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*Project Phase 1 - Presentation
On*

“IoT Based Healthcare Monitoring System”

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Introduction

- Healthcare is given the extreme importance now a- days by each country with the advent of the novel corona virus. So in this aspect, an IoT based health monitoring system as a solution for such an epidemic.
- Internet of Things (IoT) is the new revolution of internet which is the growing research area especially in the health care.
- In this project, a portable physiological checking framework is displayed, which can continuously screen the patient's heartbeat, temperature and other basic parameters.



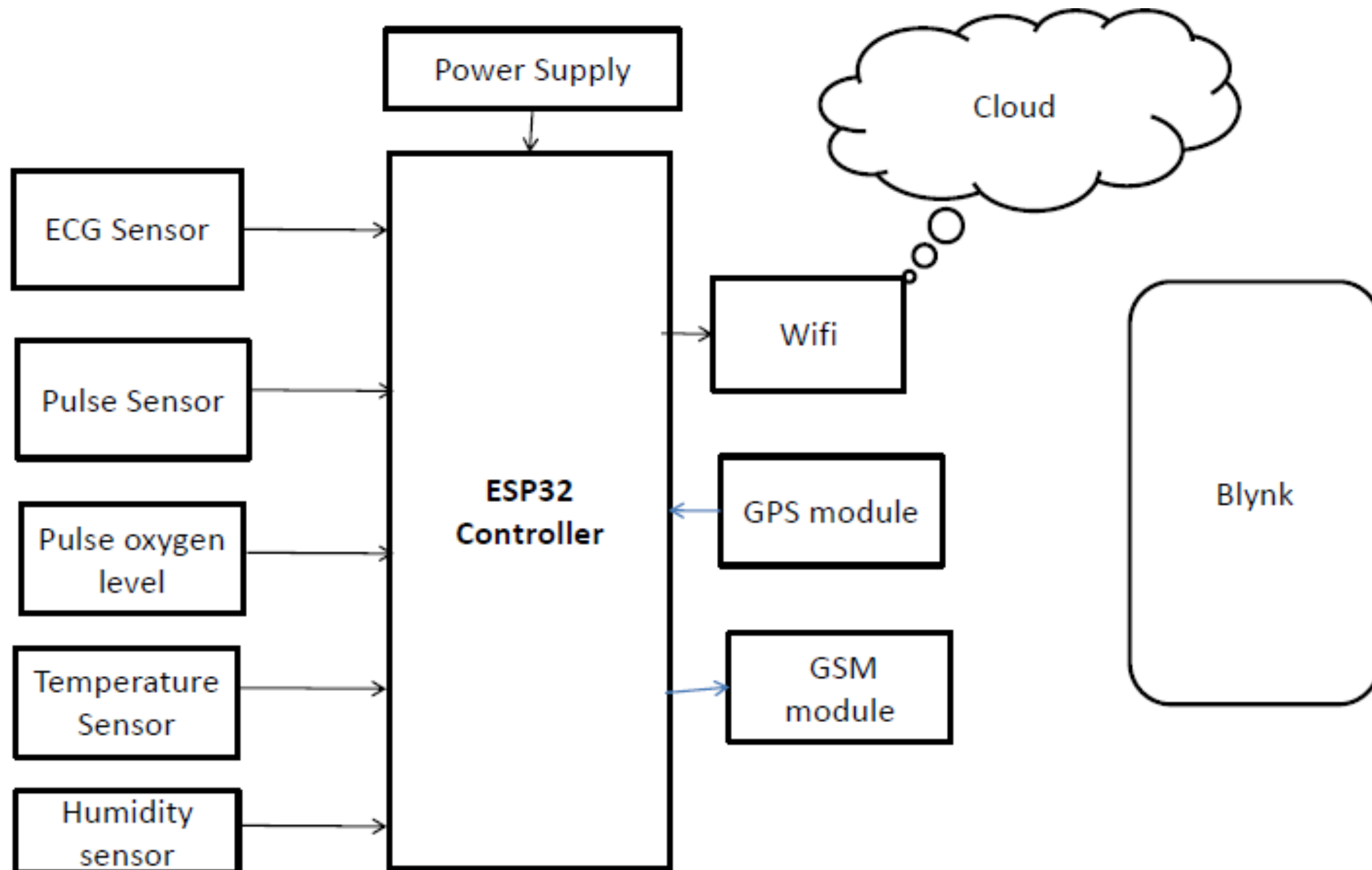
Objectives

- To design and implementation of a smart patient health tracking system that uses Sensors to track patient health and uses internet to inform their loved ones in case of any issues.
- To develop monitoring systems is to reduce health care costs by reducing physical office visits, hospitalisations, and diagnostic testing procedure.
- Each of our bodies utilises temperature and also pulse acknowledging to pursue understanding wellbeing. The sensors are linked to a microcontroller to track the status which is thus interfaced to a LCD screen and additionally remote association with the capacity to alert the concerned.
- If framework finds any sudden changes in understanding heart beat or body temperature, the framework can consequently alarm the client about the patient's status over IOT and furthermore indicates subtle elements of pulse and temperature of patient live on the web.

