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Monitoring And Reporting Hazards Using Android Application

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Abstract: Hazard is any potential damage, harm or adverse health affect of something or someone, so we can say that the hazard is a unavoidable risk, so prevention of hazard is important fact.. In 21st century mobile and information technologies have become an integral part of our lives. A new area where mobile is useful for gathering hazardous information from public area, as they are not easily accessible at any point. Thus, using application, we will try to make available information related to the hazardous through Android Application to the various organizations like Police, Municipal Corporation, News Papers, etc. A mobile application is made available to the common people in order to update the hazardous problems by capturing the image, audio and the location of the area and is sent to the server and informed to responsible authority. Then the respective authority is responsible for allocating the problems to their respective employees and then it is solved by these employees. . The notification of the problem solved is sent to the mobile of the user and authorities. The System generates the ratings Negative and Positive to the work solved within days on basis of work.

Keywords: Android application, Hazard problem, higher authority, Smart Phone, Web portal.

I. INTRODUCTION

Hazard reporting and monitor is an android application which is really useful for the people who want to do something for their society. Hazard is any type of damage, harm or adverse health effect on something or someone and it is condition with the potential to cause injury, illness, or death of personnel, damage of property. People who survive in hazard area, have to compliant regarding hazard to particular responsible authority, to work on that hazard and solve hazard problems. Now a days mobile and information technology have become an important part of our life. A new area where mobile is useful for gathering hazardous locations, of public area, information as they are not readily accessible at any point. Common user first has to register on android application. After registration user can login & send the hazard report which contains the image, data, audio of hazards area and send it to the specific authority. People can compliant regarding hazard problem to responsible organization using android application. By capturing the image and the location of the area and is sent to the server and inform to responsible authority. Then the respective authority is responsible for allocating their respective employees and then it is solve problem. The notification of the problem solved is sent to the user and authorities. The System generates the ratings Negative and Positive on the basis of work solved within number of days. Hazard reporting system consists two modules: 1) Android application

2) Web portal

In web portal and android application we are using MongoDB. Organization has web portal in which organization must register first and then roles can be assign to particular organization e.g. police, Hospital, Media, Higher authority. Organization can see the complaints related to the user on their web portal. Assign the work to the particular authority, then authority assigns work to their employee. Using this application, we can keep track of the ratio of complaints registered and issues which are unsolved.

II. LITERATURE SERVEY

In hazard reporting system design two main modules:

- A. Android Application
- B. Web portal

Both are use MongoDB database [1]. After collecting data, that data is stored into android application for both users and authorities and a web application using JSP and servlet for authorities with MongoDB as backend [7]. The data captured from android will be shown on Google Maps using Google Maps API v3. Then System send user hazard compliant to an organization i.e. web portal.

According to compliant system set responsibility to particular department and department set employee to work on that compliant in time limit [1]. A client application that enables a user to report an incident, as well as give location and other relevant information regarding to incidence. Based on report sent by the client application, the server application decides which response team to dispatch to the report's location [2]. This system will help to solve the social problem of user. We provide the platform to user to send their problem to authorities which will provide the solution of issue which send by user in the image/video format. We are using mongoDB database as a backend for report generation which improve the quality of system [3]. User need to capture real time images of hazardous objects with their location and sync it with the server. The data captured from android will be shown on Google Maps using Google Maps API v3 [4]. This system will help authorities to mark the area with more no of issues. This app will send notification and messages according to risk level [5]. Here, also introduce a web-based GIS (Geographic Information System) system to collect the field data from personal mobile phones. If procedure of solving complained is taken long time period than result also not given good. People did not have any idea about his compliant status. Compliant procedure also take more time first we had to buy compliant form then fill, all procedure is too much hard. So observe all problem regarding hazard compliant and solve problem issues [6]. Giving attention on this problem we will develop hazard reporting system. This application solves all previous problems and solve hazard problem fast.

III. SCOPE OF THE PROJECT

The project entitled "Monitoring and Reporting Hazards Using Android Application" is a system by which we can provide additional services to society, complaint against hazard problem to particular department.

IV. EXISTING METHOD

The existing method is quite old and does not make use of the abilities provided by the current generation of smart phones. This method is based on paper work which takes so much time and effort of common people. The present system involves high degree of human interference. In the present method the person is expected to contact the authorities and provide data about the hazard present through android application and also people do not have any central platform in existing system where they can report all their issues. All these problems overcome in proposed system.

