NEW JERSEY INSTITUTE OF TECHNOLOGY
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NEWARK, NJ 07102

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

TITLE OF STUDY: Crowd Sensing Using Smartphone Games

RESEARCH STUDY:

I,_____, have been asked to participate in a research study "Crowd Sensing Using Smartphone Games" under the direction of Dr. Cristian Borcea, Dr. Reza Curtmola and Manoop Talasila, a PhD student, all in the Department of Computer Science.

PURPOSE:

The collection of smart phones, carried by people everywhere, represents a new type of geographically distributed cyber infrastructure. The smartphones can be utilized to deploy serious games which can be played in real-time and at real locations. These serious games can be applied to solve interesting computer science problems (such as strategically/efficiently covering an area). The purpose of this research study is to incentivize the students to play the mobile game and to understand the player's involvement, behavior patterns and strategies while playing a location-based serious game on their smartphones.

In order to verify that the serious games are a scalable, reliable, and cost-effective strategy to solve interesting problems, we deploy the "Monsters vs NJIT" Android mobile game, which involves tracking the location of monsters on the NJIT campus map and virtually destroying them. The monsters are hiding in the NJIT campus and the players have to move around the NJIT campus with their smartphone to track the monster locations. In the game, the monsters try to learn and adapt to our world by connecting through our WiFi routers. The player's smartphone scan the NJIT WiFi routers and report the WiFi data (BSSID – the MAC address of the wireless access point, SSID – the network name, frequency and signal strength) to the control center. The control center analyzes the collected data to keep track of the monsters hiding throughout the NJIT campus.

DURATION:

The game completes when all the monsters are destroyed on the campus map and the entire NJIT campus is safe from the monster invasion. Depending on the number of players and the game strategy, my participation in this study may last between a minimum of 1 day and a maximum of 8 weeks.

PROCEDURES:

I have been told that, during the course of this study, the following will occur:

1. I will be briefed by the study team and I understand that I can be removed at any time from the game for inappropriate behavior.

2. I will be asked to download and install the "Monsters vs NJIT" mobile game on my compatible smartphone (i.e., Android-based). The application was developed by NJIT researchers and the application needs to remain installed on my phone for the duration of the study.
3. While playing the game, I will be asked to search and destroy the monsters hiding throughout the NJIT campus to gain points. To detect the monsters, I will be asked to keep turned ON the WiFi and GPS radios on my Android smartphone. To destroy the monster, I will be using magic staff provided in the game to throw fireballs at the monsters.
4. To detect and destroy the monsters at faster pace, I may be asked to cover the campus by using various moving strategies.
5. The game completes when all the monsters are destroyed.
6. At any time I have the option to withdraw from the study by simply uninstalling the game.
7. The game should be played on my digital device only.

PARTICIPANTS:
I will be one of about 200 participants in this study.

EXCLUSIONS:
Participants must be 18 years of age or older.
Participants must have an Android smartphone with a data plan that allows transfer of data to and from the phone.
Participants must be able to read and speak English.

RISKS/DISCOMFORTS:
I have been told that the study described involves no known risks and/or discomforts. There may be risks and discomforts that are not yet known. I fully recognize that there are risks that I may be exposed to by volunteering in this study which are inherent in participating in any study; I understand that I am not covered by NJIT's insurance policy for any injury or loss I might sustain in the course of participating in the study.

I understand that the usage of the smartphone radios (WiFi and GPS) may impact the phone's battery. I also understand that I am fully responsible for paying my own phone bill. I have been informed that the additional data traffic used to detect the monsters in the game will be kept to a minimum. Depending on the data plan on my phone, searching the monsters in the game may occur additional charges.

CONFIDENTIALITY:
I understand confidential is not the same as anonymous. Confidential means that my name will not be disclosed if there exists a documented linkage between my identity and my responses as recorded in the research records. Every effort will be made to maintain the confidentiality of my study records. If the findings from the study are published, I will not be identified by name. My identity and data will remain confidential unless disclosure is required by law.

DATA LOGS
I understand that data sensed using the sensors on my phone (accelerometer, GPS, WiFi), together with my user ID and the time would be collected and stored on a web server

during the duration of this study. Voice message information will not be collected. After the study ends, the data will be moved into storage that is not connected to any network. The data will be stored safely and not made available to anyone except the trained research assistants under the supervision of Dr. Cristian Borcea and Dr. Reza Curtmola. The subjects will not be identified by name in any published version of this research. The collected data may be disclosed if required by the law.

PAYMENT FOR PARTICIPATION:
I have been told that I will not receive monetary compensation for my participation in this study. The game access is provided for free only for the participants of the study.

RIGHT TO REFUSE OR WITHDRAW:
I understand that my participation is voluntary and I may refuse to participate, or may discontinue my participation at any time with no adverse consequence. I also understand that the investigator has the right to withdraw me from the study at any time.

INDIVIDUAL TO CONTACT:
If I have any questions about using the "Monsters vs NJIT" mobile game application or uninstalling it after the study is over, I understand I should contact:

Manoop Talasila
Department of Computer Science, GITC 4325, NJIT
University Heights, Newark, NJ 07102
Email: mt57@njit.edu

If I have any questions about my treatment or research procedures, I understand that I should contact the principal investigators at:

Dr. Cristian Borcea
Department of Computer Science, GITC 4303, NJIT
University Heights, Newark, NJ 07102
Telephone: 973-596-3662
Email: borcea@cs.njit.edu

Dr. Reza Curtmola
Department of Computer Science, GITC 4301, NJIT
University Heights, Newark, NJ 07102
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Email: crix@njit.edu

Manoop Talasila
Department of Computer Science, GITC 4325, NJIT
University Heights, Newark, NJ 07102
Email: mt57@njit.edu

If I have any addition questions about my rights as a research subject, I may contact:

Judith Sheft, IRB Chair

New Jersey Institute of Technology
323 Martin Luther King Boulevard
Newark, NJ 07102
(973) 596-5825
sheft@njit.edu / irb@njit.edu

SIGNATURE OF PARTICIPANT

I have read this entire form, or it has been read to me, and I understand it completely. All of my questions regarding this form or this study have been answered to my complete satisfaction. I agree to participate in this research study.

Participant Name _____

Signature _____

Date _____

NJIT
New Jersey's Science &
Technology University

Approved by the NJIT IRB on 1/30/2014 – F 177-13
Modifications may not be made to this consent form without NJIT IRB approval.