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SIT123: Data Capture Technologies

# Lab Work Week 4:

# Collect GPS data using mobile apps (30 marks)

Mobile phones have significant sensing capabilities such as GPS, acceleration and lux. In this task you will use existing free mobile apps to record some GPS data.

## Due Date Friday 5:00pm, 12th August 2022

## Hardware Required

* A smartphone with GPS.

## Software Required

A web browser

One of the following apps installed:

* Android: Geo Tracker <https://play.google.com/store/apps/details?id=com.ilyabogdanovich.geotracker&hl=en>
* iOS: myTracks <https://itunes.apple.com/au/app/mytracks-the-gps-logger/id358697908?mt=8>
* Microsoft: GPS Tracker free

<https://www.microsoft.com/en-au/store/p/gps-tracker-free/9nblgggz2w34>

You may install and try out any other app well as, as long as they can track GPS & export tracks to GPX format.

## Pre-requisites: You must do the following before this task

1. **Attend Class (Lecture)**
2. **Read this sheet from top to bottom**

## Task Submission Details

There are 3 questions in this task. Answer all of them in this word document itself and submit to unit site.

### **Q1: Track a journey using one of the installed mobile apps. It is best if your tracked journey spans at least 5 kilometers. Export your track to GPX format and save the file to your computer. Upload your .GPX file to unit site.**

(You can email the .gpx file from your phone and download it to your computer)

(5 marks)

### **Q2: Open a browser on your computer and go to** [**http://utrack.crempa.net/**](http://utrack.crempa.net/) **. Upload your .GPX file to the site and click ‘Generate Report’. Take a screenshot and include here.**

(5 marks)

### **Q3: What information can you see from the generated report?**

(20 marks)

Four components can be found, namely, Elevation, Speed, Time and Distance

Elevation.

Min. altitude. 7 m.s.l.

Highest altitude. 127 m.s.l.

Average altitude. 60.9 m.s.l.

Maximum difference. 120 m

Total climbing: 229 m

Total descent: 297 m

Start elevation: 80.2 m.s.l.

Finish elevation: 12 m.s.l.

Final balance: -68.2 m

Speed.

Minimum speed: 0.6 km/h

Maximum speed: 73.1 km/h

Average climbing speed : 22.4 km/h

Average descent speed : 25.6 km/h

Average flat speed : 41.3 km/h

Average speed : 33.1 km/h

Time.

Date of the track. 9.8.2022

Start time: 05:53:45

End time: 06:47:42

Total track time: 53m 57s

Climb time: 11m 21s

Downhill time: 17m 15s

Flat time: 25m 21s

Distance.

Total distance on the flat: 20.6km

Actual total distance: 20.6km

Climbing distance. 3.2km

Descent distance. 4km

Distance on flat ground: 13.4 km

Note: depending on the app you used to record the GPS data, timestamps could be either in local time (that is AEST if you are in Melbourne) or sometimes it could be in UTC.