SMART CITY WASTE MONITORING SYSTEM USING ANDROID APPLICATION

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Abstract - *Smart city evolvement is a service for monitoring the city in order to measure waste level and conditions of roads in real-time and to alert the municipality, via Pictures. The web application takes input from the user and send it onto the WAMP server in the form of HTTP request which is then enter into the database using SQL queries. In returns the database sends Boolean/results sets to the WAMP server which is then process by network in the form of XML code. The Same procedure is followed by android application. It sends warning messages generated by the users to the municipality via Pictures when the waste is present in particular amount; the garbage, sewage, road etc. related issues are solved immediately. Application will be running 24/7 using cloud technology.*

Key Words - *GPS, Image Processing, Cloud DATABASE. Client Based Login, MYSQL*

1. INTRODUCTION

One of the major problems that the developing countries including India are facing today is the problem of waste management. Wastes are those organic and inorganic waste materials produced by various activities of the society. India generates 62 million tons of waste every year, of which less than 60% is collected and around 15% processed. 70% of the sewage is untreated. Sewage is waste water and excrement conveyed in sewage. Sewage (or domestic wastewater or municipal wastewater) is a type of wastewater that is produced by a community of people. Waste will cause public health problems if not managed properly.

The government of India has taken many initiatives and implemented new technologies and methods by giving loans for setting up composting plants to encourage proper management of waste since the 1960s but in recent times, the Government has proposed various effective initiative including the Swachh Bharat Campaign which helped to overcome those ideas of waste management.

Following those principles, we think of developing a mobile application which will help to collect this waste.
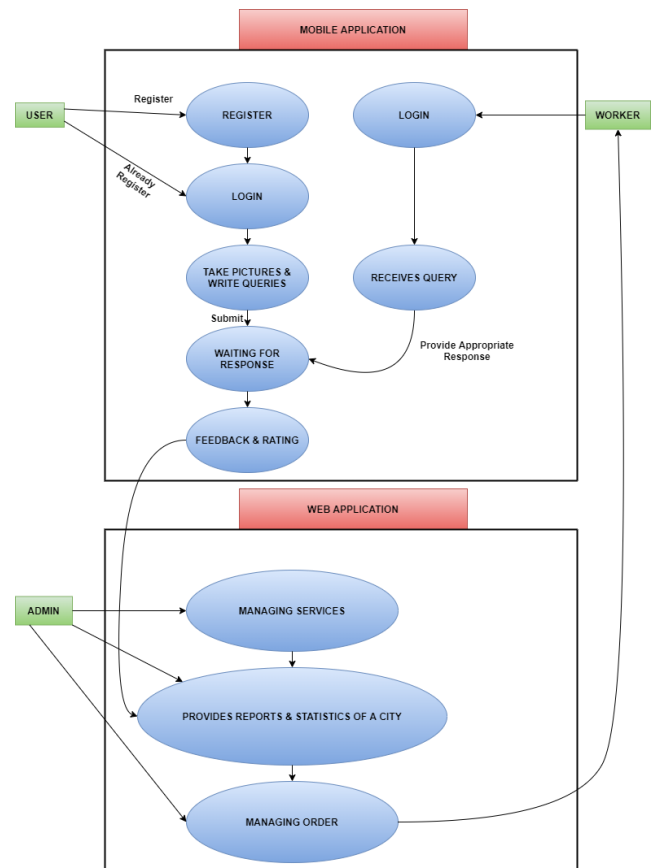
2. PROPOSED SYSTEM ARCHITECTURE

Fig: Use-Case Diagram

The proposed system architecture consists of user authentication services request and conformation. As per there is a requirement of authorized user so as to start the registration process where user registers themselves, after the registration is successful the respective user gets his/her username and password, so that only authorized user gets the access. In our system, the user will capture the photo of waste which he wants cleaned using the tool provided by our app. After capturing the photo, the related information along with its LOCATION is retrieved by database through WEB

service. Now the Query is checked by ADMIN and necessary actions are taken to solved it. Afterward the IMAGE of wastage cleaning is provided by ADMIN.

3. OBJECTIVES:

1. To implement garbage and waste tracking system using mobile application.

2. To implement organized dataset of every city with regards to overall hygiene of that city

3. Improve City services management with various techniques to ensure Sewage, Garbage Road, Flood.

4. To Evaluated the worker based on their performance.

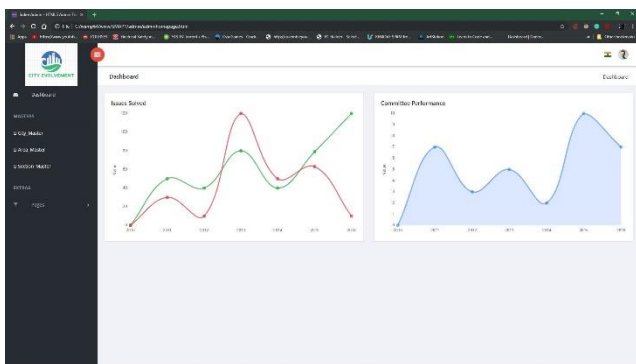## 4. MODULES:

1. Module 1: Web application

Fig: Website

In this module, a website will be deployed where the new user has to register by giving the personal information. The users who have registered can access the android application directly. The admin will have the control of complete website. All the user information is stored into database. Once the user gets registered, user will get a link to download an application and after that the user will be able to use the application.

