PHC 6711: Class project - getting and using cell phone data for measurement of physical activity

The tool

We'll use an app named "Moves".

This app has the advantages of:

1. Being free
2. Being available for both iOS and Android
3. Estimating activity type based on speed and accelerometer data
4. Integrating well with developers and third-party apps to view/use data
5. Being easily exportable in multiple formats
6. Doing most of the activity-guessing on the app end (making it easier for researcher)

If we choose to build a web-based "app" for gathering and analyzing data, we can do so following the guidelines laid out at Moves' API site.

Instructions

Once you've donwloaded "Moves", go to options and create a free account. Once you have an account, you can export your data here.

The plan

Data collection

1. Everyone (who wants to participate) downloads the “Moves” app *before* the next class (January 30th)
2. Participants also create a “Moves” free account, so that they can later export their data.
3. We all begin using “Moves” for a test period of 7 days, beginning at 9:35am on Friday, January 30th, and ending at 9:35am on Friday, February 6.
    a. During this period, we all keep our phones with us and on at all times (important to keep charged)
    b. We also keep a "log" of any potential problems, issues, inconveniences, etc.
4. In class, on February 6th, we collectively download our data to a shared repository.
5. In class, on February 6th, we divide into two teams (each person should have one primary team, but participants will naturally work on both the technical and editorial sides of this project)
    a. L’équipe technique: this team is in charge of code-writing and data analysis/visualization
    b. L'équipe éditoriale: this team is in charge of drafting the paper for publication, choosing a suitable outlet for publication, dealing with IRB, etc.

Analysis and publication

Each team has its own timeline:

L’équipe technique	*L'équipe éditoriale*
Feb 6-13 ● create shared repository (github or bitbucket) to store data ● write code to analyze and visualize data ● write functions that take user information (weight, height) and raw data and convert to standardized units (calories and METs) ● describe results quantitatively and visually for the *équipe éditoriale* Feb 14-28 ● Assist the *équipe éditoriale* in the drafting of the paper (particularly on the technical front - methods, charts, tables, etc.) Feb 28 ● Submit paper!	Feb 6-13 ● Write up protocol for IRB (necessary if all the participants are also the investigators?) ● Submit protocol to IRB (if necessary) ● Conduct literature review ● Draft introduction Feb 14-28 ● Draft rest of paper ● Search for journal(s) to submit to Feb 28 ● Submit paper!

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