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FINDING NEAREST LOCATION USING DATA MINING AND MAPREDUCE

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Abstract— The common people don't have a proper platform to lodge their complains.There are already some apps which can give a specific service but not effective.So we are trying to build a application which is user-friendly and solves the submitted problems.The people queries are taken by Data Mining and sorted by Text Mining with help of NLTK.Each query is identified,analyzed and the most fastest possible solutions that can be provided to the complain is selected by MapReduce.Also the web application can provide live tracking of the complain,Geolocation of the official and the action being taken by the responsible official.The user can directly view and manage the status of his/her grievance.Though the queries are only analysed with text format upto now, image,audio,and video format analyzing can be upgraded in future.

Keywords— e-grievance, effective communication, Serve India, volunteer, digital India

INTRODUCTION

With the rapid growth of population, the people grievances and complaints are also increasing. Grievance redressal mechanism is the most important part of any administration. But the existing grievance system of India follows the same traditional manner of lodging grievances. The main aim of our proposed application is to make such a system where putting up a complaint becomes more interactive and user friendly and to sort out the different problems and bring in to the notice of the local authority the basic problems of their particular area so that the grievance handling system become more efficient and simple. As most of the people now are more addicted to photos and selfies, the system proposed by us will be more relatable to the youth. In our day to day life we face many problems, which we think of bringing in the notice of the concerned authorities quickly without the tedious process. In the system proposed by us, the user can upload complains in the form of images, videos or text. The local authorities will get to see a sorted form of these complains. The other registered users can also see the different problems lodged by the people in their or the other locality. Many of the citizens of our country want to work for the development of the nation and to train the people in the rural areas who don't know properly about the services offered by the government, therefore the other module in our system would be the Serve India module in which the people who want to volunteer can register themselves and based on their availability and locality they will be assigned different awareness programs to volunteer organized by the government.

User of the system:

- Local common people.
- Local authority.
- Other higher authority of grievance redressal system.

EXISTING SYSTEM

The current grievance systems available are android application in which users can lodge complaints only of certain type provided by the government and it follows the same traditional method of complaining in which the user have to fill up a form and put up the complain in textual form. No other form of complains are accepted other than the forms specified. These application doesn't Show Worker's Details. The User Cannot Track the progress of problem completion.

PROPOSED SYSTEM

The user first has to sign up and register his/her account and then login to his\her account. The user then has to enter his/her location or allow application to automatically track the user's location. After this step the user can upload his/her complains or grievance in any of the form i.e either in the form of images, text or video. After the user have uploaded his/her complain he/she can track his/her complain status. The local concerned authority responsible for the grievance redressal can log-in using their password and id and then after the log-in they'll be able to see the complains in a sorted order with different patterns recognized through the analysis performed. The People view & Communicate with The Workers directly.The Problem are Passed to the Next Authority Automatically in a sequenced manner.Users can view their problems Status whenever they wish.Users complain are sent to a Particular Department by the application.

IMPLEMENTATION

A. Implementation of Django-web framework with Python:

The Django is a free source application which we have downloaded and used for our application.Initially a virtual environment is created for Django to work with using windows power shell.A Project location is fixed and the apps are started for making the web pages.A latest version of Python is also installed through command prompt.Only after activating the virtual environment the server should be run.The python pakages like crispy forms,NLTK,Geolocation are installed for using in the application.The models py file will be the main linker and shares metadata to database.The database comes in-build with the Django-framework which is Sqlite3 database.The views py file is the renderer for displaying contents on the web page and also the Html files.

B. Implementation of Dataming & Webmining :

Data mining is a concept of identifying a significant pattern from the data that gives a better outcome while Web mining is the Process of performing Data mining in the web.Extracting the web documents and discovering the patterns from it.

The data from all the people whose complains are required to be solved are mined from the database and the authority nearby who can solve the people problem is calculated from the data online.The User queries are taken in by search complain and processed by natural language programming where the complain is categorized based on the corresponding problem department.The problem is analyzed and the complain is sent to the authority available nearby the one who gave the complaint.If the status of the problem is not solved with the first person it is automatically transferred to the next officer in charge who will be trying to solve the problem.

