American International University – Bangladesh

Faculty of Engineering

Department of EEE & CoE

MICROPROCESSOR & EMBEDDED SYSTEM PROJECT PROPOSAL FORM

SEMESTER: Fall 2021-2022
PROJECT TITLE: 2 MARK
Survey to develop process for complex engineering problems considering cultural and societal factors(use pie chart): 5 MARKS
GOALS AND BENEFITS OF PROJECT: 3 MARKS
EXPERIMENTAL BLOCK DIAGRAM: 3 MARKS
PROJECT TIMELINE(GANTT CHART): 5 MARKS
REFERENCES: (only published paper based references is allowed, don't use you-tube, Wikipedia, any random website for references): 2 marks

FOR FACULTY USE ONLY

COMMENTS BY COURSE TEACHER:

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COURSE TEACHER'S SIGNATURE **DATE: 27/9/22**

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Group Number:07

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PROJECT TITLE

IOT based Heart Attack Detector.

Survey to develop process for complex engineering problems considering cultural and societal factors (use pie chart):

1.

What is your Gender? *

- Male
- Female

2.

What is Your Age?

- 0-15
- 16-20
- 20-25
- 26-35
- 36-50
- 51-60+

3.

Do you ever face any kind of Heart Problem?

- Yes
- No

4.

Do you feel if heart attack detection system is in your hand all time it is helpful for you ?

- ◯ Yes
- ◯ No

5.

Do you Need Any kind of Heart Detection System for you and your family?

- ◯ yes
- ◯ No

GOALS AND BENEFITS OF PROJECT

Many people die today from heart attacks and lack of medical care for their patients.

correct level. Therefore, this project implements a heart rate monitoring and heart attack detection system.

Internet of Things Patients wear sensor-equipped hardware with an Android application. Verification possible with heart rate sensor Send heartbeat readings over the internet. Users can set upper and lower heartbeat limits. one time

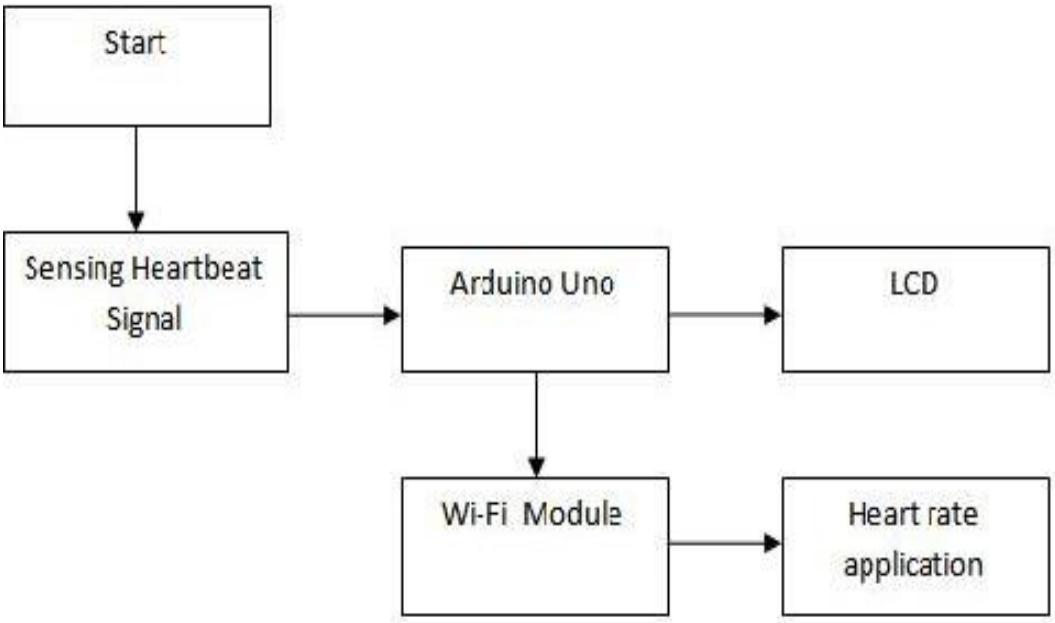
Once these limits are set, the system can begin monitoring the patient's heart rate, and as soon as the heart rate reading disappears. The system will send high and low heart rate alerts when you are above or below the limits set by the user.

Heart Attack Many people die today from heart attacks. heart attack Blood to the heart is cut off. Delayed diagnosis of heart attack prevents many lives from being saved people. This article proposes a system that monitors heart rate to detect heart attacks' (Internet of Things). A normal heart rate for a healthy adult is 60-100 bpm (beats per minute). athlete

Heart rate is typically 40-60 beats per minute, depending on fitness. When a person's heart rate is constant. Anything over 100 beats per minute is said to raise your heart rate, which is also notorious tachyarrhythmia. May impair heart function by reducing the amount of blood pumped by the heart. The body can cause chest pain and light-headedness. With advances in technology, this can easily be monitored Heart rate of the patient even at home. IoT is the dexterity of network mechanisms to capture and collect information. From the ubiquitous world, we share information through the Internet.

toughness.

