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Road Safety and Savage Management (Saftey.Arc)

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Abstract - Accidental situations pose a significant threat to personal safety, especially for individuals without access to dedicated accident detection devices. This project aims to address this issue by developing a system that can accurately identify accidents and expedite emergency response. While existing car features provide some level of accident detection, vulnerable road users such as cyclists lack adequate protection. Additionally, traditional emergency calls from mobile phones have limitations. Therefore, this project focuses on leveraging advanced technologies to identify accidents, promptly notify emergency services, and provide essential patient information like blood pressure and diabetes status to healthcare professionals. Furthermore, the system aims to enhance women's safety by detecting potential dangers and enabling them to send distress messages to designated contacts. By implementing these functionalities, this project aims to improve accident response time, provide vital medical information, and enhance personal safety for various user groups.

Keywords: ***Accident, road safety, woman's safety***

1. INTRODUCTION

In recent years, wearable technology has gained significant popularity, with devices originally designed for different purposes being adapted to cater to customer needs. Notably, GPS-connected wearables have emerged as innovative gadgets. For instance, these devices can notify nearby ambulances in the event of an accident, thanks to their GPS capabilities, ensuring swift assistance at the user's location. Furthermore, during emergencies, these wearables can monitor the user's health information and promptly contact their preferred emergency contacts. The wearables are worn by users and display relevant personal information.

These devices also contribute to enhancing patient safety by monitoring vital signs such as respiratory rate, heart rate, and detecting falls. The acquired signals are processed through signal acquisition modules and transmitted to a personal mobile device, providing users with accurate feedback.

To further bolster safety, an application has been developed to deliver timely

notifications and emergency information to users. This application features an Android-based admin portal, enabling users to receive threat alerts and promptly inform the admin and their selected contacts about potential dangers.

Overall, wearable technology has evolved to offer essential functionalities encompassing health monitoring, emergency notifications, and threat alerts. These advancements empower users with enhanced safety and peace of mind, making wearable devices a valuable addition to their lives.

2. LITERATURE SURVEY

The author has shown that the proposed method could lead to significant improvement in the life of battery for IoT enabled devices. Much of the early research work in IoT-based remote health monitoring deal with sensor nodes for capturing various health parameters. The author of this paper proposed the development of an ultra-low power ECG. The author Peter has presented a list of different sensors and techniques that can be used for noninvasive BP measurement. As described, the dry electrodes embedded into a smartphone, capture ECG signal which is then processed in the smartphone itself.

“ 1 ” IoT-Based Smart Edge for Global Health: Remote Monitoring With Severity Detection and Alerts Transmission Rahul Krishnan Pathinarupothi , Member, IEEE, P Durga, Member, IEEE, and Ekanath Srihari Rangan IEEE INTERNET OF THINGS JOURNAL, VOL. 6, NO. 2, APRIL 2019.

The author Chen Min et al. proposed an electronic health management system based on the second-generation RFID system. The Internet system can also collect and transform information for medical emergency management. Physiological signs such as body temperature, blood rate, and heart rate are sent from the patient through body sensors connected to specific parts of the patient's body. The system maintains a medical database containing user information and medical history.

“2” Real time wireless health monitoring application using mobile devices, International Journal of Computer Networks & Communications (IJCNC) Vol.7, No.3, May 2015, Chen min et al, Aisha Rashid, Ali Abou-ElNour, and Mohammed Tarique. 27 Continuous Health Monitoring Wrist Band Dept of EEE, DSCE 2020-21

The primary goal of this research is to create a new design and construct a smart patient health tracking system. The sensors are inserted in the patient's body to detect the temperature and heartbeat of the patient using this. The two additional sensors are installed in the house to monitor the humidity and temperature of the room where the patient is staying. These sensors are linked to a control unit that computes the values of all four sensors. The derived values are subsequently sent to the base station via an IoT cloud. The values are then retrieved by the doctor at any location from the base station. Thus, the doctor can determine the patient's condition based on the temperature, heart rate, and room sensor information. and appropriate measures can be taken.

“ 3 ” S.H. Almotiri, M. A. Khan, and M. A. Alghamdi. Mobile health (m- health) system in the context of iot. In 2016 IEEE

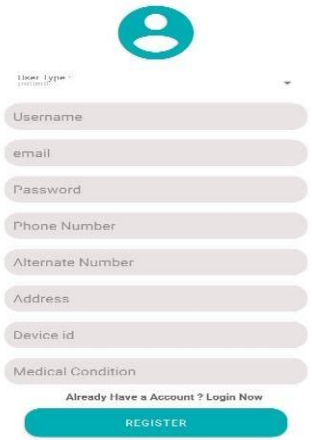
4th International Conference on Future Internet of Things and Cloud Workshops (FiCloudW), pages 39–42, Aug 2016.

number of sensors to precisely detect the real time situation of the women in critical abusive situations. The heartbeat of a person in such situations is normally higher which helps make decisions along with other sensors like motion sensors to detect the abnormal motion of the women while she is victimized.

