

## E-RAKSHAK-An Effortless Way of Police Complaint Registration, Management and Security

Aishwarya Kurle<sup>1</sup>, Archana U.kalas<sup>2</sup>, ApekshaS.Naik<sup>3</sup>, Mafita  
C.Cardoz<sup>4</sup>, Shama Dessai<sup>5</sup>

<sup>1,2,3,4</sup> Students, <sup>5</sup> Assistant Professor, Computer Science and Engineering Department, Visveswaraya  
Technological University, Belagavi Karnataka

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**Abstract:** This is a web application designed to manage all police stations in a district. The system consists of four modules. The admin module, investigator module, user module and visitor module. User is the one who register complaint after login. Visitor is a user without registering he can view live news, helpline numbers and list of missing people. In a district all police stations are managed by the SP and he is the admin of this application. Complaints will be received by the investigator (PSI) of the police station entered by the user. If investigator is not able to solve that complaint, then he can forward that complaint to the Admin. Admin manages the complaints sent by the investigator and assigns cases to the higher investigator like CI, DSP etc. and admin will going to manage the police stations working under him. Investigator handles the cases assigned by the admin and solves it.

**Keywords:** Police Complaint, Investigator, Database, SP, CI, PSI, DSP

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### I. Introduction

The purpose of our project is to provide a 24×7 online service to register and manage the police complaint. These days, some people hangback to go to the police station because of various reasons like lifethreats, social stigma, negligence of police officers, hesitation etc. Normally, when crime takes place, people hangback to go to police station, feeling that a complaint can be a tiresome task or the police will not be cooperative. Generally one needs to visit the police station to file a complaint or an FIR. By making use of this application, the user physically need not to go the police station to register a complaint rather than he/she can easily file a complaint online. In some cases like major accidents, half murder, suicide attempt, some doctors may not allow the patient for immediate treatment. One should register the complaint first and then only doctors carryout the treatment. This is time consuming. In this type of cases patient may lose their life. This can be avoided by registering complaint online by our application. We have introduced an emergency help button, which allows the user to send the alert message to the nearby police station. Using this application one can view live news and also register the complaint even during night time.

This is a web application designed to manage all police stations in a district. The system consists of four modules. The admin module, investigator module, user module and visitor module. User is the one who register complaint after login. Visitor is a user without registering he can view live news, helpline numbers and list of missing people. In a district all police stations are managed by the SP and he is the admin of this application. Complaints will be received by the investigator of the nearest police station or police station entered by the user. If investigator is not able to solve that complaint, then he forwards that complaint to the Admin. Admin manages the complaints sent by the investigator and assigns cases to the higher investigator like CI, DSP etc. and admin will going to manage the police stations working under him. Investigator handles the cases assigned by the admin and solves it.

In some cases like major accidents, suicide, half murder some doctors may not allow the patient for immediate treatment. One should register the complaint first and then only doctors carryout the treatment. This can be time consuming, in such type of cases patient may even lose their lives. This can be avoided by registering complaint online by our application anytime anywhere.

Along with registering, managing and investigation of the case will also be done. If there are an updation in case details the user will be made aware by the investigator. Registering the complaint during emergency and night time is made easier. If the user is not satisfied by the work of investigator, he can directly send feedback to the Admin (SP).

The other applications of the proposed model are:

- View the list of missing people.
- View helpline numbers.
- View live news.
- Send alert message to the nearby police station in case of emergency.

## **II. Literature Review**

This section shows the papers that are referred by us. We downloaded these papers from IEEE Explorer, ScienceDirect Sources. We also contacted some police officers to get complete details on how police department works.

A Public crime reporting and monitoring system model using GSM and GIS technologies: A case of Zambia police service proposed by MwangalaMwiya, Jackson Phiri, Gift lyoko. [1]. Goal of this project is to provide efficient communication between police and public. By creating an account in this application or by pressing the hot button one can report a crime. After pressing the button, police officers receives the phone number of crime reporter and crime reporter receives the phone number of the police station. This application is only to register complaint. They have not included the further procedures after reporting crime.

An E-police system based on android application for enhancement of services of developing countries. proposed by Dr. Ayesha Butalia, NilofarM.Shaikh,AvezQuadari, Roshan Undirwade, NahidPathan.[2] . Their goal is to build up an E-police reporting and administration framework which is effortlessly available to people in general, police division and the managerial department. They planned to give complete electronic data framework support for the work of the police. This framework enrolls the prumbling from individuals through online and is useful to the police division for further process. An user can file the complaint directly without registering himself on the application because registration process wii take time. Without registering one can simply view the complaints filed from this application by anyone. Admin will going to manage the members and crime details.Their is no alternative to report a crime during emergency like hot button.

A Mobile application interface to register citizen complaint proposed by DhavalGherwada, Vipulshah,Deepshah, prof.HarshN.Bhan [3]. In this paper, they introduced an Android application to register complaint online to any department that takes complaint like police station, traffic, electricity department etc. Server receives the request through this application form citizen and it will contain unique id for each department based on id server forward that complaint to the respected department. They designed this application for Mumbai City. When citizen register complaints, the system generates complaint number and displays it to the user on his mobile phone.

An Enhancement in existing CCTNS (Crime and Criminal Tracking and Network System) system proposed by Riya B.Agarwal, NiveditaU.Singh, ShubhamA.Upadhyay, ShrutiIP.Awari, SachinA.Thanken [4]. This system consists of 2 portals i.e. Citizen and administration portal. Both citizen and administration have to login through their unique id such as adharcard, PAN card etc. Citizen can claim their FIR and other complaints via their respective login id. They can upload evidences like fingerprints, audio, video, location, images etc. Complete crime and criminal records are being stored in admin database.

A Crime Records Management System proposed by Anu Sharma, Mohd. Shahnawaz [5]. The proposed system applies to all or any Police stations across the country and specifically looks into the topic of Crime Records Management. The project has been planned to be having the view of distributed architecture, with centralized storage of the database. The application for the storage of the info has been planned. Using the constructs of SQL server and every one the user interfaces are designed using the DOT Net technologies.

An Online complaint management system proposed by OsmaNasr,EnayatAlkhider [6]. It provides a web way of solving the issues faced by the general public by saving time and eradicate corruption. It makes complaints easier to coordinate, monitor, track and resolve. It provides company with an effective tool to identify and target problem areas, monitor complaints handling performance and make business improvements. This is a management technique for assessing, analyzing and responding to customer complaints. It is not allow the user to remove their crime report and to change their profile,

Result View Original A Grid Based Authentication for Online Crime Reporting System proposed by NaikwadeVarsha, NanawareSnehal, Pansare Snehal, BaviskarAmol [7]. The main goal of this project is to make a crime reporting procedure easy for citizens and to implement a software application for the police department to maintain their data more efficiently and improve work efficiency of the department. In existing system, police department uses manual methods for storing data and processing criminal information which is time consuming process.

A Smart Card Based Online Complaint Registration proposed by S.Yogeswaran, M.Yoganathan ,V.Sangeetha [8]. The paper presents a thought to implement a web complaint registration through open-end credit . People go to Government offices to file complaints about their needs. For a standard man, this process may be a tedious one and also they ought to undergo lot of paper works to commence their needs .In order to beat this, a web solution are often wont to file the complaints using smartcard, by which we will track the complaint status through internet.

### III. Existing And Proposed System

#### A. EXISTING SYSTEM

- Existing system is time consuming because one has to go to the police station to register complaints.
- Storing and maintaining large files manually is very difficult.
- Communication between users and constables require a lot of time.

#### B. PROPOSED SYSTEM

- Registering complaints online is very easy during emergency or during night.
- Storing, maintaining and accessing of data of respective cases are done at a faster rate.
- Communication between users and police constables can be taken place easily
- Consists of a unique button called “HELP” that send the phone number of the victim to the nearby police station, Then the police will track their location by the use of service provider.

### DESIGN OF THE PROPOSED ARCHITECTURE

The following figure depicts the system architecture of the proposed model.

