# HAZARD OBJECT REPORTING TO RESPECTIVE AUTHORITIES

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## Abstract

*The use of mobile devices, such as smart phones and cellular phones, in field data collection is increasing today because of the emergence of embedded Global Position Systems (GPS) and Wi-Fi Internet access. The people encounter many hazardous object in daily life but because of lack of any central platform they are not able to report it to concerned authority .We are developing a central platform where normal people can submit their issues to respective authorities. The user need to capture real time images , videos or audios of hazardous objects , select the concerned authorities and risk level and sync it to the server with their GPS location .The data captured from android will be shown on Google Maps using Google Maps API v3.This data will be available to corresponding departments of government. Government officers can do survey of area based on different criteria for example area where many cases are reported but not solved. So this will be one central platform where all hazard issues will be reported with their location to respective departments and government will understand exact problem and their location.*

***Keywords:** Hazardous, Global positioning system (GPS), Wireless Fidelity (Wi-Fi), Application programming interface (API), risk level*

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## 1. INTRODUCTION

Hazard reporting is an android application which is really useful for the people who want to do something for their society. Using this application the 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. This data will be available to corresponding departments of government. In existing system, people do not have any central platform where they can report all their issues. So government 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 objective of the system is to send the images, audio or video related to issue to the respective departments of the governments. The user sending this using the web services and android device. Using this system, we can keep track of the ratio of complaints registered and issues which are unsolved.

## 1.1 Purpose

We are developing this system to make central platform available for normal people to report their issues. Using this application user going to send these issues to the corresponding department of government where they can see the issues location wise. In existing system, people do not have any central platform where they can report all their issues. So government 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 department. This system will help authorities to mark the area with more no

of issues. People have started using android smart phone so the hardware is already available with people. This app will send notification and messages according to risk level. There is also a hall of mark page where a person whose max cases are genuine and solved and authority who is doing well in solving it will be awarded with hall of mark. Thus we look forward to develop an android application for both users and authorities and a web application using java for authorities only with MongoDB as backend.

## 1.2 Project Scope

### Android Application

- Database design and creation
- Web Services Design
- Android layout design in XML
- Login with user ID & Password as well as IMEI
- Multiple Image capture logic
- GPS integration

### Dynamic Web Application

- Database Design in MongoDB
- GUI Design
- Servlets and JSP

## 2. 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. We are using dedicated server for good performance In android development we are designing the database using SQlite.

When the user sends image to the authorities they also send some data which gives description about the particular disaster. The data sent will be encrypted data so that only sender and receiver will understand the data. Here we are using Encryption-Decryption algorithm. For developing the web application for this system the developers are going to use the MongoDB as a database so that the user can also send the videos regarding to particular disaster. Google map APIv3 is used to attached the location with that image so that the concerned authority will easily get the location.
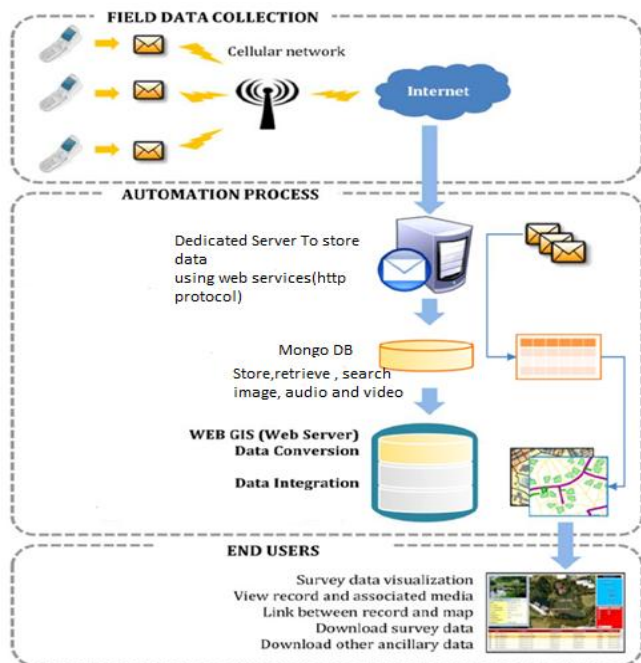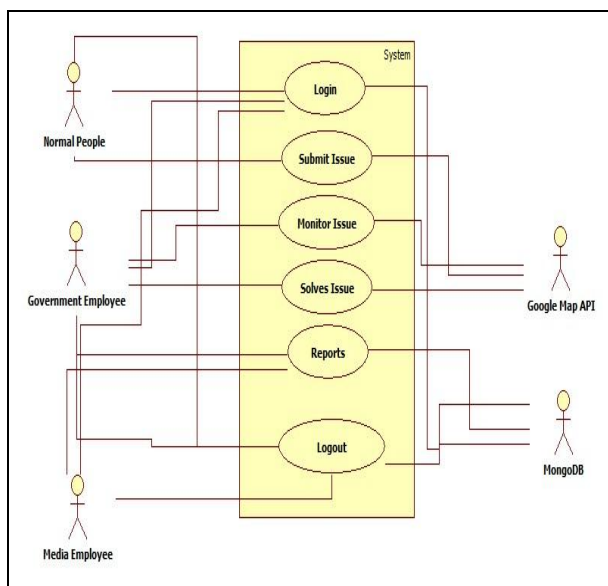


