1. **What types of research questions can I answer with accelerometer & GPS devices and SPACES?**

Since PALMS allows you to easily merge time-stamped activity data with participant GPS points, and the geodatabase allows you to run spatial queries and more complicated analyses, and the machine-learning enables classification of different behaviors there are endless options for research questions. SPACES could address any questions related to the locations, trips, or movements of different populations or demographics, the type and intensity of physical activity and duration of sedentary behaviors, the intersection of activities with a variety of environmental/spatial context, and the recognition of different types of behavior and travel modes through machine learning.

2. **Who would own the data once it’s part of SPACES?**

The researcher retains ownership of their data within the SPACES system and can set restraints on which other users have the ability to view or use their data. Data can be removed from SPACES at any time.

3. **Do I have to get approval from my IRB (or ethical review board) to use SPACES?**

Yes, all data storage and processing for the SPACES system will occur on servers housed at the University of California, San Diego in the United States thus all applicable US laws on data security and access will able. It will be required for you (as the investigator and data owner) to have IRB (or ethical review board) permission to store and process your data on US servers.

4. **How much data can I collect and store in SPACES?**

All SPACES data will be stored in a virtual machine (VM) which can be increased in capacity as required, so theoretically the data storage will be limitless. However, as SPACES strives to achieve sustainability, data storage and CPU usage will be a cost covered by users.

5. **What will the cost be?**

The cost will be a yearly subscription that will vary based on amount of data the user stores within SPACES and the extent of use. Again, these costs will allow for sustainability of the SPACES system.

6. **What types of researchers are currently using the systems you have already developed?**

Active living researchers, transportation/active transport, built environment, geography, cancer/epidemiology researchers, physical activity, nutrition, design and planning, population researchers, movement and sport, workplace health, mechanical engineering, behavioral science adolescent and child behavior, disease prevention, kinesiology, and kinanthropology researchers.

7. **Are there publications on the systems you have developed?**


8. **Are there training or conference workshops on the systems you have developed?**

Training workshops are in development, and the SPACES grant will support further development of theoretical and application based online trainings.

Quickstart videos for PALMS can be found on the PALMS wiki at [https://palms.ucsd.edu:8443/QuickStart/](https://palms.ucsd.edu:8443/QuickStart/).

ALR 2012 - Using Technology to Better Assess Active Commuting and Sedentary Behavior
Simon Marshall, Ph.D., University of California, San Diego; Jasper Schipperijn, Ph.D., University of Southern Denmark; Charlie Foster, Ph.D., University of Oxford, England; Jacqueline Kerr, Ph.D., University of California, San Diego

ALR 2011 - Collecting and Processing Global Positioning System (GPS) Data for Active Living Research Workshop Presentation
Jacqueline Kerr, Ph.D., University of California, San Diego
Jasper Schipperijn, Ph.D., University of Southern Denmark
Fredric Raab, University of California, San Diego
Scott Duncan, Auckland University of Technology, New Zealand

9. **What devices are supported by SPACES?**

Currently, the PALMS platform supports all ActiLife, ActiCal and ActiHeart and Zephyr Bioharness data from activity monitors as well as Qstarz and DG-100 GPS device and any other GPS files in the GPX format. The machine learning algorithm was developed on the 30 Hz file from the ActiGraph GT3X+, and the geodatabase imports PALMS output data.

10. **What type of spatial data formats are supported by SPACES?**
Shapefiles of any projection can be converted and imported into the geodatabase as well as database tables (.dbf) and comma delimited (.csv) files that contain spatial coordinates. Additionally, some raster file formats can be imported as well.

11. Will I be able to create my own machine-learned features?

SPACES will be designed with the aim of allowing users to create and test various algorithms including machine learned algorithms on a set of training data that will be freely available. We hope to host data from multiple devices and from around the world. These algorithms will be allow to be shared across users.