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Twitter Stream Analysis for Traffic Detection in Real Time

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Abstract: Now days, social networking are more popular. For example, twitter, Facebook etc. Social networking is used for event detection in real time. Real time events are traffic detection, earthquake monitoring. In this paper, we use the the twitter for real time traffic event detection. Firstly, the system extracts the tweets from twitter and applies the text mining techniques on that tweets. Those techniques are tokenization, stop-word removing, stemming. After that classify that on the basis of class label i.e. traffic event or no traffic event. In this paper, we present an online method for detection of real-traffic events in Twitter data.

Keywords:- Traffic event detection, tweet classification, social sensing, text mining.

I. Introduction

The many Social media sites are used people in daily life like Facebook, Google+ And also Twitter. But Twitter is Fastest grow in new Message. Twitter is becoming a most useful tool in daily life for real-time information sharing on a large amount of data or information. Twitter currently makes 340, 000, 0000 numbers of tweets per day from more than 140, 000, 000, 0 in one day. users post messages like Audio, Video And Image related to specific real-time traffic events as they happen, or shortly after. The other sites also provide important information about Traffic related events. And also main important Character of the third category has shown that Twitter can be used to alert the people about traffic faster than traditional media. From twitter analysis it shows that breaking news get viral on twitter. The detection of events on Twitter in real-time is challenging for several reasons. The first, most important part is the size of the messages is large and unpredictable and, second, the message content makes most of the large to small size data will produce by Text Mining. After that use all tweets containing the term candidate to compute the scores that aim to capture different characteristics of the event. The Twitter platform provides direct access to the public live stream of Twitter messages and Application Programming Interface (API) to application developers for receiving a large portion of the total number of daily produced tweets.

A. Purpose

The main purpose of the system is get Public traffic tweets from twitter. for real-time detection of traffic-related events from Twitter stream analysis. The system is also able to discriminate if a traffic event is due to an external cause, such as football match, procession and manifestation, or not. Web portal gets array of latitude and longitude and sends return to traffic between that array with causes. Alternate path displayed with traffic.

B. Scope

This system is generally based on get Public traffic tweets from twitter and Apply tokenization, remove stop words and apply stemming to a particular tweet. Our traffic detection system based on Twitter streams analysis is presented. And it detects the traffic events in real-time. Haversine method is used to calculate the distance between two latitude-longitude pairs, Triangulation for getting GPS Location. After comparing the longitude and latitude having traffic, it is displayed on the maps of Android device. The system is use to Twitter as data source for fetching the all post regarding the road traffic and Accidents.

II. Objectives

Our traffic detection system based on Twitter streams analysis is presented. And it detects the traffic events in realtime. Also Web part gets array of latitude and longitude of searched path and then the latitude and longitude of the traffic is compared with searched path with their causes. After comparing the longitude and latitude having traffic, it is displayed on the maps of Android device. Haversine method used to calculate distance between two latitude-longitude pairs, Triangulation for getting GPS Location.

III. Literature Survey

Twitter is, in nature, a good resource for detecting events in real-time. In this survey paper, authors have presented four challenges of tweets event detection: health epidemics identification, natural events detection, trending topics detection, and sentiment analysis. Get Public traffic tweets from twitter and Apply tokenization, remove stop words and apply stemming to a particular tweet, We have maintained lists of causes (e.g. Accidents, Traffic, Jams, Vehicle breakdowns, etc.) and we check these causes in that particular tweet. Web part gets array of latitude and longitude of searched path and then the latitude and longitude of the traffic is compared with searched path with their causes.

IV. Proposed System

- ❖ In this paper, we propose an intelligent system, based on text mining and machine learning algorithms, for real-time detection of traffic events from Twitter stream analysis.
- ❖ The system, after a feasibility study, has been designed and developed from the ground as an event-driven infrastructure, built on a Service Oriented Architecture (SOA).
- ❖ The system exploits available technologies based on state-of-the-art techniques for text analysis and pattern classification. These technologies and techniques have been analyzed, tuned, adapted, and integrated in order to build the intelligent system.
- ❖ In particular, we present an experimental study, which has been performed for determining the most effective among different state-of-the-art approaches for text classification. The chosen approach was integrated into the final system and used for the on-the-field real-time detection of traffic events.
- ❖ In this paper, we focus on a particular small-scale event, i.e., road traffic, and we aim to detect and analyze traffic events by processing users' SUMs belonging to a certain area and written in the Italian language. To this aim, we propose a system able to fetch, elaborate, and classify SUMs as related to a road traffic event or not.
- ❖ To the best of our knowledge, few papers have been proposed for traffic detection using Twitter stream analysis. However, with respect to our work, all of them focus on languages different from Italian, employ different input features and/or feature selection algorithms, and consider only binary classifications
- ❖

