VISIBLE LIGHT COMMUNICATION FOR HEALTH MONITOR OF CHEMIST [Li-Fi]

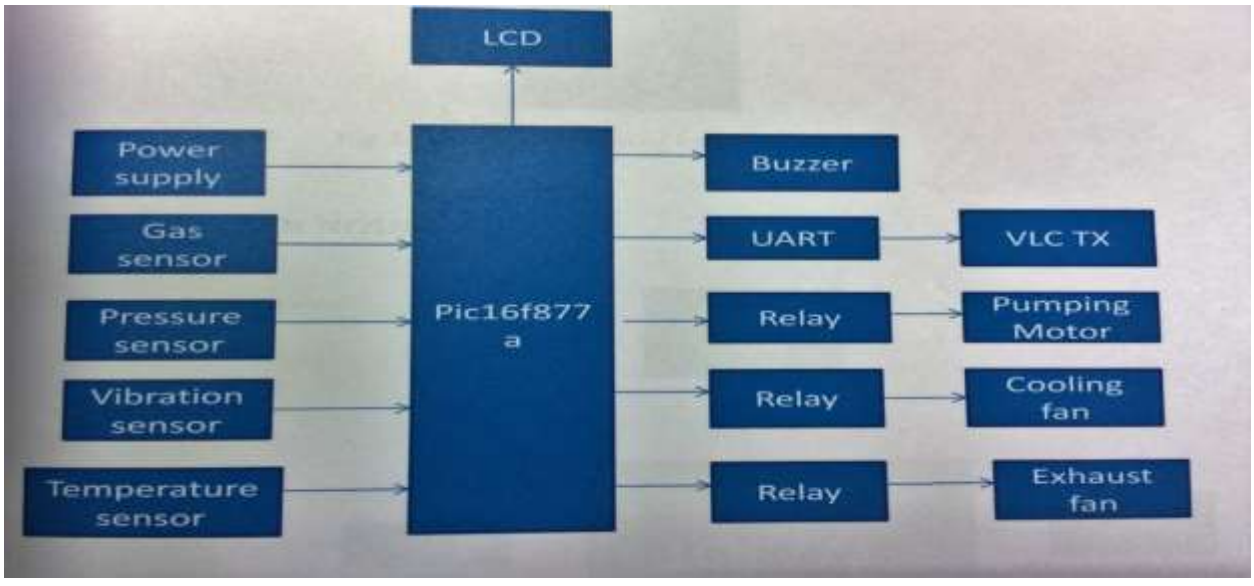
1.1 Abstract

In past times the technology of Wi-Fi is found wide spread. Wi-Fi connection is one in which people can trap the address from the other individual. A single network is used for trapping the other device. It is considered as a major drawback therefore a proposed system is implemented in which a connection protection mechanism that co-operates with Wi-Fi network and visible light communication to achieve reliability and performance in industrial communication network.