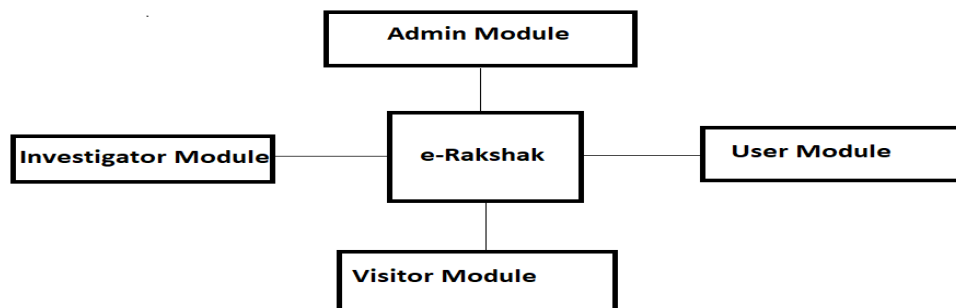


Fig. 1 System Architecture of e-Rakshak Application

#### VISITOR MODULE

In case of emergency one can press the help button.

Can also view the live news.

Can also view the list of missing people.

Helpline numbers will be displayed in this module.

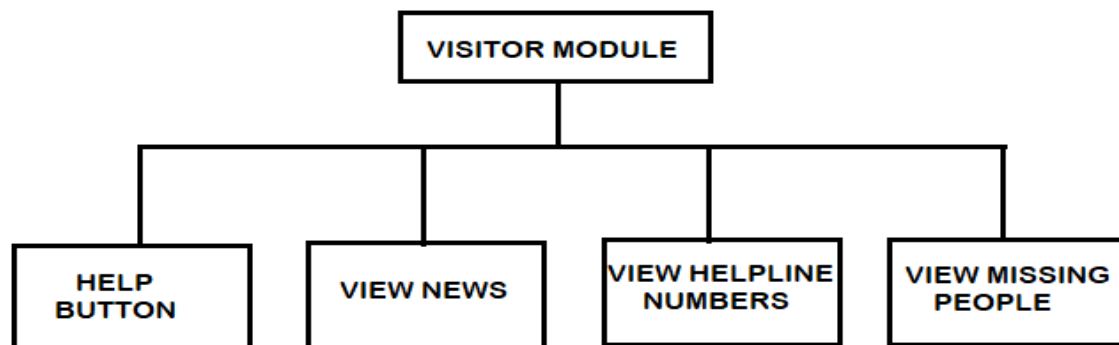


Fig. 2 Visitor Module

#### USER MODULE

Can create account.

User can file a complaint.

In case the user wants to take back his complaint it should be done within 24hours.

Can Attach proofs like audio, video, images.

Can give feedback to the higher authority.  
Can also rate the investigator in feedback section

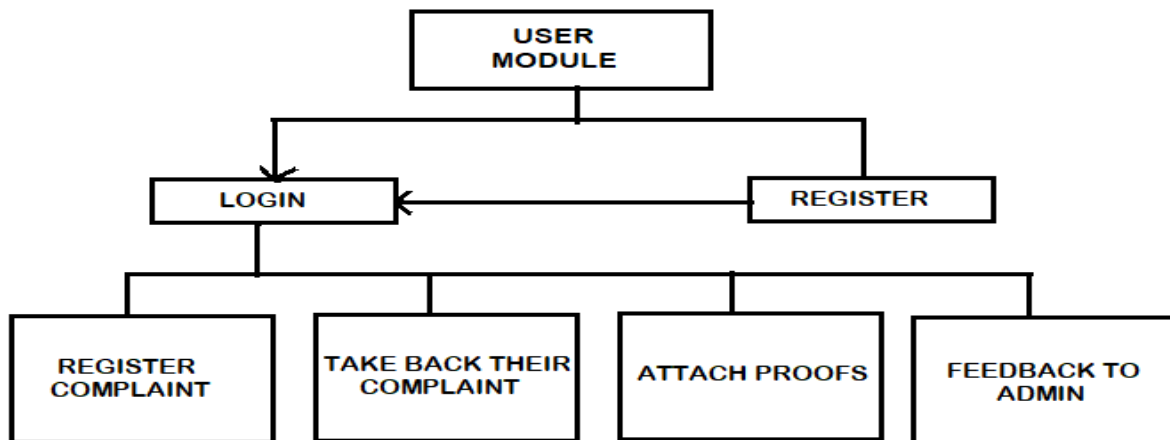


Fig.3 User Module

C. INVESTIGATOR MODULE

- Create account.
- Receive complaint from the user.
- Contact user regarding the cases.
- Maintain the details of criminals and missing people.
- Forwards complaint to the admin.

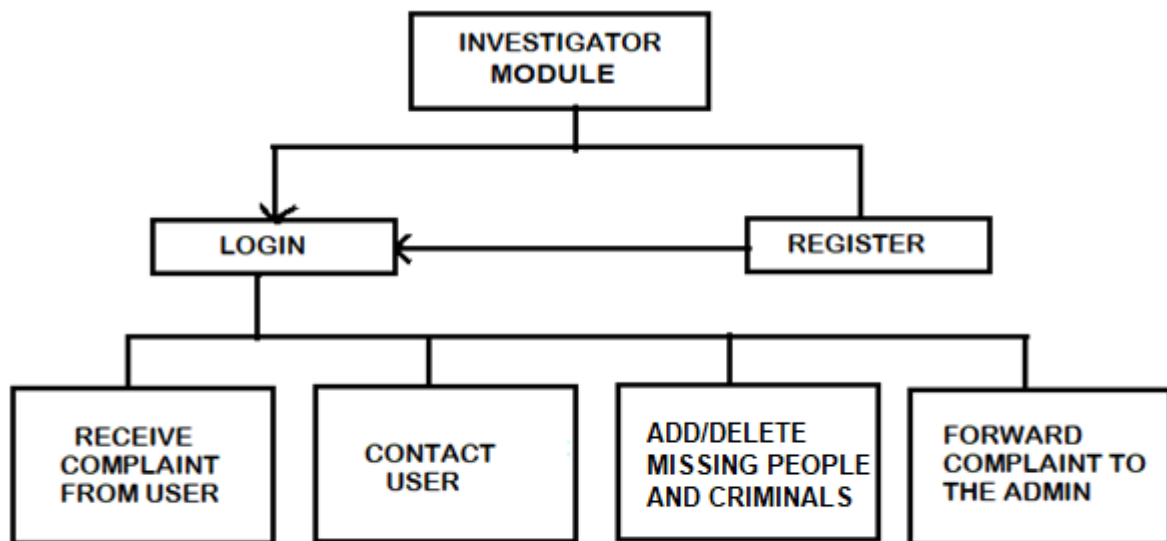
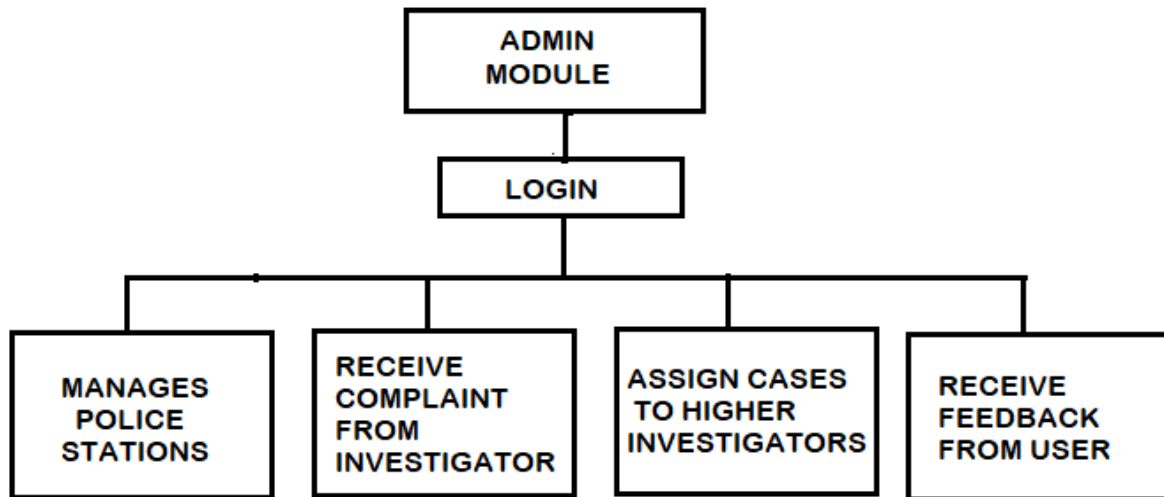


Fig. 4 Investigator Module

D. ADMIN MODULE

- Receive complaint from investigator.
- Assign cases to the higher investigators like CI, DSP etc..
- Receives feedback about investigators directly from users.
- Manages police stations working under him.



