# IOT BASED SMART WATCH FOR PATIENT MONITORING

**BRIEF OVERVIEW** :

We want to develop a smart watch for monitoring patient's health. It should be capable of sensing data and redirecting it to one of sites or app made by us which will be monitored specially by their specific doctors ie. when the sensor's data goes above a threshold value,appropriate actions must be taken.

**PRODUCTS REQUIREMENTS :-**

We specifically want to develop this product with the help of following components :-

- Raspberry pi acting as a server
- Touch screen for displaying data
- Make it as a wearable wristband(must be compact)
- Wifi adapter
- Sensors (heartbeat,ecg,pulse,temperature)
- Alarm sensor(buzzer)

**FEATURES/ISSUES TO BE RESOLVED :-**

- Make it portable.
- To resolve the battery issues(providing power to pi).
- To resolve issues of pins covered by the tft screen.
- To provide internet connection through wifi adapter.
- Make it cost friendly as much as possible.
- Compact size(very imp).
- Security issues(data should be seen by only authenticated person).

**MODULES :-**

1.) **Connection :-** Connect the circuit in such a manner that it remains as compact as possible and also easy to handle.
Try not to create mesh of wires.

2.) **Reading Sensor data :-** Connect all the sensors and get data from them.

3.) **Analyse and sort useful data** :- To analyse the useful data and upload it to the server.

4.) **Upload data to Website :-** Upload the data to website or app using secure mqtt protocol.

5.) Redirect data to email or phone or other website.

6.) Making website/app for data uploading.

**Working :-**

We want the watch to be worn by the patient. The band must be in contact with the body so be designed keeping that in mind. It must be as compact as possible. Now the data read from the sensors must be directed to a site or app using a mqtt protocol. This site must be self made not an api based site just like thingspeak. Now from here on, the useful data must be sorted and redirected again to a hospital's site or particular email or cell phone no.From here on ,a buzzer should be beeped to indicate abnormal increase or decrease in blood pressure or heart rate. The data must also be displayed on the screen so the user can also act upon in emergency situation if there is any delay in process.