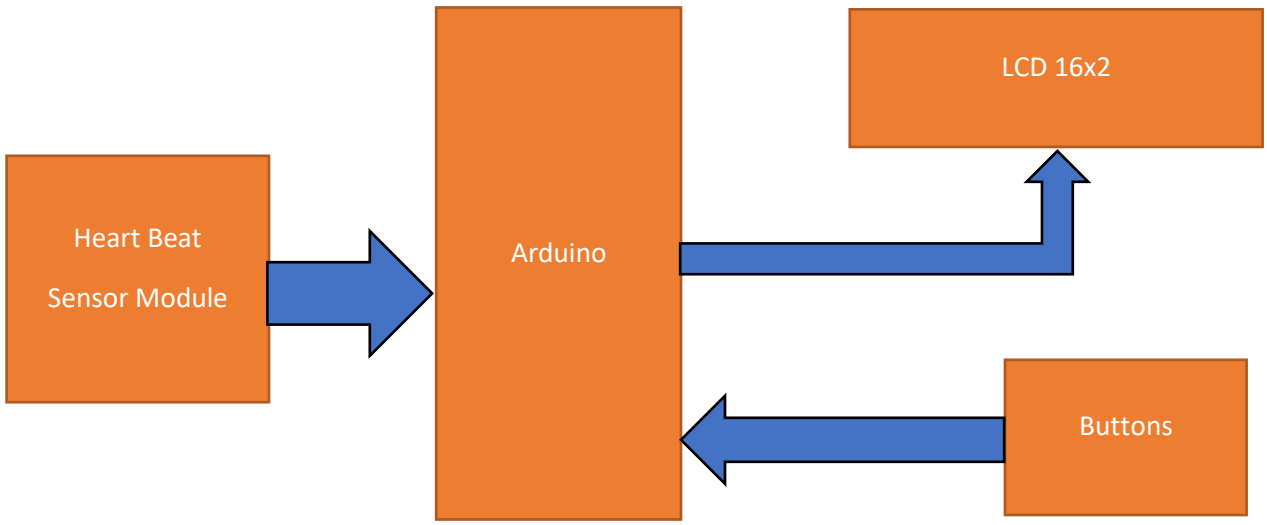
Heart Beat Sensor Arduino Project

Santosh Yogi (170020022, santosh.yogi.17002@iitgoa.ac.in)
Ajay Meena (170010013, ajay.meena.17001@iitgoa.ac.in)
Rajesh Kumar Tiwari (170020020, rajesh.tiwari.17002@iitgoa.ac.in)

Introduction

Problem of our project is Heart Beat Sensor Which will show heart beat rate on LCD 16x2. We put our finger on sensor after some time it show your heart beat. It is using for Medical.

System Overview:

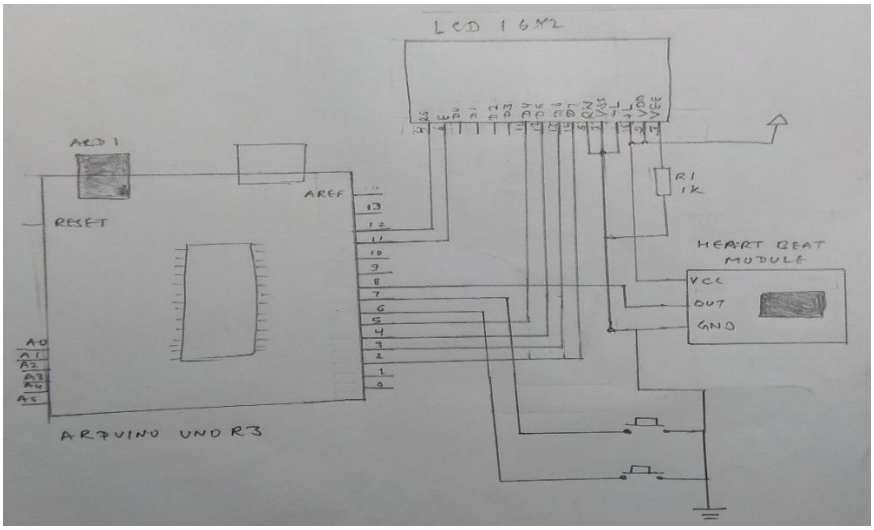


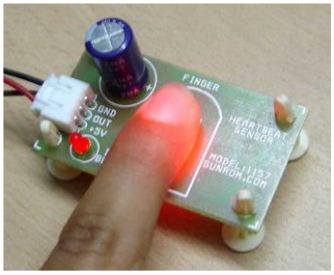
1. *Heart Beat Sensor Module*
   - *It give Analog Output.*
   - *Put your Finger on it.*
2. *Buttons*
   - *These using for Reset.*
   - *Start the system to reading pulse.*
3. *Arduino*
   - *Fetches the input from the Heart Beat Sensor.*
   - *When switch start press then it is start counting pulse for 5sec.*
   - *According to input received, show heartbeat.*
4. *LCD 16x2*
   - *It show output (Heart Beat Rate).*
5. *IO Board*

Implementation Details:

To calculating heart beat by this formula
Five_pluse_time = time2-time1
Single _pulse_time= Five_pluse_time/15
Rate 60000/ Single _pulse_time
Where time1 is 1st pulse value time2 is pulse counter value

- Heart Beat Module's output is connected to PIN8 of Arduino.
- start push button is connect to PIN7 of Arduino.
- reset push button is connect to PIN7 of Arduino.





Block Diagram

Detail of Sensor

Parameter	Value
Operating Voltage	+5V DC regulated
Operating Current	100 mA
Output Data Level	5V TTL level
Heart Beat detection	Indicated by LED and Output High Pulse
Light source	660nm Super Red LED

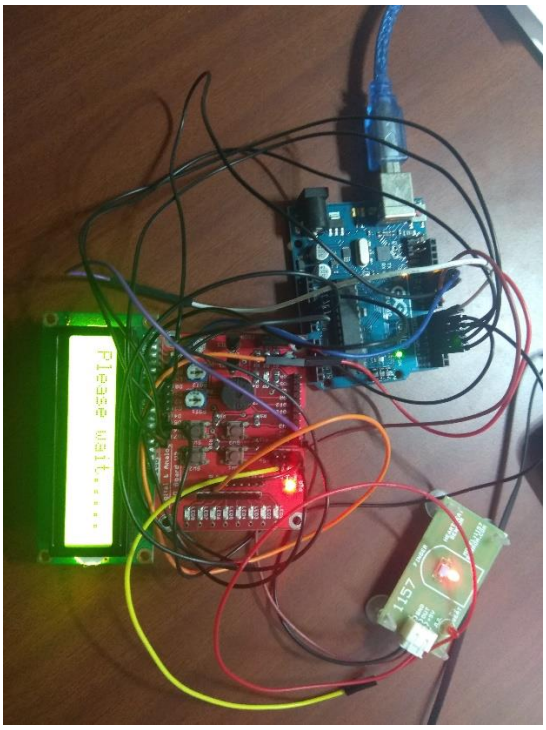
Pin Name Details

1. +5V — Power supply Positive input
2. OUT — Active High output
3. GND — Power supply Ground

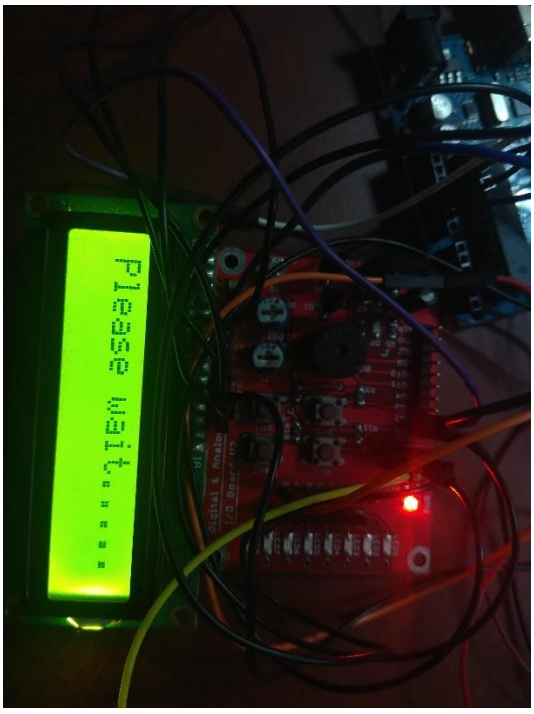
LED ON each high level when finger is placed on sensor

LED OFF when no beat detected when finger is not placed on sensor

Circuit



Initial Output



Final Output