IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 6, June 2022
Impact Factor: 6.252

Public Incident Logging System

Mr. Nagaraja G[1], Prerana S[2], Rachana GS[3], Shree Raksha A[4], Sireesha NS[5]
Associate Professor, Department of Information Science and Engineering[1]
Students, Department of Information Science and Engineering[2,3,4,5]
S J C Institute of Technology, Chickballapur, Karnataka, India

Abstract: *A mobile app project to enable the public to log the incidents like disputes, potholes, accidents, any disturbances, emergencies, personal safety issues, complaints, bribery compliance, mistreatment, bullying, harassment, health issues, etc. by choosing the respective channel at a given geographic location that will be delivered to the respective channels like authorities, media, etc... This will enable the concerned authorities to take action and initiate a formal process. This mobile app will have channel login and public login by mobile number and password. Registration must capture device ID and IP address. Chanel should be able to track all received incidents and update the status that will be visible to those parallel channels as read-only channels like media who will have read-only access to all channels related to government services.*

Keywords: Disputes, Bribery, Bullying, Mistreatment.

I. INTRODUCTION

The involvement of citizens in incident reporting has been in existence for a long time, e.g., almost all major cities have emergency service lines where citizens can report incidents such as road accidents, domestic abuse, fire, robbery/theft, shooting, hostage situation, etc. The emergency service number is typically a two or a three-digit number, that provides dispatch and communication support services for police, fire, ambulance, and related services to the caller. On average, it takes an emergency operator at least two to three minutes to collect the necessary information in order to respond to the caller A delay in collecting correct information about the incident can result in delayed incident response. Many traffic-car accidents result in deaths in developing countries every year due to the poor emergency response and reporting, e.g., according to the statistics of the India's department of highway and street transport, there were around 0.5 million road accidents in year 2000, which resulted in about 0.52 million injuries and more than 0.13 million deaths. The most obvious reason for a person's death during traffic accidents is unavailability of the first aid provision, which is due to the delay in the information of the accident being reached to the ambulance or to the medics. Thus, response time is crucial for the timely delivery of emergency medical services to accident victims and is expected to have an impact on fatalities. Similarly in other life endangering situations such as shooting, burglary, etc., a timely response from the concerned authorities could make a large difference in victims' survival rates. Therefore, communication plays an important role at the time of critical situations, where the loss of a few seconds can mean the difference between life and death. Every year, about three hundred thousand people who call the emergency services cannot describe their location, because they may not know the exact location of the incident's occurrence [5]. In critical situations, knowing the exact location information in latitude and longitude of the incident reporter can help incident management authorities to react quickly and save lives. Today's mobile and smart devices are able to provide emergency services with accurate caller location via an SMS or data channel by using built-in Global Navigation Satellite System (GNSS) or Wi-Fi capabilities. Given the multitude of sensors (accelerometer, microphone, and high-resolution cameras) and Internet connectivity present in modern smart phones, these devices can help in reporting accurate geo-coordinates of the incident location, and the extent and nature of the incident to the relevant authorities. The increasing popularity of smart phones and the technological advancements in mobile communication and information systems have the most significant impact in the growth of the web based and mobile incident management systems.

II. PROBLEM IDENTIFICATION

The lack of awareness of the traffic accident, any disturbances, emergencies, personal safety issues, complaints, bribery compliance, mistreatment, bullying, harassment, health issues, ahead would probably cause serious congestion or more serious secondary problems. Incident reporting and management systems are used to gather and process information

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 6, June 2022
Impact Factor: 6.252

about day-to-day occurring incidents such as road accidents, domestic violence, burglaries, harassment, etc. Nowadays, citizens can report such incidents through different means such as calling national emergency lines via telephones or mobile phones, or sending reports via Internet through web-browsers, or smartphones-based applications. A quick and appropriate response to the incidents can reduce both societal costs and fatality rates. Many smartphone-based applications and web-platforms exist that allow a person to send an image, a video, or map-based incident related reports to alert the concerned authority.

