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Emergency Alerting System

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ABSTRACT

In the present-day scenario safety of a particular person plays a key role. For this purpose, many invented new devices and features for mobiles to get rid of these circumstances. Applications like Disha, Abhayam etc., came into implementation for women safety purpose, Medi math application is for medical purpose. These applications or devices need to be handy to activate or some are not for emergency purposes. They are just for guidance/giving prescriptions to medical needs. So, to take edge off these drawbacks this project named "Emergency Alerting System" is taken as a solution. It is a voice-controlled project. This needs no application to be involved or mobile/ device need not to be handy. The process will be started by just a victim voice-command using google assistant. The extra widget is also added for dumb people. It will be help full for everyone who is in danger such as women safety, medical emergency, etc.,

KEYWORDS:Voice-Controlled, Google Assistant, IFTTT, GSM [SIM900A] Module, GPS Tracker.

1. INTRODUCTION

"EMERGENCY ALERTING SYSTEM" with many security measures to save people from dangerous circumstances in the future. This device includes a system that sends out alarms if the victim is in danger. When confronted with a tragic situation, the victim may not have the opportunity to push the emergency button or his or her phone may be unavailable. The device will be activated by identifying the voice of a helpless individual. The victim's respectful tone will be noticed. Google Assistant recognizes the voice, and IFTTT is used to deploy commands. Using GSM Module [SIM900A] and GPS tracker, the system now provides location to the emergency SOS contact and 100/108 (depending on the emergency) through SMS message and alarm call.A basic voice order "Help + 'command'" is sufficient to make moves with impeccable timing. The area will be sent by the need. Assume, in the event that it was a health-related crisis, it will call 108 or on the other hand assuming it is a police crisis call it will be done to 100. The gadget will perceive to whom we need to give an alarm in view of the order. This gadget is exceptionally helpful in saving lives as well as forestalling outrages against casualties.

2. LITERATURE SURVEY

The paper "SMART GIRLS' SECURITY SYSTEM" [1] proposes a novel approach to using technology to safeguard women. When activated, the system looks like

a regular belt and uses GPS (Global Positioning System) to follow the victim's location and deliver emergency signals to the emergency SOS contacts and the control room. The device also includes a screaming alarm that uses a real-time clock to summon assistance and an electric shock to hurt the attacker in self-defense. The key benefit of this system is that, unlike other previously developed applications, it does not require the user to have a Smartphone. This paper "Women Employee Security System Using GPS And GSM Based Vehicle Tracking" [2] describes a "GPS and GSM based vehicle tracking and women employee security system" that uses a GPS device and specialized software to track the vehicle's location and send alerts and messages, as well as an emergency button, when it is activated. Employee security, particularly women's employee security, has become a top focus for organizations in recent years as a result of recent incidents such as rape by drivers or coworkers, burglary, and so on. To determine the location of the car, the system employs GPS technology. The device's information about the vehicle's location can be viewed on Google maps via the Internet or specialist software. IT firms are anticipating the security issue and requiring a system that can effectively assess the problem of women employees' security while working night shifts. This research focuses on a model that can be utilized to address the problem of female employees' security concerns. There are some disadvantages to the previous two publications, such as the gadget not being in the hands. It is only for women's safety. People who are disabled are unable to use them. Leveraging the above papers as a guide, our solution is aimed to solve the shortcomings of the previous initiatives by using voice commands with Google Assistant and without the need to install any software. It will be utilised for everyone in an emergency situation, not just for women's safety, but also for medical emergencies or when someone is attacked.

3. METHODOLOGY

GOOGLE ASSISTANT

It is a Google-developed virtual assistant software application that is a standard feature on all smartphones. It will be able to conduct many tasks and be directed by voice commands. It's utilized in home automation to control electronic and electrical gadgets. The fundamental stage to initiate the entire process in this "Emergency Alerting System" is to use Google Assistant. When the person uses a voice command that the Google Assistant recognizes.

Fig1. Google Assistant

IFTTT

"If This Then That" is a simple definition. With sophisticated automations, it connects applications and devices in novel ways. IFTTT offers a wide range of services. The triggering statement is the first step in the procedure. IFTTT is used extensively in this project to send commands to the Google Assistant. When a command is issued, the action specified by the user is carried out. IFTTT is an applet that allows you to send SMS, email, and add more widgets. We employed a widget as an added feature in this system for the benefit of disabled persons who are dumb.

