

IOT BLOOD PRESSURE MONITORING SYSTEM

AIM:

Design and Development of IOT Blood Pressure Monitoring System.

PURPOSE:

The basic protocol of medical staff in hospitals is to measure BP when patients entering into hospital. Hospital staff performs this task manually. It requires lot of staff and takes lot of time. To solve this issue we proposed a system that will measure blood pressure and update to IOT server. Here we are using Arduino and BP sensor. BP sensor measures systolic blood pressure, diastolic blood pressure and heart beat. It will work based on applying pressure on muscle and veins. The proposed project title is IOT blood pressure monitoring system using Arduino.

DESCRIPTION:

IOT module (ESP8266) interfaced with Arduino UART port. BP sensor has UART output and it will be with Arduino second UART port.

WORKING:

BP sensor has ON/OFF button to start and stop of calculating blood pressure. Here we used cuff type blood pressure sensor. We have to keep on arm and make it tight, so that it will calculate BP parameters correctly. It has air pump that will pump air into cuff and make veins tight, so that blood pump from heart artery stops sometime and then it releases cuff tightness, then artery pumps blood into veins and reverse pressure will develops in cuff. Internal pressure sensor measures this pressure and calculates systolic blood pressure, diastolic blood pressure and heart beat. Arduino takes all this data through serial and display on 16x2 LCD display. Also it will send data to IOT cloud server through esp8266 module.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
IOT Module	:	ESP8266
BP Sensor	:	Motorized hand Cuff type
Buzzer	:	DC 5V
Power Source	:	12v 2 amp Adaptor

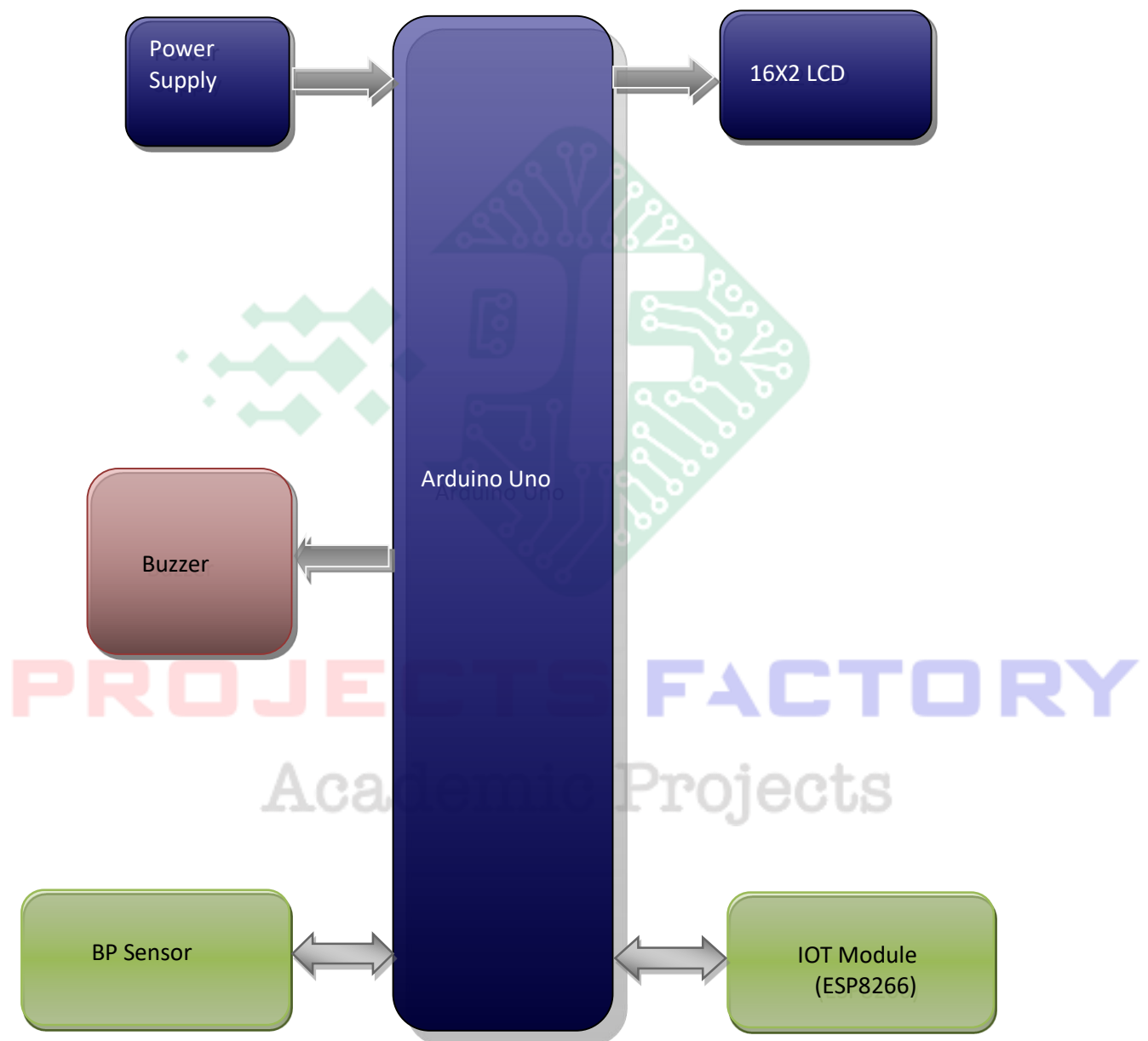
SOFTWARE:

Arduino IDE
Proteus based circuit diagram

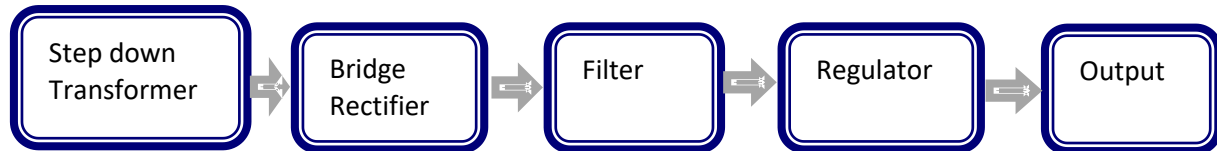
APPLICATIONS:

- Medical Applications
- For Hospitals
- For Home Use
- Patient Health Monitoring Applications

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERED:

- We have covered IOT module (ESP8266) interfacing
- Real time BP Sensor interface

PROJECTS FACTORY
Academic Projects