Problem Statements

1. Garmin widget does not provide some crucial information, such as:

- What are you doing? What mode of transport were you using?

2. Participant forgot to turn on Garmin’s widget sometimes even when they move/travel to other places, which caused missing data.

3. If participant is in a vehicle, speed and distance is not recorded even with widget active.

Key Features

**Phase 1:**

1. Login & Sign Up

2. Record daily GPS trace of personal physical activities and movements using a suitable wearable device (smart phone or fitness wearable).

3. Send location data to researcher periodically.

4. Prompt for activity tag on usual location for such activities.  
  
**Phase 2:**

5. Label significant places (e.g., work, home, school, shopping center, entertainment, etc.) and/or types of activities for these traces.

6. Support integration with a 'light' user diary of user labels for the activities performed.

**Phase 3:**

7. Label modes of transport between locations (e.g., car, train, bike).

8. Identify and log any anomalies in the data or missing values.

9. Integrate the above streams into a dataset that can be output for research use.

Extra Features

1. Display a labelled map of activities.

2. Display summary information about activities (e.g., time spend walking, calories used during activity).

3. Build a server for app for server-side user authentication.

4. Researcher gets real time update from users.

**IMPORTANT NOTE:**  
  
The **data gathered** for this project will be collected **by the students** themselves and **not used for research purposes**. The idea is to **develop software tools that could be deployed for a future project** with appropriate ethics approvals.