

Smart Intelligent Security System for Women

Saraswathi D¹, Prakruthi P², Seema Durrani³, Sudharani N⁴, Varalakshmi C⁵

¹*Asst. Professor, Dept of ISE, Maharaja Institute of Technology Mysore, India.*

^{2,3,4,5}*Engineering Student, Dept of ISE, MITM*

Date of Submission: 11-06-2020

Date of Acceptance: 28-06-2020

ABSTRACT: In today's world, people using smart phones have been increasing rapidly day by day and hence, a Smartphone can be used efficiently for personal security or various other protection purposes. The wicked incident that shocks the entire nation have waken us to go for the security issues. Due to these issues, a new apps have been developed to provide secure systems to women via their smart phones. This project describes about smart intelligent security system for women. Around the world women's are undergoing physical harassment. This acquires a fast step due to lack of suitable close observation of the system. Our project is a venture to resolve these problems occurring in our surroundings. An Android Application is developed for the Safety of Women and this app can be activated by a single click, whenever need arises. A single click on this app or on vigorous shake of the smart phone trace the location of place through GPS and a message comprising this location URL will be sent to the registered contacts to help the one in dangerous situations. The unique feature of this application is to send the message to the registered contacts when "stop" button in the application is clicked or on the vigorous shake of the women's phone. The location URL is sent for tracking information via SMS to find the location of the women quickly and help to rescue the women safely as soon as possible.

KEYWORDS: Android, GPS, URL, Registered Contacts, Smartphone

I. INTRODUCTION

Women are working for the welfare of their families. Women's security plays a wide role in the family as well as in society. We must recognize that they should be well secured as they are main pillar of the families. A Woman is less powerful while comparing with men physically, in a critical situation and meanwhile they need a helping hand to relieve themselves. The best way to minimize chances in becoming a victim of violent crime (robbery, sexual assault, rape, domestic violence) is to identify and call on

resources to help her out of unsafe situations. Whether you are in instant trouble or got separated from friends during night and in any crowd places and do not know how to get home, having these apps on your phone can decrease your risk and bring aid when you require it. A swarm of new apps have been developed to provide security system to women on their phones. Here, for ensuring the safety of women, we have introduce an android application. It decreases the risk and it will be favor for us in need by identifying the location of person who is in danger. In this paper, we have used technology like Internet of Things (IoT). Using IoT to connect the women with her family. We have developed the android application to send the emergency message to the registered contacts and to record the audio of the surrounding for the security purpose. This application will be more helpful because we won't be able to predict the dangerous conditions in advance. By this application we can intimate our family and friends by an emergency message send by the women.

The main aim of the project is to develop the android application to provide the safest path for travelling in any satiation at any time.

II. PROBLEM STATEMENT

Now-a-days are is no proper security for women's to travel alone. Travelling safely is become more challenging those days. Women's are facing many problems around the world like sexual harassment, rape, robbery. To overcome this, we are creating an android application to know the best and safest path to travel. Suggesting the safest path for the women to travel from source to destination based on the previously entered feedbacks. The most secured path will be suggested.

III. EXISTING SYSTEM

In an existing system such as Nirbhaya, Ola, Uber there is a panic button which help user to send the respected location to her Emergency contacts.

SECUREME BETA^[7]: - This app is developed by Think MPI Consulting Private

Limited. It makes an alert in the dangerous situation. When the app is installed, we have to give a security pin for safety purpose and then after that required contacts must be registered in the installed app. By pressing a tap on secure button, the contacts will receive the alert message with location co-ordinates.

STREET SAFE^[8]: - This application is developed on worldwide Women’s day. It will call community to help woman in any situation and has three features for crisis which would be started by just clicking on the button. It automatically updates on your Facebook account with your current location of the user. SMS will be sent to chosen associates with your locality and then an alarm is started with large volume on your mobile.

ABHAYA^[3]:- This android application send the emergency message via facebook and current location of the user will be updated and alarm will be ringed at the situation. SMS will be sent to the family or friends present in that locality. **WoSAPP^[11]:**- The development of WoSAPP follows the Rapid Application Development (RAD) model technique. When the PANIC button is pressed on the screen, the emergency message with the phone call will be sent to the local police station.