Literature Survey

- Kathikamani R : He had designed monitoring system for patients using wireless technology. The data collected are stored on the cloud and are analysed.
- Trivedi : He suggested a mobile device regulated Arduino-based health parameter surveillance framework. The collected sensor data are analog and sent it to the board of Arduino Uno. By the integrated analog to digital converter, the recorded analog values are converted into digital data. Bluetooth transmitted the physical qualities to the developed device. The Bluetooth device used a module not covering a decent area.
- Oresko : He mentioned a completely upset sensing system for smartphones, identifying a tool that's is developed to be the identical given sufficient time and monetary resources. The developed prototype only tracked coronary rhythm in real-time, didn't track surrender time, and may not detect any upset.
- Gregoskietal : He Introduced a smartphone-based heart monitoring system. The system used a mobile light and camera to trace finger blood flow and calculated blood flow-based rate of flow. The developed system described an integrated device that wirelessly transmitted a person's pulse to a computer, empowering people to check their sign by merely viewing at their phones instead using hands on every occasion.

Block Diagram



Methodology

- The Arduino Sketch running over the device implements the various functionalities of the health care system.
- Functions like reading sensor data and converting them into strings
- Passing them to the IoT platform (ThingSpeak)
- Displaying measured data on hosted IoT platform (ThingSpeak)