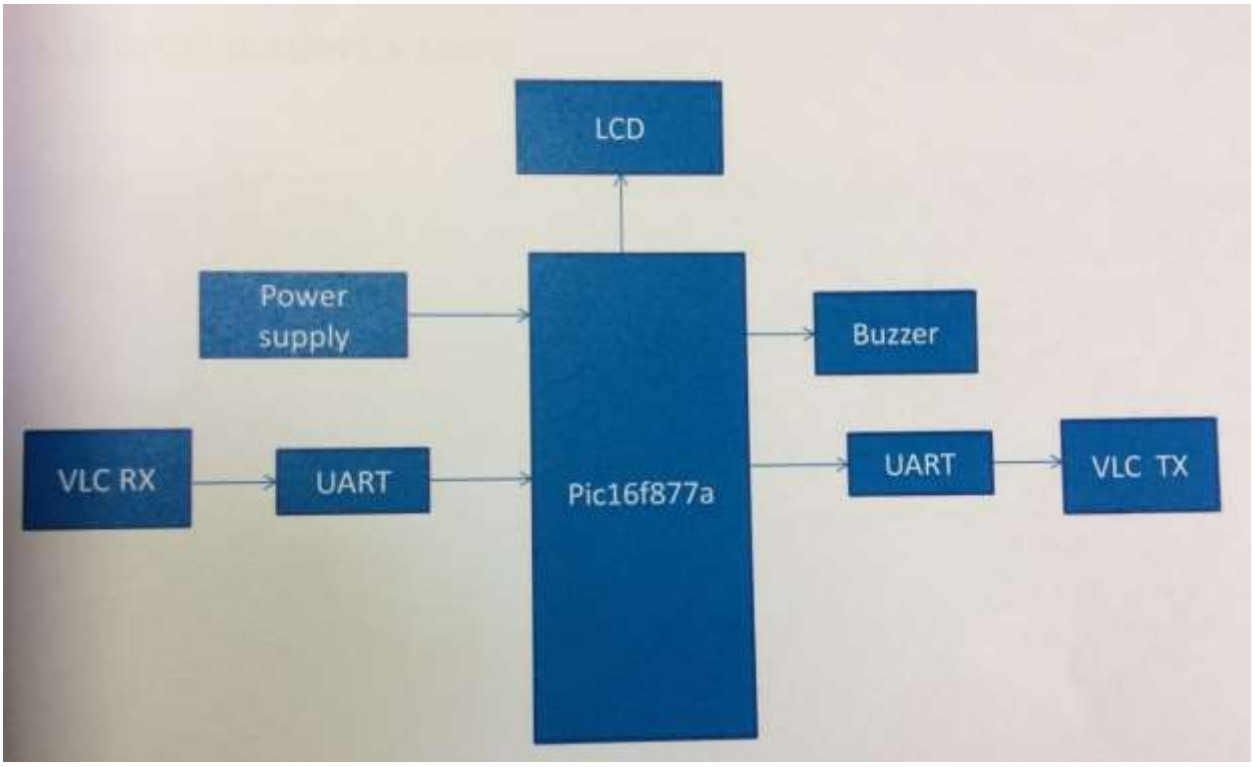
Li-Fi is transmission of data through illumination, by taking the fiber out of fiber optics by sending data through a LED light bulb that varies in intensity faster than the human eye can follow. Li-Fi is the term some have been used to label the fast and cheap wireless-communication system, which is the optical version of Wi-Fi. The term was first used in this context by Harald Haas in his TED Global talk on Visible Light Communication. "The heart of this technology is a new generation of high brightness LED".

