INDIAN REGULARITY COMPLAINT SERVICE (IRCS) USING CLOUD COMPUTING

V. P. KIRUBANIDHI[1] V. M. DINESH[2], J. GOBINATH[3]

Bachelor of Engineering, Dept of IT

[3]HOD, Dept of IT,

Rajiv Gandhi College of Engineering, Chennai, India

vpkirubanidhi@gmail.com[1], vmdinesh01@gmail.com[2] gobirgce@gmail.com[3]

ABSTRACT

Cloud computing technology the adopted cloud integrates GPS technology, Google maps API, imaging and information together to obtain the solution. In this project the user can take a snap shot of the particular activity i.e.: water leakage, power cable hanging around, tree fall, unsocial activity etc.The application will augment the current position where the picture is taken. At present, the service is the robust system through which citizens can express their grievences easily. The registered complaints can be viewed by authorities through a web interface. But, the citizen will not be knowing the status of a complaint. Possibility of more fake complaints processed by the citizens. Proposed system is more robust through which citizen can express their grievences along with the images, date/time and complaint number, through GPRS mobile networks. This citizen will be knowing the status of the complaint. Then the fake complaints are tracked. This proposed system, in future it can be extended to include incident reporting to improve the efficiency of emergency service. A mechanism to accept complaints from citizens 24×7 would be the expectation from both the citizens and the government bodies. With number of people using mobile phones is increasing, it has become a need for users to provide on their mobiles, all facilities one is been utilizing on the internet. The users use the mobile phone and do not need to access the web portal interface directly to file their complaint. The user downloads an application onto his mobile phone. The user runs the application on his phone to get a welcome screen. The system allows the user to compose his complaint in 160 characters.

I . INTRODUCTION

There has been extensive research in the area of e-services for municipal use [9]. The idea is to understand the usability and utility of services that are provided by a MC using newer and better technologies. There have also been studies [1] which address the usability perspective of e-services for physically challenged citizen segment. While e-services have been in use in Europe for a while, they have been catching up in India in a big way in large cities, only recently. The MC of Mumbai [8] takes care of the upkeep of the city is one of the more tech savvy MC. There are several departments within the MC to handle different aspects of the city upkeep. It is important for the MC to know about the problems as and when they occur or come into existence in the city, so that the problem areas can be dealt with quickly and efficiently. For easier handling of city upkeep, the city is divided into wards.

The city of Mumbai has about 24 wards. Any complaint relating to or originating from a ward is only handled by an officer associated with that ward. 1In [2] we has shown a similar interface using the short messaging system (SMS) Complaint redressal gets significantly delayed if the complaint corresponding to one ward is routed to a different ward. Efficient functioning of all the utilities and services in the area under MC depends on active citizen participation. Mumbai MC allows the citizens to voice their complaints using various interaction mechanisms. And a correctly routed complaint is handled promptly by the concerned departmental authority in that ward. Once a complaint is registered by the citizen, an appropriate departmental authority is notified about the complaint for

action. The person complaining is notified of the status of the complaint. The chief modes of complaint registration mechanisms available to a person are (a) a visit to the local ward office, where a person in charge listens to the complaint and asks for some personal details and put it across into an electronic form which is stored in a central database (b) through a contact center over a telephone, where the complaint is registered by a call center agent by typing the complaint into the system and more recently (c) through a web portal interface [6] where the user fills in the necessary details by logging onto the portal. In all the cases the complaint is stored in a central database which is accessible to the concerned ward officer to handle. The ward officer can update the status of the complaint. The status of the complaint is available to the person who has placed the complaint through the portal to see 24 × 7. While all of these modes have been made available for the citizens to lodge their complaints, the participation by the citizens has been poor in the case of (a) and (b) because of the amount of time involved in lodging a complaint for different reasons. but these modes of complaints bare the web based complaint registration system have poor active citizen participation because of the difficulty in using the forum to lodge complaints. The web portal (Figure 1) has had a large number of users though the penetration of computers with Internet connectivity is not very high in India. On the contrary the mobile phone penetration is very high and is growing in India in general and significantly more in the city of Mumbai [7]. It makes sense to provide an easy to use mobile phone based interface to lodge complaints using their mobile devices. The most straightforward way to enable use of mobile devices to file complaint is to port the web interface into Wireless Markup Language (WML) so that it can be browsed by the WAP browser on the mobile phone. While this is not difficult, it is expensive in two ways (a) WAP enabled mobile phones are more expensive and (b) citizens need to pay the telecom operator for being on-line (accessing the complaint registration system through their phone). These are dampeners for an active citizen participation. It is however important that active citizen participation is evoked only if the citizens are given an easy, cheap and yet effective mode of lodging their complaints. In this paper we propose a novel natural language interface (NLI) on a mobile phone to enable citizens to register complaints and seek redressal from MC. The advantage of this system is (a) it requires no change in the already existing web portal to lodge complaints, (b) doesn't require the citizen to remember any specific information to lodge their complaint and (c) the mobile channel makes active citizen participation possible because of the higher penetration of mobile phones in India. In Section II we describe the web based system and describe its short

