

Personalised Cycling Route Planner: Design Document

1 The Task

The Cycling Route Planner is an app for Android which will be used to collect data about cyclists in Dublin city. It will also act as a route planner to cyclists, providing them with personalised routes depending on their priorities.

1.1 Data to be collected

The data that needs to be collected from the app includes:

- Hardware determined:
 - TripID
 - UserID
 - GPS determined Longitude and Latitude
 - Time Stamp – (Time and Date)
 - Corrected Elevation
- User Input:
 - Personal information – age, weight, height, gender.
 - Level of cycling proficiency.
 - Reason for journey (select one) – work, going home, exercise, leisure.
 - Perceived (and therefore Desired) route type (select multiple) – Shortest, Safest, Scenic, not physically taxing (easy ride).

1.2 Features for the user

The features that will be available to the user through the app:

- Route Planning:
 - Input Start and End points
 - Calculate a personalised route which depends on:
 - a) Reason for Journey
 - b) Desired Route Type
 - Visual on-screen map displaying the route.
 - Begin/Pause/End Trip
- Toggleable overlays:
 - Informational overlay:
 - Time
 - Current Speed [km/hr]
 - Pace (= 60/speed) [min/km]
 - Calories burned
- Trip History:
 - Start and End points
 - Time Taken
 - Average Speed and Pace
 - Calories burned
 - Speed vs Time graph

- Other:
 - User feedback/bug report form;
 - Access Help documentation;
 - Change Settings;
 - Read About the app.

2 Milestones

Milestones are detailed in project Gantt Chart.

- Technical Document written by mid Week 2.
- Be able to collect all data by end of Week 4.
- Have a working version CLARITY presentation in Week 6.
- Distribute in Week 9.
- Finished Week 12.

3 Apps with similar features

There are other apps available to download which demonstrate some of the desired features.

3.1 MyTracks by Google

- Shows movement speed
- Google maps plug-in
- Aggregated Statistics
- Time vs Distance graph
- Option to Share... with Google, Facebook, etc.
- Settings and Help menus
- Source code available
- <http://mytracks.appspot.com/>

3.2 CycleTracks

- No download host for Android
- Used in the San Francisco study
- Source code available
- <http://www.sfcta.org/downloads/cycletracks/>

3.3 RideTrac

- Example of poor interface design
- Google maps plug-in
- <https://market.android.com/details?id=com.hubrisware.ridetrac>

3.4 BuddyRunner

- Simple and intuitive tabbed interface
- Google maps plug-in
- <http://www.buddyrunner.com/>