EXPERIMENTAL BLOCK DIAGRAM



REQUIRED EQUIPMENT

The Arduino Uno:

Arduino uno, it is a microcontroller board. It is based on ATmega328. Moreover, there are 14 digital input and output pins of which six can be usaged as PWM outputs. RX and TX pins are utilized for communication between arduino board, computer or additional devices for serial communication. It has operating voltage of 5V. The ATmega 328 has 32KB of flash memory for storing code. The ICSP (in-circuit serial programming) header will permit us to use an outside programmer to upload software to our microcontroller unit.

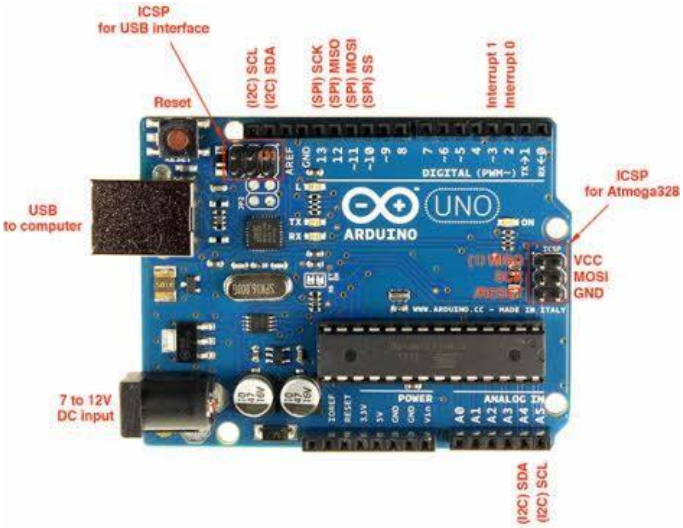


Figure.1. Arduino uno board

Heart Beat Sensor:

Heartbeat sensor is utilized to quantify the beat rate of heart in digital output. Driven is utilized to distinguish the pulse. The ordinary heartbeat run is 78 bpm. This gives an immediate output digital signal.

Figure.2. Heart beat sensor

NodeMCU ESP 8266:

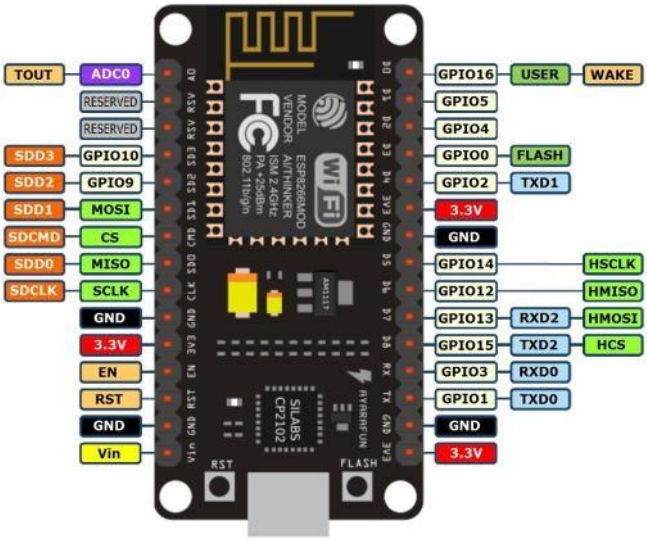


Figure.3. NodeMCU ESP 8266

The Node Microcontroller Unit (NodeMCU) is open-source software and hardware enlargement background that is constructed everywhere a very inexpensive system on a chip named the ESP8266. In our System we have used NodeMCU to receive data from Arduino and send that data over internet.

Results and analysis:

After setting up the system, check all the connections. Once the system is ready upload the source code. After uploading the code place the index finger on the heartbeat sensor. The heartbeat sensor will start monitoring the pulse rate. LCD is used for displaying the calculated pulse rate.

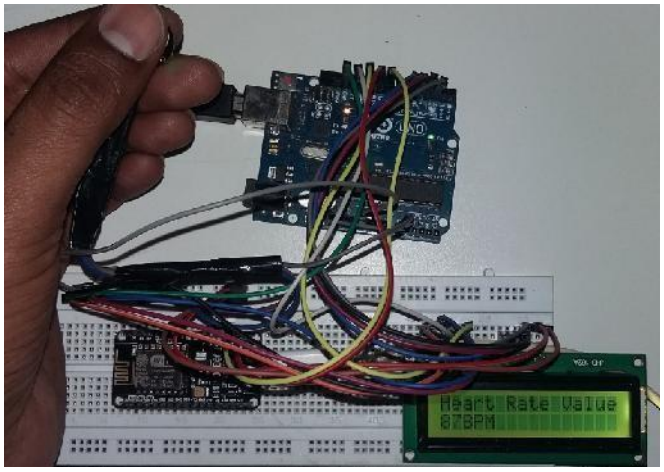


Figure.4. Pulse rate display on LCD Screen

Figure.5. Heart alert message display on LCD Screen

PROJECT TIMELINE (GANTT CHART):

Tasks	Schedule
Project Topic selection	Week 1
Discussion about the project topic and make a Website of our project **and submission project proposal**	Week 2
Conduct background and **analysis the problem**	Week 3
	Week 4
Specify project planning Method	Week 5
Modify the project	Week 6
	Week 7
Build project	Week 8
	Week 9
	Week 10
Writing project report	Week 11
Project presentation	Week 12

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