**ECG MEASUREMENT**

### PROBLEM STATEMENT:

Every year 2.1 million patients die due to heart ailments in India. we have 1 Cardiac Specialist for every 3 lakh patient. Although secondary and tertiary health care provider are engaged in doing ECGs and several other vital collections to analyze heart health conditions, but non of the existing solutions can identify high risk cases from such reports and respond in time.

* Now a days in hospital environment patients are monitoring frequently with expensive equipment because of their health condition.
* The patients who are living in rural areas it is difficult for them to bare the expensive treatment and to consult a medical centre as the facilities are not provided for them.
* Cardiac care in rural India is limited and inaccessible due to major shortfall like shortage of doctors, diagnostic centers, equipped facilities, coupled with lack of awareness.
* If the electrode patches are left on too long they may cause tissue breakdown or skin irritation.It may develop a mild rash or skin irritation where the electrodes were attached.
* If the captured ECG signals are not regular with determined shape and pattern then this indicates an irregularity and can help the medical exports to be established a diagnosis of the heart malfunction.
* Failures of heart muscle do not appear suddenly and the most of problems can be detected prior to serious health damages.

AIM AND OBJECTIVES:

* Cardiac diseases can be addressed through effective treatment plans, constant screening and monitoring.
* To analysis screening of vital parameters including Heart Rate monitoring a disorder in application sequence arrhythmias, an electric axis of heart myocardial ischemia and infraction and cardiac rhyme diagnosis vital for the prevention of early cardiac arrest.
* Monitor the patients ECG scans and Alert on abnormal heart function.
* Manage the information for all patients and analyze the received signals.

REQUIREMENTS:

HARDWARE:

* Arduino Uno/Mega/Nano
* ECG Module(AD8232)
* ECG Electrodes-3pieces
* ECG Electrode Connectors-3.5mm
* Power supply
* Connecting wires

SOFTWARE REQUIREMENT:

* Arduino IDE
* Processing IDE

**ECG Machine Block diagram :**