comings, Section III describes the proposed system, and we conclude in Section V.

II . RELATED WORK

The chief modes of registering complaint are : A visit to the ward office - person in charge listens to the complaint and asks for some personal details and put it across into an electronic form for other departments. Through a contact center over a telephone - where the complaint is registered by a call center agent by typing the complaint into the system and more recently, through a web portal. The text of the application may be return at the prescribed column. After making payment an application can be submitted. As per RTI act, no fee has to be paid for first appeal. There is no possibility to mention the current location. There are possibilities to post fake complaints to a Department authority. The higher authority may be cheated due to the manual systems. In past the significance of a complaint will be taken under concern when the inspection take place. The person who registered complaint will not know about the status of the complaint.
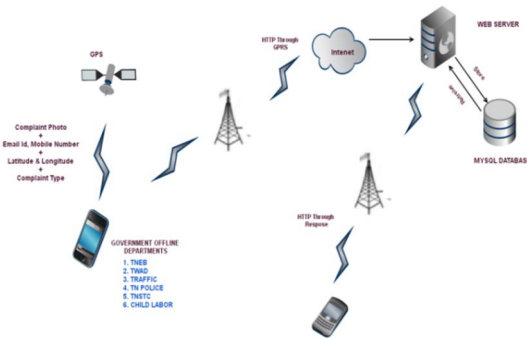

III . SYSTEM DESIGN

In proposed system, user can take a snap shot of activities such as water leakage, tree fall, accidents etc. The application will augment the current position of picture taken. Statistical information is maintained such as the no. of complaints received category wise and No. of them solved.

ENHANCEMENTS

Photo capturing is one of the basic enhancements to the proposed system. The complaint includes number system which finds a department complaint number for each service. The complaint includes time duration/date for each service at every department. If the complaint has not been taken by the department, it will proceed with the higher authority that includes passing laws (filling complaint) for each service.

BASIC ARCHITECTURE

User can take a snap shot of activities such as water leakage, tree fall, accidents etc. The application will augment the current position of picture taken. Statistical information is maintained such as the no. of complaints received category wise and No. of them solved. Photo capturing is one of the basic enhancements to the proposed system. The complaint includes number system which finds a department complaint number for each service. The complaint includes time duration/date for each service at every department. If the complaint has not been taken by the department, it will proceed with the higher authority that includes passing laws (filling complaint) for each service. When the situation is captured in mobile the current location will be driven by the application itself, when the complaint is posted the location will be produced in the department.

There are no possibilities to post fake complaints to a Department authority. This system will be monitored by the higher authority. The significance of a complaint will be taken under concern when the situation is captured by the application. The person who registered complaint can track the grievance in online. Mobile clients must be able to use networks with rather unpleasant characteristics: intermittence, low bandwidth, high latency, or high expense. The connectivity with one or more of these properties is referred to as weak connectivity. In the extreme case, mobile clients will be forced to work under the disconnected mode. The ability to operate in disconnected mode can be useful even when connectivity is available. For example, disconnected operations can extend battery life by avoiding wireless transmission and reception. It can reduce network charges, an important feature when charge rates are high. It allows radio silence to be maintained, a vital capability in military applications.