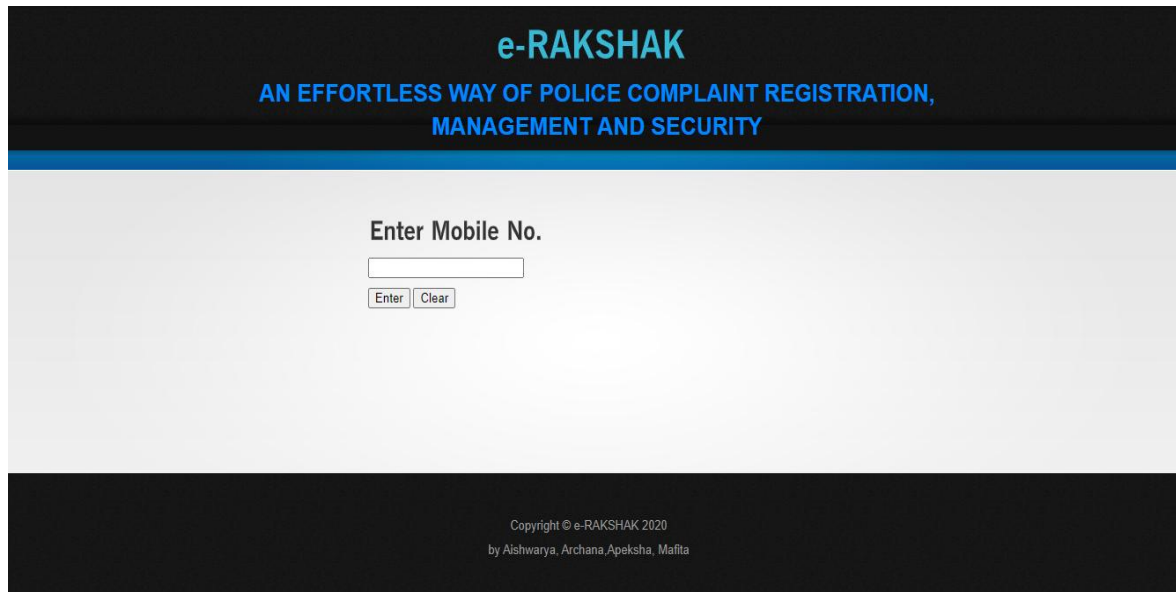
**Fig. 5 Admin Module**

#### **IV. Development of Proposed System**



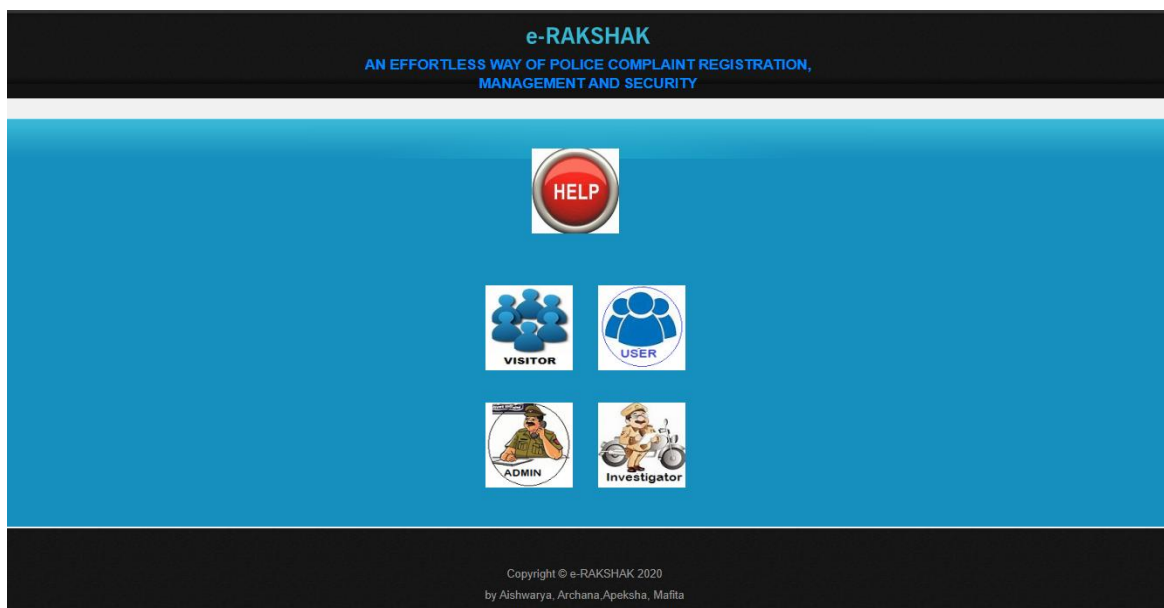
**Fig. 6 First Page of the Application**

This is the First Page of the Application which just displays the name. It is a flash page of 3-5 seconds.



**Fig. 7** Enter Mobile Number Page

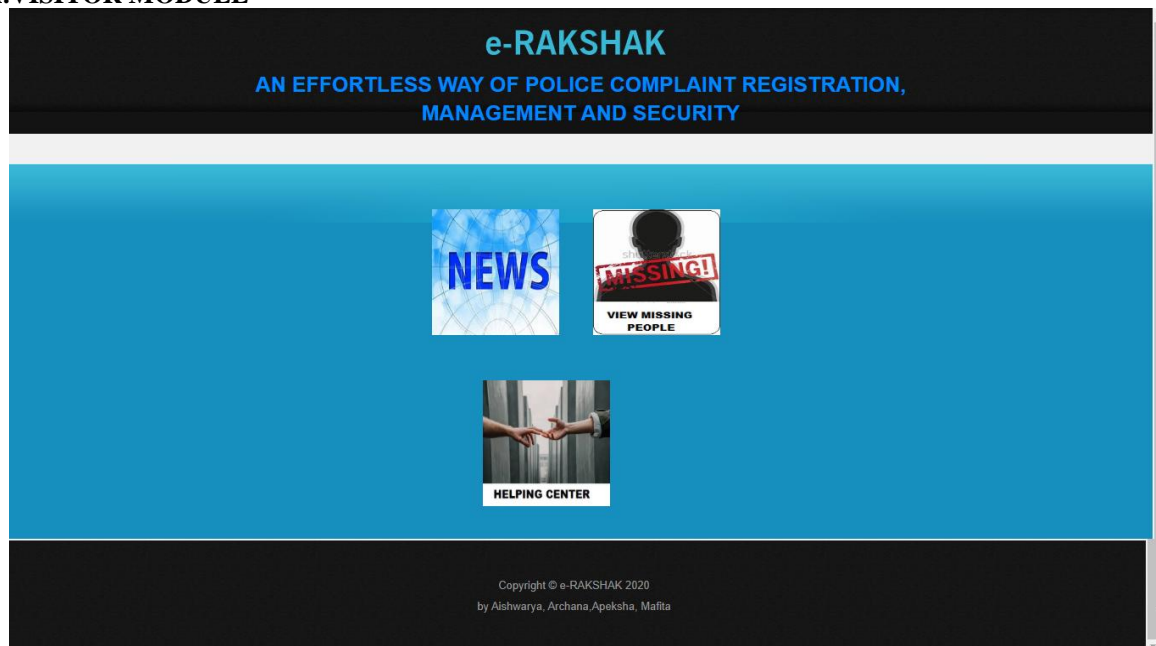
After loading the flash page, the above page is displayed where user have to enter his/her mobile number while entering into the application.



**Fig. 8** Four modules and the help button

After entering the mobile number, the above page is displayed which consists of four modules and one help button for emergency purpose.

