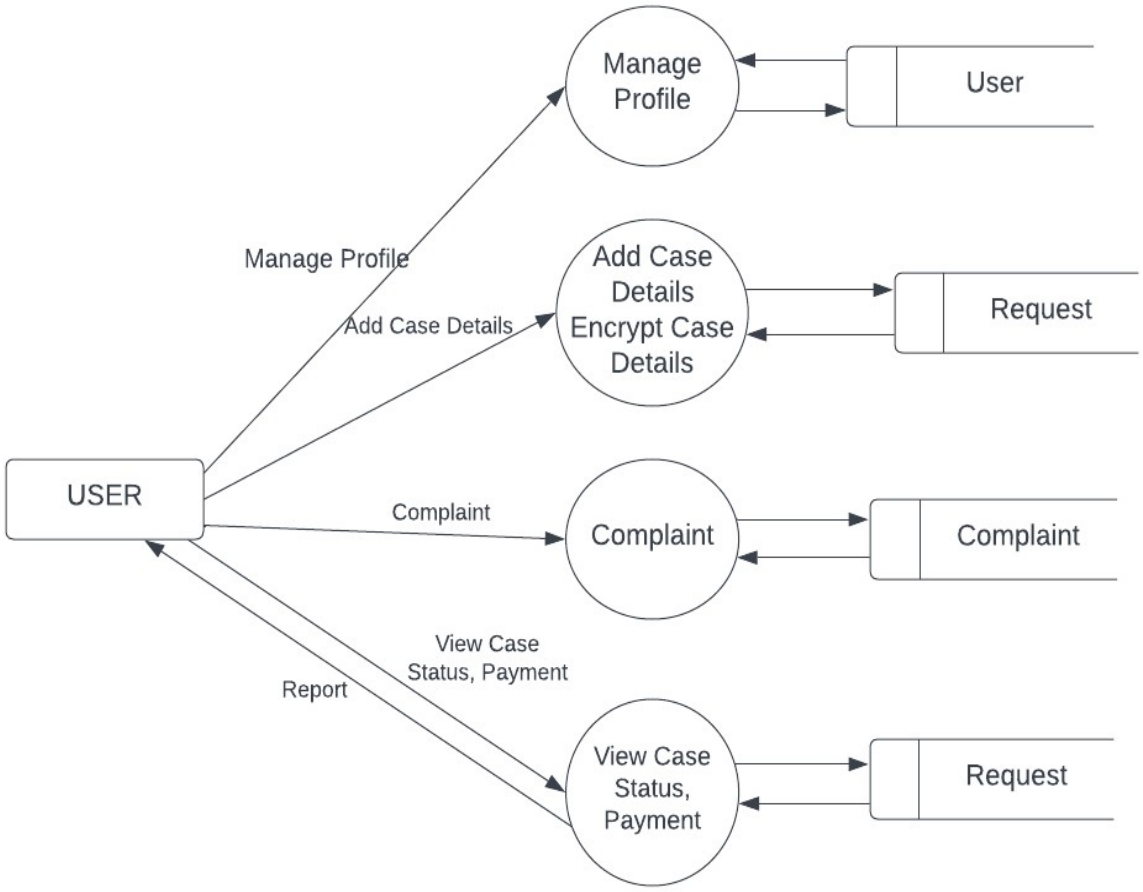
First Level DFD for Admin



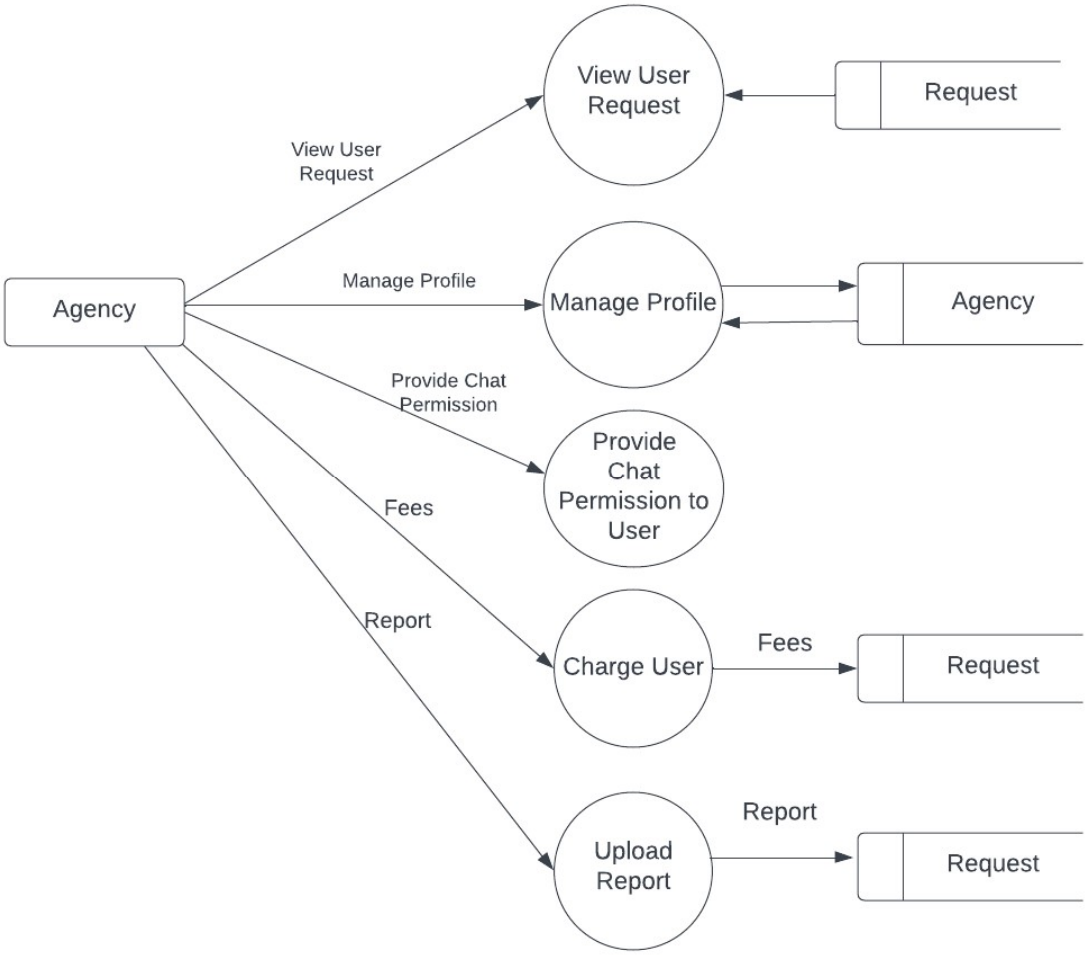
First Level DFD for Guest



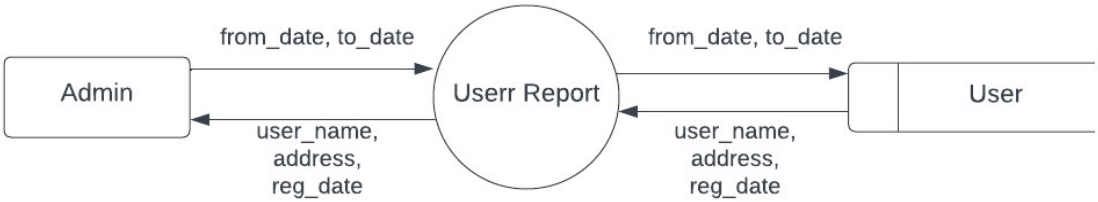
First Level DFD for User



First Level DFD for Agency



Second Level DFD for User Report



3.4 INTERFACE DESIGN

These modules can apply to hardware, software or the interface between a user and a machine. An example of a user interface could include a GUI, a control panel for a nuclear power plant, or even the cockpit of an aircraft. In systems engineering, all the inputs and outputs of a system, subsystem, and its components are listed in an interface control document often as part of the requirements of the engineering project. The development of a user interface is a unique field.

3.4.1 User Interface Screen Design

The user interface design is very important for any application. The interface design describes how the software communicates within itself, to system that interpreted with it and with humans who use it. The input design is the process of converting the user-oriented inputs into the computer based format. The data is fed into the system using simple inactive forms. The forms have been supplied with messages so that the user can enter data without facing any difficulty. They data is validated wherever it requires in the project. This ensures that only the correct data have been incorporated into system. The goal of designing input data is to make the automation as easy and free from errors as possible. For providing a good input design for the application easy data input and selection features are adopted. The input design requirements such as user friendliness, consistent format and interactive dialogue for giving the right messages and help for the user at right are also considered for development for this project.

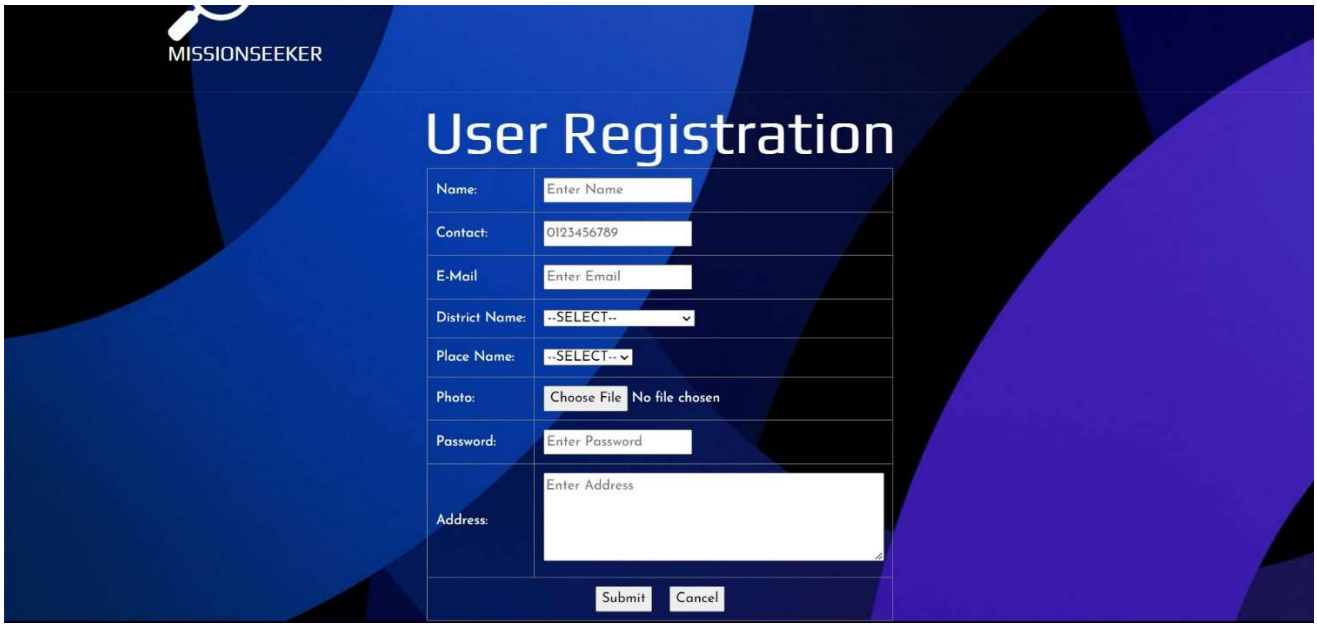
Input Design is a part of the overall design. The input methods can be broadly classified into batch and online. Internal controls must be established for monitoring

the number of inputs and for ensuring that the data are valid. The basic steps involved in input design are:

- Review input requirements.
- Decide how the input data flow will be implemented.
- Decide the source document.
- Prototype on line input screens.
- Design the input screens.

