



Appendix C – User Tester Consent Forms

September 3, 2018

A Plug-loads Game Changer: Gaming System Energy Efficiency without Performance Compromises - CEC/LBNL Agreement # EPC-15-023



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Consent to Participate in Research A Study of Energy Efficiency in Computer Gaming Systems

PURPOSE AND BACKGROUND

You are being invited to participate in a research study conducted by Norman Bourassa and Claire Curtin, BTUS-ETA of Lawrence Berkeley National Laboratory. We are researching the energy performance of a select range of personal computer gaming systems, towards the development of measurement and benchmarking protocols for gaming software and hardware products. We invite LBNL employees to participate in this California Energy Commission-funded study by playing selected computer games during your lunch hour.

The information collected in the study will be used to understand how much energy is consumed by these systems, while operating under a real-world game experience. The tests will take place at LBNL, in the Computer Gaming Lab, Room 132 Building 46 (Gaming Lab).

The criteria for your participation are as follows:

- An LBNL employee classification: Career, Term, Postdoc Fellow, Graduate Student Research Assistant with work time percentage that provides full benefits.
- Ability to participate during one or more sessions during your lunch hour, Monday-Friday.

1. PROCEDURES

During your time in the experiment, you will be assigned to use one game system at a predetermined station within the Gaming Lab. Depending on your previous game play experience, you will be assigned to either a game console, gaming computer or Virtual Reality system. As you use these systems, you are free to adjust the personal controls (if provided) as needed to maintain a comfortable playing environment. You will be asked to play a game for 15, 30 or 60 minute session(s), and you will be free to stop the session at any time. Project research staff will assign 15, 30 or 60-minute session length(s) on the day of your test session(s).

During the experiment, there may be other study participant(s) present in the room with you. Project research staff will be present in the Gaming Lab during the entire session to maintain and operate the system hardware, and in the case of Virtual Reality systems, to act as an active “Spotter” for volunteer safety. You will be asked to play the game as you would normally play at home or otherwise, despite the testing lab environment. The project researchers will not direct or coach you on playing any particular strategy or game moves.



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At the end of your session, you will be requested to fill out a short survey about the quality of the game experience, asking your general observations such as image or gameplay quality. The questionnaire should take about 5 minutes to complete.

2. RISKS/DISCOMFORTS

There are no foreseeable risks to you from participation in this research. If you prefer not to answer any question(s) on the survey, you may skip them. If you are physically or mentally uncomfortable during play session, you may terminate your involvement at any time.

All of the information obtained from your participation during this research will be kept confidential. You will provide your survey responses without your name, identified only by the test session date, time, system details and game played.

3. BENEFITS

There is no direct scientific benefit to you personally from participation in this research. This research project will directly benefit society by contributing to the expansion of energy end-use research on electrical plug loads in California. A nominal benefit to LBNL gaming volunteer participants will be the opportunity to experience the use of high-end gaming hardware systems, that are not typically found in most California households (e.g., Virtual Reality, high-end Gaming PCs).

4. STORAGE OF SAMPLES/DATA

Your study data will be handled as confidentially as possible and only the study team at LBNL will access or analyze the data.

The measurements taken automatically by the computer system sensors and the responses to the survey do not contain personally identifying information (e.g. your name, employee ID, etc.). The data collected during your gameplay session will be associated with a video or computer gaming system, but will not be identified with an individual participant. The measurements and the survey results are encrypted and transmitted to our server over secure Internet connections similar to those used for online banking.

5. FINANCIAL CONSIDERATIONS

There is no financial cost to you to participate in this study. The time spent playing the computer game in the Gaming Lab is on your regular lunch hour, and you will not be paid for that time in the study.

6. QUESTIONS



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Any further questions you have about taking part in this study will be answered by Claire Curtin at (510) 486-7988. Any questions you have about your rights as a research subject will be answered by Berkeley Lab Human Subjects Committee at (510)-486-5399.

7. PARTICIPATION IN RESEARCH IS VOLUNTARY.

You have the right to not take part in this study or to stop your participation at any time, without penalty or loss of benefits to which you are otherwise entitled. Neither participating, nor declining to participate in this study will affect your employment status. The choice to participate or not is entirely up to you. You will be given a copy of this consent form to keep. If you wish to participate, you should sign below.

AUTHORIZATION I have read this consent form. All of the questions I asked have been answered to my satisfaction. I volunteer to participate in this research.

Date:

Subject's Signature:

Subject's Name (print legibly):

Date Person Obtaining Consent (Signature):

Name (print legibly):

Computer Gaming Volunteer Form

We are seeking LBNL staff to participate in a research study that explores the energy use of computer gaming systems. In this study, we will ask you to play a selected computer game(s) for between 15, 30 or 60 minutes during your lunch hour in the months of July and August 2017. All testing will take place in the Computer Gaming Lab, Room 132, Bldg 46.

Please provide your email. If you are selected to participate in this study, we will contact you to schedule a test time via email.

* Required

1. Email address *

LBNL Status

Do you belong to one of these employee classifications: Career, Term, Faculty, Postdoc Fellow, Graduate Student Research Assistant with work time percentage that provides full benefits?

2. *

Mark only one oval.

Yes

No

Previous Gaming Experience

We would like you to play a game you are familiar with, so that you can jump into play, rather than needing to take time to learn the gameplay.

3. Have you played any of these games in the last two years? Please check all that apply.*Check all that apply.*

- Bioshock-Infinite
- Call of Duty: Black Ops 3
- Candy Crush Saga
- Fallout 4
- Farmville 2
- FIFA 17
- Forza Motorsport 4
- Gran Turismo 5
- League of Legends
- Mario Kart 8
- Mario Kart Wii
- Middle-Earth: Shadow of Mordor
- Minecraft
- New Super Mario Bros. U
- New Super Mario Bros. Wii
- Overwatch
- Project Cars
- Rocket League
- Splatoon
- Super Mario 3D World
- Super Smash Bros. for Wii U
- Team Fortress 2
- The Elder Scrolls V: Skyrim
- The Legend of Zelda: The Wind Waker
- The Legend of Zelda: Twilight Princess
- The SIMS 3
- The SIMS 4
- The Witcher 3: Wild Hunt
- Words with Friends
- World of Tanks

4. **Of the games you've checked, please identify how many hours you have played those games in the the last 12 months? (ex: League of Legends - 6 hours/wk) ***

Primary Gaming System

5. **What primary device do you use for gaming? (ex: Dell Inspiron gaming laptop)**

Thank you

We will review your responses and contact you if you are chose for study.

