

PROSTASIA- Stay Connect, Stay Safe

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Abstract – With the advancement of technology around us we are looking at an era where everything is possible. So why not try to use technology to stay secure physically and mentally as well as connected to our close ones. The aim of this project known as PROSTASIA (Greek word for “protection”) is to develop a program that works with the application of Artificial Intelligence and Machine Learning embedded into a GPS Tracker. In this application one can activate Prostasia through speech based commands. Prostasia AI determines the state of condition by analyzing situations by recording several parameters which is then parsed through a Machine Learning and Natural Language processing. In case the user gives any speech search command then the application automatically process it. After the determination of condition an uplink is send which allows the nearby law enforcement and relatives to track the location of the person indulged in any condition along with the live stream of the speech which is recorded through Prostasia.

Index Terms – Artificial Intelligence, Machine Learning, GPS Tracker, Natural Language Processing, Speech Commands.

1. INTRODUCTION

The future is not pre-ordained by machines, it’s created by humans. Scientists have long dreamed of building machines that can speak and listen just like humans. Although computerized speech recognition technology has been introduced many years ago, and is now built into most of our smart phones and PCs, many of us don’t use it often. Technically speech recognition is an interdisciplinary activity that involves a mixture of extremely complex expertise linguistics, mathematics, and computer science itself. With the help of this technology users can easily control and operate devices and create documents by speaking.

The main aim of this project known as PROSTASIA (Greek word for “protection”) is to develop a program that works with the implementation of Artificial Intelligence and Machine Learning embedded into a GPS Tracker. It will work on speech recognition system as well as manual. In order to track the movement of the person we have used Google Maps for mapping the location sent by the mobile phone GPS tracker. Our main focus is on speech based commands that would help operate the application and send the location along with the electronic text message to saved contacts list.

2. RELATED WORK

Existing systems work on the basic manual interaction with the user which is not possible in every scenario as in crowded markets, crowded public transport, etc. Mostly the applications

provide the buttons to initiate any request needed. Moreover if it’s a security based application then a SOS button is provided which has to be manually operated to send the alert messages to the saved contact list.

All the existing systems work on manual interaction with the application. Existing systems does not provide the feature of speech recognition. Many applications require both sender & receiver should have the app installed in their phone. Significant charges are applied for sending text messages in many applications.

3. PORPOSED MODELLING

The application overcomes all the drawbacks of existing system and provides a speech based search assistant and security system for people with its speech recognition feature. Whenever a user signup in this application, he/she can either press a “HELP” button or give a speech command saying that “I need help”. It then generates the GPS location of that person from Google maps with the help of GPS Tracking system and sends an electronic message to saved contact list along with GPS location that can be further taken to Law Enforcements [1].

4. RESULTS AND DISCUSSIONS

The application is mainly divided into following modules:

- User Registration
- Speech Recognition
- Help Button

4.1 User Registration:



Fig 1. User Login

Initially when the user Sign up for the first time, he has to enter his username and password for registering himself. Foremost whenever he logs in, he has to use same username and passwords for accessing the data as shown in fig 1. After successful signup/login the user has to add his contact details i.e. name, email-id and phone number, for sending alert e-mail in any emergency situation. Also the user can view the contact details and add on any contact at any time as shown in fig 2 and fig 3.

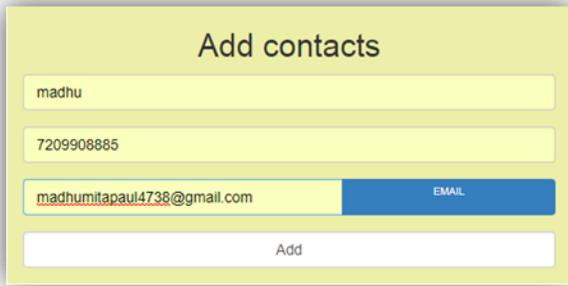


Fig 2. Add contacts

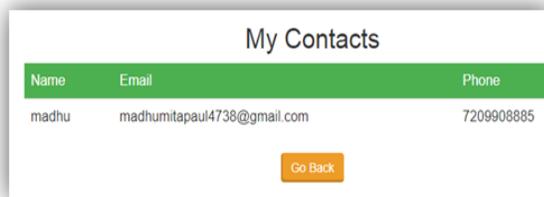


Fig 3. View contacts

4.2 Speech Recognition:

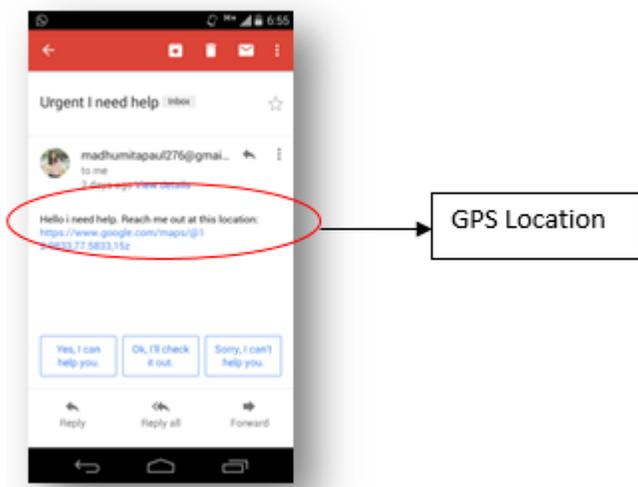


Fig. 4. E-mail sent for “help” request

The web application provides a feature of speech recognition where the User can ask for help by giving speech commands to the application [2]. The User will say “I Need Help” and the

application will recognize the speech commands and send emails to the saved contact list along with GPS location as shown in fig 4. The speech recognition feature is also used for Internet Speech Search, where the User will say to the application “Open Facebook/Twitter”, “Search for” etc. as shown in fig 5. [3].

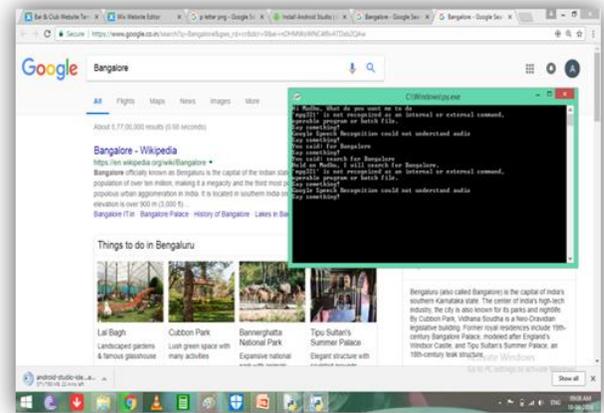


Fig 5. Output for “Search for Bangalore” speech command

4.3 Help button:

The manual “Help” button will work when User will manually press the “Help” button in the application. The application will send emergency electronic message along with GPS location to the contact list saved [4] as shown in fig 4.

5. CONCLUSION

The primary goal of our project is to develop an application that operates on speech commands. Any person can give any command for the application to process it as it recognises the words of the speaker not the voice. Moreover it also has manual operable options. It also provides the feature of security by sending the alert electronic mail to the saved contact list instantly. It can be a speech command or manual pressing of help button, same operation occurs i.e. it sends the alert e-mail along with GPS location of the user. This can be further upgraded to a system where all the functionalities would be based on speech commands recognition that would provide the better security application for people.

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