C. Implementation of MapReduce Algorithm

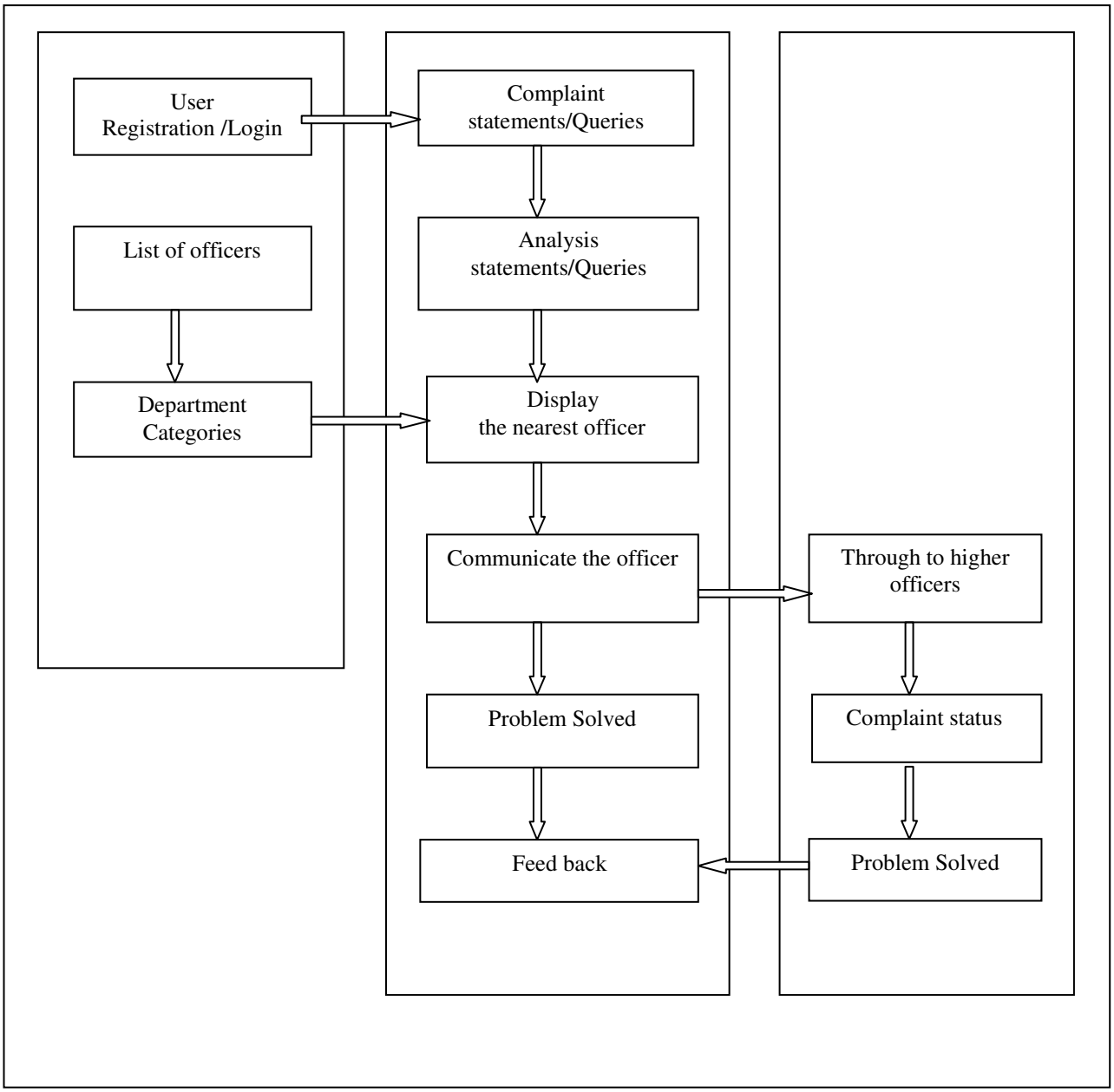
All the complains that will be uploaded by the users will be analyzed by using the map reduce method, as the amount of data will be large and the basic analysis method cannot be used.We will be using the map reduce method with Hadoop file system for simplifying the analysis of the large data.

1) Data collection and Hadoop Implementation: First the Hadoop implementation has to be done. After that the data collection process will be done. Data will be collected from various sources.
2) Analysis: The data is collected from different people in the form of complains and grievance.After processing and cleaning the data files, This data will be analyzed according to the above categories.
3) Implementation of searching: Here the admin i.e the local authority will be able to see a list of complains of his/her particular area. In this manner whenever he/she will log-in internal background search operation will be done based on the location of the authority which is assigned to him/her. After this the authority can search the problems based on the different types.
4) Implementation of Sorting: Here the admin i.e. the local authority can perform sorting on the basis of the count of the problem which will in turn define the seriousness.

FEATURES

1. The web application is simple and easy to understand by all the people.
2. The complains need not be grammatically correct since the NLTK can automatically analyze and convert it correctly.
3. The interface provides both the people and workers interact simultaneously by providing a stable database.
4. A limited Internet speed is more than enough for running the application.
5. People can easily view the worker location and vice versa,for solving the problems.

WORK FLOW DIAGRAM



METHODOLOGIES

NLTK is a leading platform for building Python programs to work with human language data. It provides easy-to-use interfaces to over 50 corpora and lexical resources such as WordNet, along with a suite of text processing libraries for classification, tokenization, stemming, tagging, parsing, and semantic reasoning, wrappers for industrial-strength NLP libraries, and an active discussion forum.NLTK has been called "a wonderful tool for teaching, and working in, computational linguistics using Python," and "an amazing library to play with natural language." MapReduce is a processing technique and a program model for distributed computing. The MapReduce algorithm contains two important tasks, namely Map and Reduce. Map takes a set of data and converts it into another set of data, where individual elements are broken down into tuples (key/value pairs). Secondly, reduce task, which takes the output from a map as an input and combines those data tuples into a smaller set of tuples. As the sequence of the name MapReduce implies, the reduce task is always performed after the map job.

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CONCLUSION

The proposed system overcomes all the existing system problems by directly maintaining a interaction with the user and staff.The system is highly secure and easy to navigate for common people.The problems put-forth by the people is solved completely byomplementing this System.

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