## A. VISITOR MODULE



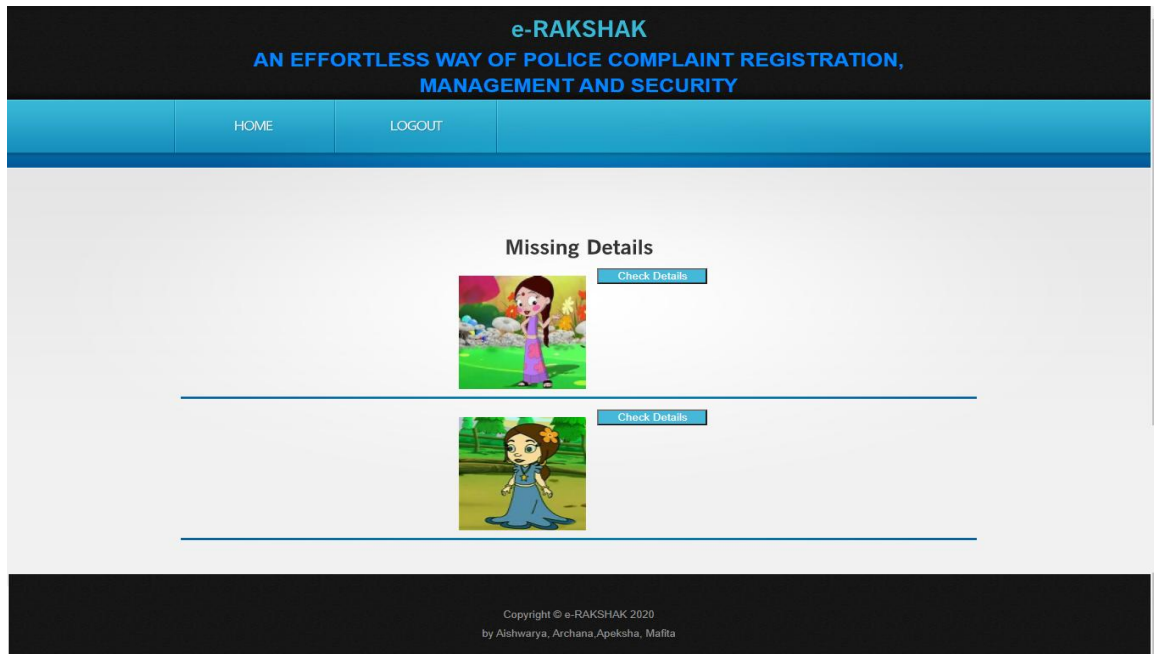
**Fig. 9** Visitor module functionalities

This page is displayed when clicked on visitor module. Visitor is the person using this application without login. They can use these three functionalities: live news, list of missing people and helpline numbers.



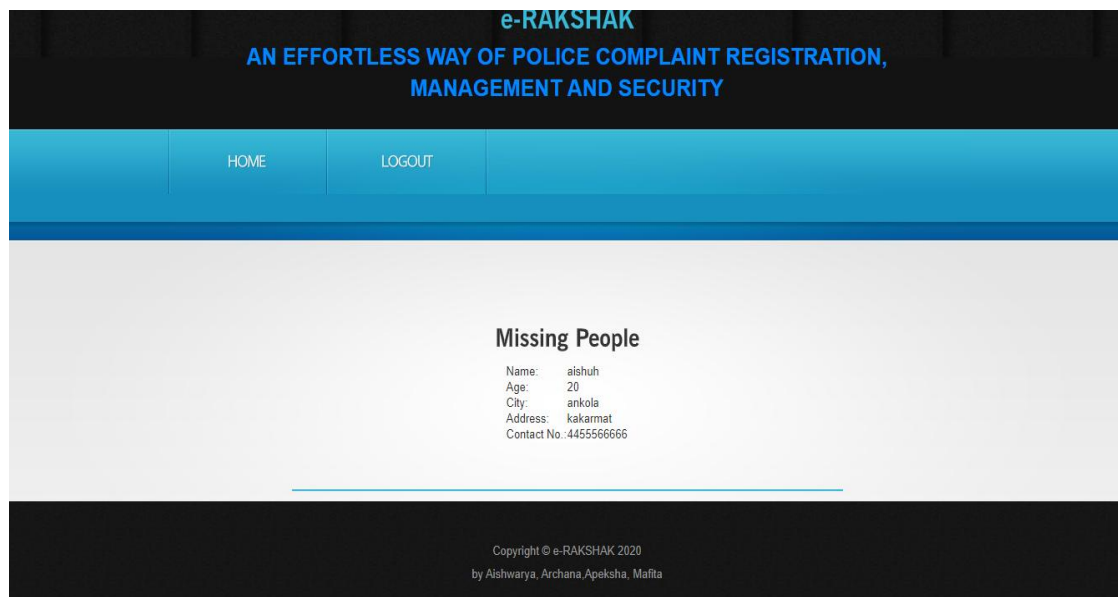
**Fig. 10** News Page

This page displays live news from different channels. People can watch it according to their language preference.



**Fig. 11** Missing people Page

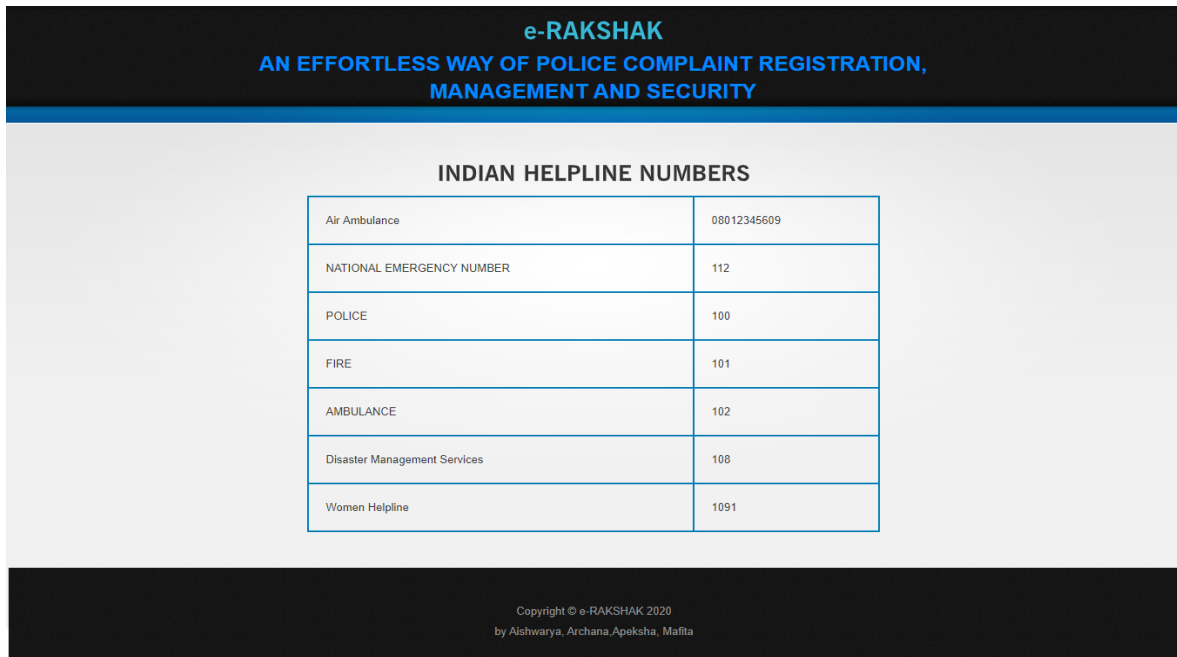
When clicked on missing people, the above page will be displayed. Here the visitor can view the images of missing people and can also click on 'check details' for viewing more information about the missing people.



**Fig. 12** Missing people details

Details displayed about the missing people after clicking in 'check details'.