Now-a-days in many universities RFID tags are used in vehicles to know which vehicles are enter into the university campus. Those tags are used track the number of official and private vehicles are entered into the campus.

Now-a-days Ola and Uber apps also provide the emergency button in their application.

IV. PROPOSED SYSTEM

Artificial Intelligence (AI) can collect the data in a powerful way. It will recognize and interpret patterns. It is on the bases of the patterns, AI gives suggestions to the users, using its capability for their safety. Women safety apps uses AI and Machine Learning capabilities to collect data and patterns over a time period. Later on it provide the same data for other users with pre-generated reports, when they take a particular path to reach their destination.

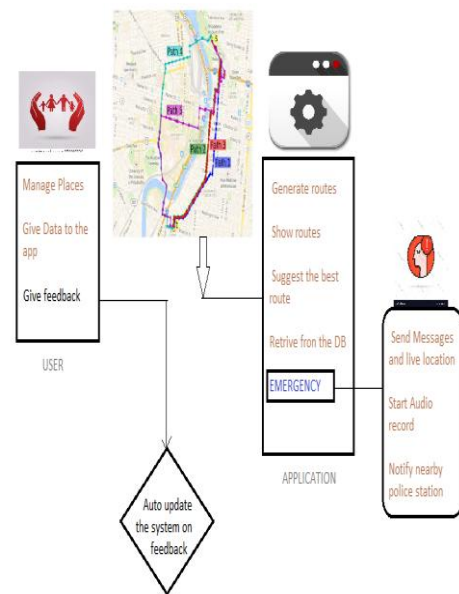
A. Registration: Register them self and register their respected emergency contacts.

B. Source and Destination entry: Enter the source and destination that you want to travel to and fro.

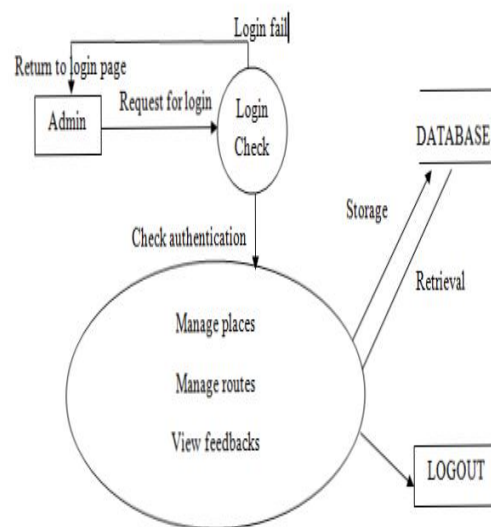
C. View recommendation: Based on the previously given feedback the most safest path will be suggested to the user for travelling.

D. Give feedback: Give feedback of the travelled route so that the routes can be updated in order to get the condition of the route.

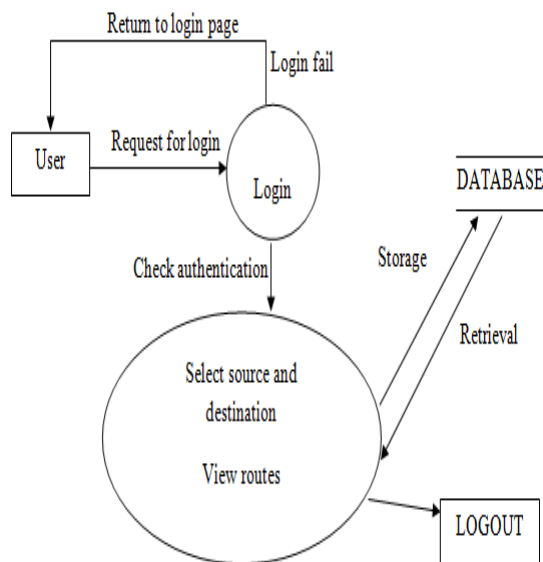
E. Emergency: In case of any distress situation when emergency button is pressed the surrounding audio gets recorded and message with location is sent to emergency contacts.



System Architecture



Admin dataflow diagram



User dataflow diagram

V. METHODOLOGY

- Step 1:** Get number of routes to desired location.
- Step 2:** Each routes consist of feedbacks.
- Step 3:** Each feedback is analyzed using tensorflow analysis.
- Step 4:** Broken into single words(tokenization) and is feed into DeepNeuralNetwork.
- Step 5:** The feedback is categorized into positive feedback is suggested to the user.
- Step 6:** The route with the highest positive feedback is suggested to the user.