1.2 BLOCK DIAGRAM

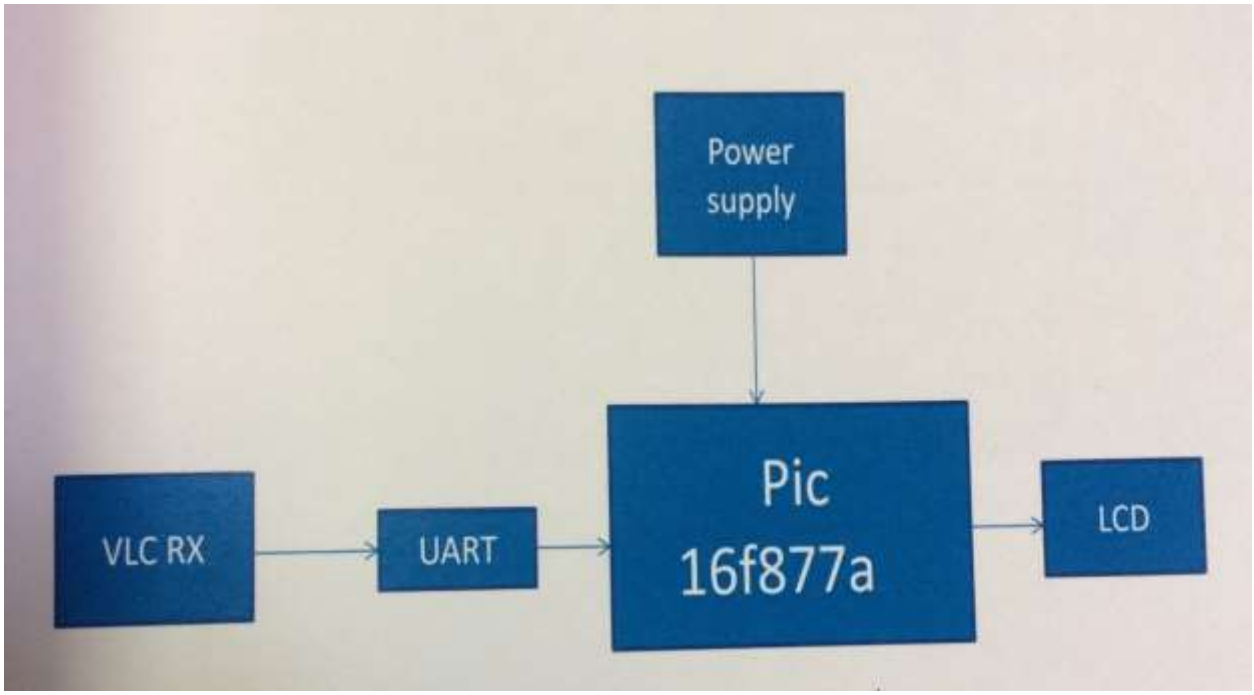
1.2.1 Transmitter Node



1.2.2 Intermediate Node

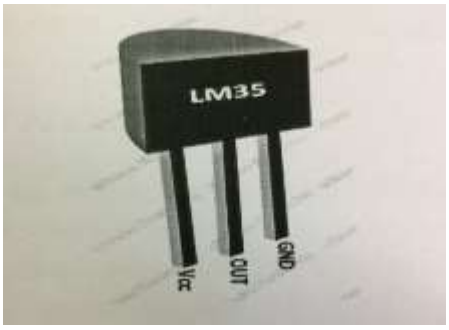


1.2.3 Receiver Node

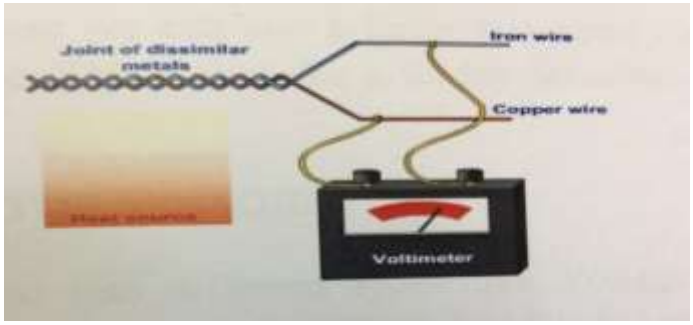


1.3 COMPONENTS USED

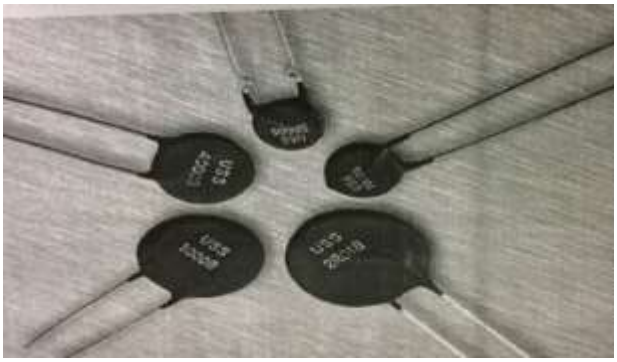
1. Transformer
2. Bridge Rectifier
3. IC Voltage Regulators
4. Temperature Sensors