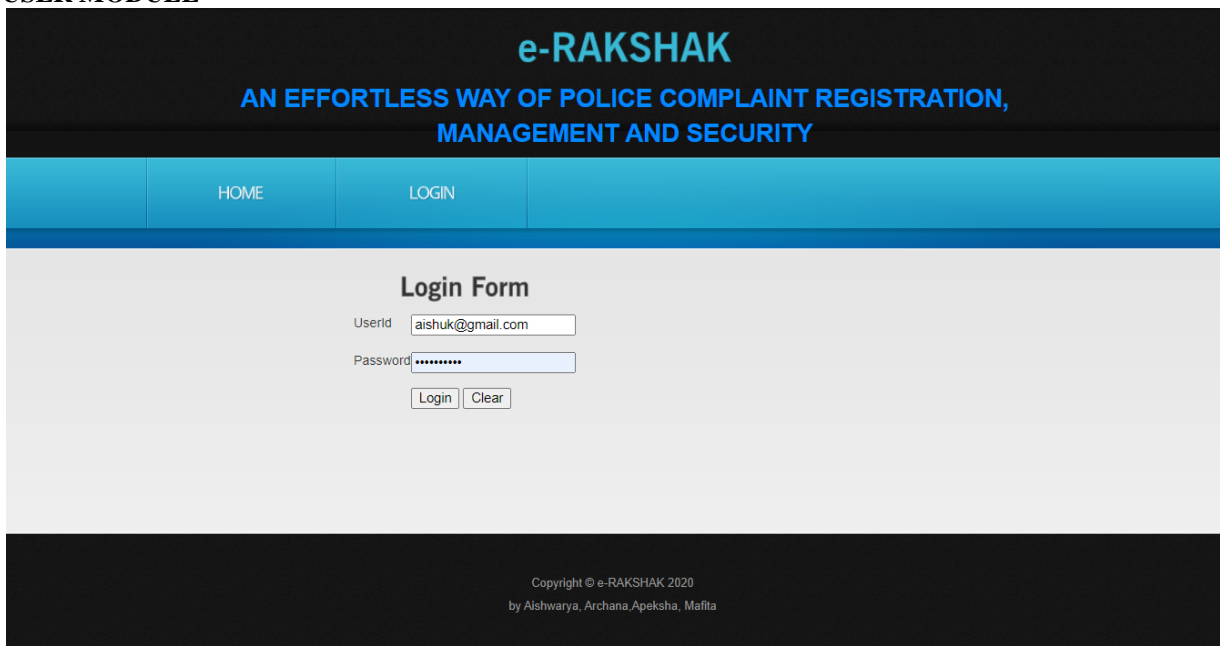




**Fig. 13** Helpline numbers

Visitor can also view the helpline numbers like fire, ambulance, police, etc in case of emergency.

#### USER MODULE



**Fig. 14** User login form

The above page is displayed when clicked on User Module, where the person should create an account and login successfully to access the functionalities.



Fig. 15 User module functionalities

User Modules provides these four functionalities: Register Complaint, Complaint Status, View Investigator and Feedback.

The image shows a screenshot of the 'Upload Form' for 'Complaint Registered Successfully'. The form is displayed on a light gray background. At the top, the title 'e-RAKSHAK' is displayed in a large, bold, blue font, followed by the subtitle 'AN EFFORTLESS WAY OF POLICE COMPLAINT REGISTRATION, MANAGEMENT AND SECURITY' in a smaller, blue font. Below the title, there is a navigation bar with two buttons: 'HOME' and 'LOGOUT'. The main content area features a large, bold, blue heading 'Upload Form' and a sub-heading 'Complaint Registered Successfully'. Below the heading, there are several input fields and buttons. The first row contains 'Select Crime:' followed by a dropdown menu labeled 'Select Crime'. The second row contains 'Select City:' followed by a dropdown menu labeled 'Select City'. The third row contains 'Select Location:' followed by a dropdown menu labeled 'Please select City first'. The fourth row contains 'Select Police Station:' followed by a dropdown menu labeled 'Please select Location first'. Below these dropdown menus is a large text area for 'Description:'. To the right of the text area, there are two file upload buttons: 'Upload ID Proof:' and 'Attached Proof:'. Each button has a 'Choose File' button and a 'No file chosen' label. Below the file upload buttons, there are 'Submit' and 'Clear' buttons. At the bottom of the page, there is a copyright notice: 'Copyright © e-RAKSHAK 2020 by a.B.C.D.'.

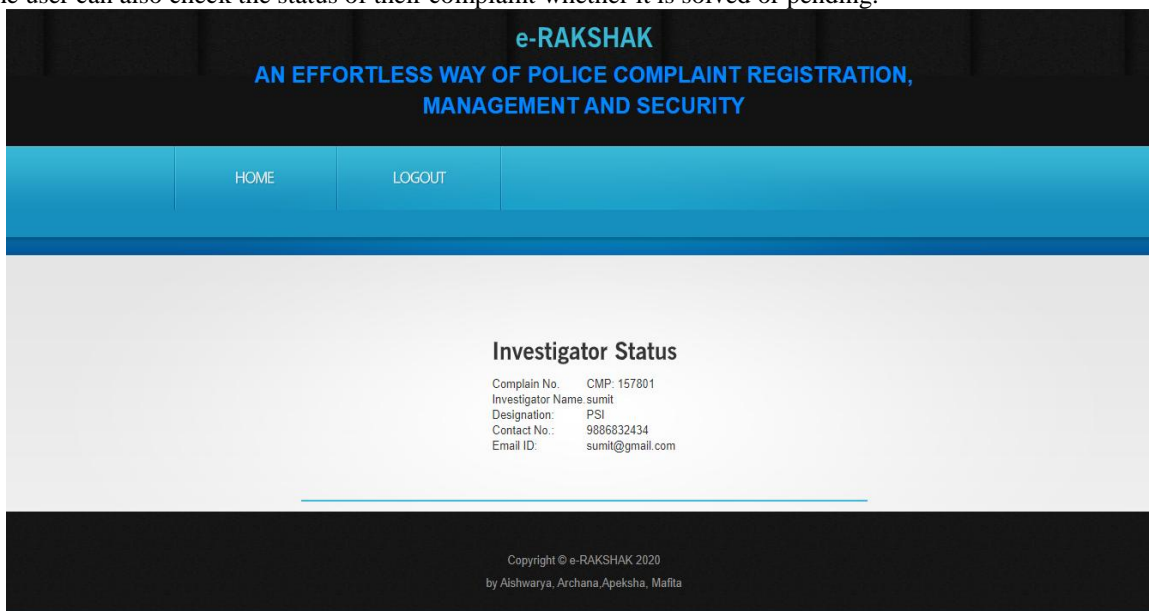
Fig. 16 Complaint registration form

The above page is displayed when the user clicks on register complaint. Here the user can register complaint online, without even stepping out of the house. They have to just fill the details given in the above form and submit it.



**Fig. 17** Status of the complaint

The user can also check the status of their complaint whether it is solved or pending.



**Fig. 18** Investigator Status

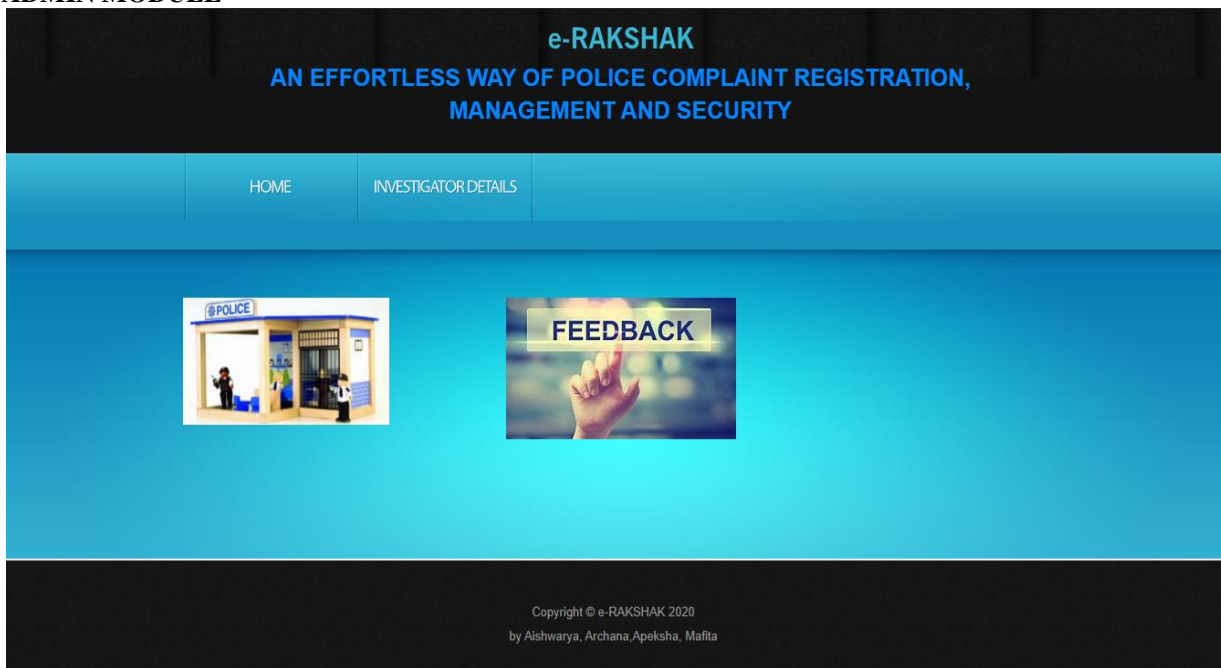
After registering the complaint user can view the investigator status that contains investigator details who received user complaint.