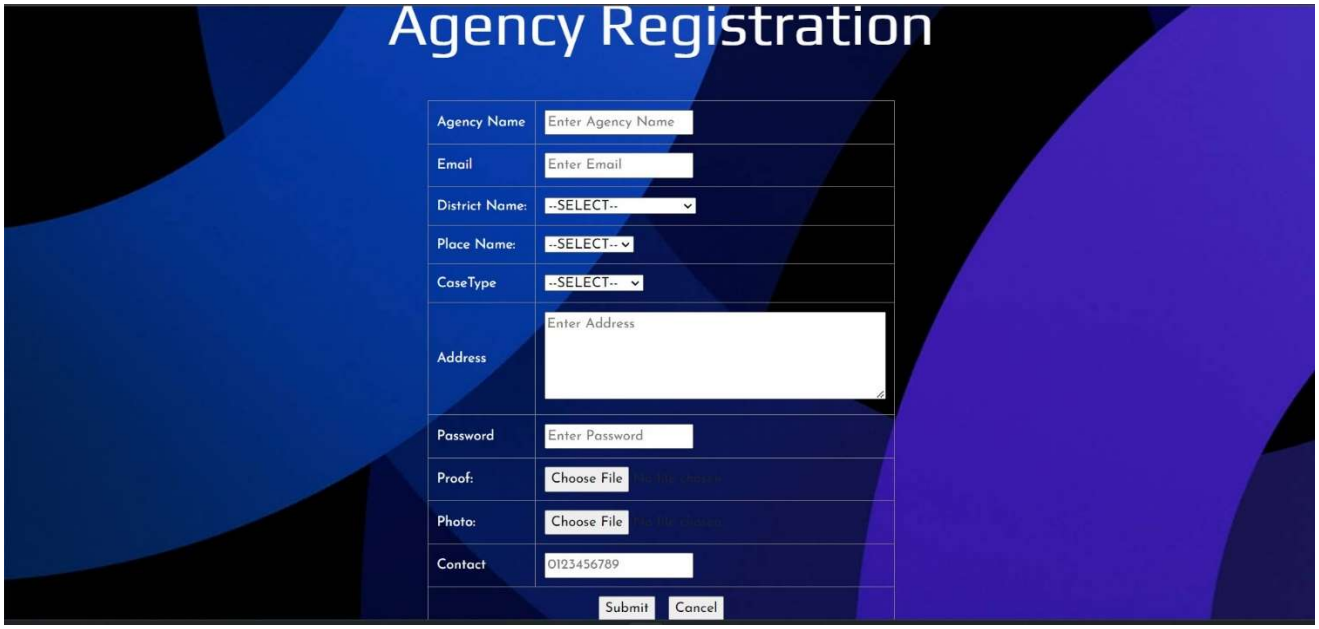
The quality of the system input determines the quality of the system output. Input specifications describe the manner in which data enter the system for processing. Input design features can ensure the reliability of the system and produce results from accurate data. The input design also determines whether the user can interact efficiently with the system.

These are the two sample input forms



User Registration Form

This input form is for the registration of new user. It contains textboxes for inputting name, email id, place, address and phone number of the user, a password box for giving the password. After clicking the submit button the user details will be saved. And with this username and password he/she can login to the system.



Agency Registration Form

This input form is used to add an agency to our website. Admin then checks the agency before he can start service. It contains textboxes for inputting name, email id, district, place crime case type, address, proof, photo, contact no, a password box for giving the password.. After filling all these input boxes, he should click the save button to add the subject details to this website.

3.4.2 Output Design

A quality output is one, which meets the requirements of end user and presents the information clearly. In any system result of processing are communicated to the user and to the other system through outputs. In the output design it is determined how the information is to be displayed for immediate need.

It is the most important and direct source information is to the user. Efficient and intelligent output design improves the system's relationships with the user and helps in decision -making. The objective of the output design is to convey the information of all the past activities, current status and to emphasis important events. The output generally refers to the results and information that is generated from the system. Outputs from computers are required primarily to communicate the results of processing to the users.

Output also provides a means of storage by copying the results for later reference in consultation. There is a chance that some of the end users will not

actually operate the input data or information through workstations, but will see the output from the system.

Two phases of the output design are:

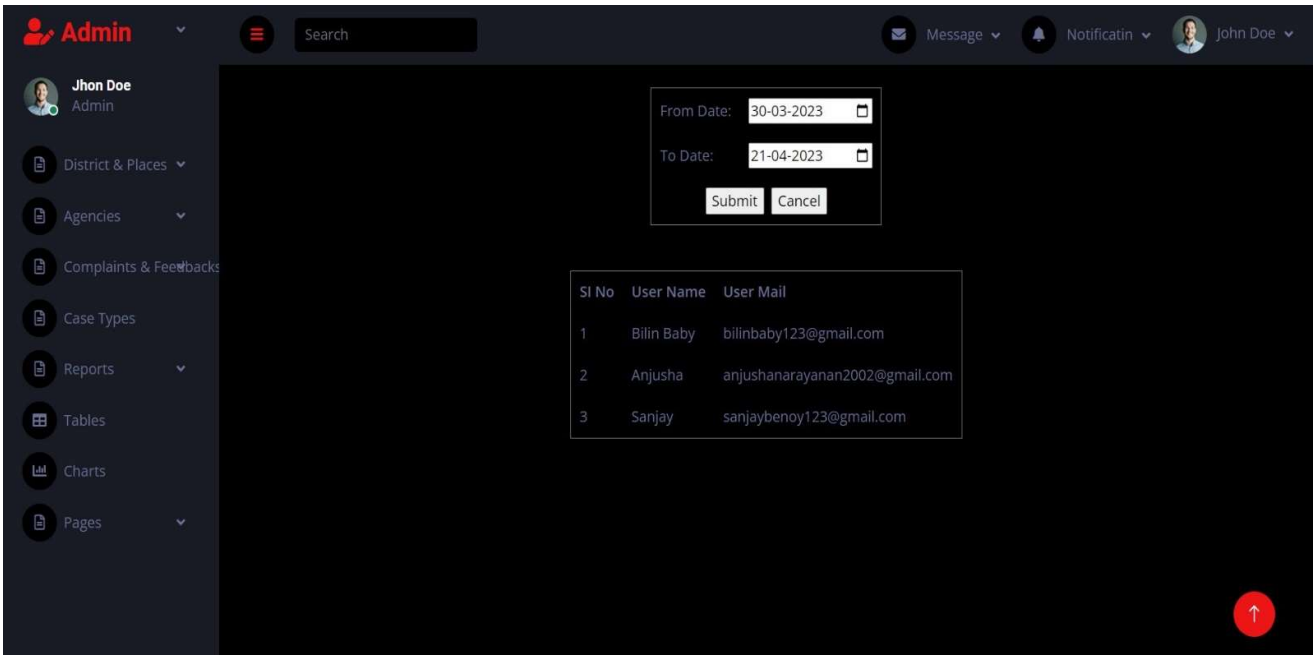
1. Output Definition
2. Output Specification

Output Definition takes into account the type of output contents, its frequency and its volume, the appropriate output media is determined for output. Once the media is chosen, the detail specification of output documents are carried out. The nature of output required from the proposed system is determined during logical design stage. It takes the outline of the output from the logical design and produces output as specified during the logical design phase.

