ES333 - MICROPROCESSORS AND EMBEDDED SYSTEMS - PROJECT

Heart Attack Predictor

Predicting heart attacks from human heart beat behaviour

An effective way to detect potential heart attacks and provide patients with the necessary warnings and alerts to seek medical attention.

The device will measure the user's heartbeat using a pulse sensor and the compare their heartbeat to the heartbeat of a healthy person in their respective age group. Based on this comparison, it will provide a percentage value corresponding to how much the two heartbeats match i.e. how healthy the individual is.

On further analysis, the device will also give the user their heart-age (actual age of their heart), based on whichage group's healthy heartbeat it matches the most.

The healthy ECG signal required for comparison will be obtained by applying Machine Learning on a database of healthy heartbeats (age group-wise).

All these features will be displayed on a web/app based user interface, providing the user with an easy access to see and record their heartbeat trends.

MATERIALS REQUIRED:

- STM32/ESP8266
- Heartbeat Rate - Pulse Sensor (REES52)
- Wifi module
- Registers
- GSM module

WORK CONTRIBUTION:

Hardware - Kankshi
Machine Learning - Asma & Aditi
UI Development - Prakriti & Asma