Heart Monitoring System

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Introduction

Telemedicine will be playing a major role for analysis and determining the patient health condition. As people are more aware about their health analysis outside hospital, these technologies are becoming popular. By the method of home care, one can analyze the basic physical parameters. The main motive of home care telemedicine is to furnish the patients with a low cost and user friendly interface system. This proposed system tests the health parameters by measuring heart beat rate with the help of biosensors continuously. The measured caregiver alerted with the help of connected sound system and data is also displayed in LCD. Honestly its hard to store **Arduino data to MySQL** directly so that in addiction to **Arduino IDE** I used various different methods to save the data. Hence the patient medical need is satisfied at the earliest.

Objectives

- To overcome the disadvantages of the existing system.
- The specialist staying at a distance can monitor the patients conditions so that he can save the life of the patient.
- This system is to be available at reasonable prices.
- Embedded technology is to be use so that we can monitor the patient condition easily.

Scope

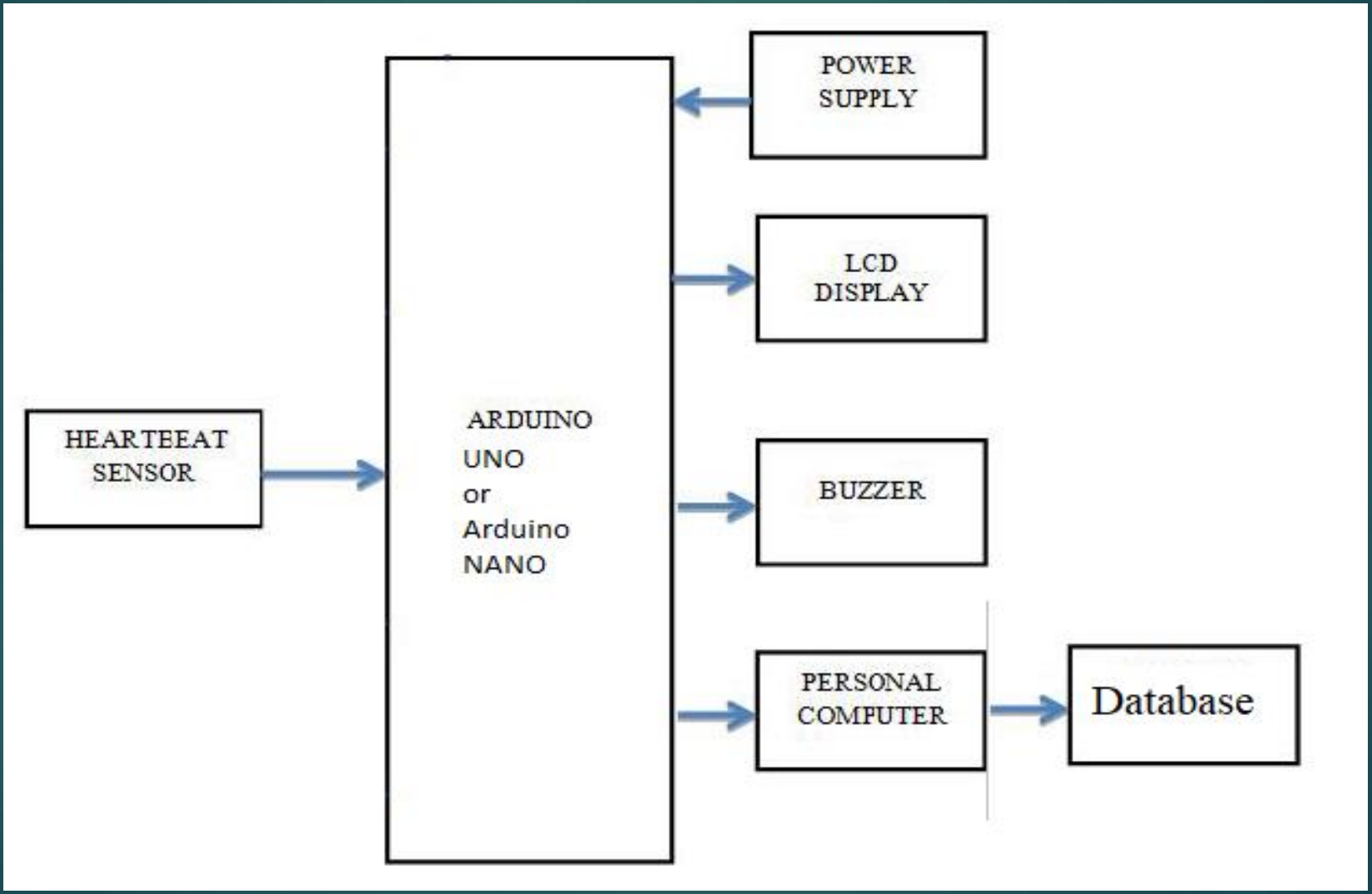
Long waiting time for hospitalization or ambulatory patient monitoring/treatment, are other well-known issues for both the healthcare institutions and the patients. This project provides healthcare authorities to maximize the quality and breadth of healthcare services by controlling costs. As the population increases and demand for services increases, the ability to maintain the quality and availability of care, while effectively managing financial and human resources, is achieved by this project. The use of modern communication technology in this context is the sole decisive factor that makes such communication system successful. Some of them are:-