The screenshot shows the 'e-RAKSHAK' web application interface. At the top, the title 'e-RAKSHAK' is displayed in blue, followed by the subtitle 'AN EFFORTLESS WAY OF POLICE COMPLAINT REGISTRATION, MANAGEMENT AND SECURITY'. Below this is a navigation bar with 'HOME' and 'LOGOUT' buttons. The main content area features a 'Feedback Form' with the following fields: 'Complaint Number' (containing '43657'), 'Investigator Name' (containing 'aishuk@gmail.com'), 'Rating' (containing '\*\*\*\*\*'), and 'Description' (containing 'e-RAKSHAK app'). A 'Send' button is located below the description field. At the bottom of the page, a copyright notice reads 'Copyright © e-RAKSHAK 2020 by A.B.C.D.'.

**Fig. 19** Feedback form

The user can also give feedback about the investigator to the admin. They have to enter their complaint number, investigator name, ratings and the description and send the feedback which will be received by the admin.

#### **ADMIN MODULE**



**Fig. 20** Admin module functionalities

This page is displayed to the Admin. Admin can either view the police station or receive the feedback from the users and can view the investigator details.

Username	DOB	City	Location	Join Date	Email	Mobile	Police Station	Designation	Status	
sumit	2020-07-04	Sirsi	Yellapur road	2020-07-29	sumit@gmail.com	9896832434	Rural police station	PSI	approved	<input type="button" value="Change"/>
sam	2020-07-03	Sirsi	Yellapur road	2020-07-29	sam@gmail.com	8095286693	Rural police station, Sirsi police station.	CI	approved	<input type="button" value="Change"/>
san	2020-07-02	Sirsi		2020-07-29	san@gmail.com	9988776655		DSP	approved	<input type="button" value="Change"/>
archu	1995-06-09	Ankola	Ankola near bus stand	2019-05-22	archu@gmail.com	4455666666	Ankola police station	PSI	approved	<input type="button" value="Change"/>
archuu	1999-08-09	Kumta	Kumta HO	2020-07-09	archuu@gmail.com	4455666666	Ankola police station, Chittakula police station, Kumta town police station.	CI	approved	<input type="button" value="Change"/>
mefi	1995-09-05	Karwar		2020-07-12	aishu3@gmail.com	8977567854		DSP	approved	<input type="button" value="Change"/>

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Fig. 21 Investigation Details Search form

After registration, investigator can't login because a request will be sent to the admin about investigator registration. After accepting the request by the admin investigator can login. The above figure shows the login requests with investigator details.

Claim ID	Email ID	Date	Claim	City	Location	Police Station	Status	ID	File	Action
CMP-140099	aishubn@gmail.com	18-08-2020 07:00	Dowry	Karwar	Kodibag	karwar town police station	pending	ID	File	<input type="button" value="Process"/> <ul style="list-style-type: none"> <li>Forward CI</li> <li>Select Request</li> <li>Forward CI</li> <li>Forward DSP</li> <li>Incomplete</li> <li>Close</li> </ul>

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Fig. 22 Complaint Lists

When the Admin clicks police station image the above page will be displayed where he can view the all cases and assign it to some different higher level officers.

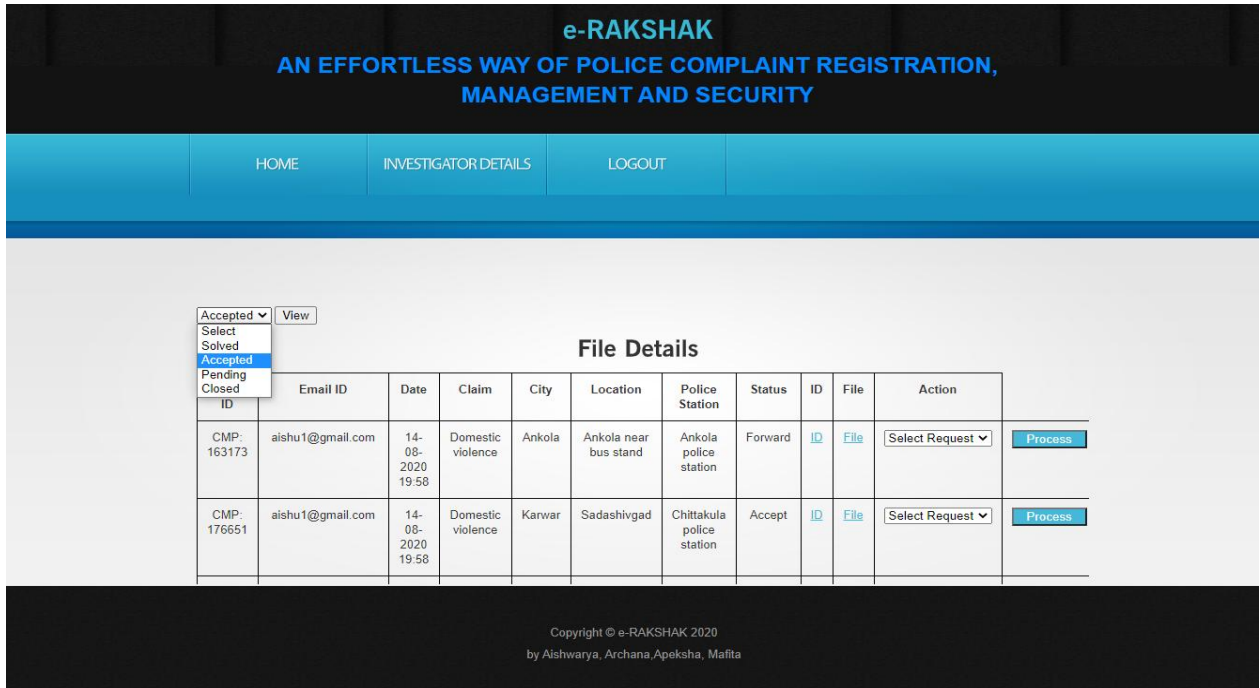


Fig. 23 Complaint Lists

Here admin can view the cases by selecting options solved, accepted, pending and closed.

#### INVESTIGATOR MODULE

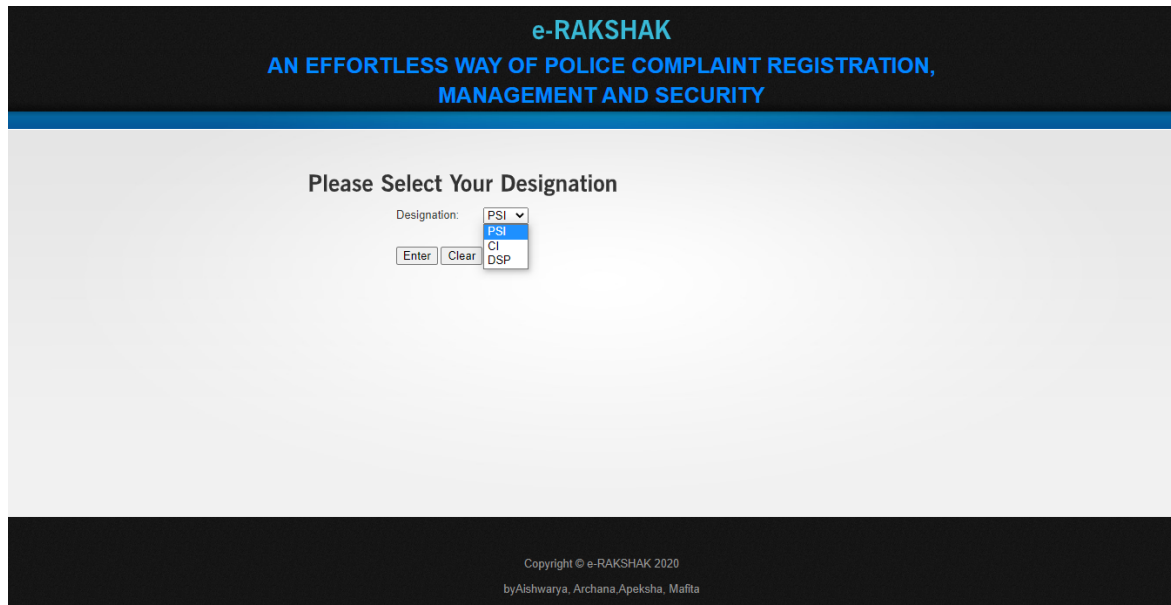


Fig. 24 Investigator Designation Choosing Form

In this page the investigator has to enter their designation before registration. A different registration page will be displayed to PSI, CI and DSP based upon their designation because the PSI manages one Police Station, CI manages two or more Police Stations and DSP manages more Police Station from two or more cities.