TOKENIZATION



Deep learning models don't take as input raw text: Numeric tensors are used in deep learning. Transforming text into numeric tensors. This process is known as Vectorizing text. This can be performed in multiple ways: first, by segmenting text into words, and second, by transforming each word into a vector.

- Convert characters into segmenting text, and each character is transformed into a vector.

- "N-grams" of words or characters is extracted, and then transform each N-gram into a vector. –

- "N-grams" are overlapping groups of multiple consecutive words or characters.

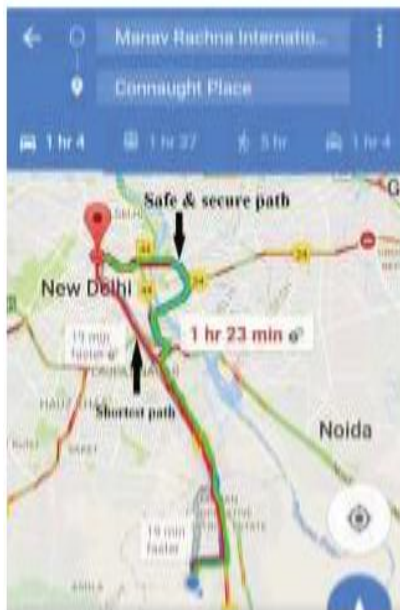
You can break down text (words, characters or N-grams) into the different units into which are called "tokens", and the process of forming the tokens is called "tokenization". Tokenization scheme are applied for text vectorization, then numeric vectors are associated for generated tokens. These vectors are packed into sequence tensors, which are get fed into deep neural networks. In multiple ways we can associate a vector to a token. We will present two major types: **one-hot encoding of tokens**, and **token embeddings** (typically used exclusively for words that is called as "word embeddings")

VI. EXPERIMENTAL RESULTS

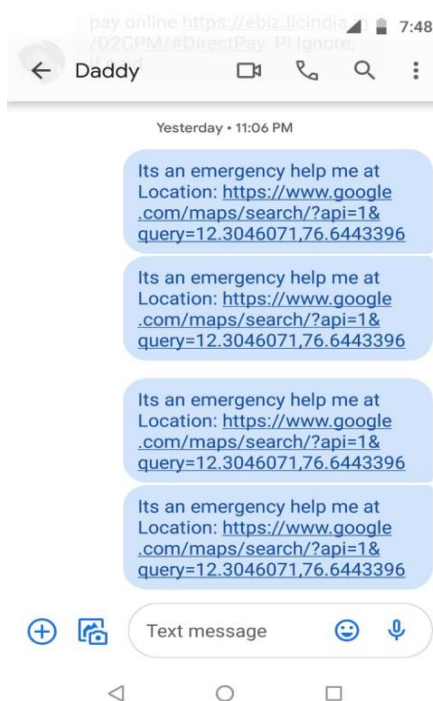
In our application, we provide the safest path to the women to reach the destination safely. The application provide the multiple color path from source to destination based on the previously given feedbacks by the users. Automatically colors of the paths are updated on the bases of the feedbacks given by the users. Voice will be recorded of 30 seconds when the emergency button or vigorous shake of the phone is performed. The voice recording will be stored in women's mobile and location URL will be sent with the emergency message to the contacts saved in the application.

Snapshot 1 shows the multiple paths from source and destination. Most safest path will be shown in Green color similarly dangerous path will be displayed in red color.

Snapshot 2 shows the emergency message with current location URL sent by the user to register contacts.



Snapshot 1: Multi-colored paths



Snapshot 2: Message sent by the women

VII. CONCLUSION

Based on the result and application that has been developed, it can be concluded that in our project, we introduced an android app that ensures the safest route for women. When the user enters the source and destination address the data will be collected from the database and the best route is suggested to the user for travelling. Thus helps the

user to know the best safest route based on previously collected feedbacks given by the users. Google map API is used for manipulating maps and adding content to the map through a variety of services that allow to create a map integration. Thus our application provides security and freedom for women to travel anywhere by knowing the secured path. The feature that makes our application unique from other existing applications is that it updates the database by itself from the previous given feedback. Using these feedbacks and experiences, the app can generate heat map. Along with message, the location URL will be sent. Voice recording of the surrounding will be saved in the internal storage of the women's mobile.