V. PROPOSED SYSTEM

In existing method, people do not have any central platform where they can report all their issues. So authorized department does not understand the exact problem and their location. In Proposed system, we are developing one central platform where all issues can be reported with their location to respective departments. The intention of the system is to send the images or audio related to issue to the respective departments of the governments. We are sending this using the web services and android device.

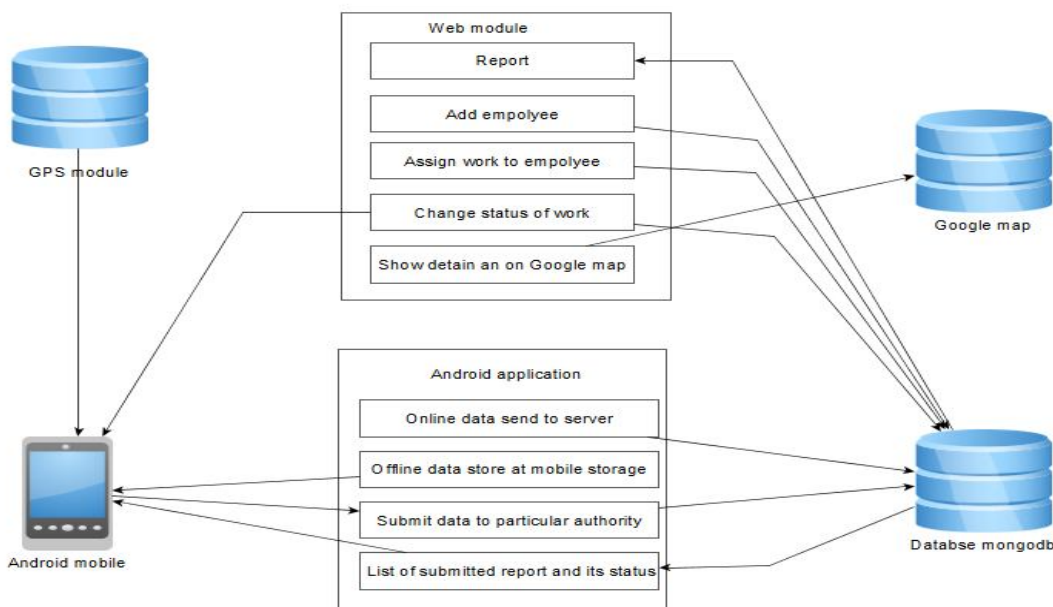


Figure 1: System Architecture

This architecture shows overall description of our system. We need at least one android mobile device and a dedicated server to host the application. Dedicated Server is used to store the data. Dedicated server should have MongoDB installed on it to handle the database part. In hazard reporting system design two main modules:

- 1) Android Application.
- 2) Web Portal.

A. Common User with Android application

Common Users uses Android application to report the problem. Before reporting, Registration to hazards reporting system is must and that registration is done by using android phones. After Being a part of system, User can login to the system and can send hazards report which contain Geo-Spatial data like image, text, audio, video along with location information. The report contains geospatial data that means the Data along with the geographic component. This means that the data set have location information tied to them such as geographical data in the form of coordinates, address, city, or ZIP code.

B. Web portal using MongoDB

Web portal used at the Organization side, as the users done organization members also have to register to gate authenticate. After registration assign roles to every department. for example Police, News Paper, Higher Authority etc. show all the complaints of users, Identify each complaint. After identification assign work to employee according to complaint. After working change the status of the complaint and notify to the user every time. All things that is notifications of problem, graph generation and positive-negative ratings are done by web portal. and android application is used to give the confirmation in the form of image.

VI. DESIGN AND IMPLEMENTATION DETAILS

A. Modules and their Functionalities

1) Android application & GUI

a) Android application for user:

- Firstly user registration is must. In registration form of user where the user will be filled all the details and after filling the detail the user login id and password will be created.
- After login user saw menu list in the User inbox where the options are available that is what type of problems send the user, problem is solved or not and how many reports the user will be send.
- If user wants to send the hazard report then the user will send their issues or problem in the format of image or video with the title and image/video description to the specific departments. In my report option user report history is available.
- In the solved hazard report option there are solved reports which was solved by that particular department.
- Also password change, logout options are available for user efficiency.

The GUI is used by the user to report an accident and some of the available options are shown in fig.2. shows the login form of user side. After login user will be send their issues or problem to the system.



Figure 2: Main GUI Login page

b) Android application for employee

-Same as user application employee have login form where the login id and password will be provided. After login the employee will see work assigning to him.

- When employee work on task then update their work status as working after completion work status is work completed .This work status is goes to web portal as well as user app.



