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Social Complaint Application

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Abstract

Now-a-days we all have been so unsatisfied with a social service provider like MSEB OR Water supply company that we felt the need to register our grievances with the offending company. Most of the time complaints go unheard, unanswered and unresolved usually because the company is too large to have to worry about one little complaint from one single customer. And this application is here to help. We are aiming to create a mobile application which deals with social complaints and their recovery. This app will be providing the facility of lodging complaints on a mobile phone and track that complaint till its resolved. The various types of complaints could be road repairing, cleaning, emergency services (E.g. Fire, Ambulance)etc. Our idea is to create a mobile application which can help you out with registering the complaints online without the need to have a laptop or desktop with you. Just one click and you can lodge a complaint anywhere, anytime. Our objective of creating this app is to make complaints easier to co-ordinate, monitor and resolve.

I. INTRODUCTION

Now-a-days most of the people use smart phones. In these smart phones the most commonly used platform is Android OS. The Android application that we are creating deals with the social complaints. Complaints are a valuable source of feedback to improve the condition of our country. The citizens may have complaints about their environment and they might not like the traditional complaining system in which they have to go to the office and stand there for hours. Instead they can lodge a complaint by logging into the application. Thus the overall process of coordinating, monitoring and resolving the complaints lodged by the users will

become way to easy, transparent and can be done in much less efforts. So we can also create a system which can help in government services like filing a complaint online, whose processing will be done by the government or NGOs in background. Thus making an intuitive app which can be easily used by the citizens in an optimal manner and keeping them unaware of the background processes and details.

II. ALGORITHMS

1. Distance (lat/long):

The haversine formula is an equation important in navigation, giving great-circle distances between two points on a sphere from their longitudes and latitudes. It is a special case of a more general formula in spherical trigonometry, the law of haversines, relating the sides and angles of spherical triangles. For any two points on a sphere, the haversine of the central angle between them is given by

$$\operatorname{haversine}\left(\frac{d}{r}\right) = \operatorname{haversin}(\phi_2 - \phi_1) + \cos(\phi_1)\cos(\phi_2)\operatorname{haversin}(\lambda_2 - \lambda_1)$$

Where,

- *haversin* is the haversine function:
$$\operatorname{haversin}(\theta) = \sin^2\left(\frac{\theta}{2}\right) = \frac{1-\cos(\theta)}{2}$$
- *d* is the distance between the two points (along a great circle of the sphere),
- *r* is the radius of the sphere,

On the left side of the equals sign d/r is the central angle, assuming angles are measured in radians (note that φ and λ can be converted from degrees to radians by multiplying by π/180 as usual).

This uses the '**haversine**' formula to calculate the great-circle distance between two points – that is, the shortest distance over the earth's surface – giving an 'as-the-crow-

flies' distance between the points (ignoring any hills they fly over, of course!).

Haversine formula:

$$a = \sin^2(\Delta\varphi/2) + \cos\varphi_1 \cdot \cos\varphi_2 \cdot \sin^2(\Delta\lambda/2)$$
$$c = 2 \cdot \operatorname{atan2}(\sqrt{a}, \sqrt{(1-a)})$$
$$d = R \cdot c$$

where φ *is latitude,* λ *is longitude,* R *is earth's radius (mean radius = 6,371km); note that angles need to be in radians to pass to trig functions!*

2. AES

AES is based on a design principle known as a substitution-permutation network, combination of both substitution and permutation, and is fast in both software and hardware. Unlike its predecessor DES, AES does not use a Feistel network. AES is a variant of Rijndael which has a fixed block size of 128 bits, and a key size of 128, 192, or 256 bits. By contrast, the Rijndael specification per se is specified with block and key sizes that may be any multiple of 32 bits, both with a minimum of 128 and a maximum of 256 bits.

AES operates on a 4×4 column-major order matrix of bytes, termed the state, although some versions of Rijndael have a larger block size and have additional columns in the state. Most AES calculations are done in a special finite field.
The key size used for an AES cipher specifies the number of repetitions of transformation rounds that convert the input, called the plaintext, into the final output, called the ciphertext. The number of cycles of repetition are as follows:

10 cycles of repetition for 128-bit keys.
12 cycles of repetition for 192-bit keys.
14 cycles of repetition for 256-bit keys.

Each round consists of several processing steps, each containing four similar but different stages, including one that depends on the encryption key itself. A set of reverse rounds are applied to transform ciphertext back into the original plaintext using the same encryption key.

The input and output for the AES algorithm each consist of sequences of 128 bits (digits with values of 0 or 1). These sequences will sometimes be referred to as blocks and the number of bits they contain will be referred to as their length. The Cipher Key for the AES algorithm is a sequence of 128, 192 or 256 bits. Other input, output and Cipher Key lengths are not permitted by this standard. The bits within such sequences will be numbered starting at zero and ending at one less than the sequence length (block length or key length). The number i attached to a bit is known as its index and will be in one of the ranges 0 £ i < 128, 0 £ i < 192 or 0 £ i < 256 depending on the block length and key length.

3. Base64

Base64 is a generic term for a number of similar encoding schemes that encode binary data by treating it numerically and translating it into a base 64 representation. The Base64 term originates from a specific MIME content transfer encoding.
Base64 encoding schemes are commonly used when there is a need to encode binary data that needs be stored and transferred over media that are designed to deal with textual data. This is to ensure that the data remains intact without modification during transport. Base64 is used commonly in a number of applications including email via MIME, and storing complex data in XML.
The particular choice of characters to make up the 64 characters required for base varies between implementations. The general rule is to choose a set of 64 characters that is both part of a subset common to most encodings, and also printable. This combination leaves the data unlikely to be modified in transit through systems, such as email, which were traditionally not 8-bit clean. For example, MIME's Base64 implementation uses A-Z, a-z, and 0-9 for the first 62 values. Other variations, usually derived from Base64, share this property but differ in the symbols chosen for the last two values; an example is UTF-7.