III. RELATED WORK

Before building our application, the following.

1. Title: Intelligent Traffic Accident Detection System Based on Mobile Edge Computing

Abstract: The lack of awareness of the traffic accident ahead would probably cause serious congestion or more serious secondary traffic accidents. Usually, accident detection is to use equipment in vehicles to detect accidents and send accident information to related people by SMS containing texts only, which is expensive, inconvenient and cannot avoid secondary accidents. This paper proposes an intelligent traffic accident detection system based on Mobile Edge Computing with proximity, low latency and computing and vehicle identification. Our system utilizes common smartphnes to obtain acceleration and speed, and identifies images showing accident scenes mainly at servers in case of false positives, realizing automation of accident detection and notifying surroundings and departments like hospitals and department of transportation in real time. Besides, our system can also report the finishing of accidents according to crowd sensing. The experimental results demonstrate our system can work in real time with simulated data.

Advantages: It can avoid primary accidents.

Disadvantages: Expensive, inconvenient and cannot avoid secondary accidents.

2. Title: The Discrete Model for Incident Detection Using Mobile Phones

Abstract: It is generally agreed that the current automatic incident detection algorithms do not achieve the desirable levels. The widespread adoption of mobile phone use among the motoring public suggests considerable potential for incident reporting through mobile phones. Thepri mary advantages of mobile phones are their low cost compared with the cost of a network-wide sensing system. And they are abundant. In this paper, we first explore an approach to simulate incident detection via mobile phone based on a stochastic modeling of section-wide lane traffic systems, which is the real-time estimation of the incident-induced traffc congestion and then discuss the numerical results.

Advantages: Mobile phones are their low cost compared with the cost of a network-wide sensing system and they are abundant.

Disadvantages: The false detection rate can be varied based on the accuracy of the information received.

3. Title: Incident Management System

Abstract: This dissertation for a bachelor project in computer science at Karlstad University will describe how to conquer a challenge suggested by Tieto: How to create a secure Incident Reporting System with a high level of confidentiality and security for the contents. The system should be easy to use and encourage incident reporting, open for changes and statistics gathering, for those with the relevant authority. The result will be a requirement specification and a prototype incident management system that matches those requirements. Any employee of Tieto will be able to submit an incident report and the system will notify a security administrator at Tieto who will solve the problem. The system will be able to gather information and statistics regarding incidents which can be used as decision support.

Advantages: Creates a secure Incident Reporting System with a high level of confidentiality and security for the contents.

Disadvantages: Only users with proper access rights can read reports.

4. Title: Safer City: a System for Detecting and Analyzing Incidents from Social Media

Abstract: Vehicle accident is the paramount thread for the people's life which causes a serious wound or even dead. The automotive companies have made lots of progress in alleviating this thread, but still the probability of detrimental effect due to an accident is not reduced. Infringement of spFieed is one of the elementary reasons for a vehicle accident. Therewithal, external pressure and change of tilt angle with road surface blameworthy for this mishap. As soon as the

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 6, June 2022
Impact Factor: 6.252

emergency service could divulge about an accident, the more the effect would be mitigated. For this purpose, we developed an Android based application that detects an accidental situation and sends emergency alert message to the nearest police station and health care center. This application is integrated with an external pressure sensor to extract the outward force of the vehicle body. It measures speed and change of tilt angle with GPS and accelerometer sensors respectively on Android phone. By checking conditions, this application also capable of reducing the rate of false alarm.
Advantages: Demonstrate its usefulness in detecting, from Twitter, public safety related incidents.
Disadvantages: Security and privacy policy issues.

IV. IMPLEMENTATION

We are developing this project with the following modules.
Modules:

1. Admin
2. User

Module Description:

1. **Admin:**

In this module admin is the primary user in our application. Admin will add the officers details into our application. Admin is having full rights to adding authority, deleting and editing.