- EEG, ECG and other health parameters can also be monitored
- Continuous monitoring and future diagnosis can be performed via the same system (TELEMEDICINE).
- More than a single patient at different places can be monitored using single system.

Application

- It can be used in hospitals, may be in ICU or general wards so that always a bulky ECG unit is not required.
- It can also be employed in the houses so that the doctor can come to know about the abnormalities when away.
- It also stores the data and don’t need to make a separate record of the output.

Block Diagram



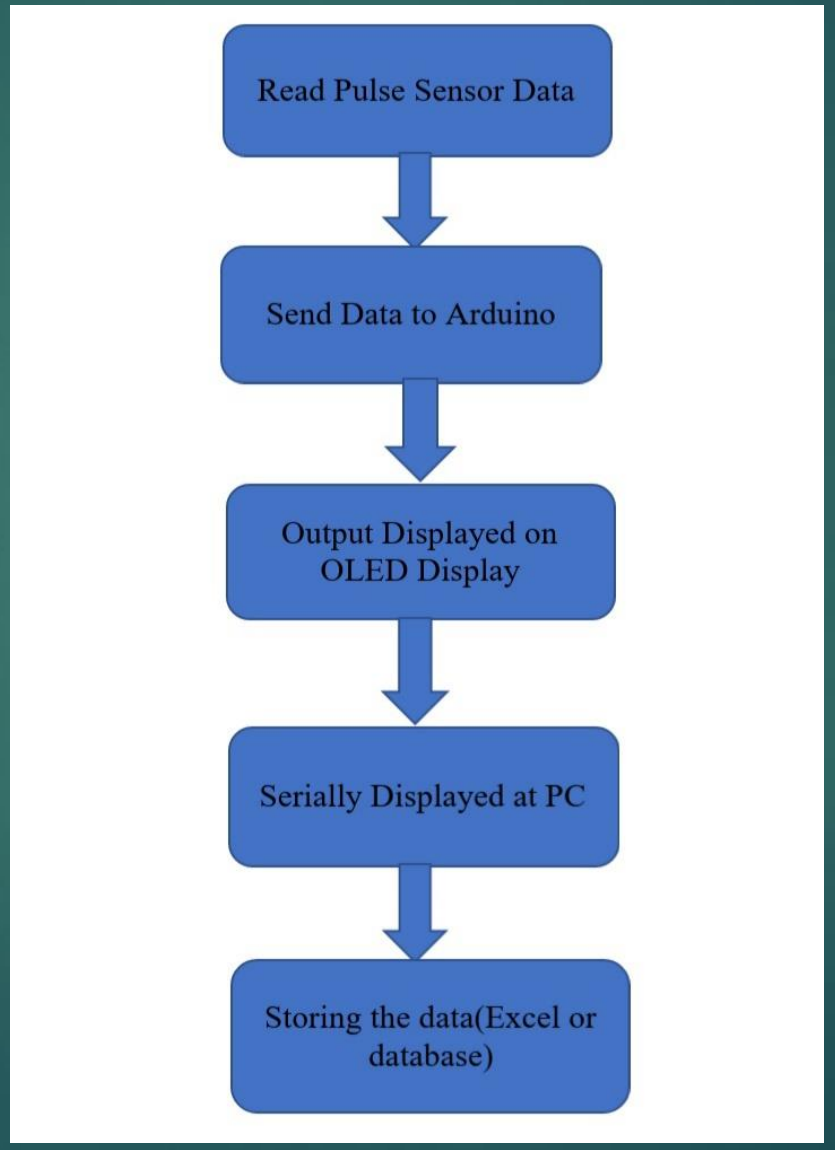
Proposed System

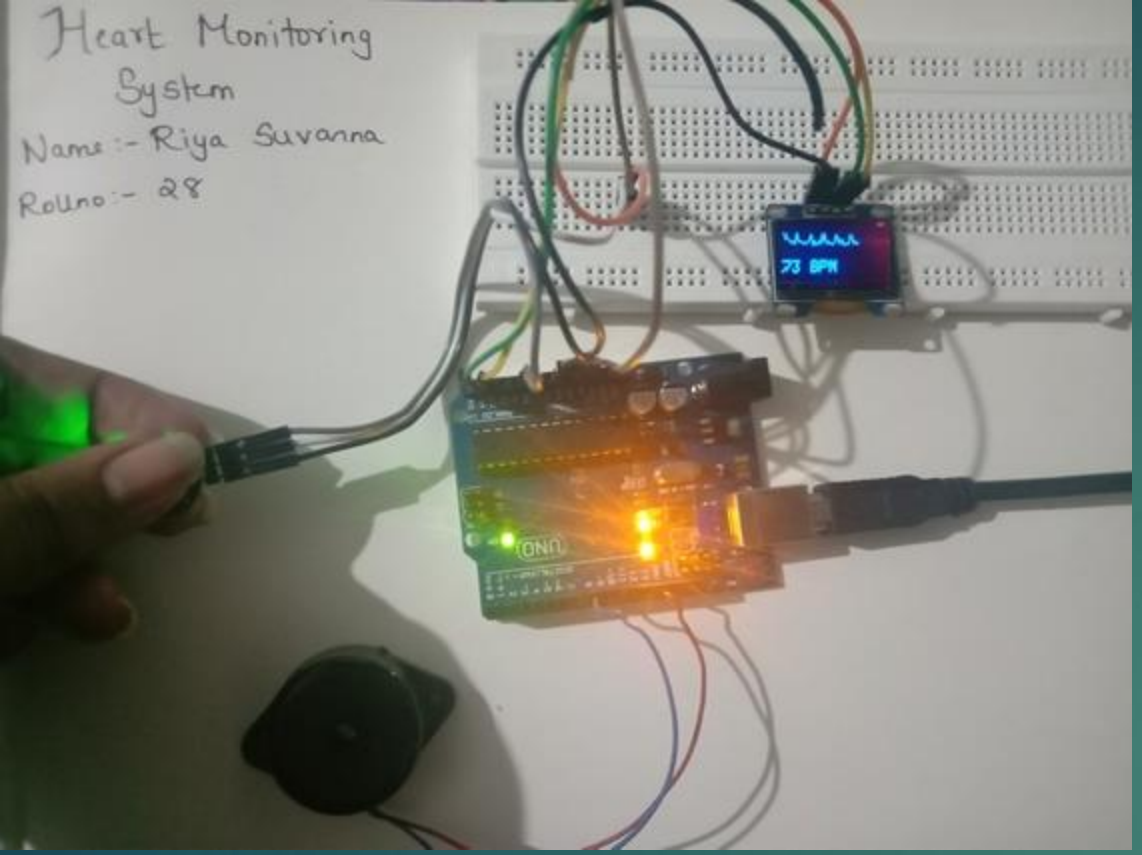
- Sensor device implementation is done by microcontroller.
- In this section, the proposed system, techniques adopted and working mechanism of sensors are explained. It consists of three main sections; the first section is to measure the patient heart rate continuously . The second section is to send all data to microcontroller for the data to pc and the third section is to store the data.
- Pulse sensor is used to sense the heart beat per minute . All the programming and coding part are done by the microcontroller. All the sensors continuously keeps track and send the signal to the microcontroller. All the acquired data are stored offline in pc. If there is any critical condition, the concerned caregivers will be given to the buzzer alert and data are displayed in LCD at a same time .
- It is a user friendly interface and it becomes very handy for the users for getting information for the system.