FULL CLIENT ARCHITECTURE

Android is a software stack for mobile devices that includes an operating system, middleware and key applications. Android is a software platform and operating system for mobile devices based on the Linux operating system and developed by Google and the Open Handset Alliance. It allows developers to write managed code in a Java-like language that utilizes Google-developed Java libraries, but does not support programs developed in native code. The unveiling of the Android platform on 5 November 2007 was announced with the founding of the Open Handset Alliance, a consortium of 34 hardware, software and telecom companies devoted to advancing open standards for mobile devices. When released in 2008, most of the Android platform will be made available under the Apache free-software and open-source license.
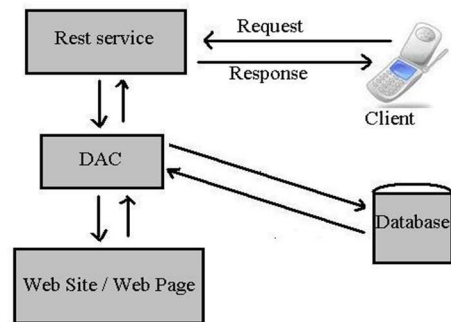

(Working of Smart Complaint Register)

Open - Android allows to access core mobile device functionality through standard API calls. All applications are equal - Android does not differentiate between the

phone's basic and third-party applications -- even the dialer or home screen can be replaced. Breaking down boundaries **-** Combine information from the web with data on the phone -- such as contacts or geographic location -- to create new user experiences. Fast and easy development **-** The SDK contains what need to build and run Android applications, including a true device emulator and advanced debugging tools.

ANDROID ARCHITECTURE
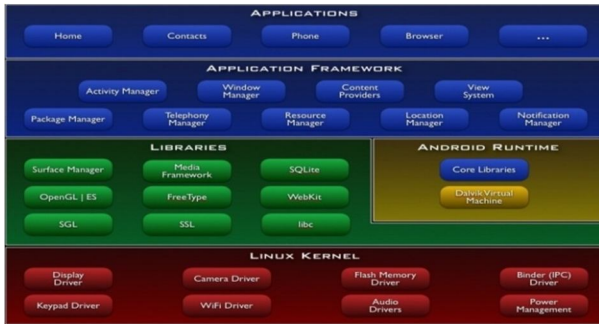
TECHNIQUES USED

1. GPS GPS has become a widely used aid to navigation worldwide, and a useful tool for map-making, land surveying, commerce, scientific uses, tracking and surveillance, and hobbies such as geo caching and way marking. The precise time reference provided by GPS is used in many applications including the scientific study of earthquakes and as a time synchronization source for cellular network protocols. In addition, GPS has, in the words of the website gps.gov, become a mainstay of transportation systems worldwide, providing navigation for aviation, ground, and maritime operations. Disaster relief and emergency services depend upon GPS for location and timing capabilities in their life-saving missions.
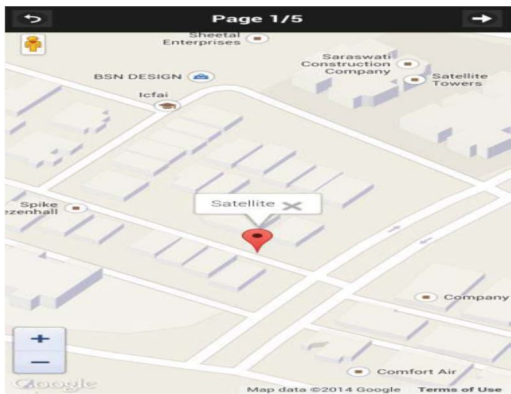
The accurate timing provided by GPS facilitates everyday activities such as banking, mobile phone operations, and even the control of power grids. Farmers, surveyors, geologists and countless others perform their work more efficiently, safely, economically, and accurately using the free and open GPS signal.