Fig: Worker for Web

- *Worker*
1. Worker will be registered by the admin.
2. Based on registration, workers will be allocated a particular area.

- *Admin*
1. Responsible for maintaining the servers.
2. Adding and Managing the workers.
3. Provide reports based on the overall hygienic a city fields in which the city holds good.
4. Provide statistics on number of queries that are resolved.

2. Module 2: Android Application

In this module, an android application will be developed. This application can be used by the user to provide the location of garbage waste from users for cleaned up. Once the user gets logged into the application, admin can track the garbage info from user's current location. By using android application user take the picture of any types of wastes and provide it to the admin along with its location. There is a dropped down for selecting the types of waste according to the picture you provided. You can check the result on our website by comparing the picture send by users to the latest picture provided by admin.

- *User*

1. User needs to register; this process is done to ensure
   the locality of that individual.
2. If the user is already registered then he needs to Login.
3. User can take pictures and can write query regarding
   the issue.
4. User can also list down his query in following sections that is Road Tar, Garbage, Sewage and Flood.
5. The submitted query will be processed by the workers
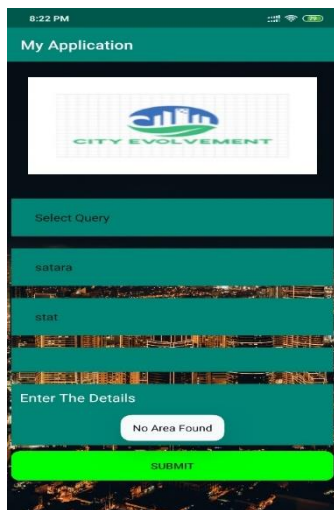   and based on the working users can rate them.

Fig: Android Application

- *Worker*
1. Workers will get acquainted with only those query that care related to his areas.
2. Workers will also have the ability to submit results on the form of pictures and messages.
3. If the query can't be resolved due to other issues, the workers can also place response to the query in the form of "Cannot be Resolved" and place appropriate message.
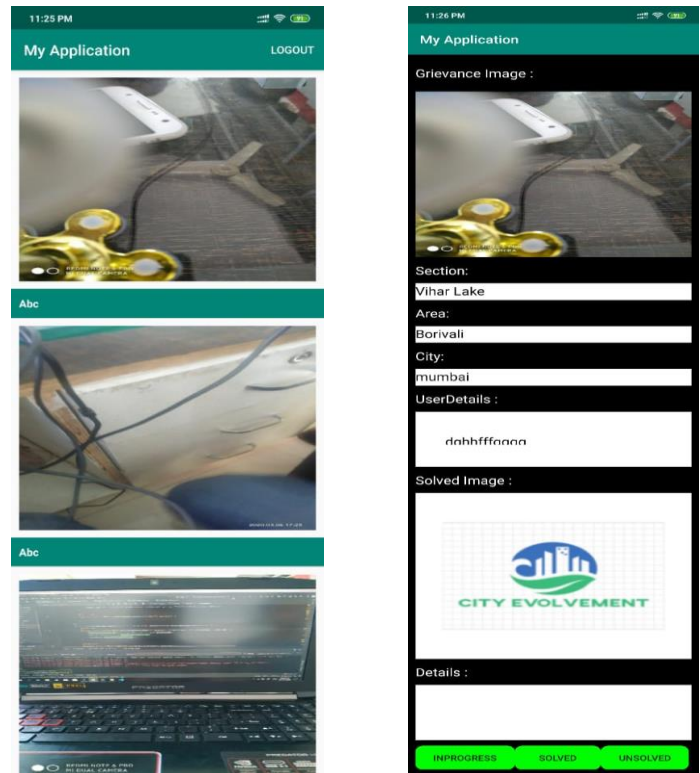4. Worker can also reply to query such as solved, unsolved and in-progress.

Fig: Worker for Android

5. CONCLUSION:

- This project is based on android as well as web application.
- The project also implements client-based login system.
- Provides statistical information regarding the waste management about a particular city/region.
- Provides feedback regarding an issue.

6. ACKNOWLEGEMENT:

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