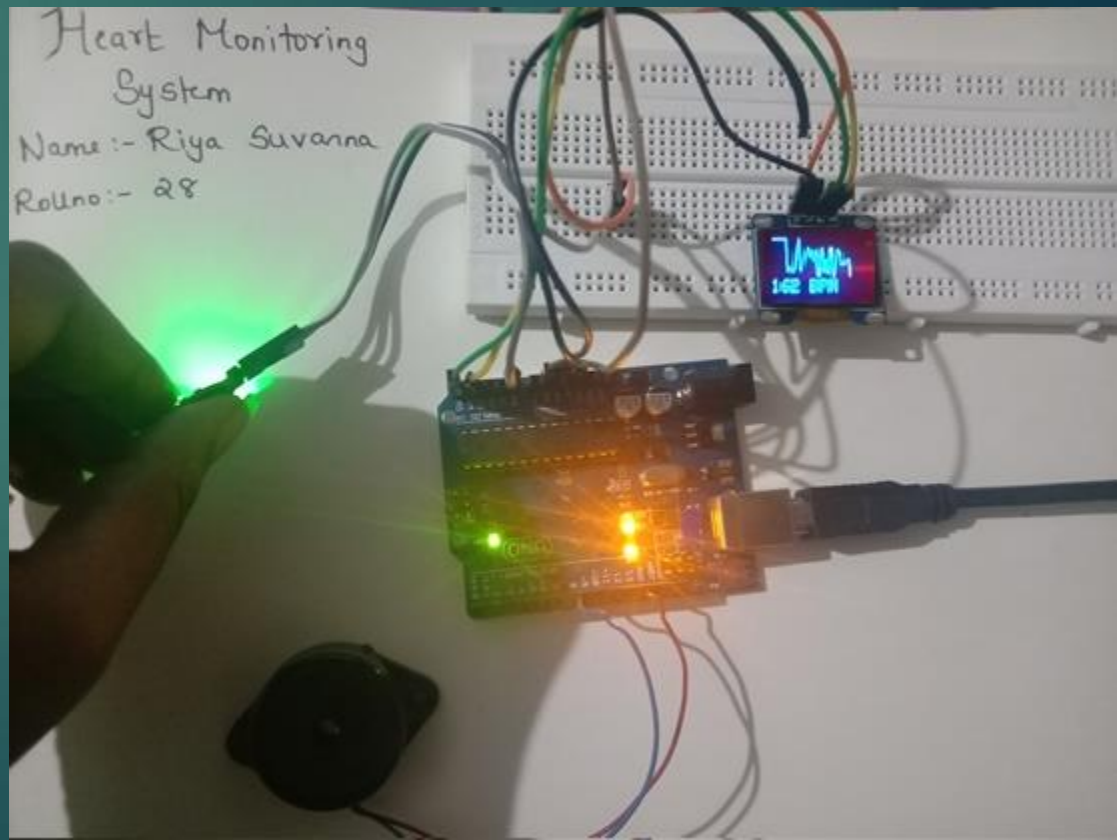
Advantages

- The staying of specialist is eliminated.
- Best to be used in rural areas.
- Reduce hospitalization fees.
- It is a multipurpose so that overall condition are easily measured.
- Easy to operate.
- Compare with compact sensor it gives better performance.
- Sensors are very cheap.

