**E 17-03**

**Mahatma Gandhi Institute of Technology**

**HEART CONNOISSEUR**

It grabs immediate medical help in case of heart ailments and abnormal gestures and notifies the corresponding entities.

**Problem:**

* Inefficient immediate response to the patients any kind of a abnormal heart rate in the current scenario.
* Inconvenient communicating device to inform pre chosen people for a patient stricken with a heart stroke.
* To alarm Heart strokes in sleep.

**Statistics/Authentic Reports:**

* There have been reports of more than 3,50,000 deaths occur each year as a result of sudden cardiac arrest.
* Most people who die of heart attack die within the first hour after the onset of the symptoms.
* **About 47%** of sudden cardiac deaths occur outside a hospital.

**People/Stakeholders:**

Dr Raja Narasimha rao MBBS,MD.

Dr Karuna Sree MBBS,MD.

Dr Govinda Rajulu MBBS,MD.

Dr Manmohan MBBS,MD.

Dr. Anjaih MBBS,MD.

**Target Audience / Uses:**

* Patients who have a hereditary heart stroke background.
* Heart patients who have previously experienced heart stroke or who are prone to heart attacks.

**Key Features:**

* Can work at any time and has no distance or environment barriers.
* Based purely on Heart rate and hence can be a Good parameter to analyze blockages by tracking the rate over the time
* Bradycardia and tachycardia can be detected as well.

**Statistics/Authentic Reports which justifies the approach of our solution:**

* <https://www.sparkfun.com/products/11574>
* <http://pulsesensor.com/pages/pulse-sensor-amped-arduino-v1dot1>
* http://fritzing.org/projects/heart-rate-sensor-arduino

**People/Stakeholders with whom you have discussed the approach of our solution:**

* Patients prone to heart problems both severe and mild expect a continual tracking device to monitor and guide them.
* Patient’s relatives or well wishers require an immediate alarming signal to react.

**Existing solutions:**

* Lifefone
* Medical Guardian
* Bay Alarm Medical

**Existing solutions/competition on features:**

* Present scenario have limitations of signal strength which is eliminated in our product which uses a gsm module which doesn’t get affected by the distance
* It forms faster mode of communication

**Existing solutions/competition on cost:**

* Highly cost efficient when compared to any other oximeter(both internet dependant and direct communicating one).
* It is 50-80% cheaper than any standard oximeter.

**Existing solutions/competition on size:**

* Slightly bigger in size when compared to its contemporary products owing to inclusion of gesture recognition sensor and noticable heart rate display.

**Existing solutions/competition on choice of technology:**

* Present scenario have limitations of signal strength which is eliminated in our product which uses a gsm module which doesn’t get affected by the distance
* It forms faster mode of communication

**Technology Architecture:**

**Hardware:**

* Arduino
  + Heart rate sensor
  + Gsm/Gprs module
  + Display
  + Gps module
  + Accelerometer Sensor

**Software:**

* Arduino CC
* Google Maps

**Important technology components of our solution:**

* Heart rate sensor
* 3 axis accelerometer

**Strategy for getting first 10 customers:**

* Patients who have a hereditary heart stroke background.
* Heart patients who have previously experienced heart stroke or who are prone to heart attacks.

**First 10 Customers:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Age** | **Sex** | **Feedback** |
| K N Raja reddy | 56 | M | Defintely helps at the time of stroke |
| N Yadagiri | 61 | M | Automation is really an advantage |
| Saralama | 68 | F | price should be below 3500 |
| Ventaramam | 55 | M | Better if it also notifies for heart burn |
| Bhushan kumar | 48 | M | Remoteness is very helpful |
| Vidayvathi | 73 | F | Easy to use. |
| Mallamma | 63 | F | Good companion for heart patients |
| Bhudevi | 63 | F | Cost effective |
| Md Yousuf | 68 | M | Easy to carry |
| J A Vincent | 70 | M | Price is reasonable. |