2.PhoneGap
The presence of several mobile operating systems in the market makes application development more challenging. Developers aiming to reach out to the majority of users have to develop versions of their applications for several platforms. As each platform has its own set of technologies for developing applications, the development process becomes time consuming and expensive. A solution to this problem has been devised in the form of hybrid applications. These applications are written using web technologies and run inside a native container on different platforms, thereby allowing the developers to write their applications once for all. The GPSCRS mobile application has been developed using Phonegap [4], which is a framework for developing such hybrid mobile applications. It allows applications to be written using HTML5, CSS3, Javascript and jQuery, and automatically converts the applications for different platforms. It provides several application programming interfaces (APIs) for accessing different sensors in the device.
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3.Google Maps API
Google Maps is a web mapping service application provided by Google Inc. It provides street maps and satellite imagery of all locations across the globe. The Google maps Application Programming Interface (API) [5] allows developers to embed the maps into their applications. This API is used in GPSCRS for detecting the administrative area of the complaint and plotting all the registered complaints on the map.

SIMULATION RESULT

This android application enter into a registering compliant where it includes all departments based on the government. When application is opened once the picture has been captured the current location fields will be auto-filled in latitude longitude. Capturing the current situation is not must, if user has any other sort of problem which cannot be captured, the user can upload the complaint without the picture Then controller can view the problem of the complaint in the google map. If complaint has been taken and solve the problem there was tick mark in that particular area.
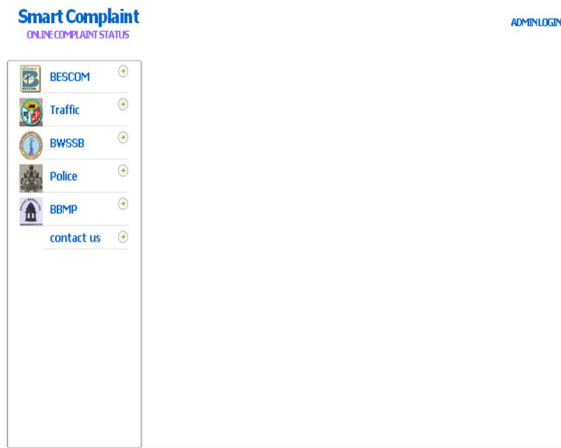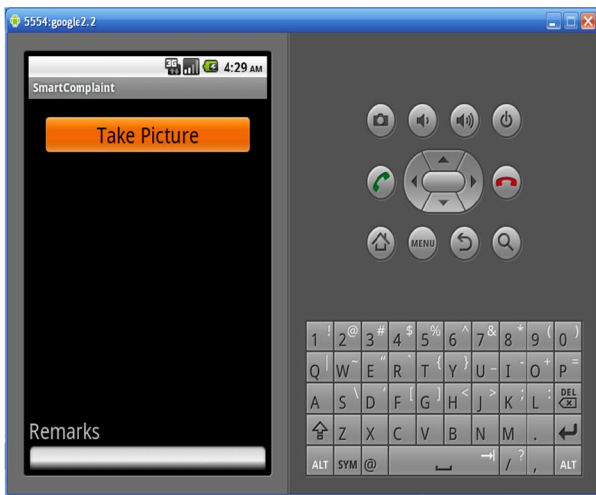
Smart Complaint
ONLINE COMPLAINT STATUS

ADMIN LOGIN

BBMP

Complaint ID	Mobile No	Description	Date	Image	View
07cd908a-bd2c-4c52-bf7e-0134206f2880	9008007164	dghx	12/19/2011 9:28:02 AM		View in detail
dd7177a7-1f20-40c6-99de-d671e749d52a	919008007164	trouble crossing road	12/18/2011 11:51:58 PM		View in detail
3fd97839-9ac7-4bb6-b766-d10a225865fa	919008007164	garbage on road	12/18/2011 11:49:57 PM		View in detail
17365bd4-6551-415c-990f-79a690d7fbe0	919008007164	garbage on road	12/18/2011 11:47:50 PM		View in detail