- Thermocouple



- Thermistors

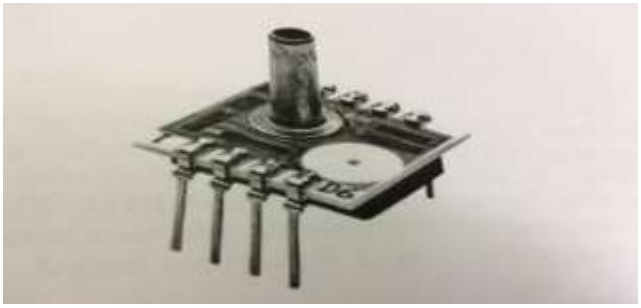


- Semiconductor Sensors

5. Sensor IC

6. Gas Sensor (MQ2)

7. Pressure Sensor



8. Vibration Sensor
9. Central Processing Unit
10. Architecture

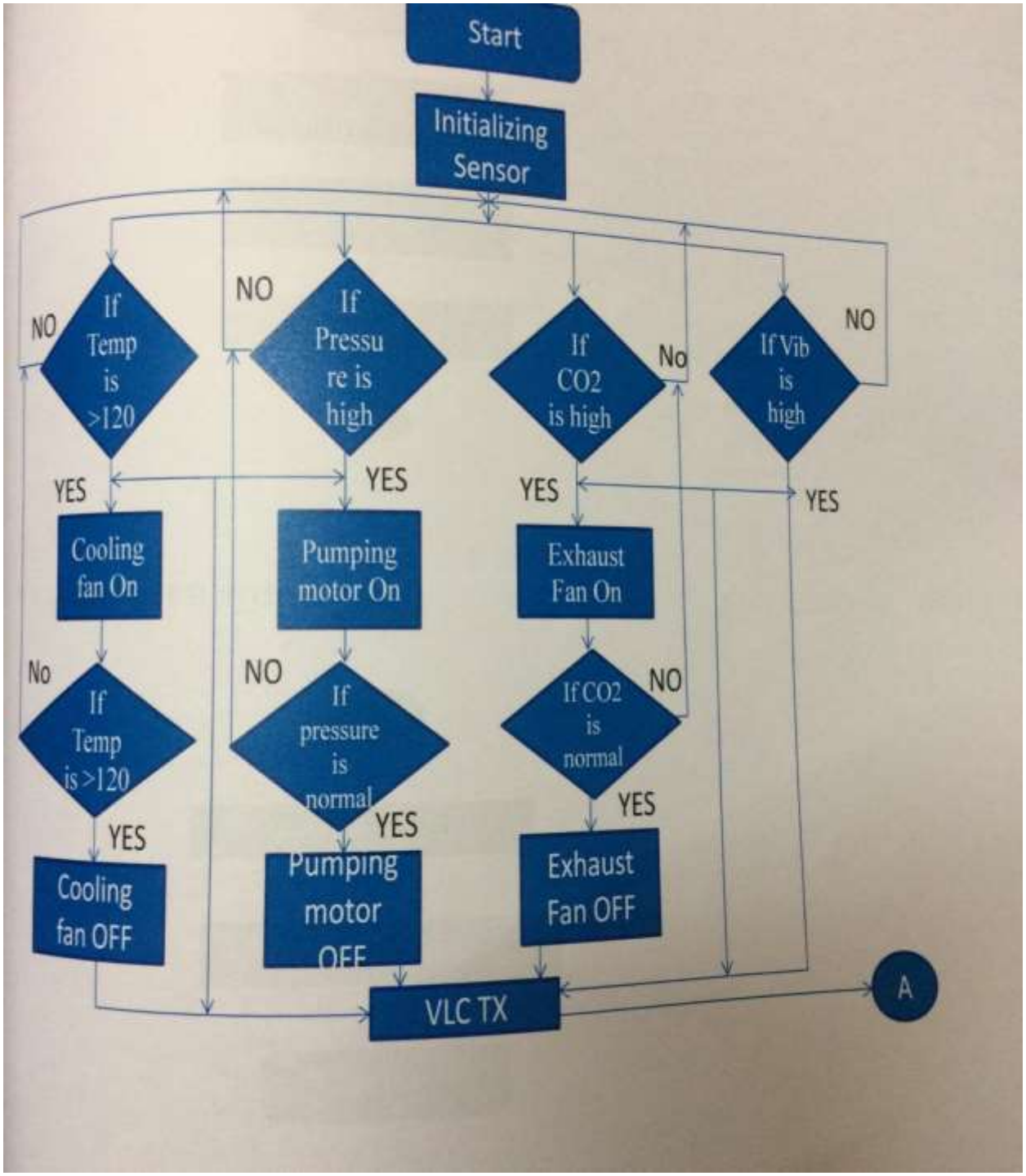
- CISC
- RISC

11.LCD

12.Buzzer

1.4 WORKING PRINCIPLE

1.4.1 Flow Chart

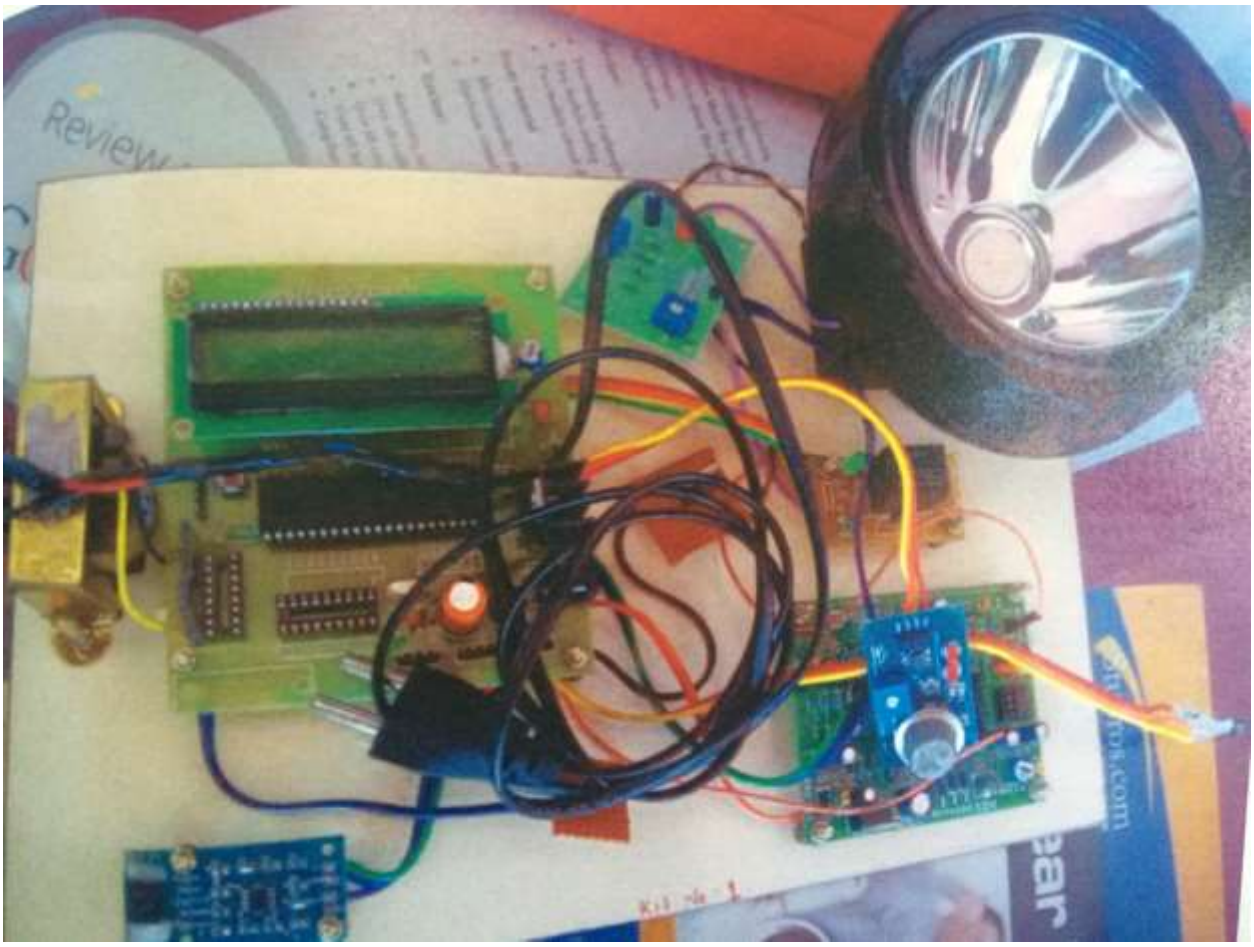


1.4.2 Implementation

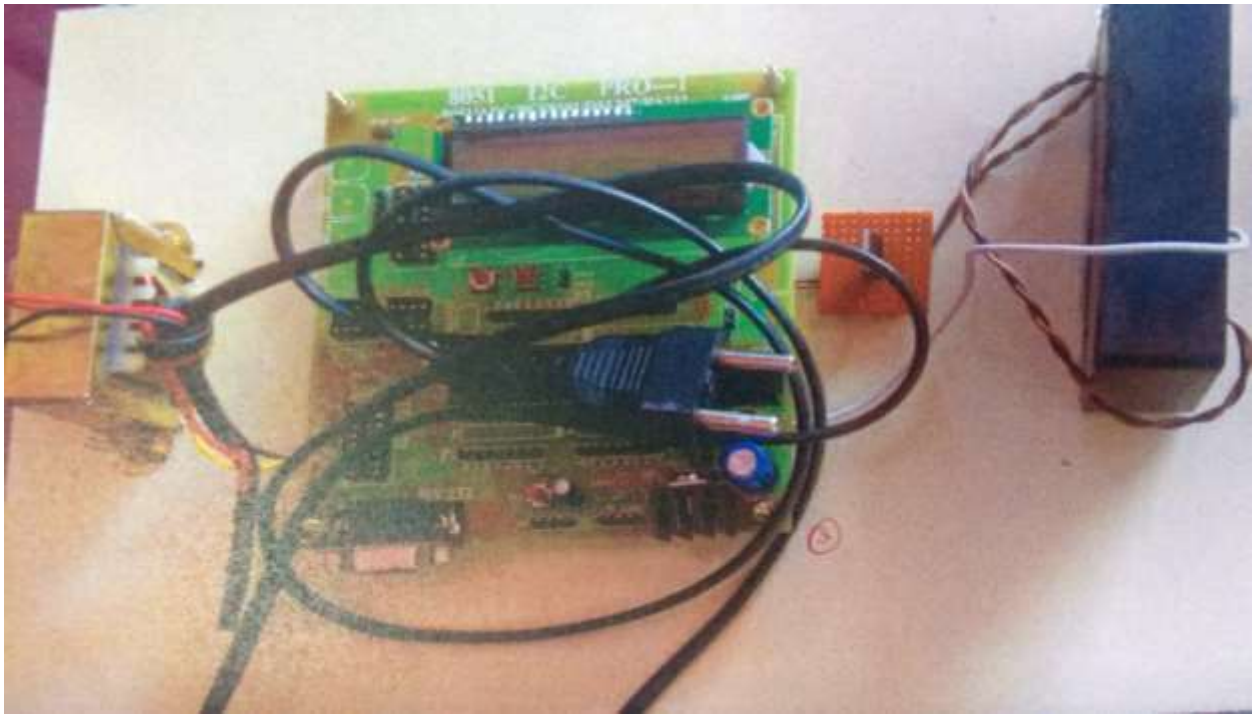
Consider the three node as three building (i.e) Transmitter node , Intermediate Node , Receiver Node as Building 1 , 2 & 3 respectively. In building 1 all the sensors are placed (i.e) in the industry side when the temperature, pressure, vibration, Gas are sensed or being abnormal the particular variations are detected and transferred to the next building through Li-Fi (i.e) data's are transferred through light. In the building 2 there is a light sensor to sense the transferred signal through Li-Fi. The building 2 (i.e) the intermediate node is a place where the technical staff or the technicians are there, through buzzer they get the voice alert and this helps them to know the disorders. Similarly the signals are transferred to the receiver node.

1.5 Resulting product

1.5.1 Transmitter Node



1.5.2 Intermediate Node



1.5.3 Receiver Node