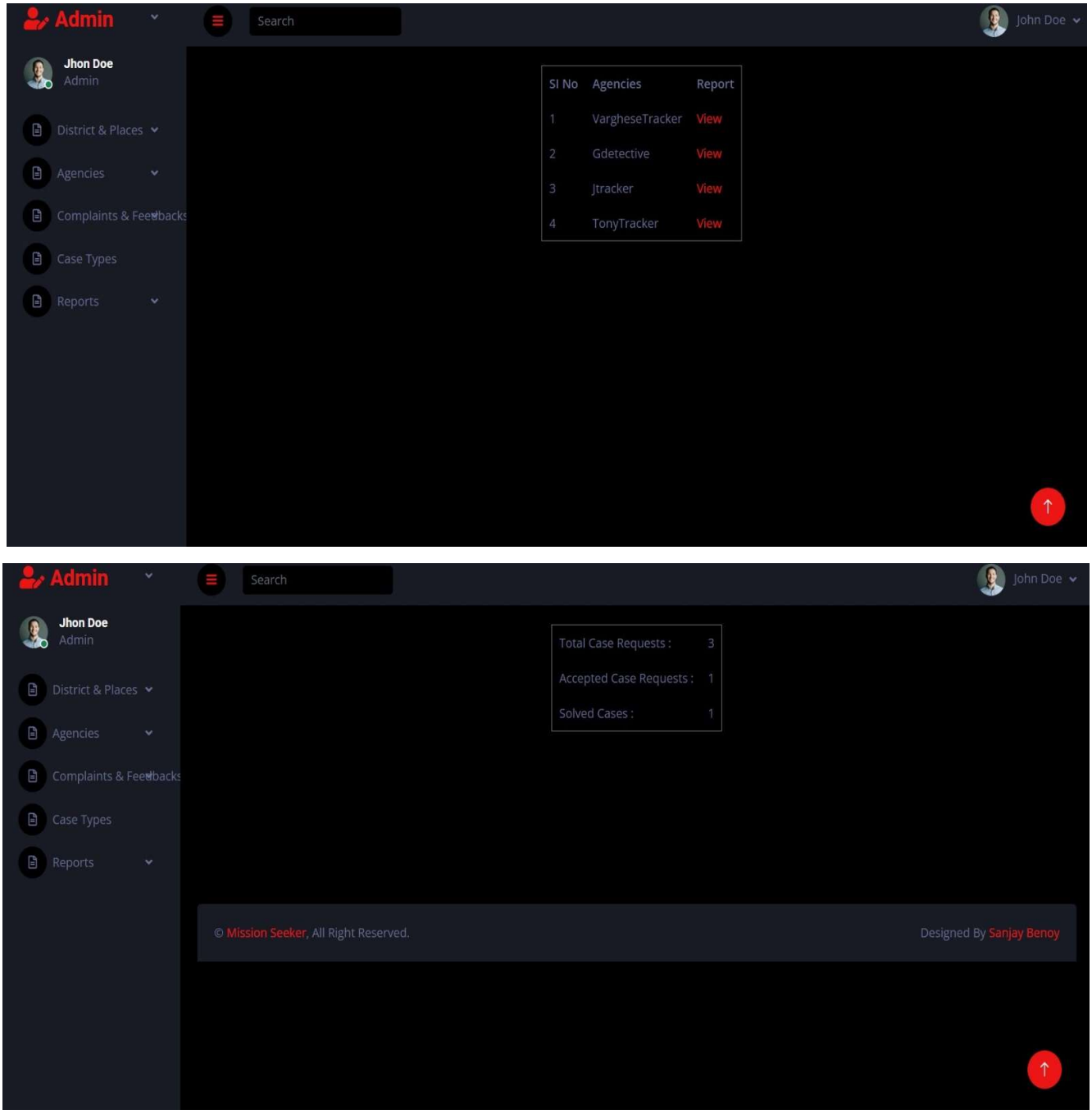
In a project, when designing the output, the system analyst must accomplish the following:

- Determine the information to present.
- Decide whether to display, print, speak the information and select the output medium.
- Arrange the information in acceptable format.
- Decide how to distribute the output to the intended receipt.

In our projects outputs are generated as table formats



User Registeration report



User Requests Report

4. IMPLEMENTATION

Implementation is the stage of the project when the theoretical design is turned into a working system. The implementation stage is a systems project in its own rig ht. It includes careful planning, investigation of current system and its constraints on implementation, design of methods to achieve the changeover, training of the staff in the changeover procedure and evaluation of changeover method.

4.1 CODING STANDARDS

Writing an efficient software code requires a thorough knowledge of programming. This knowledge can be implemented by following a coding style which comprises several guidelines that help in writing the software code efficiently and with minimum errors. These guidelines, known as coding guidelines**,** are used to implement individual programming language constructs, comments, formatting, and so on. These guidelines, if followed, help in preventing errors, controlling the complexity of the program, and increasing the readability and understandability of the program.

A set of comprehensive coding guidelines encompasses all aspects of code development. To ensure that all developers work in a harmonized manner (the source code should reflect a harmonized style as a single developer had written the entire code in one session), the developers should be aware of the coding guidelines before starting a software project. Moreover, coding guidelines should state how to deal with the existing code when the software incorporates it or when maintenance is performed.

Since there are numerous programming languages for writing software codes, each having different features and capabilities, coding style guidelines differ from one language to another. However, there are some basic guidelines which are followed in all programming languages. These include naming conventions, commenting conventions, and formatting conventions.

1. **File header comments** are useful in providing information related to a file as a whole and comprise identification information such as date of creation, Dame of

the creator, and a brief description of the software code.

2. **Trailing comments** are used to provide explanation of a single line of code. These comments are used to clarify the complex code. These also specify the function of the abbreviated variable names that are not clear. In some languages, trailing comments are used with the help of a double slash (//).
3. **Indentation:** This refers to one or more spaces left at the beginning of statements in the program. Indentation is useful in making the code easily readable. However, the spaces used for indentation should be followed in the entire program.
4. **Implementing coding guidelines:** If coding guidelines are used in a proper manner, errors can be detected at the time of writing the software code. Such detection in early stages helps in increasing the performance of the software as well as reducing the additional and unplanned costs of correcting and removing errors. Moreover, if a well-defined coding guideline is applied, the program yields a software system that is easy to comprehend and maintain.

5. TESTING

Coding conventions are a set of guidelines for a specific programming language that recommend programming style, practices and methods for each aspect of a piece program written in this language. These conventions usually cover file organization, indentation, comments, declarations, statements, white space, naming conventions, programming practices, programming principles, programming rules of thumb, architectural best practices, etc. These are guidelines for software structural quality. Software programmers are highly recommended to follow these guidelines to help improve the readability of their source code and make software maintenance easier.

5.1 TEST CASES

The objective of system testing is to ensure that all individual programs are working as expected, that the programs link together to meet the requirements specified and to ensure that the computer system and the associated clerical and other procedures work together. The initial phase of system testing is the responsibility of the analyst who determines what conditions are to be tested, generates test data, produced a schedule of expected results, runs the tests and compares the computer produced results with the expected results with the expected results. The analyst may also be involved in procedures testing. When the analyst is satisfied that the system is working properly, he hands it over to the users for testing. The importance of system testing by the user must be stressed. Ultimately it is the user must verify the system and give the go-ahead.

During testing, the system is used experimentally to ensure that the software does not fail, i.e., that it will run according to its specifications and in the way users expect it to. Special test data is input for processing (test plan) and the results are examined to locate unexpected results. A limited number of users may also be allowed to use the system so analysts can see whether they try to use it in unexpected ways. It is preferably to find these surprises before the organization implements the system and depends on it. In many organizations, testing is performed by person other than those who write the original programs. Using persons who do not know how certain parts were designed or programmed ensures more complete and unbiased testing and more reliable software.

Parallel running is often regarded as the final phase of system testing. Since he parallel operation of two systems is very demanding in terms of user resources it should be embarked on only if the user is satisfied with the results of testing -- it should not be started if problems are known to exist. Testing is the major quality control measure during software development. Its basic function is to detect errors in the software. Thus the goal of testing is to uncover requirement design and coding errors in the program.

Testing is the process of correcting a program with intends of finding an error. Different types of testing are,

1. Unit Testing
2. Validation Testing
3. User Acceptance Testing

5.1.1 Unit Testing

In computer programming, unit testing is a method by which individual units of source code, sets of one or more computer program modules together with associated control data, usage procedures, and operating procedures are tested to determine if they are fit for use. In this testing we test each module individual and integrated the overall system. Unit testing focuses verification efforts on the smaller unit of software design in the module. This is also known as module testing. The modules of the system are tested separately. The testing is carried out during programming stage itself. In this testing step each module is found to working satisfactory as regard to the expected output from the module. There are some validation checks for verifying the data input given by the user which both the formal and validity of the entered. It is very easy to find error debug the system.

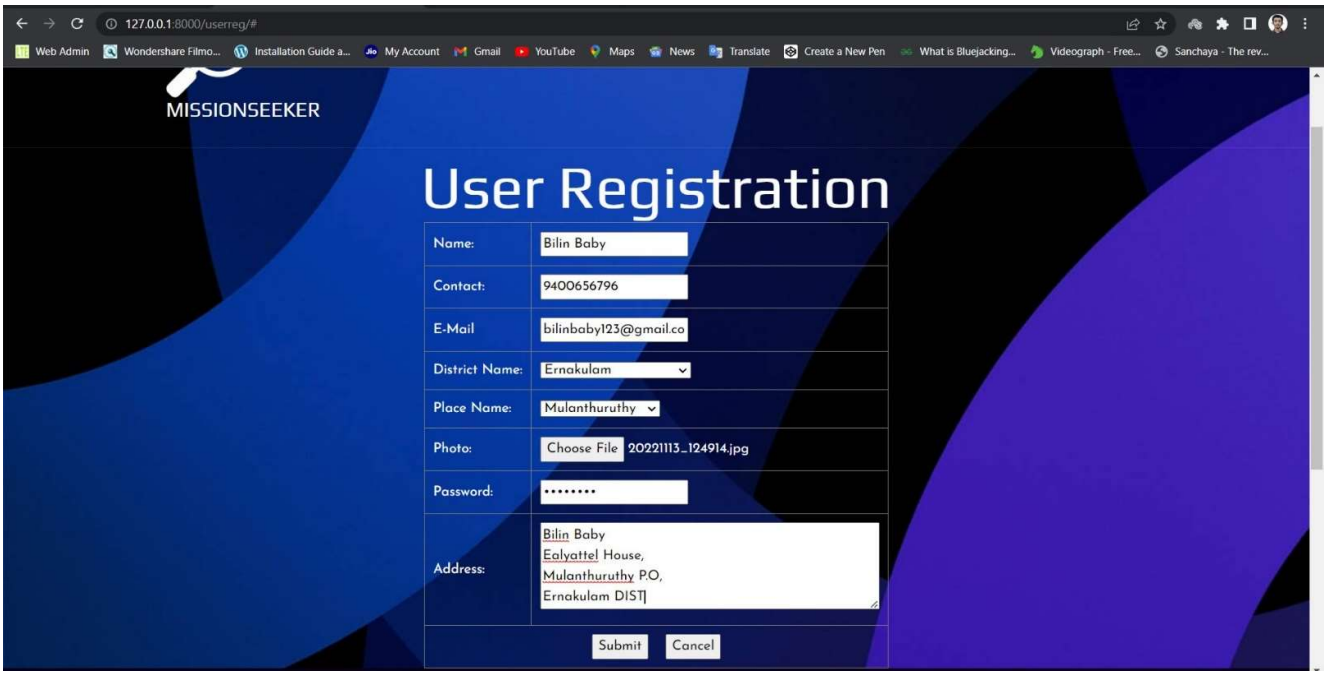


Fig 5.1 Unit Testing

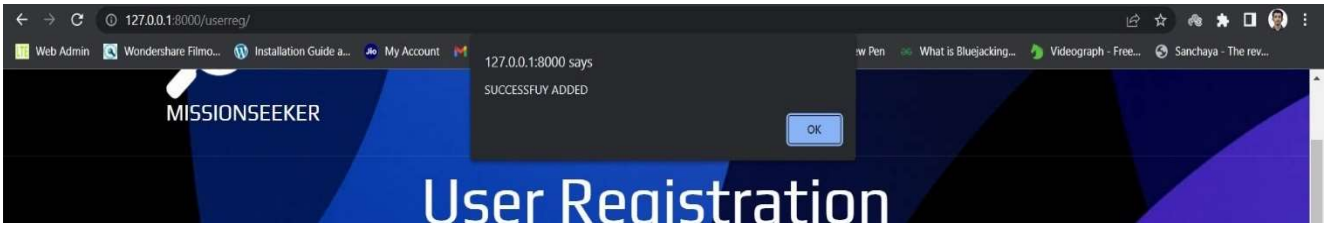


Fig 5.2 Unit Testing Result

I have continued Unit Testing from the starting of the coding phase itself. Whenever I completed one small sub module, some amount of testing was done based on the requirements to see if the functionality is aligned to the gathered requirements.

