PARSHVANATH CHARITABLE TRUST'S
A. P. SHAH INSTITUTE OF TECHNOLOGY
Department of Information Technology
(NBA Accredited)

Title of Project
IOT Based Health Monitoring System

Group No. 25

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Project Guide and Co-Guide
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1. Abstract

In the recent years of health care development, we witness huge amounts of data flow to track few parameters of a person and alert the guardian in case of any emergency of the patient. This establishes a need for a single platform where users can monitor the data on a real time basis. This paper talks about health monitoring systems which allow patients to be monitored without having a need to visit the doctor which can be implemented with market sensors. The module gives the necessary opportunity for all day service for the patients which can be recorded by the doctor and can receive a notification in any case of emergency. This platform forms a great use when a patient is under frequent checkup or under home care for a long period of time.

1. Introduction

- IoT based patient health monitoring system is a generic term given to any medical equipment that has internet capability and can measure one or more health data of a patient who is connected to the device such as heartbeat, body temperature, blood pressure, ECG, steps etc. The equipment can record, transmit and alert if there is any abrupt change in the patient's health.

- Problem Identified :

It allows patient to maintain independence, prevent complication, and mimimize personal cost.

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- Solution Proposed :

IoT based health monitoring system is used where the patient and heath expert(s) are at different locations. For example, a patient can stay at home and continue his/her routine life and a doctor can monitor patient's heath. Based on the received data the heath expert can prescribe a best treatment or take an immediate action in case of an emergency

3. Objectives

1.The main objective of the project is monitoring the health parameters using different sensors as mentioned – pulse sensor, Temperature sensor, heart rate sensor.

2. To Make a budget health monitoring system.

3. To make a system in which Uploading patient's sensor data to ThingSpeak cloud so that it is available for doctors.

4. To program the project in a such way that it can be send with data serially to the controller.

4. Literature Survey

Sr No.	Paper Title	Author	Analysis
1.	.“An IoT Based Smart Healthcare System Using Raspberry Pi”, Int. J. of Research and Scientific Innovation (IJRSI), 5(6), June 2018, pp.103-106.	Raghavendra K K, Sharanya P S, Shaila Patil	Here the author has concentrated over the idea of separating wireless sensor network and cloud computing.
2.	”An Overview on Heart rate Monitoring and Pulse Oximeter System”, Int. J. of Latest Research in Science and Technology , 3(5), SeptemberOctober 2014, pp. 148-152.	Esrat Jahan, Tilottoma Barua, Umme Salma	In this paper the suthor describe overview on heart rate monitoring.

Sr No.	Paper Title	Author	Analysis
3.	“ Survey of IOT based Patient Health Monitoring System”, Int. e-Journal For Technology and Research, 1(6), June 2017, pp.1-5.	Rakshith Babu H and Prof. Latha. S	Here author proposes a smart health care system that includes smart identification tag, server and internet

5. Problem Definition

- Iot enabled devices have made remote monitoring in the healthcare sector possible unleashing the potential to keep patient safe and healthy. And Reducing healthcare costs significantly and improving treatment outcomes. Also, IOT has application in healthcare that benefits patients, families, physicians, hospitals and insurance companies

6. Technology Stack

- **The hardware required for this project are**:

  -Arduino UNO

  -Pulse sensor/ Heartbeat sensor

  -Temperature sensor

  - ESP8266

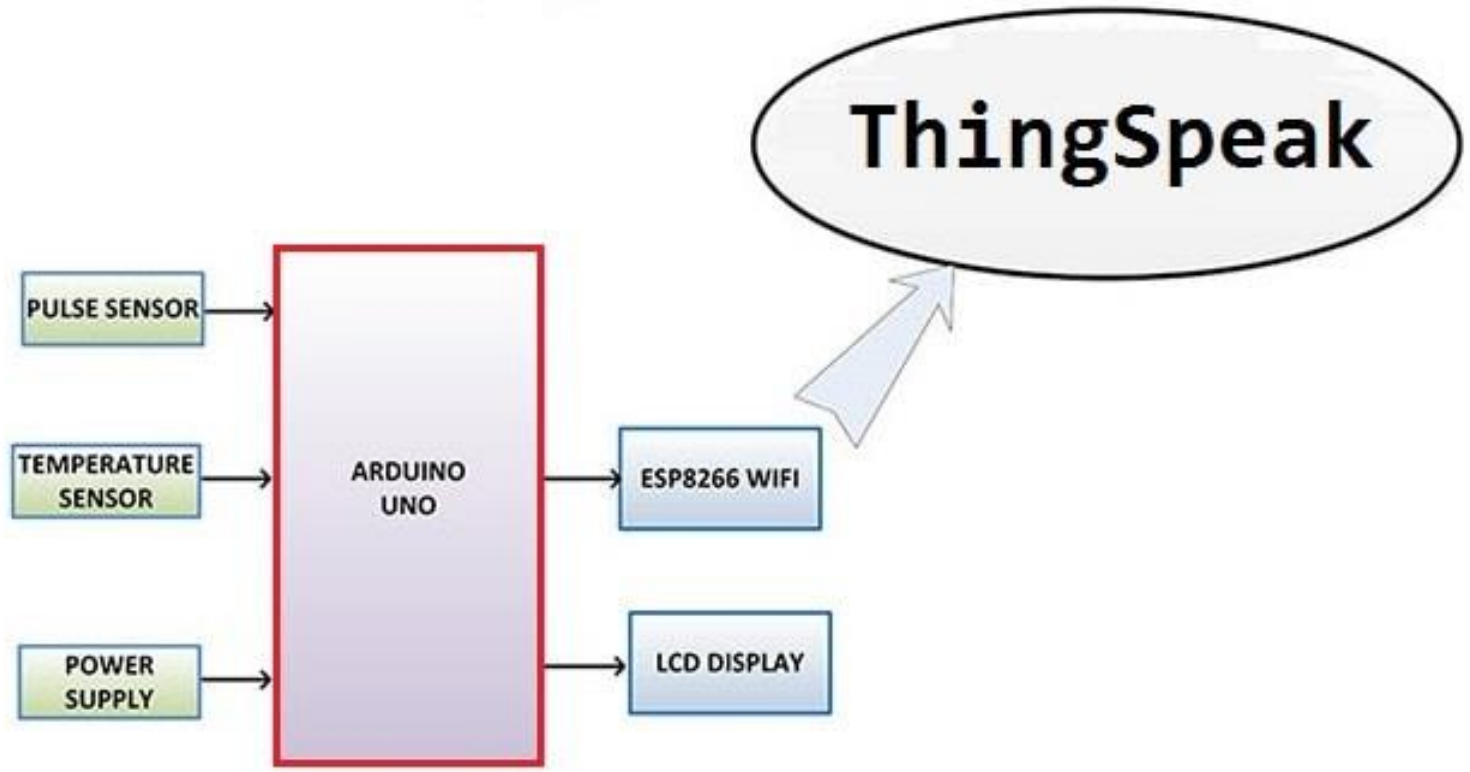
  -LCD display

- **The Software required for this project are**:

