

Consent to Take Part in Research

Title: BEAPEngine

Researcher(s): Dr. Daniel Fuller (dfuller@mun.ca; (709) 864-7270)

Hello, we are pleased to invite you to participate in a research project entitled *"BEAPEngine"*

This form is part of the process of informed consent. It should give you a basic idea of what this project is about and what your participation will involve. It also describes your right to withdraw from the project. In order to decide whether you wish to participate in this research project, you should understand enough about the potential risks and benefits to be able to make an informed decision. This is the informed consent process.

Take time to read this carefully and to understand the information given to you. Before you consent to participate, please ask Dr. Daniel Fuller any questions about the study or for more information not included here.

Introduction/ Background to the study

Smartphones and smart devices (e.g. Apple Watches) have become more affordable and are currently owned by billions of individuals across the world. They are often equipped with sensors e.g. global positioning system (GPS), accelerometer and biosensors that monitor heart rate, steps and calories. These devices could potentially provide valuable information about individuals' physical activity behaviours in "real life" situations without the need of additional devices. Furthermore, given that many individuals are already carrying their smart watches with them throughout the day, it would make it easier to ensure future participants are following study guidelines for tracking activity. Moreover, since most people own smart watches, they could greatly minimize the cost of future physical activity studies and data collection.

Purpose of study

Our purpose of this study is to collect and analyze large volumes of Apple Watch and Fitbit data and develop methods to standardize across device brands (and potentially devices). A secondary purpose is to continue to develop and refine our previous work using machine algorithms to predict lying down, sitting, and light, moderate, and vigorous physical activity.

What you will do in this study

You will be asked to download your raw physical activity data from your Fitbit or Apple Watch data and upload those data to the BEAP Engine. The BEAP Engine will collect your data and process the data into sedentary time, light activity, and moderate to vigorous activity. We will ask you to create an account and answer some questions about your age, gender, height, and weight. We will then ask you to upload your wearable device data to the portal. We use algorithms that we have been developed in the BEAP Lab (www.beaplab.ca) to process the data. As a participant you will also be able to download your processed data in Comma Separated Value format readable in Microsoft Excel. A copy of the downloadable data is stored securely on the BEAP Engine. You can upload or download your data as many times as you would like.

All the interactions between the users and BEAP Engine are secured using some encryption mechanisms. Also, any data related to the users, such as their credentials and activity data, are stored encrypted on the Backup servers and databases.

Withdrawal from the study

It is entirely up to you to decide whether or not to take part in this research. If you choose not to take part in this research or if you decide to withdraw after the research it has started, it will not affect you. At any point during this study you may ask to discontinue participation by deleting your user account. If you delete your user account, any data you have uploaded will also be destroyed.

Possible benefits

As a participant you will also be able to download your data in an accessible format (Comma Separated Value) readable in Microsoft Excel.

Possible risks

There is always a risk of your data being stolen or compromised when it is transmitted online. We have taken all necessary precautions to secure your data while it is in being transmitted and while it is being stored.

Privacy and Confidentiality

Confidentiality is ensuring that identities of participants are accessible only to those authorized to have access. Your username and email address will not be associated with your physical activity data. Instead, you will be assigned a unique code. Only members of the research team will have access to the legend linking your name with your ID code. We will not link your username and email address to your physical activity data. There are limits to privacy and confidentiality if there is a data breach and it is possible that your username and email be linked to your Fitbit or Apple Watch data.

Anonymity

Anonymity refers to not disclosing participants' identifying characteristics, such as name or description of physical appearance. Every reasonable effort will be made to maintain your anonymity. Data collected will be grouped together to create averages. You will not be identified in any reports or publications. We will not release individual information collected related to your height, weight, age, or gender.

Storage of Data

Data collected from you as part of your participation in this project will be hosted and/or stored electronically by Digital Ocean Webservice and is subject to their privacy policy, and to any relevant laws of the country in which their servers are located. Therefore, anonymity and confidentiality of data may not be guaranteed in the rare instance, for example, that government agencies obtain a court order compelling the provider to grant access to specific data stored on their servers. If you have questions or concerns about how your data will be collected or stored, please contact the researcher and/or visit the provider's website for more information before participating. The privacy and security policy of the third-party hosting data collection and/or storing data can be found at:

<https://www.digitalocean.com/legal/>.

All information collected including usernames and email addresses will be stored on a secure server in Toronto, Canada (via Digital Ocean Webservice). Dr. Daniel Fuller will be responsible for ensuring the security of the data. Information collected for this study will be kept for 15 years and anonymized data will share in public data repository (<https://dataverse.harvard.edu/>), as required by Memorial University's policy on Integrity in Scholarly Research.

Reporting of Results

Results of this research will be published in a scientific journal and disseminated through conference presentations and uploaded to the BEAP Lab website (www.beaplab.ca). We will never publish information that might identify you or any participant. You may be provided with results once the study is completed if requested on the consent form.

Questions or problems

If you have any questions about taking part in this study, you can contact the researcher who is in charge of this study. Daniel Fuller can be reached at (709) 864-7270.

The proposal for this research has been reviewed by the Interdisciplinary Committee on Ethics in Human Research and found to be in compliance with Memorial University's ethics policy. If you have ethical concerns about the research, such as the way you have been treated or your rights as a participant, you may contact the Chairperson of the ICEHR at icehr@mun.ca or by telephone at 709-864-2861.