FUTURE SCOPE

In future, we can enhance auto call facilities that could also be incorporated which make the women safer. We can add shooting of video at the time of emergency that helps in reaching the criminal very easily. It also provides evidence against the crime. We can also save the photos and videos on the drive so that it will be easily used further. Prototype can be further calibrated into complete market product which will be made with chips and utility hardware so that it can be attached to public transport vehicles that will help every person to know about the location of their nearest contact person. Other contact persons of the women can view the details of the women by the help of their contact number.

ACKNOWLEDGEMENT

We are indeed grateful to many groups of people of who have helped us with various aspects of this study. We would like to thank Prof Saraswathi D as well as special thanks for our head of the department Dr Sharath Kumar Y H for giving us the wonderful opportunity to do this project "Smart intelligent security system for women".

REFERENCES

- [1] Sunil K Punjabi, SuvarnaChaure, UjwalaRavale, Deepti Reddy, "Smart intelligent system for women and child security", ©2018 IEEE
- [2] Kalpana seelam, "A novel approach for providing protection for women using smart security device", ©2018 IEEE
- [3] Ravi ShekarYarrabothu, BramarambikaThota, "ABHAYA: An android app for the safety of women", ©2015 IEEE

- [4] Navya R Sogi, PriyaChatterjee, Nethra U, Suma V, "SMARISA: A Raspberry Pi based smart Ring for women safety using IoT", ©2018 IEEE
- [5] Varsha Singh, Vilas Kharat, "A proposed system for security in campuses using IoT platform: A case study of a women's University", ©2017 IEEE
- [6] Deepak Kumar, ShivaniAggarwal, "Analysis of Women Safety in Indian Cities Using Machine Learning on Tweets", ©2019 IEEE.
- [7] Android App developed by Think MPI Consulting Private limited, 29 September, 2014,"SECUREME BETA", <http://play.google.com/store/apps/details?id=com.thinkmpi.app.secureme&hl=en>
- [8] Android App Developed byPeople Guard LLC, 24 September,2013,"STREET SAFE", <https://jezebel.com/5895916/the-street-safety-app-for-proactive-and-pandanoid-women>.
- [9] Aksay Kumar h,Divyashree N, Nithu A, Rrvathi R, Dr.Yeresime Suresh,"Anuti-An Application to Aid During Emergency", ©2016 IEEE
- [10] Sharifa Rania Mahmud, "BONITAA: A Smart Approach to Support the Female Rape Victims", ©2016 IEEE
- [11] Dhruv Chand, Sunil Nayak, "A Mobile Application for Women's Safety:WosApp",978-1-4799-8641-5/15/\$31.00 c2015 IEEE
- [12] Aksay Kumar h,Divyashree N, "Anuti-An Application to Aid During Emergency",978-1-4799-8641-5/15/\$©2016 IEEE
- [13] Nasima Ferdous Tripti, Abrar Farhad, Wasim Iqbal, Hasan U. "SaveMe: A Crime Deterrent Personal Safety Android App using Bluetooth Connected Hardware Switch". 978-15386-6321-9/18/\$31.00 ©2018 IEEE
- [14] Saumya Pandey, Nikita Jain, Aditi Bhardwaj, Dr.Gagandeep Kaur, Vimal Kumar "Reach360: A Comprehensive Safety Solution", 978-1-5386-3077-8/17/\$31.00 ©2017 IEE
- [15] DeepaBura, Meeta Singh, PoonamNandal "Predicting Secure and Safe Route for Women using Google Maps", 978-1-7281-0211-5/19/\$31.00 ©2019 IEEE

Saraswathi D, et. al. "Smart Intelligent Security System for Women." *International Journal of Advances in Engineering and Management (IJAEM)*, 2(1), 2020, pp. 345-349.



**International Journal of Advances in
Engineering and Management**
ISSN: 2395-5252



IJAEM

Volume: 02

Issue: 01

DOI: 10.35629/5252

www.ijaem.net

Email id: ijaem.paper@gmail.com