RESEARCH PARTICIPANT CONSENT FORM

NSF CPS-Frontier: Cognitive Autonomy for Human CPS: A Collaborative Study PIs: Dr. Brandon Pitts, Dr. Tahira Reid-Smith, and Dr. Neera Jain Schools of Industrial and Mechanical Engineering Purdue University

Key Information

Please take time to review this information carefully. This is a research study. Your participation in this study is voluntary which means that you may choose not to participate at any time without penalty or loss of benefits to which you are otherwise entitled. If you decide to take part in the study, you will be asked to sign, or agree to this form, be sure you understand what you will do and any possible risks or benefits.

This study seeks to understand the types of feedback that will best help people to quickly learn a new task. Results may help to improve the design of future technologies in many different environments. The research project is estimated to take 5 years to complete and has a large computational modeling component.

Additional explanations may be more detailed in the sections below.

What is the purpose of this study?

The overall goal of the research study is to measure performance on a particular task and provide feedback to the human to improve his/her performance on that task in real-time. As technology becomes more advanced, it is important to find ways to help people learn to quickly learn how to use various technologies. This work is funded by the National Science Foundation (NSF).

Please read this form carefully and ask any questions you may have before agreeing to participate. Our goal is to enroll a total of 3000 people as part of this study.

What will I do if I choose to be in this study?

If you agree to be in the study, you will be asked to:

Play an online game (e.g., obstacle avoidance) that involves moving the cursor. Instructions will be provided on the objective of the game (e.g., minimize obstacle avoidance distance and time). You will perform a series of trials of the game within the experiment session. The data collected includes the cursor position, calculated game score, and other cursor-related performance metrics.

How long will I be in the study?

The experiment is expected to last about 20 minutes.

What are the possible risks or discomforts?

You are at no greater risk than what you would encounter in daily life or during the performance of routine physical or psychological tests.

Breach of Confidentiality is always a risk with data, but we will take precautions to minimize the risk as described in the confidentiality section.

The tasks in the study are not designed to grade you neither your ability. As such, there are no social/reputational or privacy risks involved. There is, however, a slight chance of psychological risk, in that you may become disappointed if you feel that you performed poorly. If for any reason at any time during the study, you experience any type of discomfort or feel that you are no longer able to proceed with the study, you have the right to end the experiment, even after signing this consent form.

Are there any potential benefits?

As a participant, you may not directly benefit from being in the study. However, society may benefit from a better understanding of how feedback presented in various formats may help people to more quickly learn how to use complex devices. The findings from this research may also inform the development of next-generation technologies.

Will I receive payment or other incentive?

This study will have multiple sessions and will take approximately 20 minutes of your time. You will be compensated a minimum of \$8/hour for participating in this study. You may receive partial payment based your participation time (\$0.14 per minute) should you withdraw from the study prior to completing the research activities.

Are there costs to me for participation?

There are no costs associated with participating in this study.

Will information about me and my participation be kept confidential?

You will not be identified in any reports on this study. The data collected will be confidential and de-identified. The project's research records may be reviewed by the NSF and departments at Purdue University responsible for regulatory and research oversight.

Identifiers will be assigned to you, according to the order of your participation (e.g., P1, P2, P3, etc.). De-identified data will be stored electronically on password-protected computers. These data will only be accessible by the PI and Co-investigators. All data collected in this study will be kept for three years for data analysis. After three years, the data from this study will be destroyed. However, data from volunteers who withdraw from the study will be destroyed immediately.

What are my rights if I take part in this study?

Your participation in this study is voluntary. You may choose not to participate or, if you agree to participate, you can withdraw your participation at any time without penalty or loss of benefits to which you are otherwise entitled.

As a reminder, if for any reason, you do not complete the experiment, you will be compensated for your time. In this case, any data collected from you will be destroyed immediately.

Who can I contact if I have questions about the study?

If you have questions, comments or concerns about this research project, you can talk to one of the researchers. Please contact Dr. Brandon Pitts (<u>bjpitts@purdue.edu</u>) at (765) 494-0062, Dr. Tahira Reid-Smith (<u>tahira@purdue.edu</u>) at (765) 494-7209, or Dr. Neera Jain (<u>neerajain@purdue.edu</u>) at (765) 496-0436.

If you have questions about your rights while taking part in the study or have concerns about the treatment of research participants, please call the Human Research Protection Program at (765) 494-5942, email (<u>irb@purdue.edu</u>) or write to:

Human Research Protection Program - Purdue University Ernest C. Young Hall, Room 1032 155 S. Grant St., West Lafayette, IN 47907-2114

To report anonymously via Purdue's Hotline, see www.purdue.edu/hotline.

Documentation of Informed Consent

Please print a copy of this consent form for your records, if you so desire.

I have read and understand the above consent form, I certify that I am 18 years old or older and, by clicking the submit button to enter the study, I indicate my willingness voluntarily take part in the study.

SUBMIT