5.1.2 Validation Testing

At the culmination of Black Box testing, software is completely assembled as a package, interface errors have been uncovered and corrected and final series of software tests, Validation tests begins. Validation testing can be defined many was but a simple definition is that validation succeeds when the software functions in a manner that can be reasonably accepted by the customer. After validation test has been conducted one of the two possible conditions exists.

1. The function or performance characteristics confirm to specification and are accepted.
2. A derivation from specification uncovered and a deficiency list is created

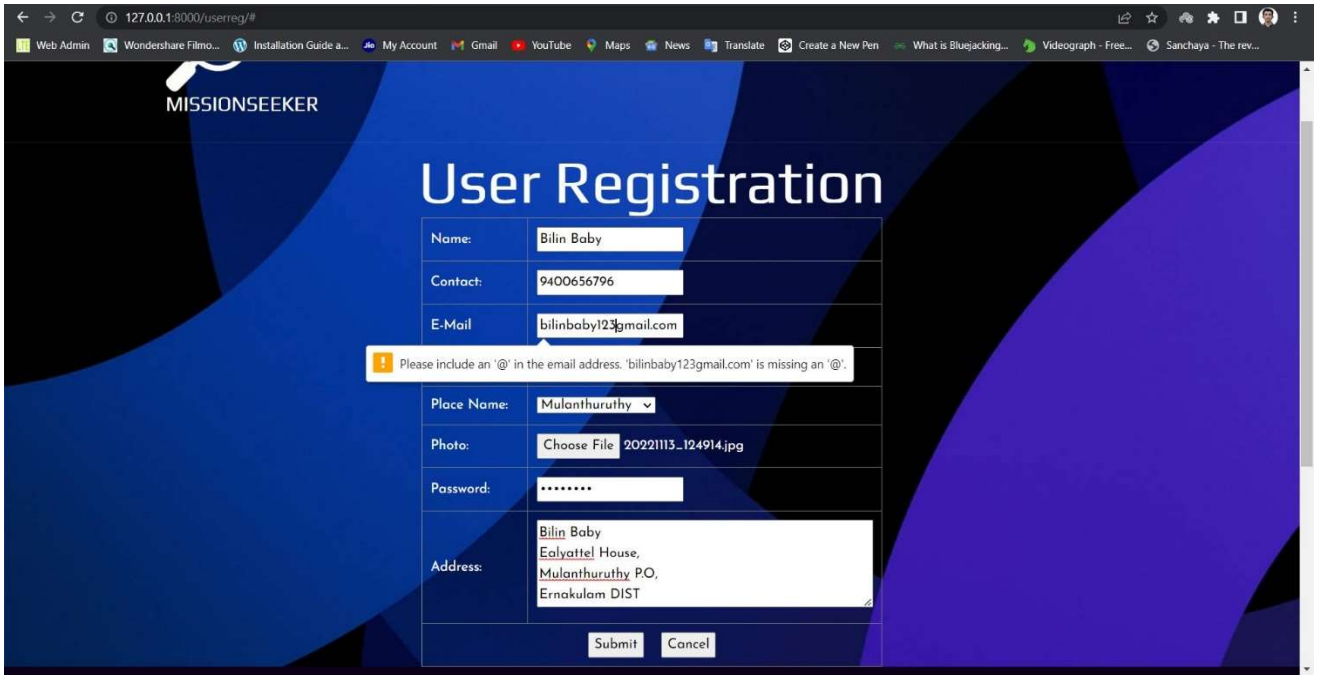


Fig 5.3 Validation Testing

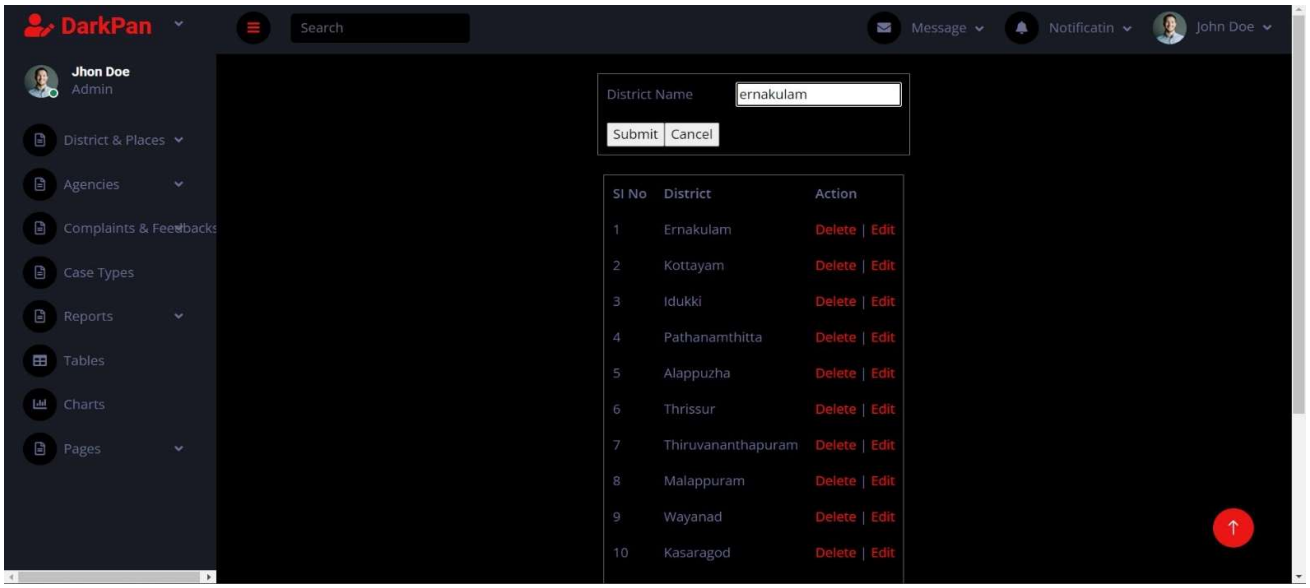


Fig 5.4 Already Exists Validation Testing

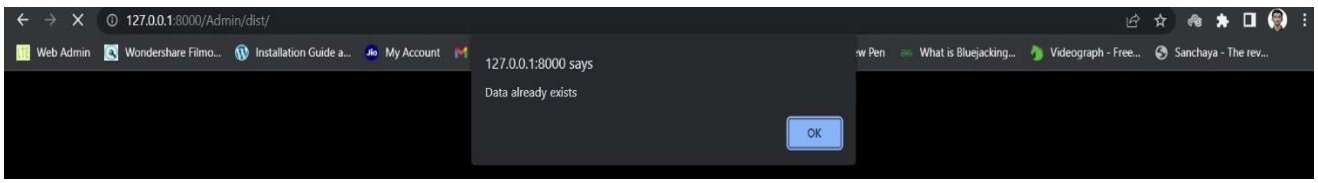


Fig 5.5 Already Exists Validation Testing Result

5.1.4 User Acceptance Testing

Acceptance Testing is a level of the software testing process where a system is tested for acceptability. User Acceptance testing is the software testing process where system tested for acceptability & validates the end to end business flow. Such type of testing executed by client in separate environment & confirms whether system meets the requirements as per requirement specification or not.

UAT is performed after System Testing is done and all or most of the major defects have been fixed. This testing is to be conducted in the final stage of Software Development Life Cycle (SDLC) prior to system being delivered to a live environment. UAT users or end users are concentrating on end to end scenarios & typically involves running a suite of tests on the completed system.

User Acceptance testing also known as Customer Acceptance testing (CAT), if the system is being built or developed by an external supplier. The CAT or UAT are the final confirmation from the client before the system is ready for production. The business customers are the primary owners of these UAT tests. These tests are created by business customers and articulated in business domain languages. So ideally it is collaboration between business customers, business analysts, testers and developers. It consists of test suites which involve multiple test cases & each test case contains input data (if required) as well as the expected output. The result of test case is either a pass or fail.

5.2 TEST CASE DOCUMENTS

A test case is a set of conditions or variables under which a tester will determine whether a system under test satisfies requirements or works correctly. The process of developing test cases can also help find problems in the requirements or design o an application. A sample of test case document format is given below.

Table 5.1 Test Case

TC No.	Test Steps	Expected Result	Actual Result	Status	Comment
1	Run application and navigate to login screen	Login screen is displayed. A filed for entering username, a field for entering password and a button to submit should be present	Login screen has been displayed, fields for entering email address and password together with a log in button is available.	Pass	
2	Enter an invalid username and invalid password and press the button	A message should be displayed stating that user name and password are invalid	A message has been displayed stating that user name and password are invalid	Pass	
3	Enter a valid username and password and press the button	User must successfully login to the webpages.	A message has been displayed stating that the login successful and navigate into home page	Pass	Using admin as the username and admin as the password
4	Enter a valid username and leave password and press the button	A message should be displayed stating that please enter the user name and password	A message has been displayed stating that please enter the user name and password	Pass	
5	Leave username and password and press the button	A message should be displayed stating that please enter the user name and password	A message has been displayed stating that please enter the user name and password	Pass	
6	Leave username and enter a valid password and press the button	A message should be displayed stating that please enter the user name and password	A message has been displayed stating that please enter the user name and password	Pass	

6. CONCLUSION

The project was successfully completed within the time span allotted. All the modules are tested separately and put together to form the main system. Finally, the modules are tested with real data and it worked successfully. Thus the system has fulfilled the entire objective defined.