Figure 3: User Inbox after Login

2) *Web Portal*

a) In web portal every authority have to register and then login. After login the authorities will see the generated reports which are sending by user. Then web portal assigning the task to particular authority and employee. E.g. police, Hospital, Municipal Corporation.

b) At web portal side it shows the report generated of problems/issue which sends by user. This report will help to authorities to where the problem will be occurring, shows the location and also give the status that the problem.

c) Send message to the particular user if status changed.

d) If problem is not solved in specific time then automatically send to media.

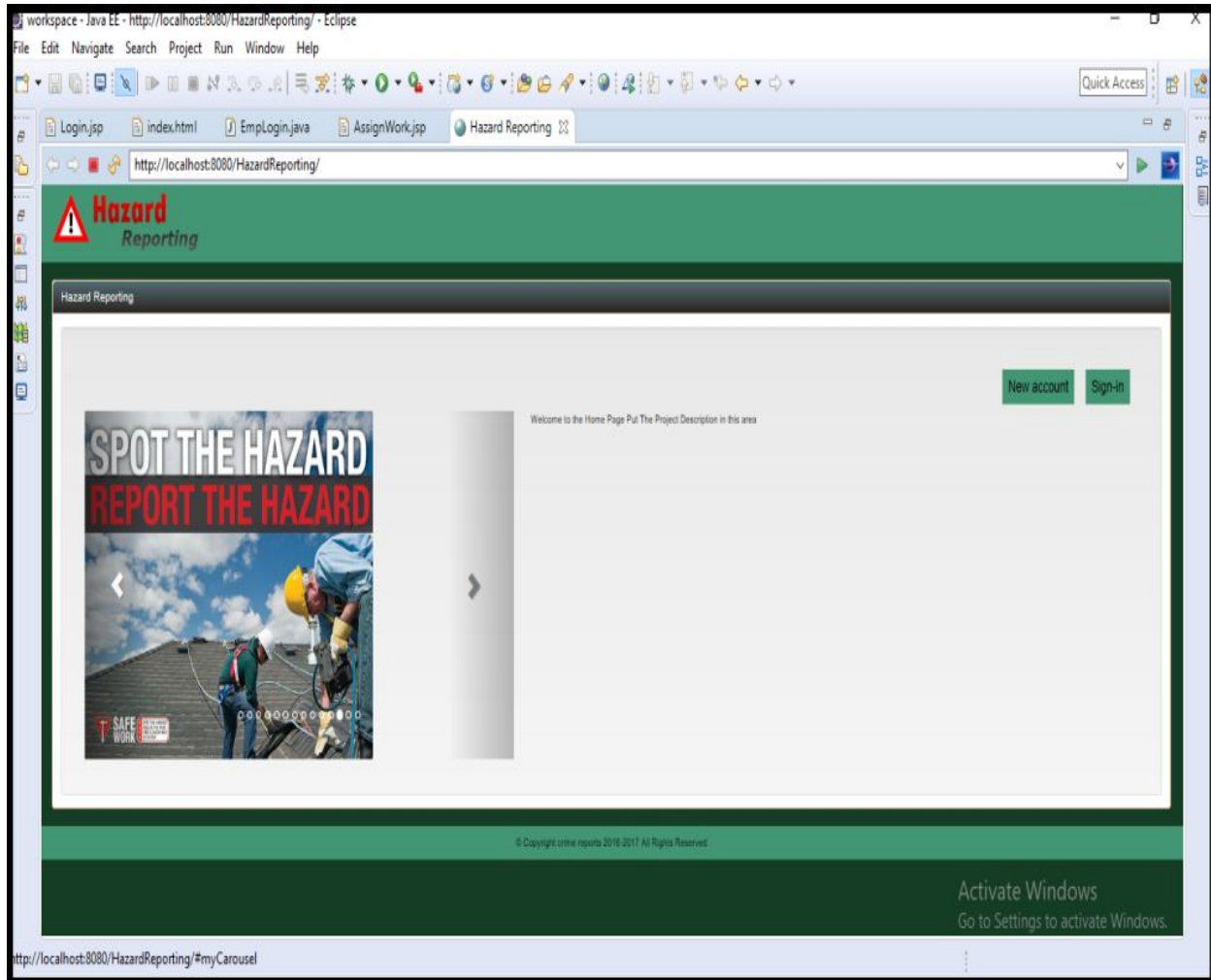


Figure 4: Web Portal View

B. Submodules In Web Portal

- 1) Higher Authority Portal
 - a) Received complaints from android user.
 - b) Action on complaints within specific time span.
 - c) Send message to the particular user when complaint is solved.
- 2) Police Portal
 - a) Received complaint message or voice call from android user.
 - b) Action on complaints quickly.
 - c) Send message to the particular user when complaint is solved.
- 3) Hospital Portal
 - a) Received report message or voice call from android user.
 - b) Action on report quickly.
 - c) Send reply message to the particular user when request is completed.

