Track-Mountaineer

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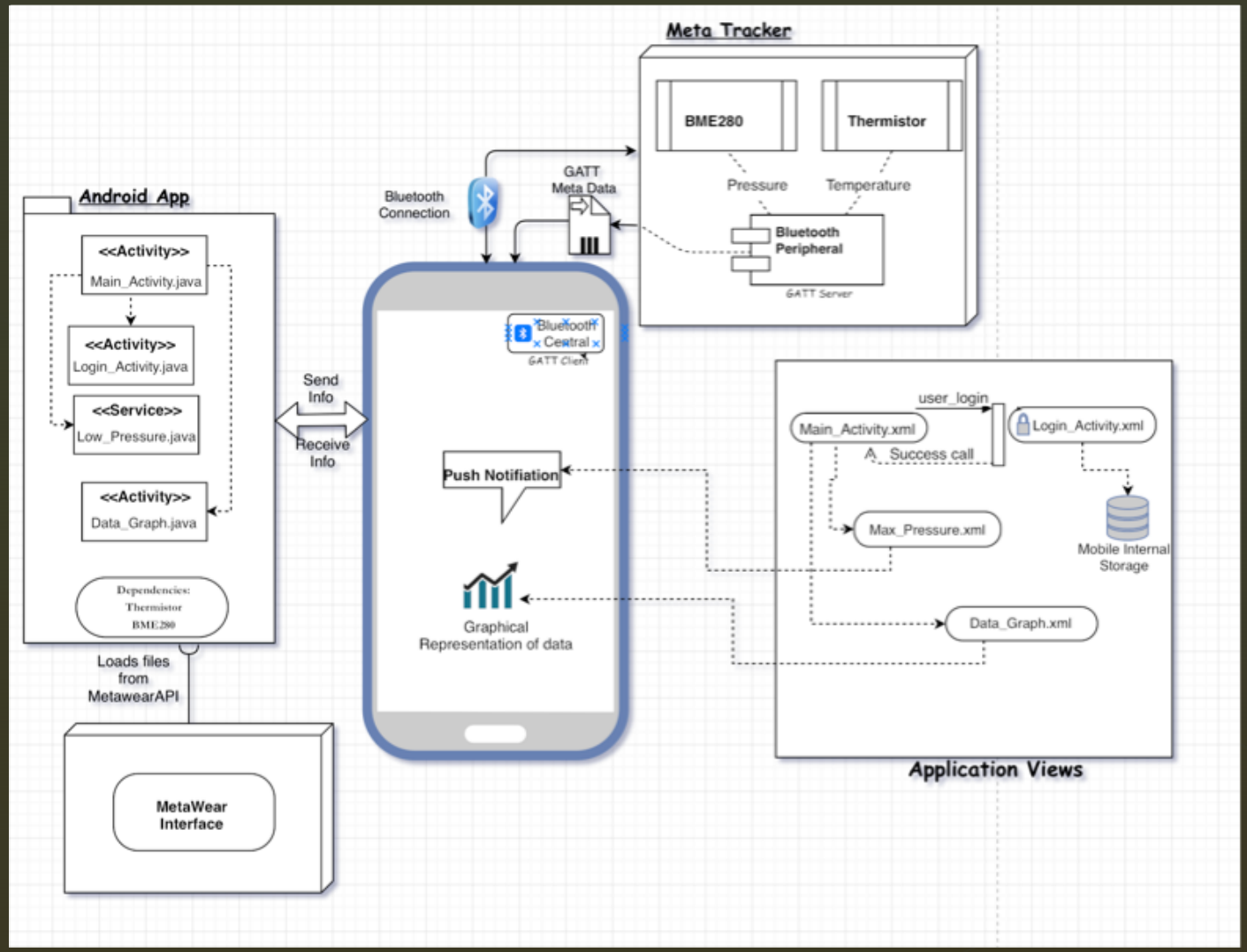
Project Goals:

- The application is highly useful for Mountaineers to keep a track on changing atmospheric pressure.
- Barometric pressure is directly proportional to pulse rate, higher the altitudes lowers the atmospheric pressure(P) which in turn effects the Heartbeat (HB).
- Push Notifications when the barometric pressure is below sustainable level for human Heart beat.
- Show a Graphical view of tracked data.
- Save the data in a .csv file in mobile internal storage.

Architecture Diagram:



User Stories:

- As a **mountaineer**, I want to **track drop in pressure as I climb**, so I can **be prepared for the worst**.
- As a user, **I want to get notifications on my mobile**, so I can **use oxygen mask to maintain my heartbeat**.
- As a user, **I want to have a graphical view of all the tracked data**, so **I can check my progress**.

Recap:

- Track Pressure from the MetaWear Sensor using BLE connection.
- Convert the tracked data into .csv file
- Save the file as METAWEAR.csv in Mobile Internal storage - Downloads Folder
- Push Notifications when the pressure is dropped below sustainable level.
- Represent a Graph of tracked data.

What has been done:

- Implemented Services
  - Handlers and Loopers

```
@Override
public int onStartCommand(Intent intent, int flags, int startId) {
    Message message = Message.obtain();
    mHandler.sendMessage(message);
    return Service.START_REDELIVER_INTENT; // Starts the thread even after closing the application
}

// Runs as a seperate thread to track pressure values
class DownloadThread extends Thread {

    DownloadHandler mHandler;

    @Override
    public void run() {
        Looper.prepare(); // looper and MessageQueue paased to the thred
        mHandler = new DownloadHandler();
        Looper.loop(); // Keeps the thread alive and loops around Message Queue

    }
```

- Reformatting Graph
- Limit Number of values tracked per second.
- Changes in User Interface.

DEMO

Questions ?