The screenshot shows the 'Investigator Registration' form on the e-RAKSHAK website. The form includes the following fields: Name (aishum), DOB (03-02-1995), Select City (Ankola), Select Location (Ankola near bus stand), Select Police Station (Ankola police station), Designation (PSI), Year Of Joining (02-07-2020), Mail (aishu1@gmail.com), Mobile (8977567854), Password, and Confirm Password. A 'Sign Up' button is located at the bottom of the form. The footer contains the copyright information: Copyright © e-RAKSHAK 2020 by Aishwarya, Archana, Apeksha, Mafita.

Fig. 25 Investigator registration form

The above page is investigators registration page. The investigator must register by selecting the police station that is working under him and login to their account.

The screenshot shows the 'Circle Investigator Registration' form on the e-RAKSHAK website. The form includes the following fields: Name (aishub@gmail.com), DOB (dd-mm-yyyy), Select City (Honnavar), Select Location (National Highway 66), Select Police Station (Honnavar police station), Designation (CI), Year Of Joining (dd-mm-yyyy), Mail, Mobile, Password, and Confirm Password. A 'Sign Up' button is located at the bottom of the form. The footer contains the copyright information: Copyright © e-RAKSHAK 2020 by Aishwarya, Archana, Apeksha, Mafita.

Fig. 26 Circle Inspector registration form

The above page is Circle Inspector registration page. The circle inspector must register by selecting two or more police stations that are working under him and login to their account.



The screenshot shows the registration form for a Deputy Superintendent of Police (DSP) in the e-RAKSHAK system. The form is titled "Deputy Superintend of Police Registration" and includes the following fields:

- Name: avi@gmail.com
- DOB: dd-mm-yyyy
- Select Cities: Honnavar (dropdown menu)
- Designation: DSP
- Year Of Joining: dd-mm-yyyy
- Mail: [empty field]
- Mobile: [empty field]
- Password: [masked field]
- Confirm Password: [empty field]

A "Sign Up" button is located at the bottom of the form. The footer of the page contains the text: "Copyright © e-RAKSHAK 2020 by Aishwarya, Archana, Apeksha, Mafita".

Fig. 27 Deputy Superintend of Police registration form

The above page is DSP registration page. The DSP must register by selecting the one or more cities that are working under him and login to their account.

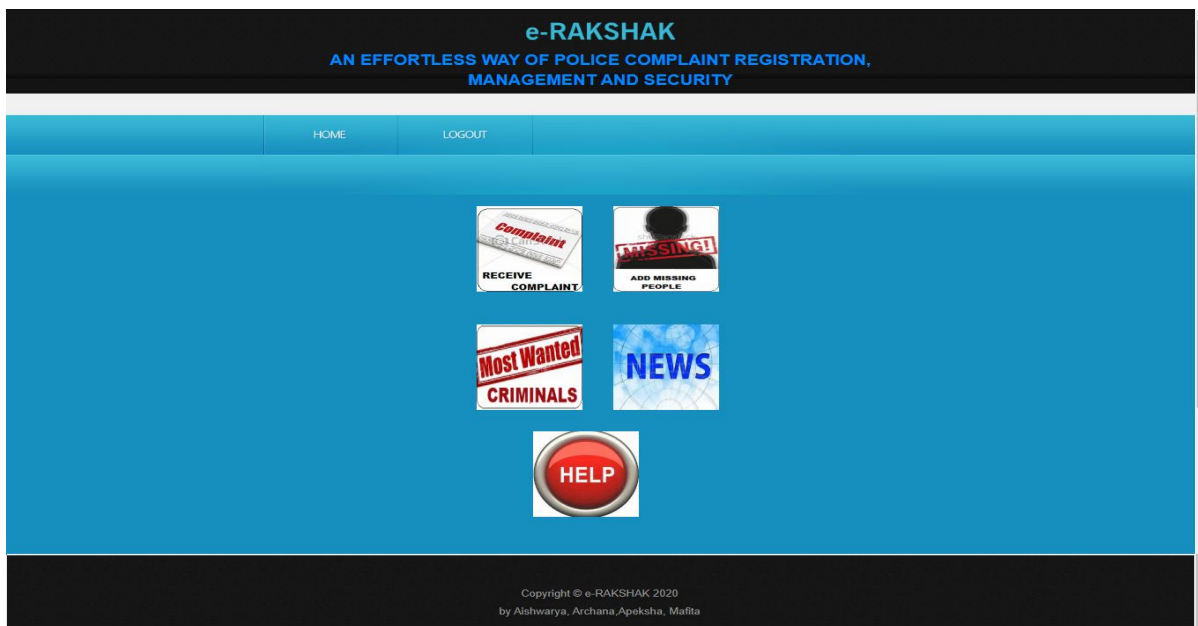
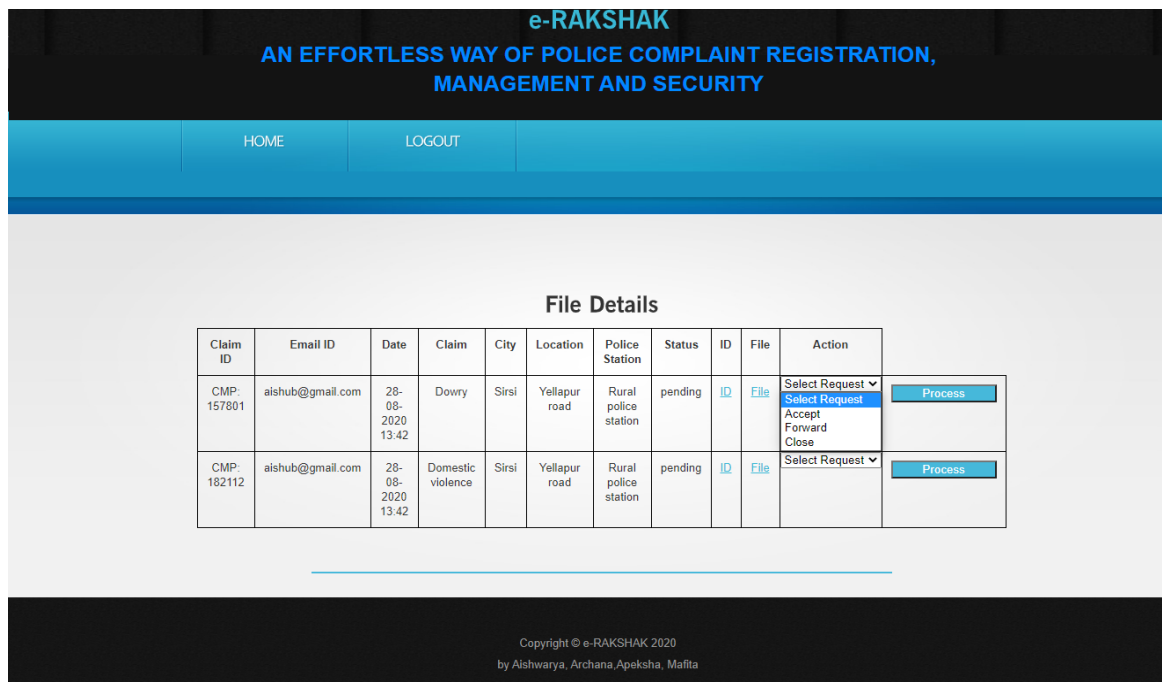