III.LITERATURE SURVEY

The Bombay high court (HC) was on Friday informed that though a website started by the BMC allows citizens to post pictures of potholes, there is no system that alerts them about whether their grievance has been addressed.
The court then suggested that the civic body form a three-layered scheme wherein citizens can register their complaints either online, on the phone or through social networking websites. The court was hearing a suo motu public interest litigation (PIL) on the poor condition of roads in the state and the recent incidents of bikers' deaths due to pothole-ridden roads.

www.voiceofcitizen.com
The objective of this Portal is to provide Citizen an ability to report their inconveniences and problems related to MCGM's public work management. This is an attempt by MCGM to bring transparency into the operation of corporation. With the first release we are bringing in Pothole Reporting Feature.
Prediction of human collision avoidance behavior by lifelong learning for socially compliant robot navigation, IEEE 2014

In order to act socially compliant with humans, mobile robots need to show several behaviors that require the prediction of people's motion. For example, when a robot avoids a person, it needs to respect the human's personal space and the avoidance behavior needs to be

smooth, so that it is understandable to the interaction partner. To achieve this, the robot needs to reason about future paths a person is likely to follow. Because humans adapt their avoidance behavior to the robot's motion, the proposed method performs lifelong learning of the people's behavior while it adapts its own behavior to their motion. The human avoidance behavior is modeled by a discrete, multi-modal, spatio-temporal distribution over the people's future occurrences.

PTS - Pothole Tracking System
This application is an initiative taken by MCGM to provide a ultimate citizen friendly solution where people can report their grievances related to the Road Maintenance work around them. This application helps you to report the complaints directly to the senior authorities of the Civic Body resulting instant response from the Road Maintenance Unit of MCGM. Complaints are forwarded to the concerned Contractors/Agencies in no time.

IV.GOALS AND OBJECTIVES

- The system will be consisting of different things like a database, a server, some web services related to that server
- A user interface through which the user can interact with the app.
- Different modules will be providing different functionalities.
  - User Interface:
    - A graphical user interface (GUI) will be provided for the app
  - Database:
    - The details of users and staff like their name, contact no., UIDs, passwords etc will be stored
  - Server:
    - The server for our app is implemented with HTML, CSS as front end and java as back end.
    - The role of the server is to store, retrieve and modify data according to the needs of admin, users and workers.
  - Web services:
    - For the connection between the app and server the REST protocol will be used.
  - Upload Image:
    - The user will have to capture an image of the site of complaint and upload it on the app
  - Calculate Location:
    - The GPS is integrated in the app which will calculate the exact location of your device
  - Notifications
    - Once the complaint has been lodged then according to its category a notification to the respective dept will be sent.

V.METHODOLOGIES OF PROBLEM SOLVING

The system will be consisting of different things like a database, a server, some web services related to that server, a user interface through which the user can interact with the app. Different modules will be providing different functionalities.

- **Admin**:

Admin is the head of this entire system. Admin has the duties of verifying a newly registered user, and changing his status as verified user. Also he should check the complaints and assign it to a worker if system hasn't doneit and when the complaints have been served, verify it. The admin has the power of adding a new worker to the system; he can do it on the server and will personally message the worker about his credentials.

- **Use**r:

  The user will primarily use the use GUI for registering a new complaint by providing the necessary data. If he is not a registered user then he may register himself first. The user can sign into the server and look for all registered complaints and their results. Also he can keep track of the complaints registered by him.

- **Worker/Servant:**

These are the actual people working for the app. When a complaint is registered it will get assigned to a worker by the system. Then he will serve the complaint and update the status

VI.CONCLUSION

In big countries like India, where the cities are growing faster day by day, an application like this will be very useful to manage the cities properly, help out the people in need immediately and will reduce the load of filing complaints in offices. Active participation of citizens in keeping their cities clean, tidy and a better place to live.

VII.References

1. Robi Grgurina, Goran Brestovac, Tihana Galinac Grbac.(2011).Development Environment for Android Application Development: an Experience Report.University of Rijeka.
2. Chao Wang,Wei Duan,Jianzhang Ma,Chenhui Wang.(2011).The research of Android System Architecture and application programming.Liaoning Infonnation Vocational Technical College Liaoyang, China and Northeastern University Shenyang, China.
3. Sunil Kumar Kopparapu.(2008).Natural Language Mobile Interface to Register Citizen Complaints.TCS Innovation Lab - Mumbai.
4. Cherrie W.W. Ng and Dickson K.W. Chiu.(2006).e-Government Integration with Web Services and Alerts:A Case Study on an Emergency Route Advisory System in Hong Kong.Hong Kong University of Science and Technology Dickson Computer Systems, Hong Kong.
5. Yooncheong Cho, Il Im, Roxanne Hiltz, Jerry Fjermestad.(2002.)An Analysis of Online Customer Complaints:Implications for Web Complaint Management. The State University of New Jersey.
6. Chung-Ming Huang, Chia-Ching Yang, Chun-Yu Tseng, Chih-Hsun Chou. A Centralized Traffic Control Mechanism for Evacuation of Emergency Vehicles Using the DSRC Protocol. Laboratory of Multimedia Mobile Networking Department of Computer Science and Information Engineering National Cheng Kung University, Tainan, Taiwan, R.O.C.