

## Assignment 4: Explore-Sensors

- Collect sensor data from the following sensors: a) accelerometer, b) linear-acceleration, c) temperature, d) light, e) GPS, and f) proximity.
- Collect these data and store into a database using Room. Use separate tables for each sensor. The UI has a toggle switch for each of the sensors to start and stop collecting data any number of times.
- The UI also has provisions (buttons) to get the past 1 hour average value of the accelerometer (for all three axis separately) and temperature sensor.
- If the user wants to see the average values, it should be showcased as part of the UI using a text view.
- Now using only the accelerometer sensor data identify if the device is stationary or in motion. Hint: look for patterns in the accelerometer data to determine whether stationary/ in motion.

### Rubric:

1. Access to individual sensors i.e. ability to read/write data from the individual sensor is:

Accelerometer (0.5 mark)

Linear Acceleration (0.5 mark)

Temperature (0.5 mark)

Light (0.5 mark)

GPS (0.5 marks)

Proximity (0.5 mark)

2. Store data in database: 3 marks

3. Show the average value for accelerometer (2) and for temperature (1)

4. Motion detection: 3 marks

.