VII. SYSTEM FEATURE

- A. System should support android handset.
- B. System should have internet connection.
- C. System should properly interact with the server.

VIII. TECHNICAL SPECIFICATIONS

A. Advantages

- 1) Central platform to report issues
- 2) Saves time
- 3) To mark the area with more number of issues
- 4) Encourage people to report issues and authority to solve issue to get hall of mark
- 5) Stop corruption involved in concerned authority
- 6) Central platform for reporting issues.
- 7) Geographical view of issues.

B. Disadvantages

- 1) Internet connectivity is compulsory to transmit the data.
- 2) Android phone is required.

C. Applications

- 1) This application can be used by people to report their problem to the government authority.
- 2) To survey the areas where maximum number of issues are there.
- 3) Increase awareness among people and let them have a sense of responsibility.
- 4) Concerned authority will work efficiently. This application can be used by government to check the issues in the territory.

IX. RESULT SET

In this system, we are going to develop a Reporting System where common users can report to that system based on the problem or hazards. And the authorized persons take action on that hazard. The problem or hazard sends to organization along with the location.

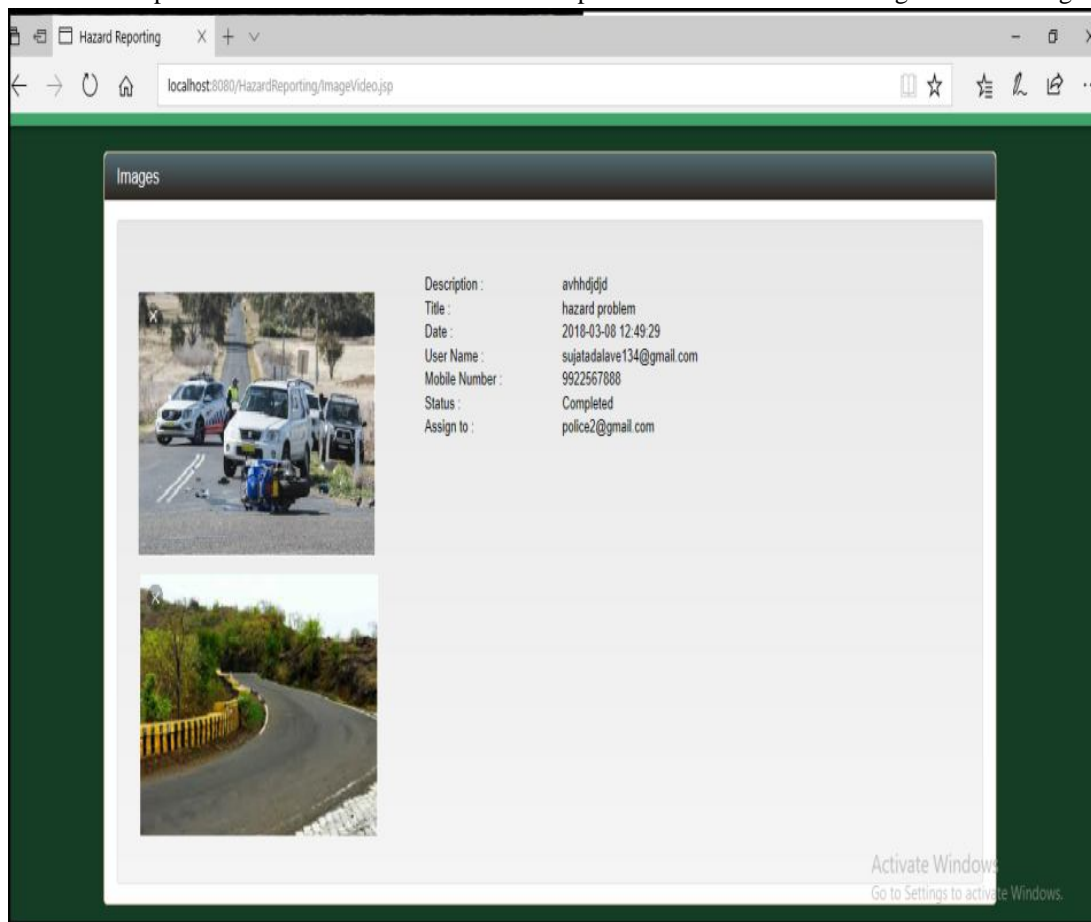


Figure 5: Result at web portal.