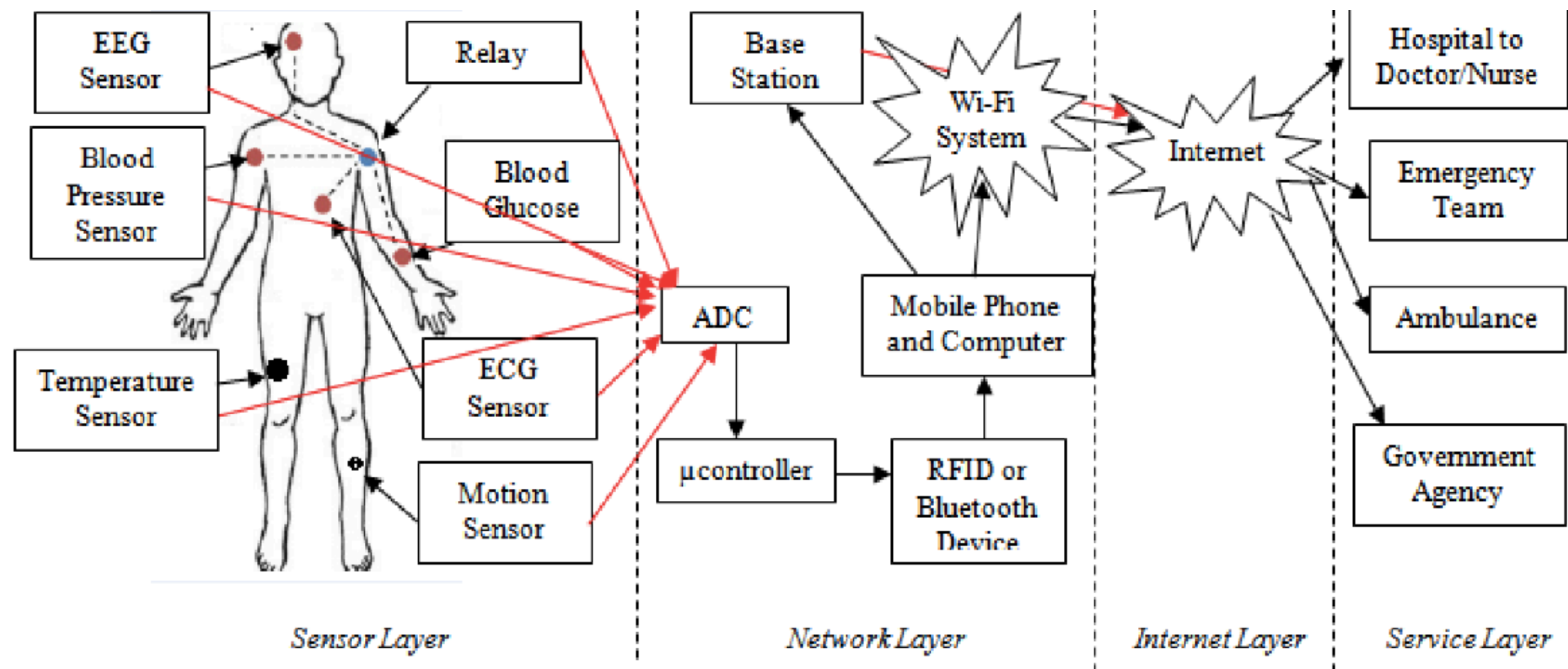


Fig. : IoT based Healthcare Monitoring Schematics

Hardware & Software Requirements

- ESP 32
- ECG sensor
- Temperature sensor
- Heartbeat sensor
- Pulse oxygen level
- Gps
- Gsm module
- Humidity sensor
- Jumper wires
- Blynk app
- Arduino
- Embedded C

Advantages



Lower
expenses



Better treatment
results



Better disease
control



Fewer mistakes



More trust
towards doctors



Medicines
control



Better disease
control



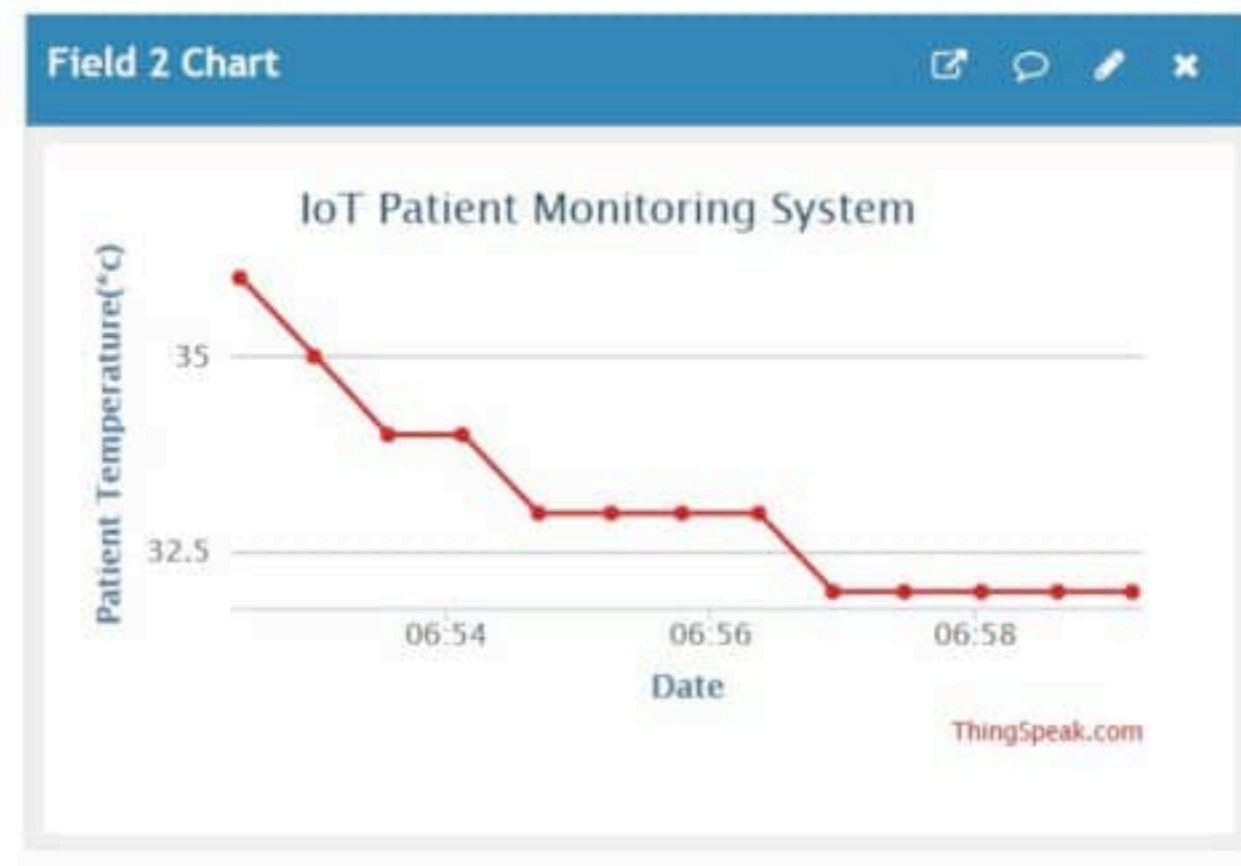
Maintenance of
medical devices

Applications

- Remote areas which are inaccessible to health care facilities, if educated can take care of their health with this tool.
- Health monitoring purposes for analytics.
- Targeting a fail proof system as the health care data can be accessed remotely from the end-user as well as government's side.



Expected Results



References

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Thank You!