Fig2. IFTTT

NodeMCU [ESP8266]

The ESP8266 is a low-cost Wi-Fi microprocessor with integrated TCP/IP networking software and a microcontroller. With Hayes-style commands, microcontrollers may connect to a Wi-Fi network and establish rudimentary TCP/IP communications. The ESP8285 is a comparable chip with 1 MiB of flash memory built in. The peripheral devices connected to it will receive instructions from this.

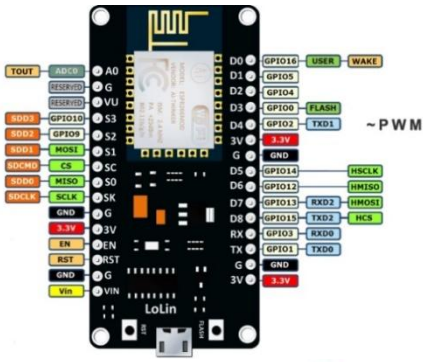


Fig 3: NodeMCU [ESP8266]

GPS tracker

A GPS tracking unit, often known as a tracker, is a navigation device that uses the Global Positioning System (GPS) to track a vehicle, asset, person, or animal's movement and geographic position (latitudes and longitudes) to establish its location. Special satellite signals are sent by GPS tracking systems, which are processed by a receiver. When the voice is triggered, the device uses GPS to track the victim's whereabouts. The NodeMCU retrieves the location, which is subsequently processed.

Fig 4: GPS Tracker

GSM Module [SIM900A]

The SIM900A GSM Module is the smallest and cheapest GPRS/GSM module available. In most embedded applications, Arduino and microcontroller are used. The module uses GPRS/GSM technology to communicate with a mobile sim card. It operates on the 900 and 1800 MHz frequency bands and allows users to make and receive phone calls and SMS messages. The locations acquired by the ESP module are processed in "Emergency Alerting System." The data will be sent in URL format to the SOS contact, along with a message of 100/108 and an alert call.

Fig 5: GSM Module [SIM 900A]

The work process of this project as follows:

- Commands are deployed to google assistant and used as "Trigger"
- The above deployment is done using IFTTT applet, actions also given in the IFTTT applet itself
- The voice is recognized by the google assistant
- When the victim is in helpless situation, a simple voice command will start the entire process
- Respective voice is triggered, the location is detected by the GPS tracker
- The NodeMCU receives the location data
- The data is sent to the emergency SOS contacts and 100/108 through SMS and alert call

4. BLOCK DIAGRAM

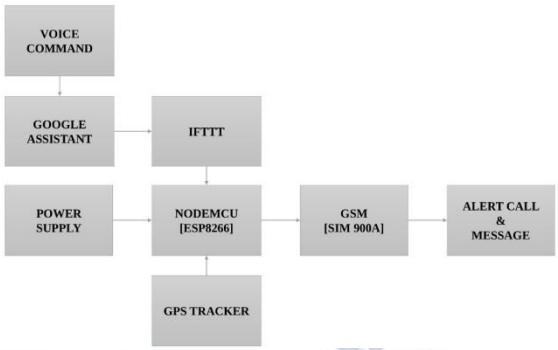
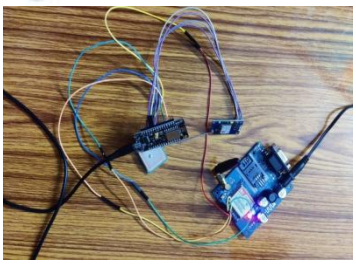
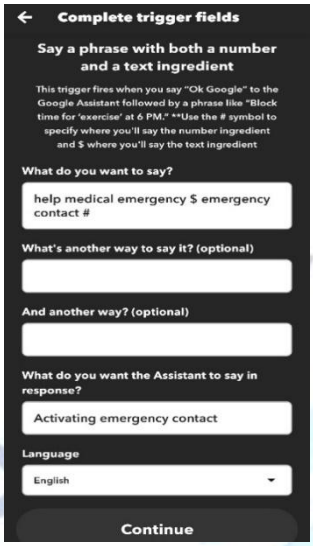


Fig6: Block Diagram

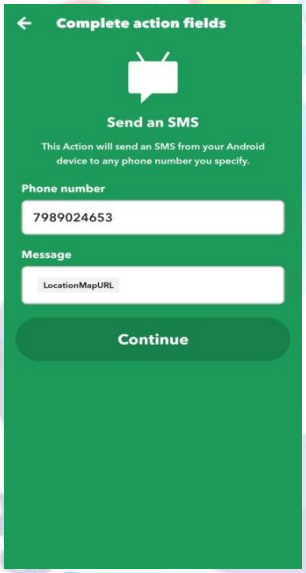
5. RESULTS



The hardware circuit shown above was created using a GSM module [SIM900A], a GPS tracker, and a NodeMCU units.

