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## Assignment 03

## Setup Raspberry Pi and write Python app that collects any type of data and provides summaries.

I used the iOS pedometer application called Pacer Pedometer plus Weight and BMI available at https://itunes.apple.com/us/app/pacer-pedometer-plus-weight/id600446812?mt=8

The application is GPS based pedometer that tracks the amount of steps based on GPS location. It tracks the data using 15 minute intervals and track it for last 7 days. The application has data export functionality build in and allows access to its raw, detailed data to download. Once I obtained the data from the device I used python program to summarize it in tables. First table illustrates the total activity per day based on date and second table illustrates total activity per hour from various days. In the hourly activity it can be noticed that due to phone application relying on GPS triangulation it is prone to error as it registers 1 to 2 steps per hour even so that unit is motionless. If application would be using different type of sensor the results could be more accurate. The data from the application, processing of data, and summarization of the output was all accomplished using Raspberry Pi 2 device.

Attached you will find 10 images that represent the process of obtaining data and processing it on the device.

1. Image illustrating Pedometer app interface
2. Image illustrating Pedometer app settings
3. Image illustrating Pedometer app settings→ data backup & restore
4. Image illustrating Pedometer app settings→ data backup & restore → export
5. Image illustrating email result that was sent via export function
6. Image illustrating csv data that was attached in the email
7. Image illustrating Raspberry Pi interface
8. Image illustrating Raspberry Pi terminal with python command
9. Image illustrating Python app output with two tables
10. Image illustrating Python app output with two tables and Raspberry Pi Interface

There is also a video of this process posted on YouTube available at http://youtu.be/0mpys-LWkMI