STATUS: WORK IN PROGRESS.   PRIORITY: HIGH
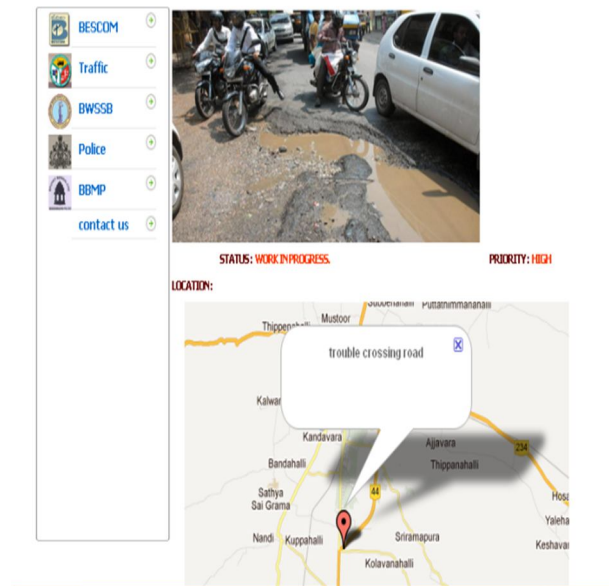
LOCATION:

FUTURE ENHANCEMENT & CONCLUSION

It can be extended to include incident reporting to improve the efficiency of emergency services. It can display the location of the local administrative office and other Government offices of the area in which the device is located. Authorized deployment across the departments through wide demonstrations and system awareness. In current system, complaint registrations for government bodies i.e.: BWSSB, KPTCL, etc are offline. The seriousness of the problem is often not known by offline

means. Even reporting some of the unsocial activities to police department have ended up in imagination based the eye witness to draw a sketch of the accused.

The application solves all these problems. It offers services user can take a snap shot of the particular activity i.e.: water leakage, power cable hanging around, tree fall, unsocial activity etc. The application will augment the current position where the picture is taken. The above augmented picture is sent to the concerned authority. The priority of the complaint would be raised if the numbers of them are considerably more in an area. The map of Bangalore is drawn; here it is colored with red, yellow or green flags respectively ward wise, depending upon the no. of complaints received in an area. Statistical information is maintained such as the no. of complaints received ward wise, no. of them solved, a graph to provide. The pictures are also displayed to the general public on a discussion forum, where they can post their comments.

REFERENCES

[1] Aditi Mhapsekar, Uma Nagarseka, Priyanka Kulkarni and Dhananjay R. Kalbande. "Voice enabled Android application for vehicular complaint system using GPS and GSM-SMS technology," in World Congress on Information and Communication Technologies, 2014, pp. 520-524.

[2] Kim Nee Goh, Yin Ping Ng, Kamaruzaman Jusoff, Yoke Yie Chen and Yoon Yeh Tan. "Architecture of a GPS-Based Road Management System," World Applied Sciences Journal 12 (Special Issue on Computer Applications and Knowledge Management), pp. 26-31, 2014.

[3] Umar Farooq, Tanveer ul Haq, Muhammad Amar, Muhammad Usman Asad and Asim Iqbal. "GPS-GSM Integration for Enhancing Public Transportation Management Services" in Second International Conference on Computer Engineering and Applications, 2013, pp. 142-

[4] "Easily create apps using the web technologies you know and love: HTML, CSS, and JavaScript." Internet: phonegap.com, [Apr. 25, 2012].

[5] "Google Maps Javascript API v3." Internet:developers.google.com/maps/web/, [Apr. 25, 2011].

[6] "Geolocation." Internet:docs.phonegap.com/en/3.3.0/cordova_geolocation_geolocation.md.html,[Apr. 25, 2010].

[7] "The Google Geocoding API." Internet:developers.google.com/maps/documentation/geocoding/, [Apr. 25,2010].

[8] "Camera." Internet:docs.phonegap.com/en/3.3.0/cordova_camera_camera.md.html, [Apr.25, 2008].

[9] Michael G. Wing, Aaron Eklund and Loren D. Kellogg. "Consumer- Grade Global Positioning System (GPS) Accuracy and Reliability," Journal of Forestry, pp. 169-173, June 2007.