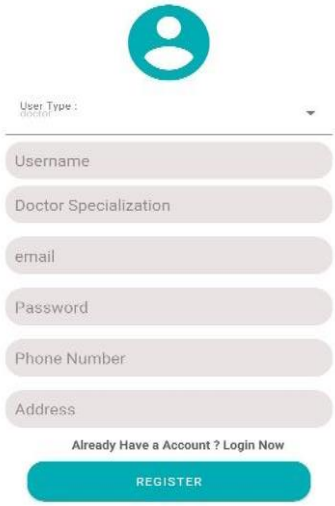
IMPLEMENTATION

RESULTS

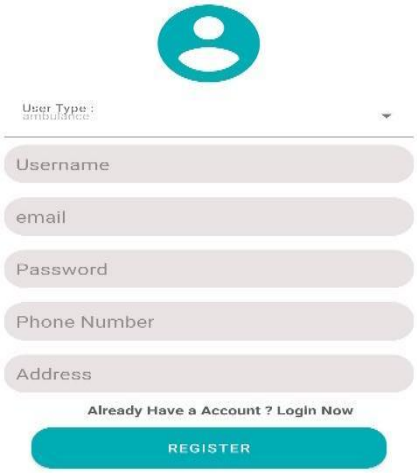
Registration of user page:



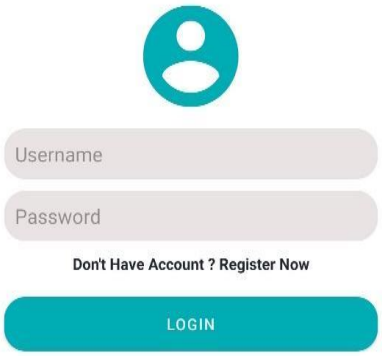
Registration of doctor page:



Registration of Ambulance:

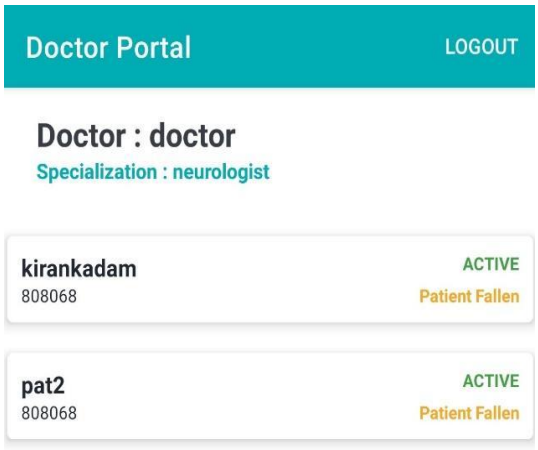


Login page:

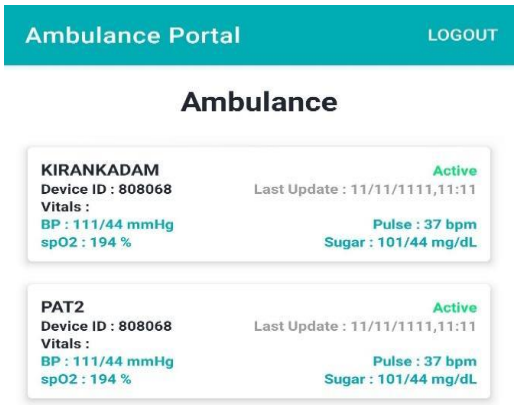


Patient Portal Page:

Doctor Portal Page:



Ambulance Portal Page:



5. CONCLUSION

The system can detect the accident and continuous the seriousness of the accident and then alert the nearest medical assist center to provide emergency medical aid to accident victim. Accelerometer and heartbeat sensor are used to determine whether an accident had occurred. The communications between the modules are done by using Bluetooth. The smart phone with the android app will send message to the nearest medical center. The system will also inform the friends and family of the victim through message. A buzzer is also provided to alert the fellow passengers on the road that an accident has occurred to invite their help. Accident detection and alert systems are highly relevant in these days and this project aims at developing a lowcost solution for the same for the benefit of the society.

6. REFRENCES

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