Pseudo Code:

- STEP 1: Login with credentials.
- STEP 2: Add authorities.
- STEP 3: Edit details.
- STEP 4: Delete Details.

User:
In this module User is an secondary user who can upload the event details to the system.
Once user upload the event details system will find out the event type and corresponding authority.

Pseudo Code:

- STEP 1: Upload the incident details.
- STEP 2: Find authority.
- STEP 3: Send report.

V. CONCLUTION

Many smartphone-based applications and web-platforms exist that allow a person to send an image, a video, or map-based incident related reports to alert the concerned authority. A few reporting platforms and systems are also available to report the incidents anonymously to the relevant authorities to protect the eyewitnesses or victims.This paper presents a comprehensive survey and analysis of existing incident reporting and management systems. For this purpose, we have discussed the systems in terms of their features, implementation details, and benefits. Then, all the systems are compared in terms of features, functionality, security, and anonymity property. With the recent trend of growing number of applications based on crowd-sourcing, and increasing level of user participation in social media networks during disasters or incidents occurrence, governments and the concerned emergency response officials are able to respond effectively and efficiently to incidents. How-ever, the main challenge lies in the effective and efficient response from the concerned emergency response officials are able to respond effectively and efficiently to incidents.
How-ever, the main challenge lies in the effective and efficient response from the concerned incident response officials, while detecting/preventing false incident reports, and providing data security and revocable privacy options in the system to enable eyewitnesses/reporters to report the incident without fear of his/her safety.

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 6, June 2022
Impact Factor: 6.252

ACKNOWLEDGEMENT

The authors gratefully acknowledge the contributions of Associate Professor Nagaraja G and authors who made their contributions to the earlier part of the work which had been previously published.

REFERENCES

[1]. R.Gordon, "Traffic Control Systems Handboo Security and privacy policy issues.
[2]. k," FHWA Report No. FHWA-SA95-032, February 1996.
[3]. M.Renatus, U.Jonathon, "Evaluation of Driver-Base Freeway Incident Detection," ITE Journal, vol. 67, no. 3, pp. 33-40, March 1997.
[4]. M.Renatus, UJonathon, "Simulator Evaluation of Incident Detection Using Wireless Communications," presented at the 79th Annual Meeting of the Transportation Research Board, Washington D.C., 2000.
[5]. Jiuh-BiingSheu, Yi-Hwa Chou, Mei-Chum Weng, "A real-time signal control methodology for alleviating incident-induced traffic congestion on arterials," 2002 6~ IEEE, pp. 762-767
[6]. J.Blosseville, J.Monn, "Video image processing aoolication: automatic incident detection freeways," Prbceeding of the Pacific Rim Trans Tech Conference, July 25-28, 1993, pp. 69-76
[7]. L. Li et al., "A Study on Motor-Scooter Accidents in China and Germany," in Fifth Conference on Measuring Technology and Mechatronics Automation, 2013, vol. 277, pp. 110–113.
[8]. S. Gothane, "Analyzing Factors, Construction of Dataset, Estimating importance of factor and generation of association rules for Indian road Accident," in IEEE 6th International Advanced Computing Conference, 2016.
[9]. J. Zarif, "16 deaths every hour : Indian roads claim the maximum number of lives in 2014," 2020. [Online]. Available: http://timesofindia.indiatimes.com/india/16-deaths-every-hourIndianroads-claim-the-maximum-number-of-lives-in 2014/articleshow/48128946.cms. [Accessed: January, 2020}
[10]. S. Tapadar, S. Ray, and R. Karlose, "Accident and Alcohol Detection in Bluetooth enabled Smart Helmets for Motorbikes," in 8th Annual Computing and Communication Workshop and Conference (CCWC), 2018.
[11]. A. Karthik, K. Gb, K. Pai, and A. Srinivas, "Smart Helmet," in National Conference on Product Design (NCPD), 2016