**Fig 2.1 System architecture**

## 3. USE CASE DIAGRAM



## 4. MATHEMATICAL MODEL

Let 'U' is the set of complete system

$$U = \{\ldots\ldots\ldots$$

Let 'S' is the set of all issues

$$S = \{S1, S2, S3, \ldots, Sn\}$$

Let 'D' is the set of solved issues

$$D = \{D1, D2, \ldots, Dn\}$$

Let 'F' is the set of unsolved issues

$$F = "F1, F2, \ldots, Fn\}$$

Let 'G' is the set of government departments

$$G = \{G1, G2, \ldots, Gn\}$$

Let 'L' is the set of locations of issues

$$L = \{L1, L2, \ldots, Ln\}$$

Let 'M' is the set of all media documents related to issues
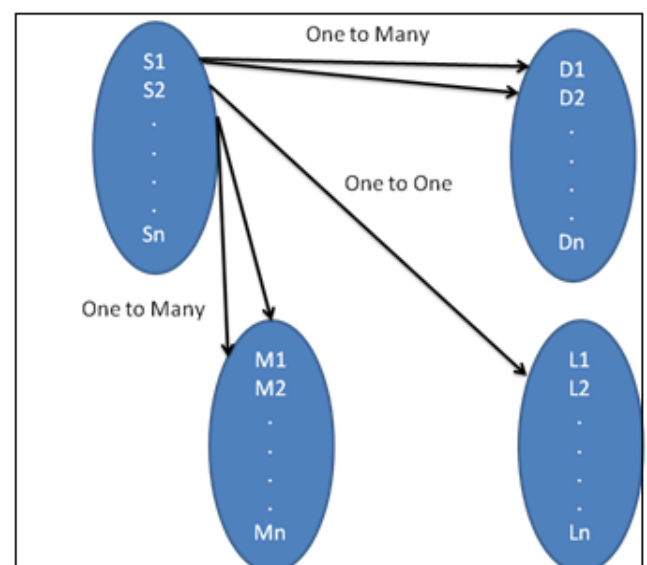
$$M = \{M1, M2, \ldots, Mn\}$$

