The SBSIRB protocol template has been broken down into 3 parts in order to assist persons with multiple participant groups and multiple methodologies to provide more accurate and understandable information to the SBSIRB for review.

The three sections are as follows:

1. Protocol Part 1: Protocol Starter
2. Protocol Part 2: Consent Processes
3. Protocol Part 3: Research Procedures

The Protocol Starter should only be included once in any application and every application should at least contain one document in each of the other two sections but may have/need multiple documents in each section (e.g. a study that will survey parents, interview and observe different groups of teachers, and observe children could have 3-4 consent process documents and 3-4 Research procedures sections). Studies that do not have multiple participant groups or interventions probably will need only one of each document. When uploading multiple documents from each category, name each upload descriptively (e.g. consent for teacher interview,   
Procedure for child observation).

1. Enter a Version Date for this document:

March 20 2013

**Purpose:**

1. Summarize the purpose of the study, including the research questions and/or the hypotheses to be tested, along with a concise scientific or scholarly rationale for the study.

   This research monitors accelerometer readings on the participants Smart phone. Based on the accelerometer values, the application running on the smartphone detects whether the participant has parked her car or driven off in her car. The parking and driving off events are reported to a server along with the location of the occurrence of the event. The server analyzes the parking and driving off events from different participants and estimates the occupancy of the parking lot using a mathematical model whether a parking lot is full.

1. Is the study funded by a grant or other means?

No

Yes- Describe what part of the grant this protocol covers.

**Participants:**

1. Describe the population to be recruited for participation in the research and the reason that this subject population was chosen for this study (inclusion criteria).

The participants of this project will consist of undergraduate students, graduate students, faculty and staff of UB above the age of eighteen.

The chosen populations are participants of PhoneLab. PhoneLab is a programmable participatory smartphone testbed. This project is funded by NSF to enable researchers to conduct realistic large scale experiments. 200 Nexus S 4G Sprint phones were handed to UB volunteers consisting of students, staff and faculty. The volunteers also known as PhoneLab participants are required to facilitate research by actively being part of an experiment being conducted through PhoneLab.

1. Describe any previous or current interaction between the investigator/research team and the participant population and the procedures put in place to ensure that there can be no real or perceived undue influence.

   There have been no prior interaction.

1. Protections for children, pregnant women and prisoners as vulnerable populations are already covered in other portions of the IRB application but other participants groups who may be vulnerable to coercion or undue influence in a given study may include but are not limited to the following:

|  |  |  |
| --- | --- | --- |
| **Category of Participant** | **Person who might exert undue influence** | **Examples of additional protections** |
| **Students** | **Teacher/School Administrator** | **School personnel do not participate in the consent process and are not given access to research results/records.** |
| **Employees of Specifically Targeted Companies** | **Supervisors/Employers** | **Supervisors will not know employees who choose to participate and will not have access to research results/records.** |
| **Persons with cognitive Impairments/mental disabilities** | **Researchers** | **Consent processes could include assessment of comprehension and or additional permission from family members.** |
| **Patients** | **Their own Physician** | **Consent processes could include a “waiting period” and recommendation to consult with family members before enrolling.** |
| **People who are Economically or Educationally Challenged** | **Researchers** | **Consent process include additional information or procedures to assess comprehension** |

Identify any groups who might be vulnerable to coercion or undue influence and state the procedures that prevent or minimize the undue influence.

    None

1. Are there any groups that are to be excluded or restricted from participating for scientific or safety reasons?

No- Skip to benefits section.

Yes-

* 1. Explain why this exclusion or restriction is necessary.

* 1. Explain how this exclusion or restriction will be achieved.

**Benefits:**

1. Describe any direct benefits to subjects, if none, state this.

None

1. Describe any indirect benefits of the study and/or how the study will contribute to generalizable knowledge related to the purpose of the study.

   Parking is a big problem in urban areas. People tend to spend a lot of time circling in their cars in parking lots trying to find a parking spot. This research aims to build a system that will assist people in parking by pointing them to a location where they can likely find a parking spot on their smartphones and thereby reducing the time needed to find a parking spot. Upon the completion of study, We are planning to publish a full scale version of the application that not only targets people of UB but to any person in general at any place. This app will assist people in finding parking spots greatly reducing their time needed to find a parking spot. Also other benefits of this application is the reduction in fuel consumption while looking for a parking spot and also the greenhouse gas emissions caused by circling the parking lots in cars to find a parking spot.

**Data and Safety Monitoring Plan (DSMP)**

Investigators must provide a “plan” for ensuring data integrity and safety monitoring for human subjects who are involved in the research. The level of detail in the plan should be based on the degree of risk to research subjects. Low risk studies, for example, may have simple plans.

The DSMP shall include information regarding:

* The type of data or events that will be monitored
* The frequency of review
* The individual(s) responsible for monitoring serious events and problems (SEPs) and the responsible party to whom such events or problems should be reported and the timeframe for reporting them.

When applicable:

* Specific stopping rules or triggers used to determine when the study should be stopped or altered
* Procedures for communicating the outcome of DSMP reviews to the study sponsor, and others, when appropriate (the investigator provides this information to the IRB at the time of Continuing Review on the Application for Continuing Review).

Requirements for all DSMP:

1. Who will be responsible for ensuring data integrity and safety monitoring for human subjects who are involved in the research and communicating any negative outcomes of the DSMP reviews or any serious event or problem (SEP) that occur to the SBSIRB and other required offices/agencies? (Usually the principal investigator will do this and this can just be stated but if this duty will be done by others or shared among a group then give a description of the breakdown of these duties).

     PI

1. Indicate here any people/offices/agencies that, in addition to the SBSIRB, will be notified of any negative outcomes or SEP’s (e.g. funding agency, faculty sponsor, hospital office, etc.). If none, state so.

  None

1. Indicate the timeframe(s) relative to identification of any negative outcomes or SEP’s for notifying any/all of the above. For SBSIRB notifications the following should be stated unless a more immediate time frame will be used: “The SBSIRB will be notified within the timeframes indicated by the SEP report form.”

The SBSIRB will be notified within the timeframes indicated by the SEP report form

1. Indicate what types of participant related events will be actively monitored for, and how frequently the active monitoring will occur (e.g. participants’ interview responses will be monitored for indication of intent to harm self or others both during the interview and through a weekly review of data). If none, state so.

  Our application automatically detects when a participant gets on or off a car. These events a.k.a park and driving off events are monitored and reported by the participants smartphone. We are interested in only the events reported on the SUNY -Buffalo North Campus. Other events are not used for analysis .

1. Indicate what types of data monitoring that will occur and the frequency of review. That is, how often will data be checked to see that confidentiality procedures are being followed, nothing had been lost/stolen and no potential breach of confidentiality has occurred? (e.g. A check of all data will be performed weekly to ensure that protocol confidentiality procedures related to video de-identification and storage are being adhered to. All de-identified transcript data will be checked monthly to ensure that no data is lost).

   All events logged and reported by our application are anonymized by PhoneLab. The server that receives the updates from the smartphones analyzes the data every time an event is reported by the participant's smartphone. The server receives only anonymized data. The data is anonymized by hashing the device id of the smartphone. Since we are interested only in associating an event back to an unique phone, we only collect the hashed anaonymized device ids.

1. Provide here any additional details of data safety and monitoring not covered above. If none, indicate so. In most low risk studies, additional information here will not be necessary.

   None.