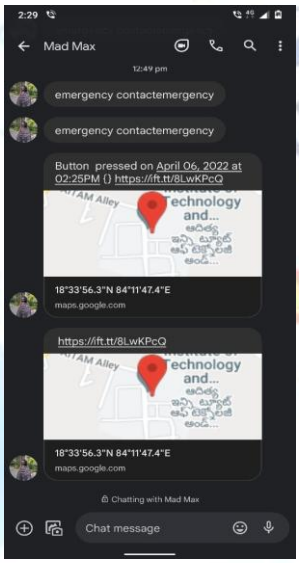


The above is the trigger giving for a medical emergency while using IFTTT. Similarly, a police emergency will be triggered.

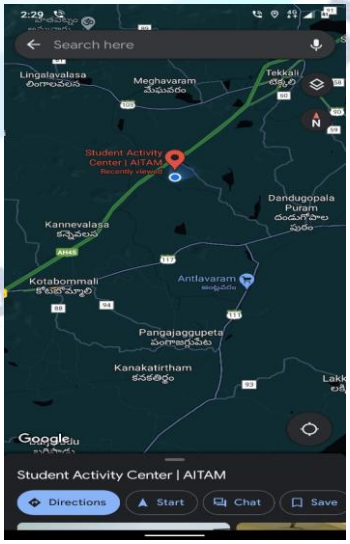


Configuring action fields to perform the next activity after the victim has been triggered. IFTTT message ingredients (email, location, etc.) can be added to the action box.

Adding an extra widget to the home screen of mobile phones for disabled persons who use IFTTT services, such as the dumb.



When the voice is triggered, as well as when the button widget is used, the location is received in the form of a URL.



6. FUTURE SCOPE AND CONCLUSION

Every day, we encounter a variety of real-life scenarios. Every day, there is at least one news item about medical problems deaths, accidental deaths, and woman harassment or sexual assaulting news that leaves them helpless. As a result, a "Emergency Alerting System" is used, which may be activated with just a voice command. Our approach is incredibly cost-effective because no one needs to buy the device separately because everything is already embedded into the phones. Every hardware component is built within the phone itself; all that is required is an internet-connected phone. All that is required is the addition of an additional working process (sketch) to the microcontroller. This capability can be used by attaching the smart watch as well. There is no need for additional costs because everyone nowadays uses smart phones and watches. Our project is affordable to everyone, including middle-class people. Our project's major goal is to use various technologies to lessen the number of emergency cases and attacks that are unpredictable in today's world. If it was going to be implemented, it would be boomed.

Conflict of interest statement

Authors declare that they do not have any conflict of interest.

REFERENCES

[1] https://www.semanticscholar.org/paper/SMART-GIRLS-SECURITY-SYSTEM-Chougula-Naik/78e31362039ce2cd4c25163c9e4a54c1451ae457 SMART GIRLS SECURITY SYSTEM -By Basavaraj Chougula, Archana Naik in the year 2014

[2] https://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.681.360 Women Employee Security System using GPS and GSM Based Vehicle Tracking –By Poonam Bhilare, Akshay Mohite in the year 2015

[3] .Moser, c. and c. mcilwaine (2006), "Latin American urban Violence as a development concern: towards a framework for Violence reduction", World Development, Vol. 34, no. 1, pp.89-112.

[4] Hill, r., J. temin and L. Pacholek (2007), "Building Security where there is no Security", Journal of Peacebuilding and Development, Vol. 3, no. 2, p. 38-51. International Journal of Application or Innovation in Engineering & Management (IJAIEM) Web Site: www.ijaiem.org Email: editor@ijaiem.org Volume 3, Issue 4, April 2014 ISSN 2319 - 4847 Volume 3, Issue 4, April 2014 Page 284

[5] Muggah, r. and k. krause (2009), "closing the gap Between Peace operations and Post-conflict insecurity: towards a Violence reduction agenda", International Peacekeeping, Vol. 16, no. 1, pp.136-150.

[6] Rathmell, a. (2009), "Security and Justice development – what next?", Journal of Security Sector Management, Vol. 7, p no. 2.

[7] Charlotte Bunch and Roxanna Carillo, "Global Violence against Women: The Challenge to Human Rights and Development" in Michael Klare and Yogesh Chandrani (eds.), World Security: Challenges for a New Century, third edition (New York: St. Martin's Press, 1998), p. 230