This project will help to handle any types of crimes in our society as quickly as possible. Our goal of developing this **"MISSION SEEKER"** has come to get a good result without many defects.

The main motive for developing this system is for the welfare of the society by giving respect to the time of each person.

6.1 FUTURE ENHANCEMENTS

The system has been designed in such a way that it can be modified with very little effort when such needs arise in the future. New features can be added with slight modifications of software which make it easy to expand the scope of this project. Though the system is working on various assumptions, it can be modified easily to any kind of requirements.

Even though we have tried our best to present the information effectively and efficiently, yet there can be further enhancement in the application. We have taken care of all the critical aspects, which were needed to be taken care of. Because of fast changes in the world of programming this system will gradually get outdated and less effective. For the time being it's possible to overcome problems by amendments and minor modifications to acknowledge the need of fundamental design. Though the new system provides base for improving the efficiency of operations, there are a lot of future enhancements that can be added to this project. Keeping this in view, a provision has been made in the system to facilities easy modification updating in the future. Any modification will not affect the normal working of the system. It can also be converted into a mobile application

7. REFERENCES

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- www.tutorialspoint.com
- www.javatpoint.com
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8. APPENDIX

8.1 SCREENSHOTS

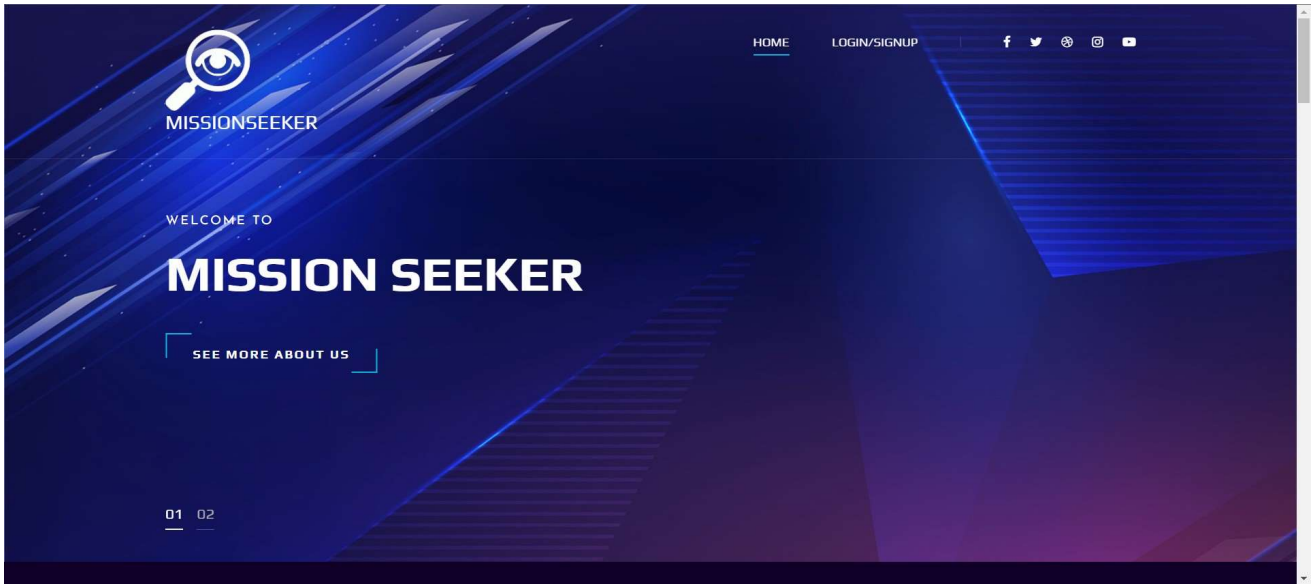

Fig 8.1 Guest Homepage

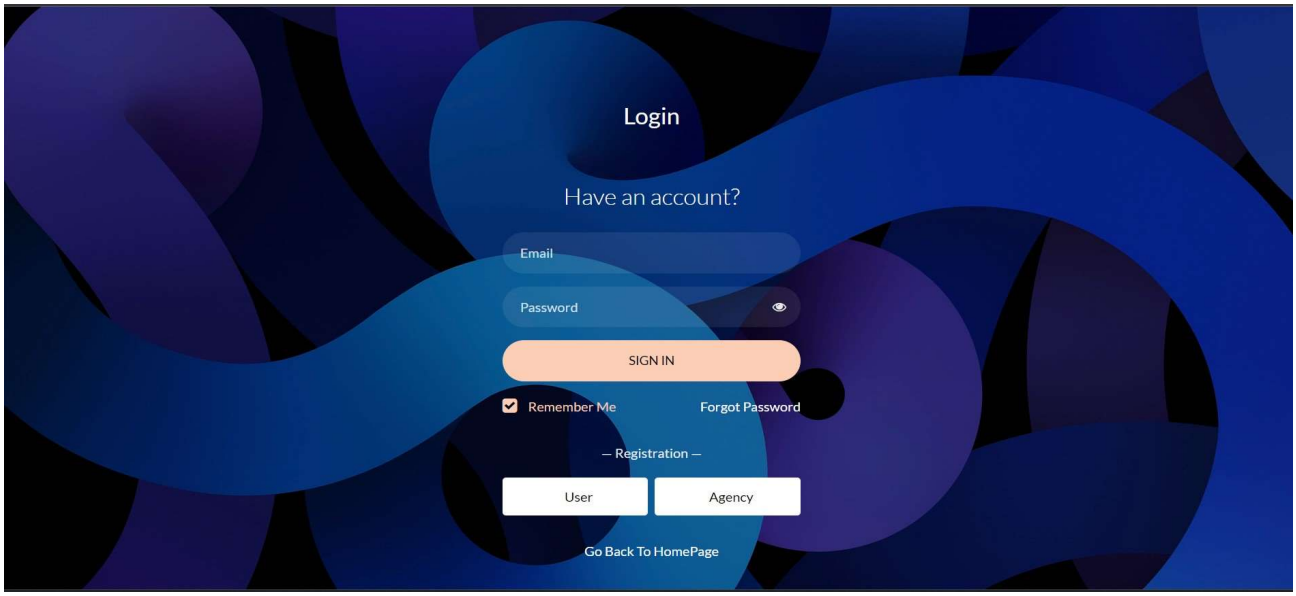

Fig 8.2 Login Page

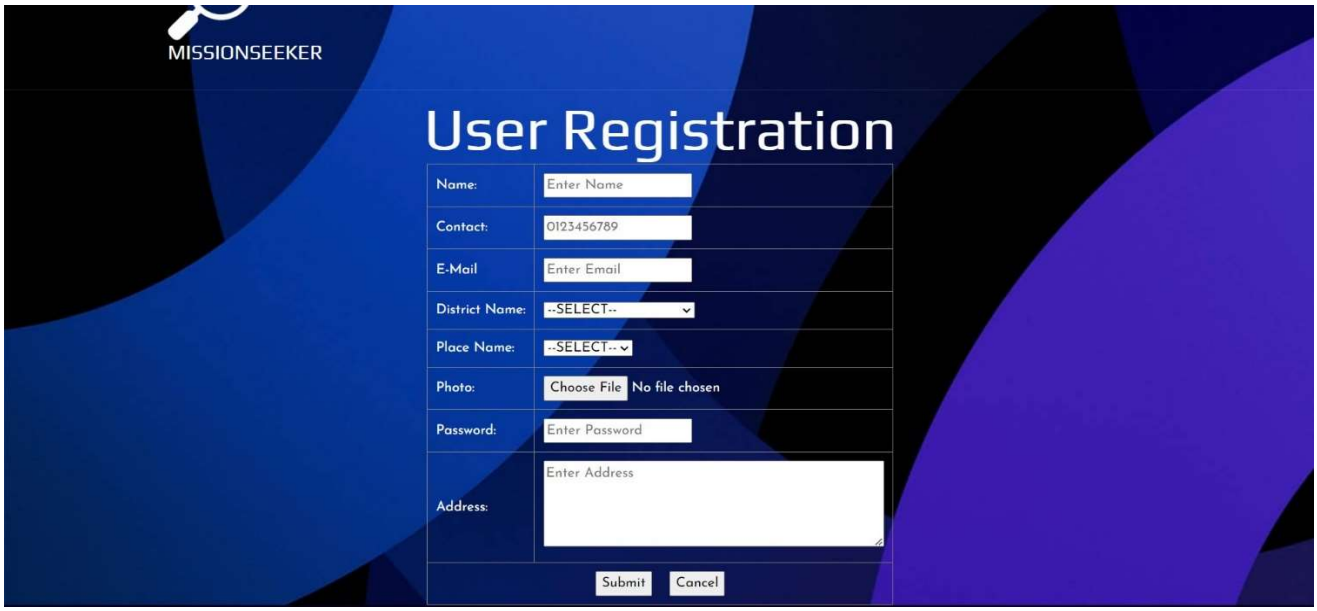

Fig 8.3 User Registration

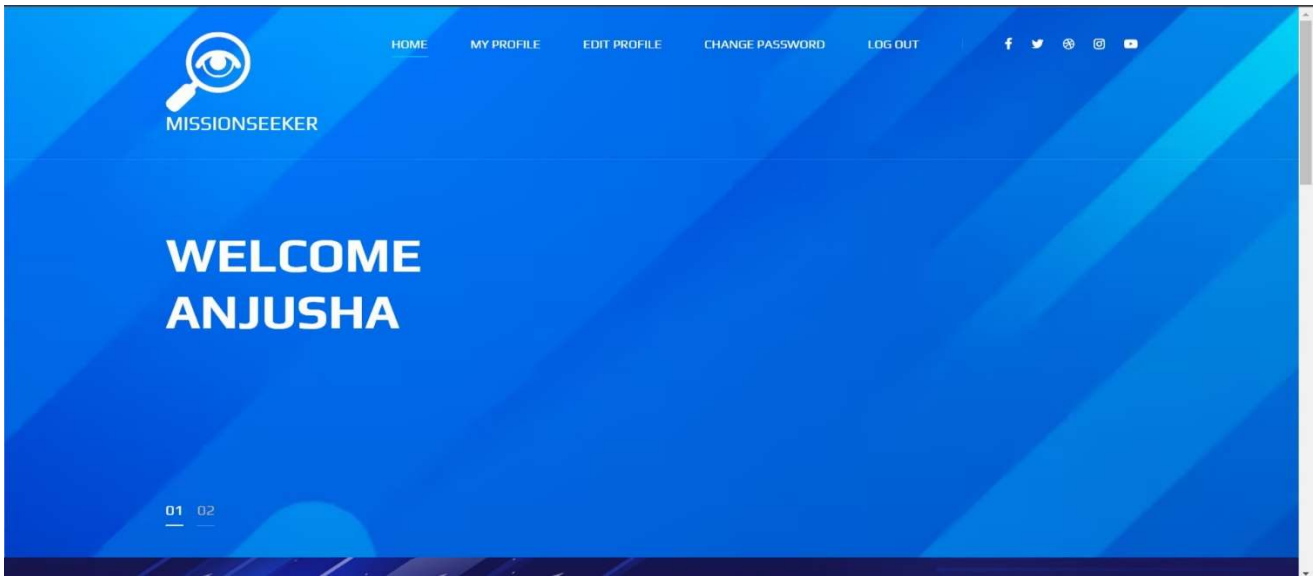

Fig 8.4 User Homepage

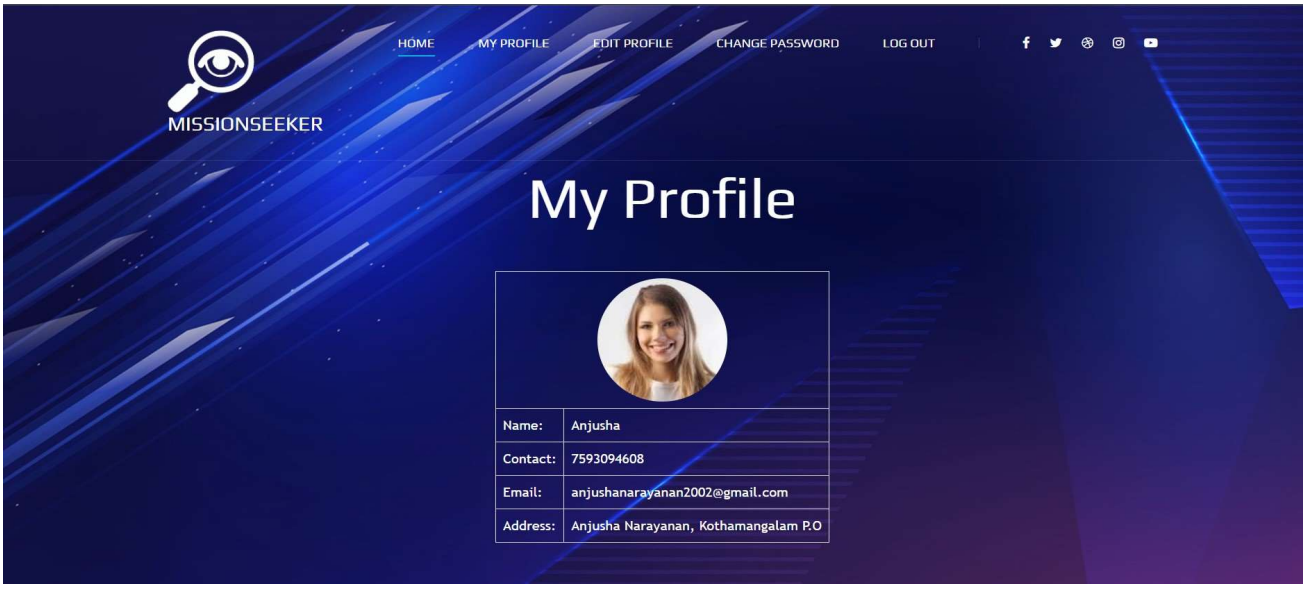

Fig 8.5 User Profile page

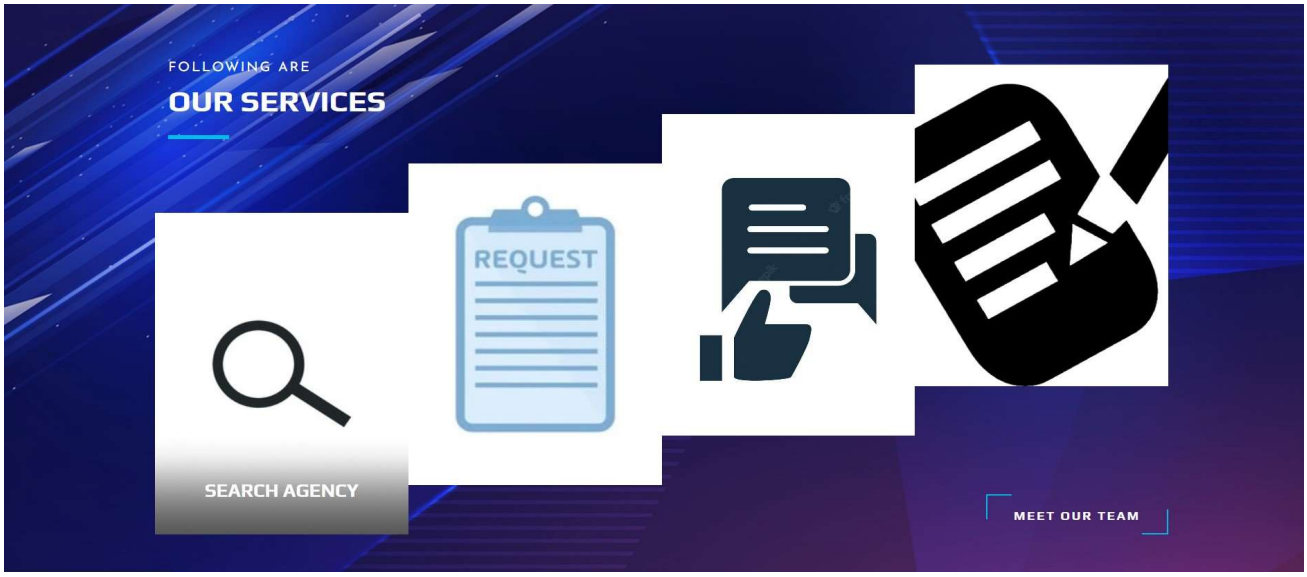