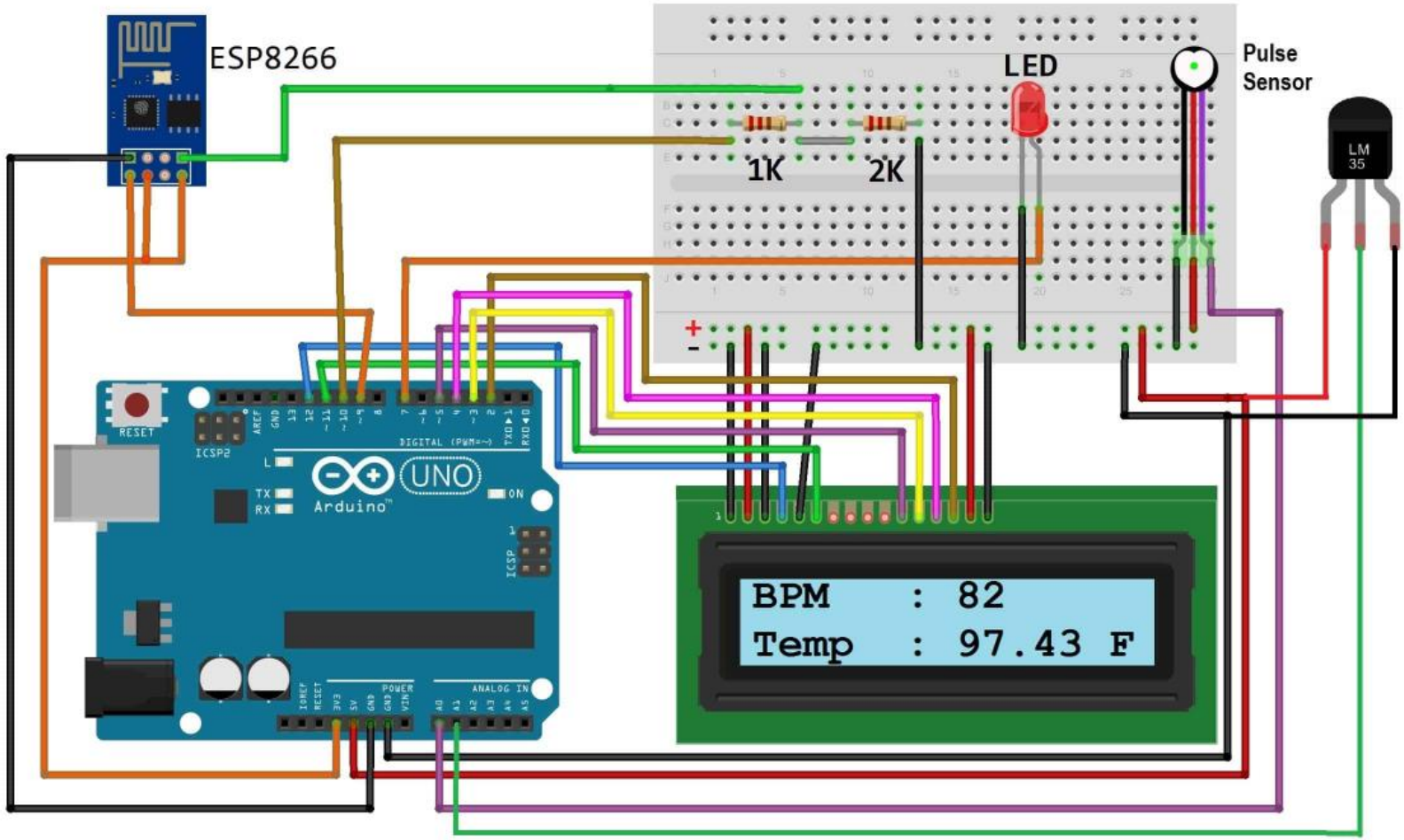
  -Arduino IDE

  -Thingspeak

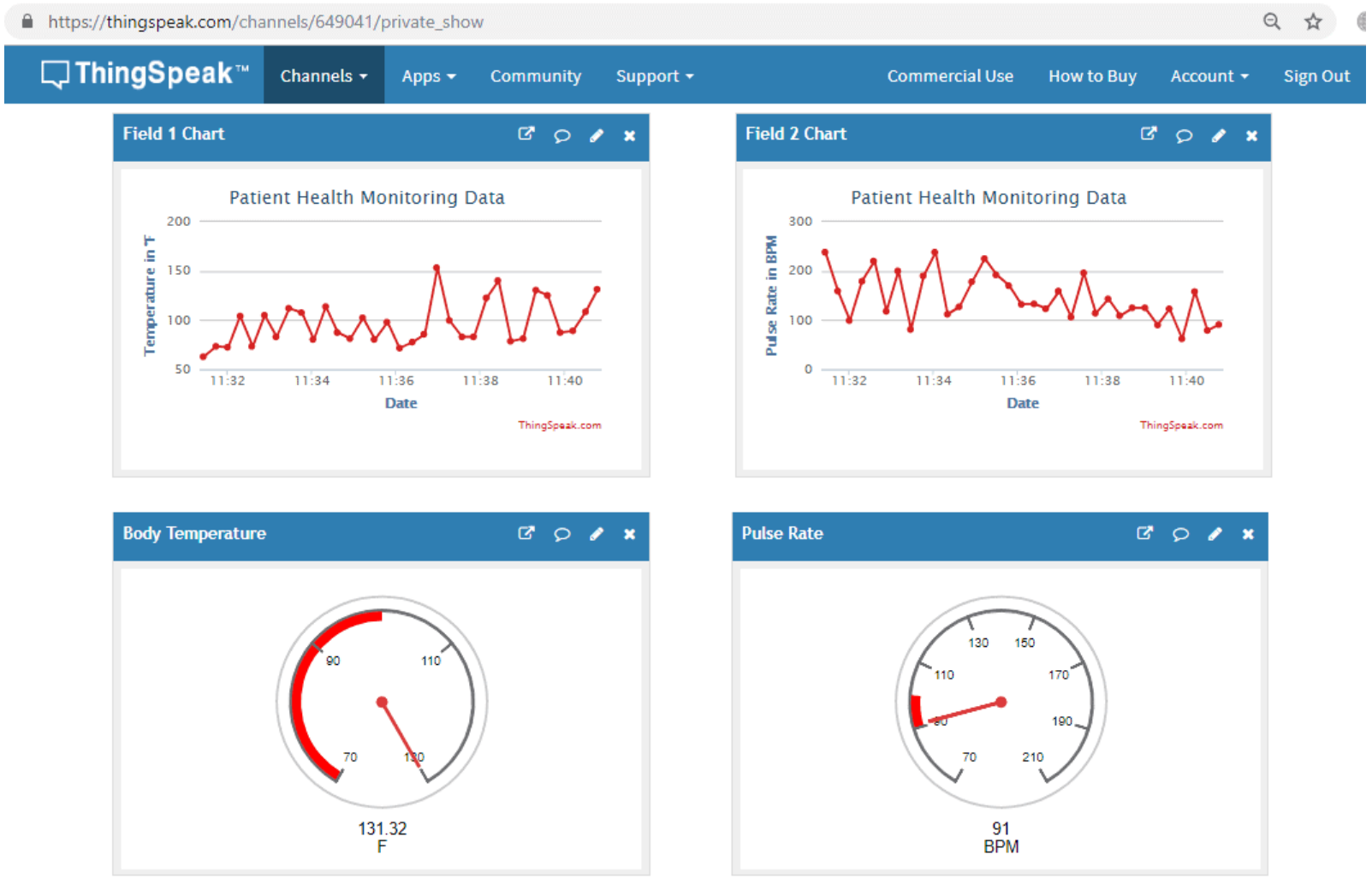
7. Proposed System Architecture/Prototype



Circuit Diagram



7. Result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ThingSpeak™
Channels
Apps
Community
Support
Commercial Use
How to Buy
Account
Sign Out
Field 1 Chart
Patient Health Monitoring Data
Temperature in F
200
150
100
50
11:32
11:34
11:36
11:38
11:40
Date
ThingSpeak.com
Field 2 Chart
Patient Health Monitoring Data
Pulse Rate in BPM
300
200
100
0
11:32
11:34
11:36
11:38
11:40
Date
ThingSpeak.com
Body Temperature
90
110
70
131.32
F
Pulse Rate
130
150
110
170
190
70
210
91
BPM

References

[1] Raghavendra K K, Sharanya P S, Shaila Patil."An IoT Based Smart Healthcare System Using Raspberry Pi", Int. J. of Research and Scientific Innovation (IJRSI), 5(6), June 2018, pp.103-106.

[2] Esrat Jahan, Tilottoma Barua, Umme Salma, "An Overview on Heart rate Monitoring and Pulse Oximeter System", Int. J. of Latest Research in Science and Technology , 3(5), SeptemberOctober 2014, pp. 148-152.

[3] Rakshith Babu H and Prof. Latha. S, " Survey of IOT based Patient Health Monitoring System", Int. e-Journal For Technology and Research, 1(6), June 2017, pp.1-5.

Thank You...!!