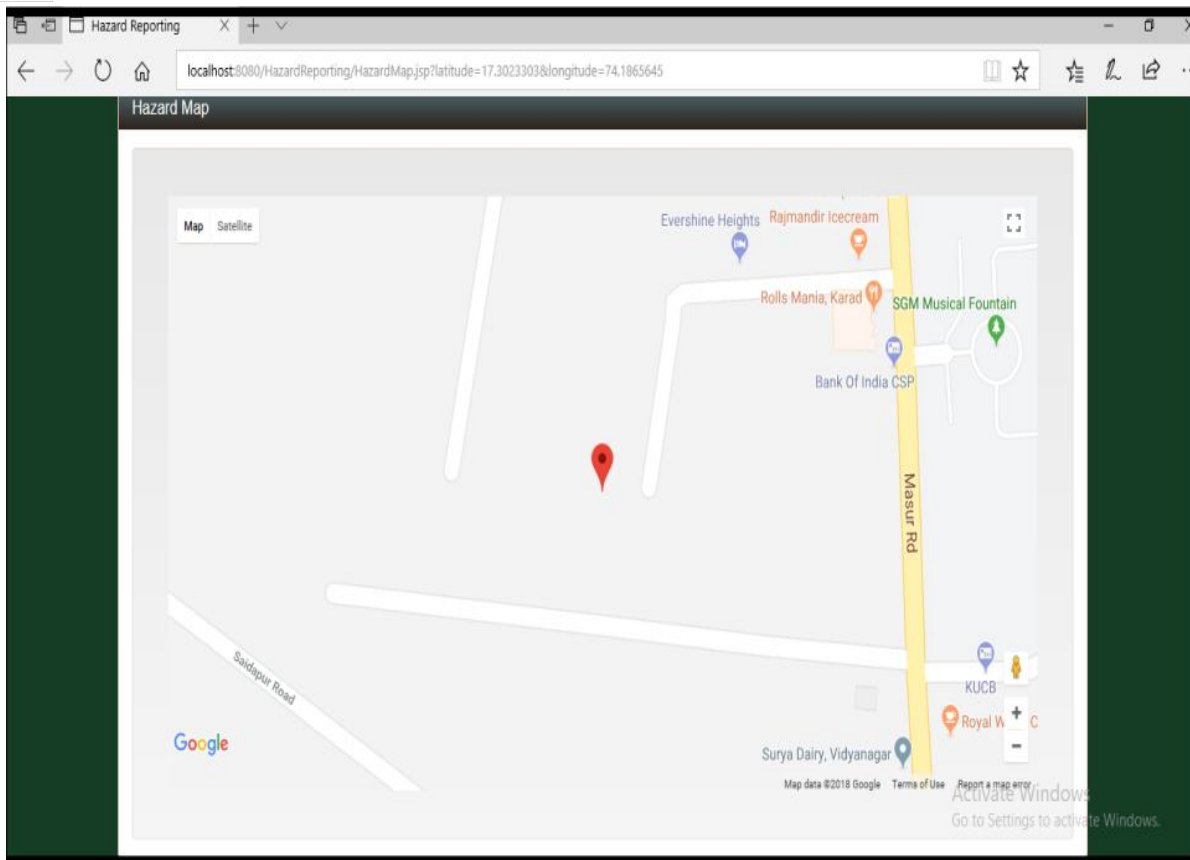


Figure 6: Location on map

X. CONCLUSION

This system will help to solve the social problems of user. By using this system the authorities in the city or world will work properly. We provide the central platform to user to send their complaints to particular authorities which will provide the solution of complaints send by user in the form data, image and audio format. System takes quick action regarding hazardous areas and solve hazards problem. We are using mongoDB database as a backend for report generation which improve the quality of system. They have set with some specific functions: user uses android app for collecting Data. After collecting data, that data is stored into android application. Then System send user hazard compliant to an organization i.e. web portal. According to compliant system set responsibility to particular department and departmenta set employee to work on that compliant. If organization complete work in time. System send message to common user and generates positive negative rates on his work.

XI. FUTURE WORK

In user centric applications, there are some unique security concerns for privacy and authentication is most important. Providing video recorder, multiple languages to the user application and this need to be addressed in future.

XII. ACKNOWLEDGEMENT

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