Fig 8.6 User Search Page

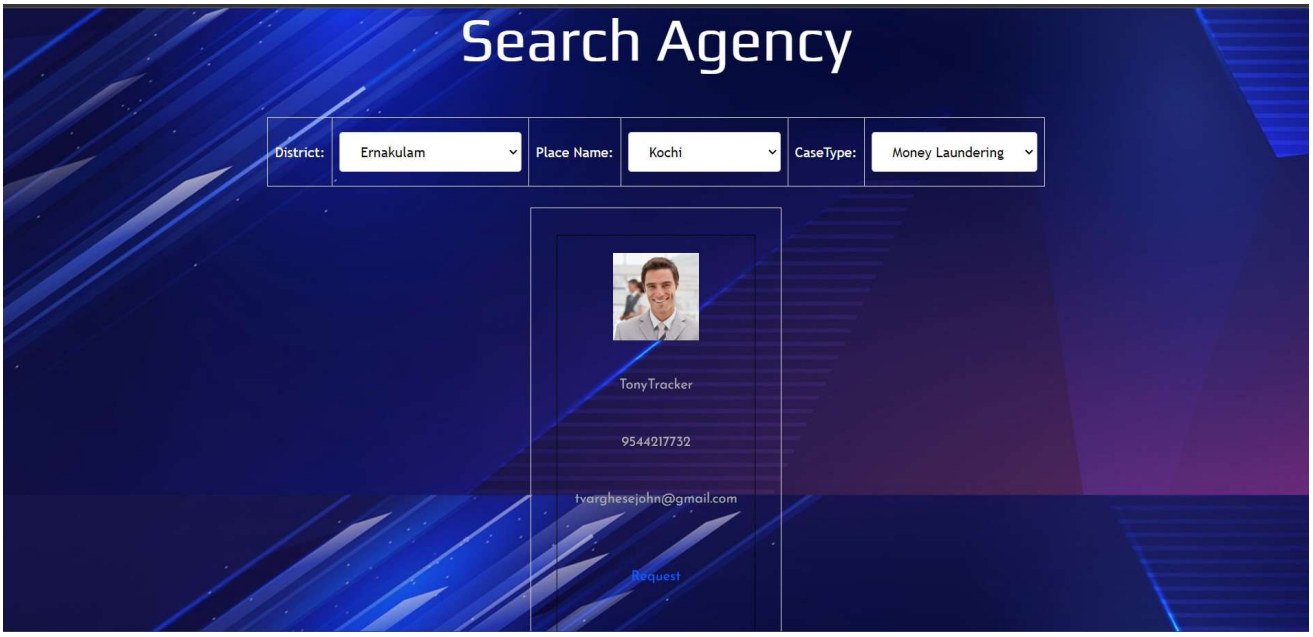

Fig 8.7 Search Agency

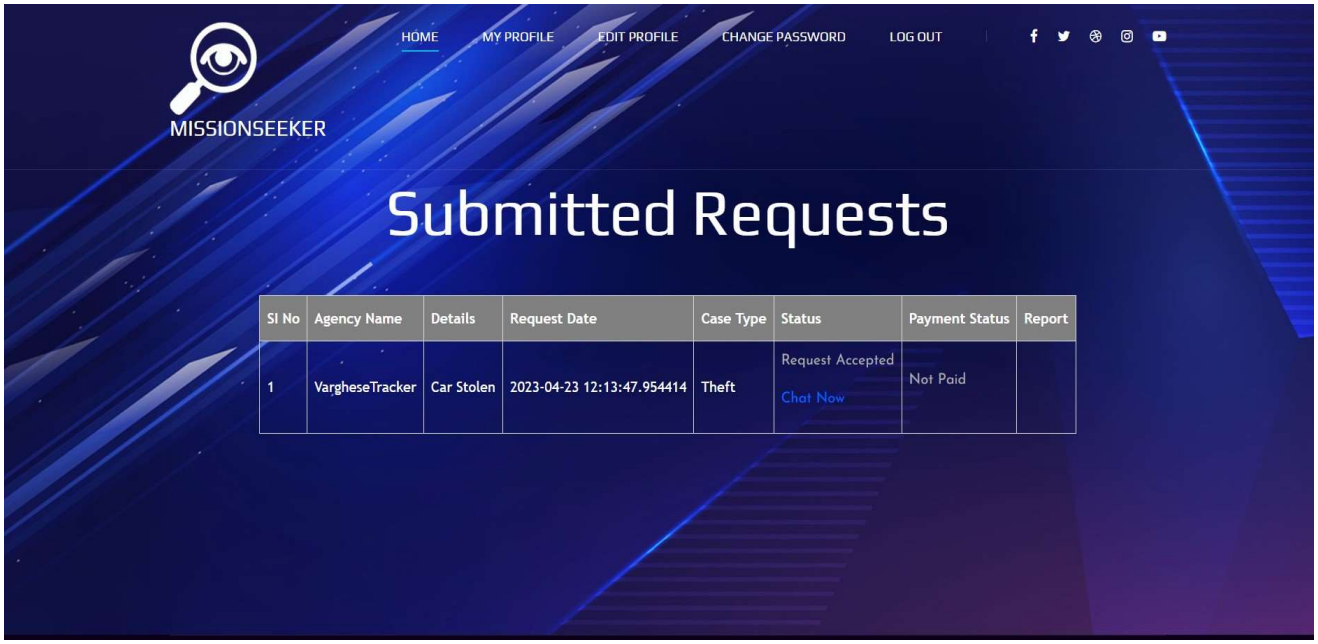

Fig 8.8 Request submitted to agency

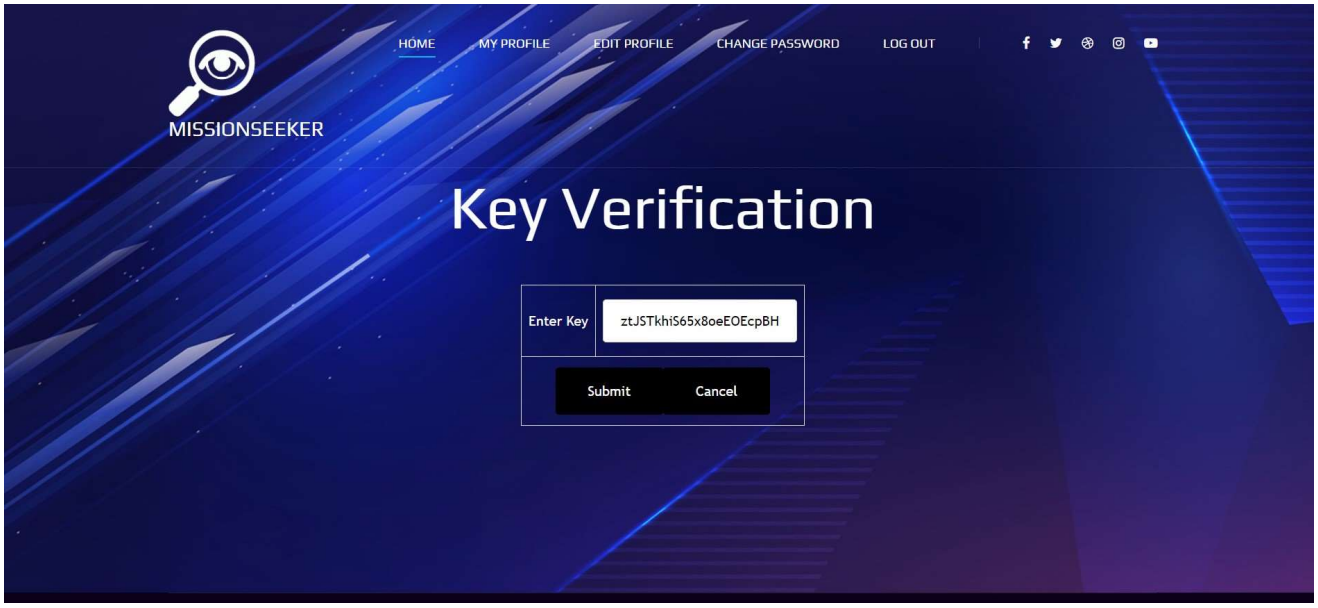

Fig 8.9 Public Key verification

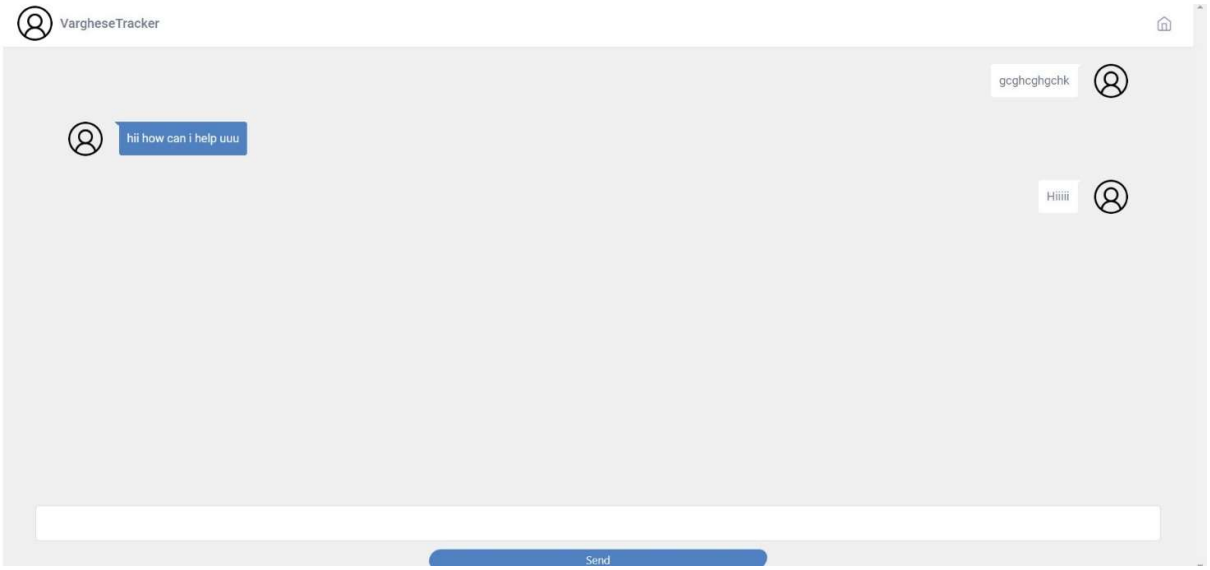

Fig 8.10 Encrypted Chat

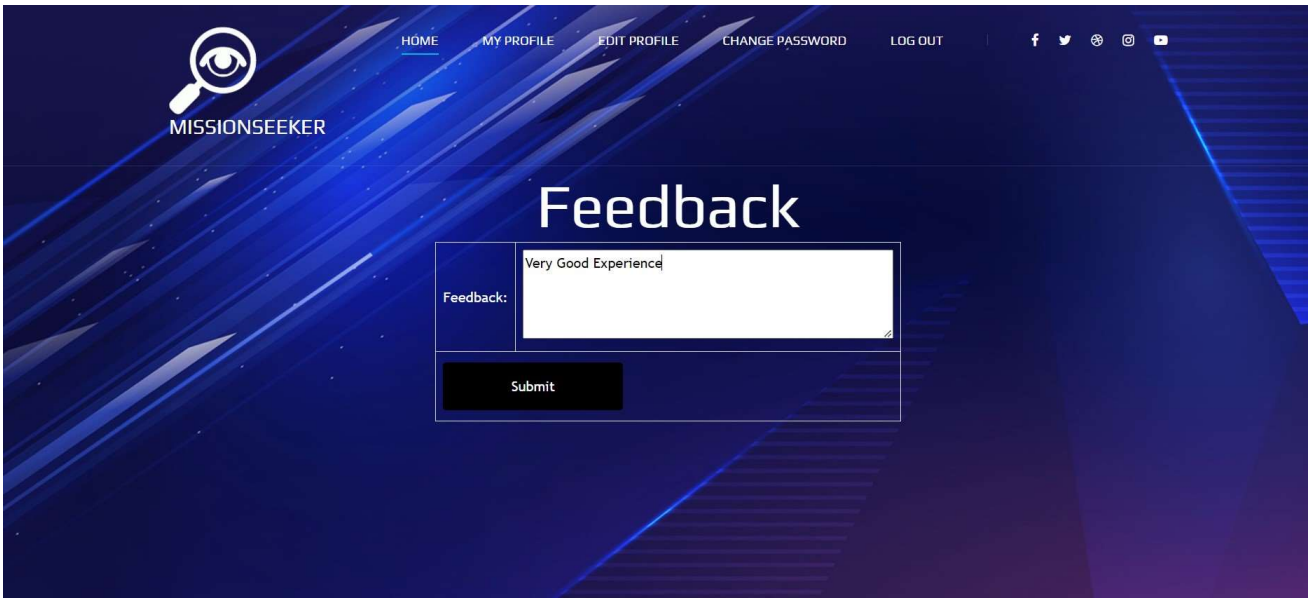

Fig 8.11 Send Feedback

Fig 8.12 Admin Homepage

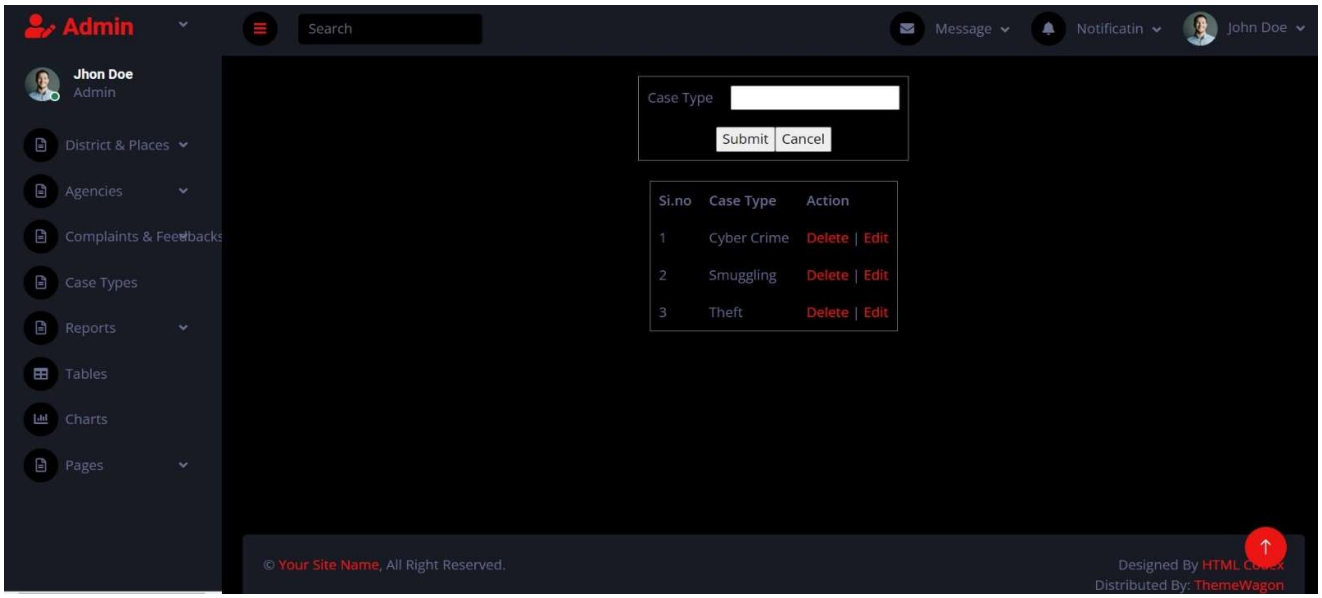

Fig 8.13 Adding case types

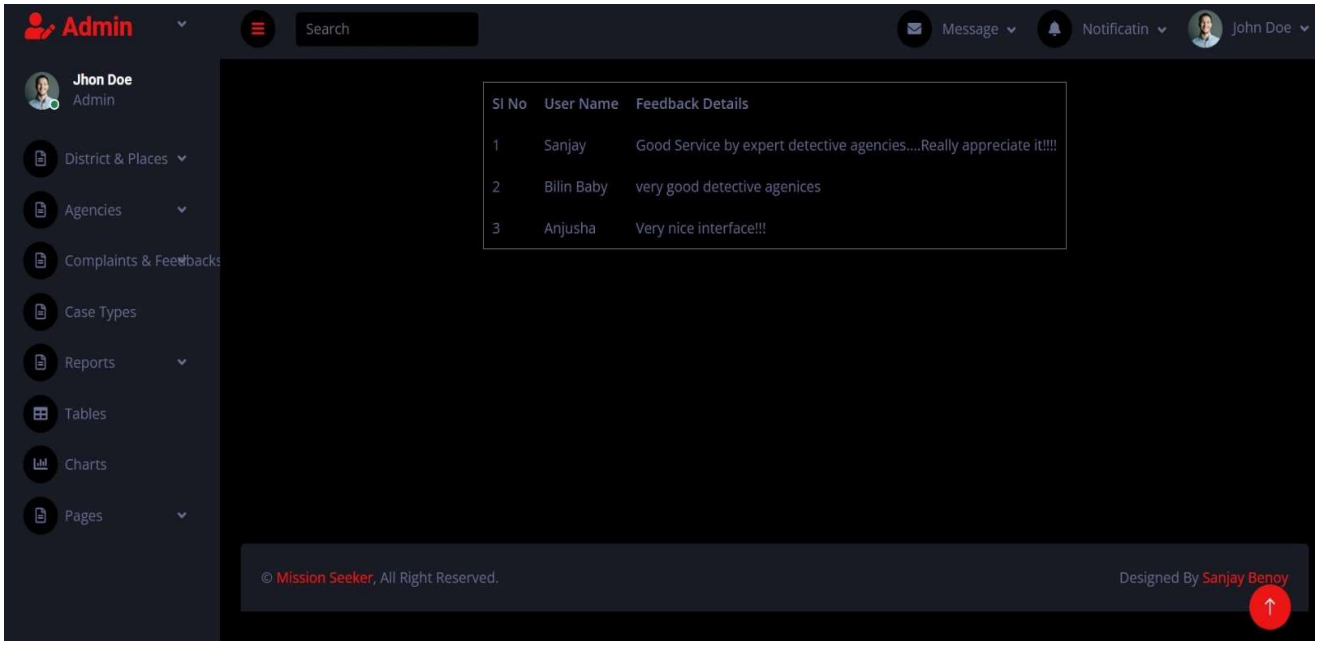

Fig 8.14 View Feedback

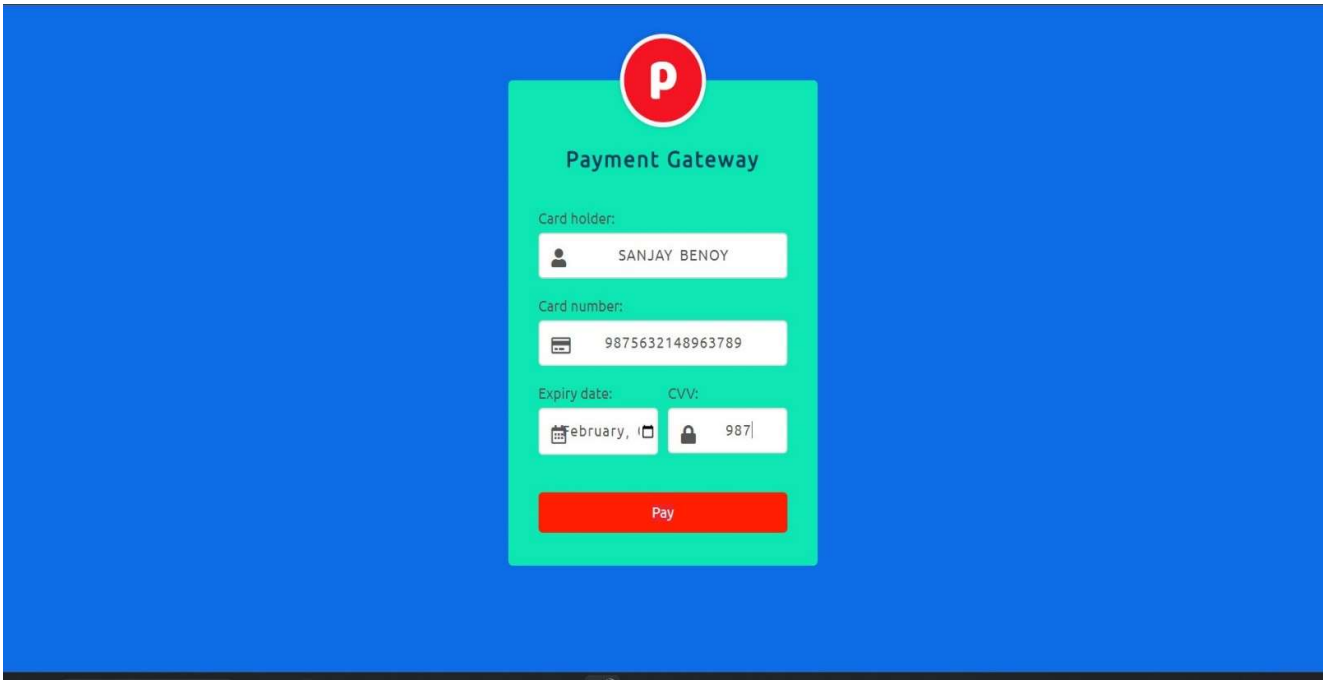

Fig 8.15 User Payment Page

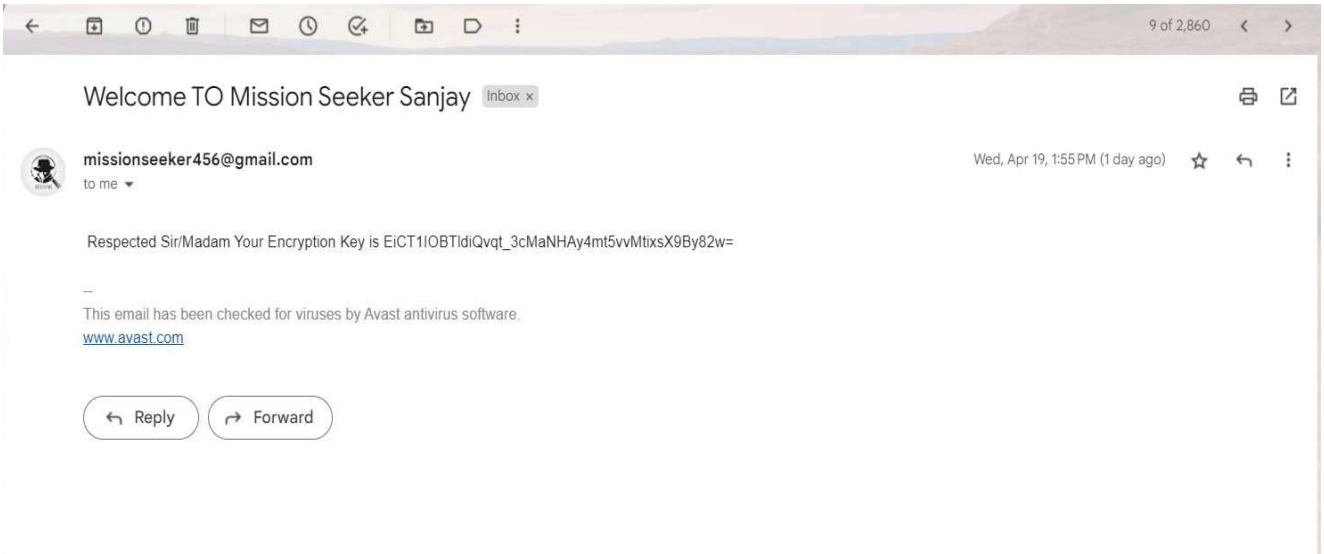

Fig 8.16 User Registration Confirmation Page