**Smart Watch + Sensors Overview**

* Smart Watches have in-built basic sensors that provide necessary functions for creating a basic monitoring system.
* For the current application, it is being implemented on a Wear-OS Device(Android Watches)
* **The main four in-bult sensors used in this application are:**
* Accelerometer: Vibration, Acceleration
* Gyroscope: Angular Velocity (Rotation per sec)
* Heart Rate Variation: Change in Heart Rate
* Sleep Cycle: Changes in sleep patterns
* The data is sensed from the device at some set intervals (3-5 secs on passive & 1-2 secs on active)

and sent to the user’s mobile App via short range wireless Network (Bluetooth or Wi-Fi).

* **Interface (Frontend) for watch Application Features list:**
* Current monitoring rate of the user
* Details about the user & the connected device
* Register / Sign-out (stop syncing data)
* Emergency SOS that binds to guardians & close devices with App

**Mobile App Overview**

* The Mobile App has two components / parts:

1. **For** **Patient**
   * Fetch data from the wireless network connected to the watch
   * Pass the sensory data onto a ML model to analyze the mood & change replies depending on the mood
   * The ML model classifies the mood into four categories:
2. Joyful ii) Sad

iii) Angry iv) Distressed

* It shows a more detailed view of the patient’s monitoring analytics,

With a Chat system and a Speech-to-Text API for communication

* + Config Monitoring duration (for rehabilitation programs)

**Interface for Patient’s Side App**

* + Profile & Guardian’s Info
  + Register with Guardian / Watch Device & Unregister
  + Detailed analytics section
  + Main – Chat Service with mood based lighting & functionalities
  + Interact with Guardian on chat
  + Medication Reminder and Guidelines

1. **For** **Guardian / In-charge**
   * Fetch data from patient(s)[via backend] and show analytics
   * Register / Unregister patients
   * Interact with patients
   * Set alerts when patient’s mood elevates to threshold.