V. PROPOSED TRAFFIC DETECTION METHOD

A. System Architecture

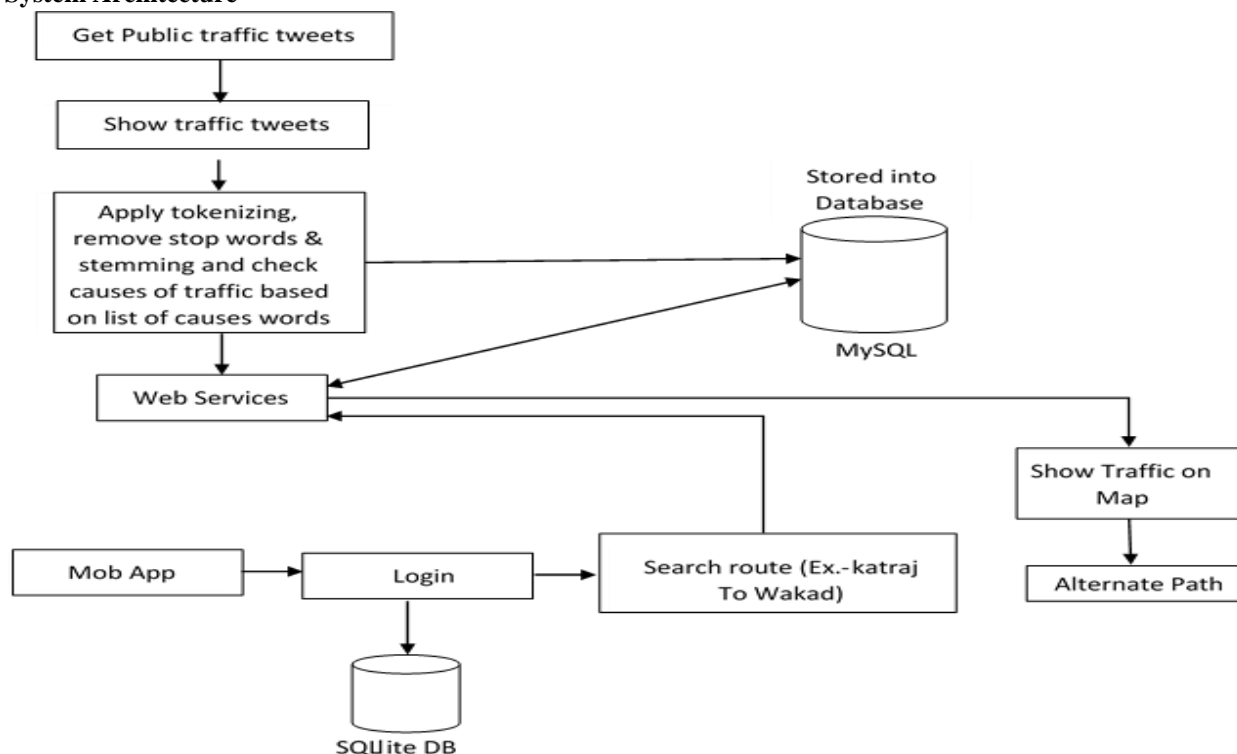


Fig: Traffic detection System

Figure shows the architecture of the traffic detection system. In figure, first get public traffic related tweets. Applying the NLP techniques on that tweets, such as tokenization, stop word removing and stemming. And also checks the list of causes of the traffic and stored into database. User can login from the mobile application and searching for route, this query go to web service . Web

service is a method of communication between two electronic devices over a network. Web service is a software function provided at a network address over the Web with the service. A Web service generally as, a software system designed to support interoperable machine-to-machine interaction over a network. Web part gets array of latitude and longitude of searched path and then the latitude and longitude of the traffic is compared with searched path with their causes. After comparing the longitude and latitude having traffic, it is displayed on the maps of Android device. If user can see traffic on that way. then Also it can select the alternate path

VI. System Features

6.1 Functional Requirements

- System should support android handset.
- System should monitor the user location correctly
- System should properly interact with the server

6.2 System Specification

➤ System	:	Pentium IV 2.4 GHz.
➤ Hard Disk	:	40 GB.
➤ Floppy Drive	:	1.44 Mb.
➤ Monitor	:	15 VGA Colour.
➤ Mouse	:	Logitech.
➤ Ram	:	512 Mb.

VII. Technical Specifications

7.1 advantages

- Easily traffic will be detected.
- Alternative path will be displayed

7.2 Dis-Advantages

- Need of internet connection is compulsory to transfer the data.

VIII. Conclusions

In this system we have proposed a system for real-time detection of traffic-related events from Twitter stream analysis and we have also maintained lists of causes (eg. Accidents,Traffic, Jams, Vehicle breakdowns, etc.). We check these causes in that particular tweet: Showing traffic tweet with causes and Showing traffic between two points.

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