Implementation




Heart Monitoring
System
Name :- Riya Suvarna
Rollno :- 28
73 BPM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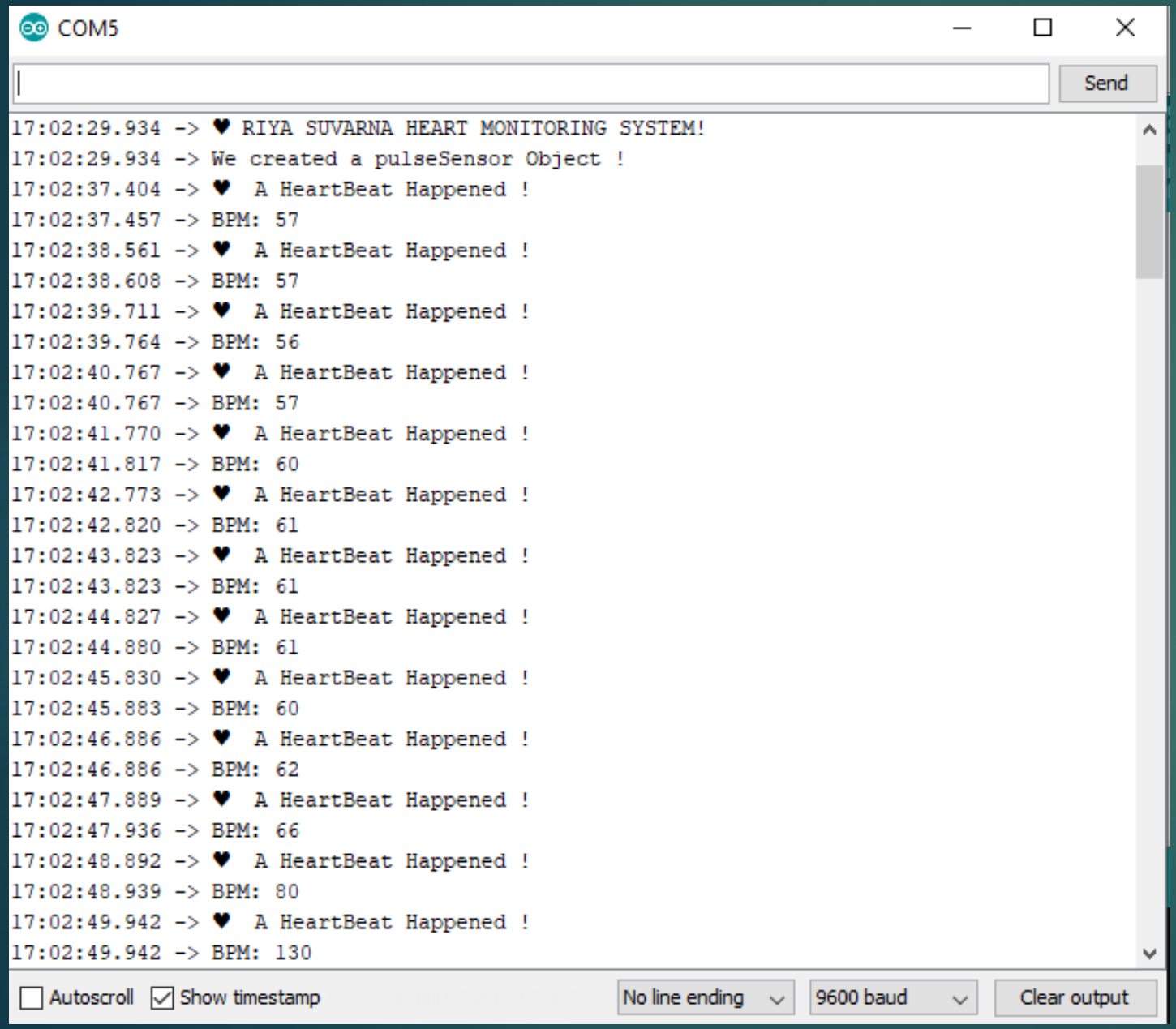
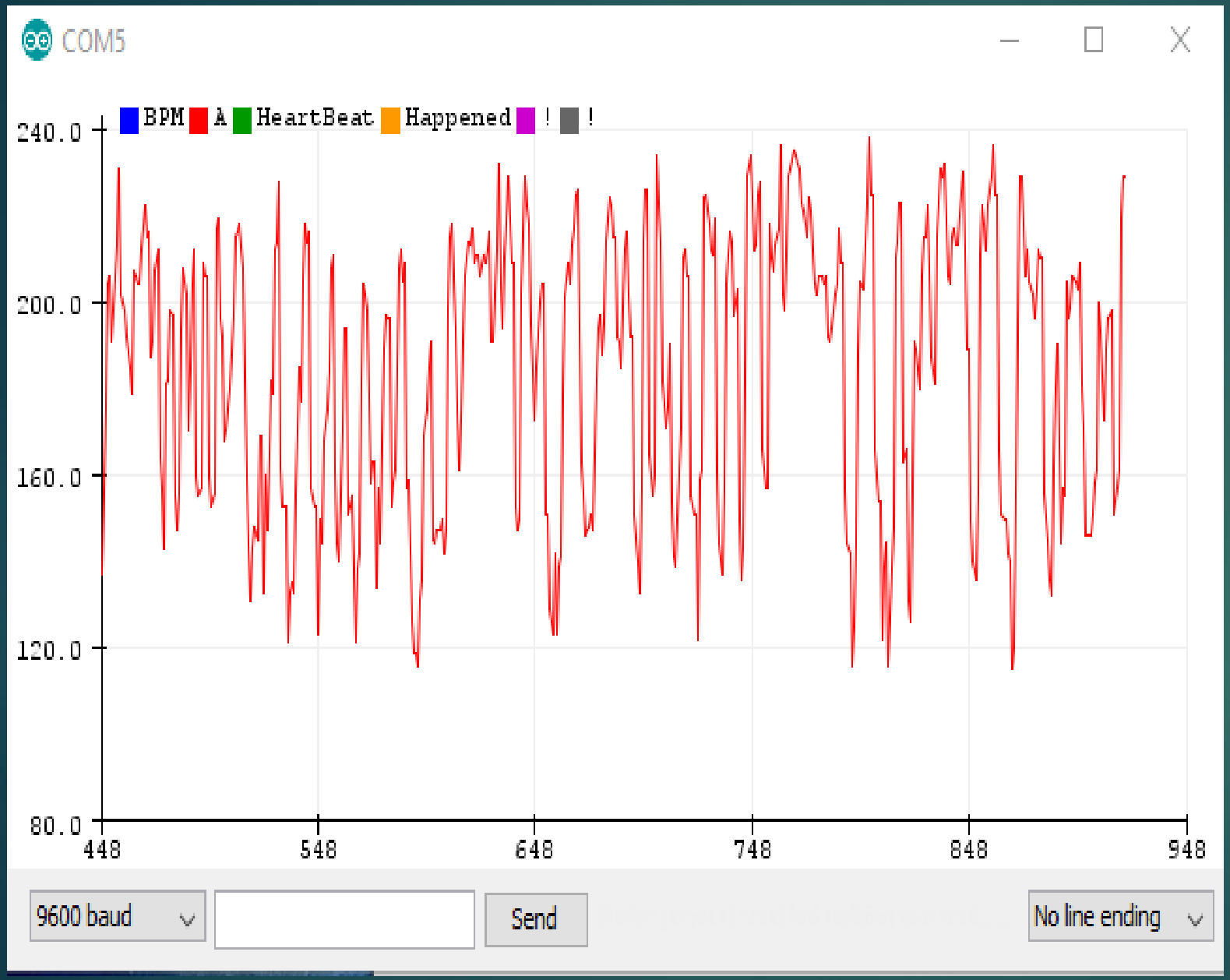
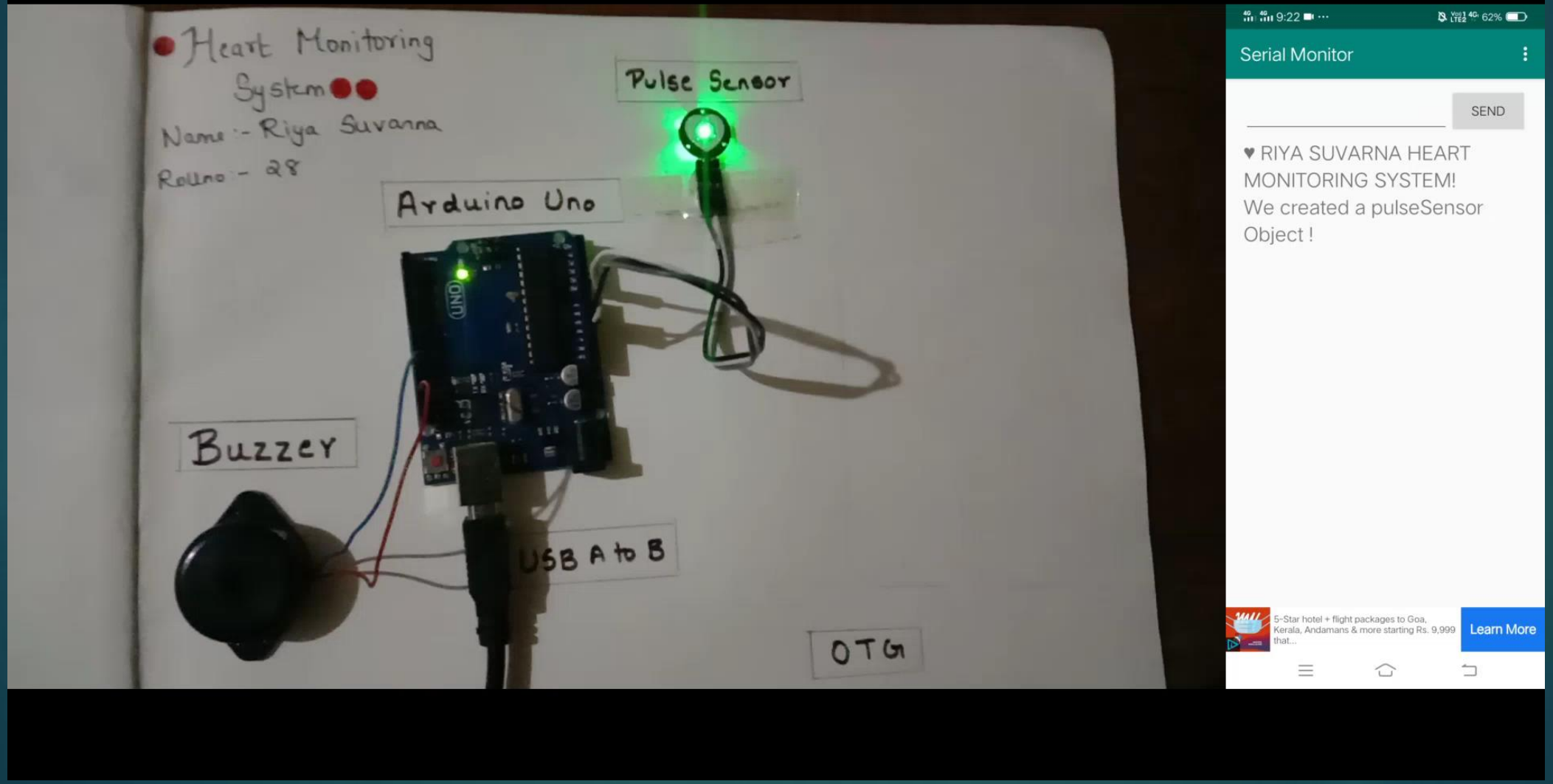
Result

Output in Serial Monitor





Output in Serial Plotter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Name :- Riya Suvarna
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Pulse Sensor
Arduino Uno
Buzzer
USB A to B
OTG
Serial Monitor
SEND
♥ RIYA SUVARNA HEART MONITORING SYSTEM!
We created a pulseSensor Object !
5-Star hotel + flight packages to Goa, Kerala, Andamans & more starting Rs. 9,999 that...
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Conclusion

- The progress in bio medical engineering, science and technology paved way for new inventions and technologies.
- As we are moving towards miniaturization, handy electronic components are in need.
- New products and new technology are being invented. ARDUINO was found to be more compact, user friendly and less complex, which could readily be used in order to perform several tedious and repetitive tasks.
- Simulation is performed using Arduino software by placing appropriate sensors like temperature and heart beat rate for sensing the health condition and the results are analyzed under normal conditions and abnormality conditions.

Future Enhancement

- Advanced Medical Equipment Including.
- Upgraded Version of the application.
- Include Blood Pressure Data.
- Multiple Patients can use one device.
- Push Notification System for the application.
- Include GPS system.


Thank you!