Fig. 28 Investigator module functionalities

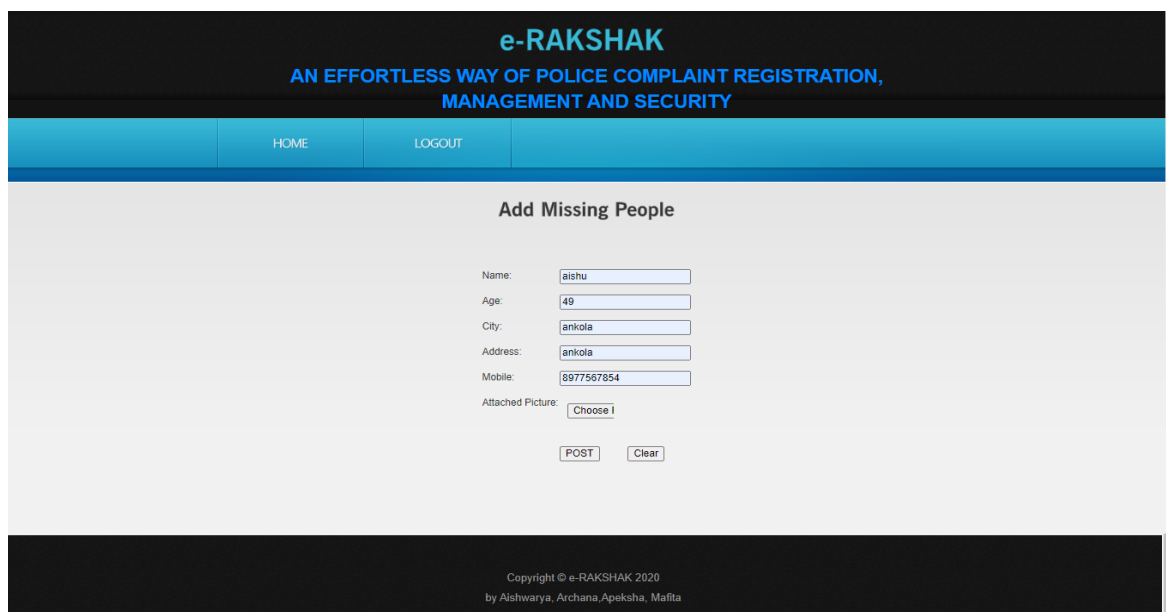
The above is displayed when the investigator logs successfully. Here there are five functionalities: Receive Complaints, Add Missing peoples, List of Criminals, News and Help.





**Fig. 29** Complaints received

List of complaints filed is displayed when the investigator clicks on receive complaints, where the investigator needs to accept the complaints . If he can't solve that complaint then he can forward it to the admin.



**Fig. 30** Add missing people

The investigator can also add the list of missing people, where the visitors can view the images and details about the missing people and inform the investigators if found.

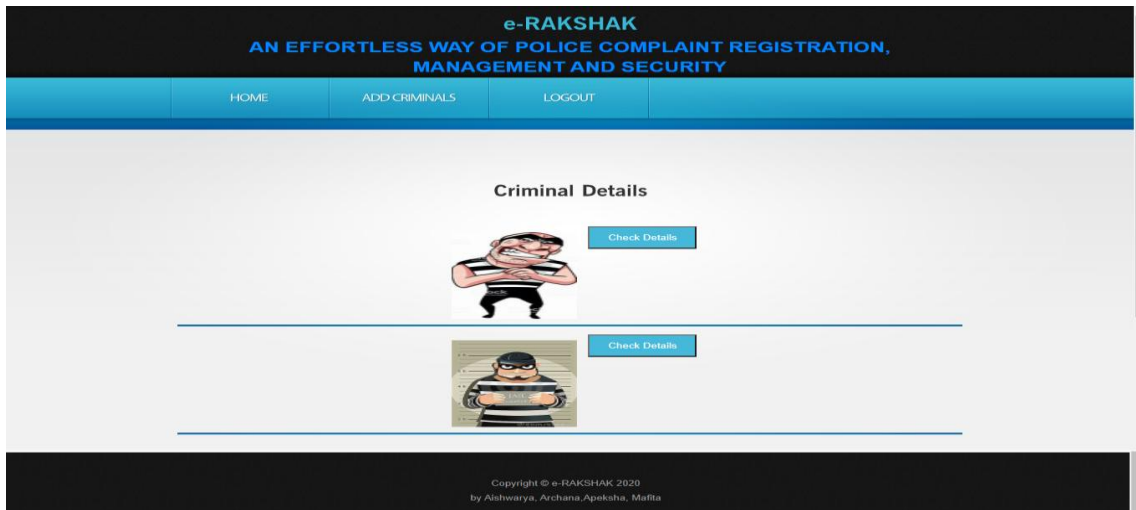


Fig. 31 Criminal List

The investigator can view the criminals added by different investigators and added by him.

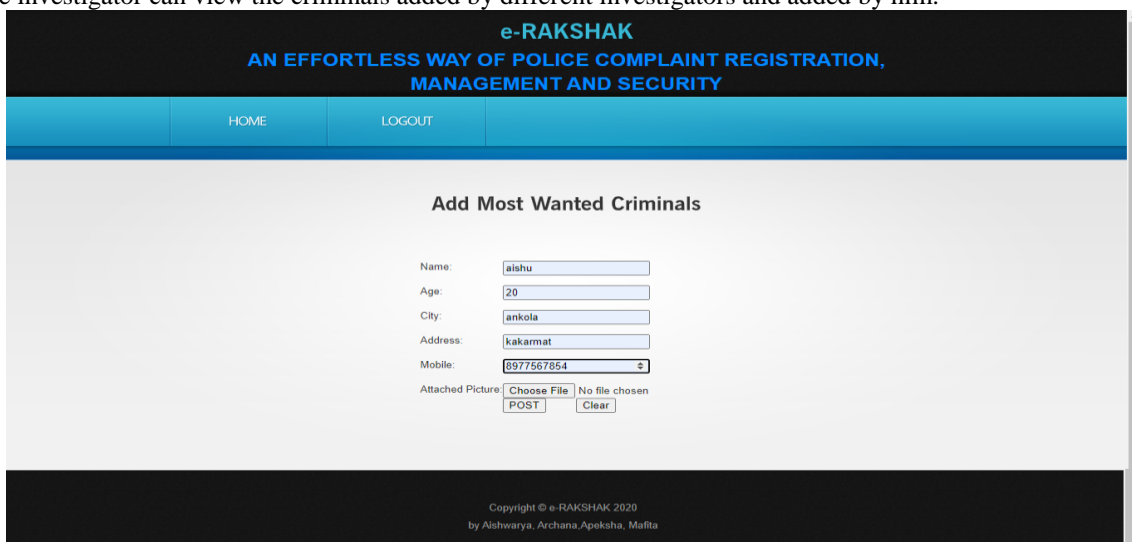


Fig. 32 Add Criminals

The investigator can also add most wanted criminals to maintain their details for future reference.



Fig. 33 Help Requests

The investigator can view the help requests from the user that contains user phone number and the time . Then they will contact service provider to track the location of that user by providing phone number.

## **V. Conclusion**

The User Interface of it is very friendly and can be easily used by anyone. It also decreases the amount of time taken to write FIR details and other modules. All the details about any complaint, postmortem or any other criminal can be checked and can be saved. User need not go to the police station to register complaints. In some situations like emergency, life threats, social stigma, hesitation, negligence etc. user can easily register the complaint. Reduces man power, paper work and also time required to go to police station. Communication is made easier and faster between user and investigator. Visitors can easily get information about the crimes taking place. Police will be notified faster in case of emergency using help button. All the proofs will be securely stored so that police can easily use them for investigation. This application is developed for whole district where SP is the admin, PSI, CI, DSP are the investigators.

## **VI. Future Scope**

This system is currently a web based project but we are focusing to expand it on IOS and android platform as well in the upcoming days. The other feature which can be incorporated into the application is a live chat option with the police.

## **Acknowledgement**

We express our gratitude to our institution and management for providing us with good infrastructure, laboratory facilities, qualified staff, whose guidance was of immense, help in completion of this project successfully. We are grateful to our Project Guide **Ms. ShamaDessai**, Assistant Professor, Computer Science & Engineering, and Project Coordinator **Mr. RaghavendraHegde**, Head of The Department and Assistant Professor, Computer Science & Engineering, for their support and encouragement. We would like to thank our dignified Principal **Dr. Suresh D. Mane** for his encouragements and having given us this opportunity to do this project. Finally, We would like to express our heartfelt thanks to our beloved **parents** for their blessings, our **friends** and **classmates** for their help and wishes for the successful completion of this project.

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