Let 'K' is the set issues with no media
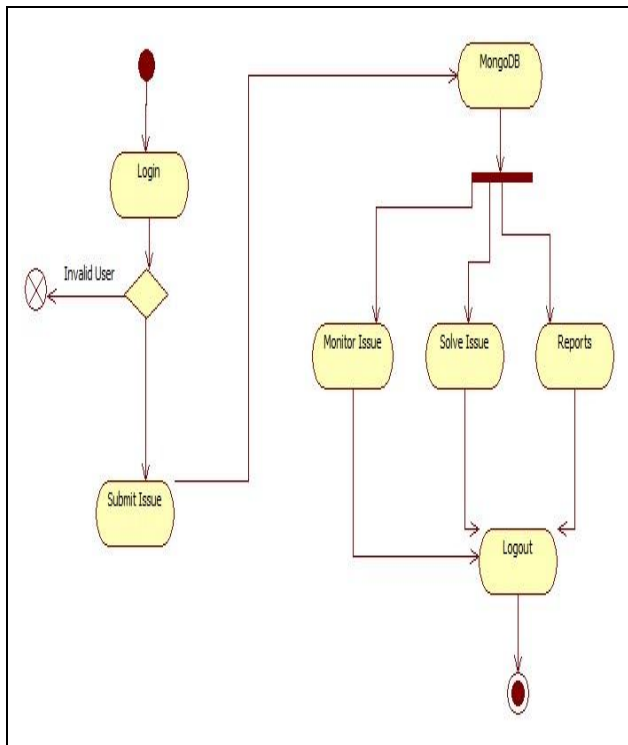
$$K = \{K1, K2, \ldots, Kn\}$$
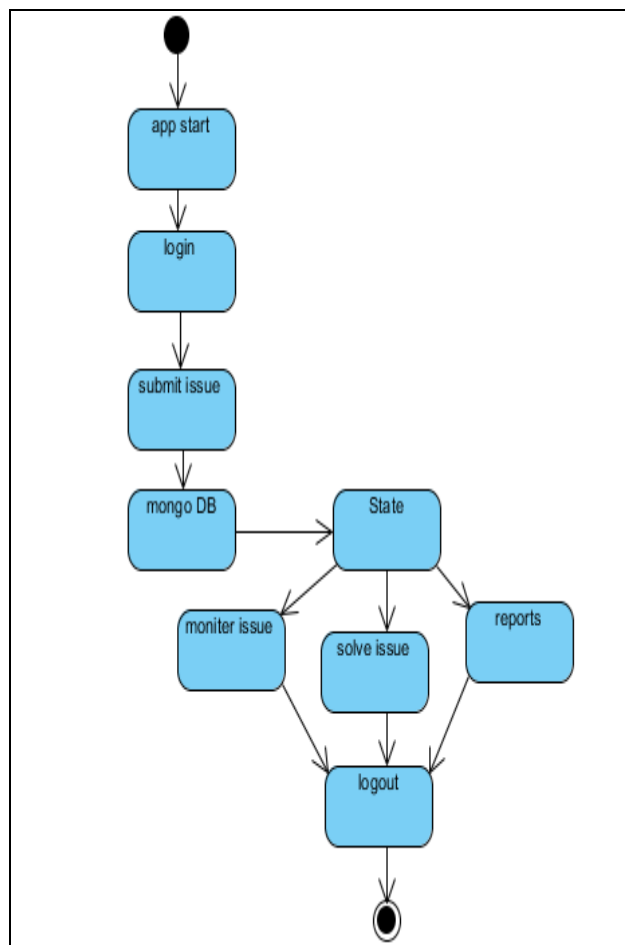
So here,

$$U = \{S, D, F, G, L, M\}$$

Mathematical Representation of the system using Set theory is,

## Activity Diagram



## State Transition Diagram



## 5. LITERATURE SURVEY

In existing system, people do not have any central platform where they can report all their issues. So governments do 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.

### 5.1 User Classes

Users of this system are normal people and government employees. Normal People are those who are reporting hazardous incident and government employees are those who are solve that reported incidents.

## 6. TECHNOLOGIES AND FEATURES

- Operating System: Windows
- Programming Environment: We will be using JDK 7.0 as the development platform for the prototype system.
- Programming Tool: Android Development Tool(Eclipse)
- Android 2.2 Supported mobile handset
- Google Map API v3 integration: Data captured on android will be shown on Google maps using Google maps API v3.
- Database: We are using MongoDB as the database. We are using concepts of metadata in this system. The tables will be generated and managed at the run time in this system. We are using MongoDB for transferring the videos.

## 7. DESIGN AND IMPLEMENTATION CONSTRAINTS

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 android development we are designing the database using SQlite. We are using dedicated server for good performance.

## 8. ASSUMPTIONS & DEPENDENCIES

The user is expected to have android mobile phones and should be able to send and receive data when connected to the internet. Dedicated server should have MongoDB installed on it to handle the database part.
1. Government will allot their representative to solve the issues listed by application.
2. Normal People will use this application to report the issues.

## 9. TECHNICAL SPECIFICATIONS

### 9.1 Advantages

- Central platform to report issues – Saves time
- To mark the area with more number of issues

- Use of MongoDB accepts unstructured data and reduces the data acceptance time.
- Stop corruption involved in concerned authority
- Encourage people to report issues and authority to solve issue to get hall of mark

## 9.2 Disadvantages

- Internet connectivity is compulsory to transmit the data.
- Android phone is required.
- Need GPS lock to get the location. This can be avoided using LBS data.

## 9.3 Applications:

- For normal people to report their issues to the government.
- To survey the areas where maximum number of issues are there.
- Increase awareness among people and let them have a sense of responsibility.
- Concerned authority will work efficiently.

## 10. CONCLUSION

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. There is also a hall of mark page where a person whose max cases are genuine and solved and authority that is doing well in solving it will be awarded with hall of mark. Thus we look forward to develop an android application for both users and authorities and a web application using JSP and servlet for authorities with MongoDB as backend.

## ACKNOWLEDGEMENTS

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