



UNIVERSITY OF TORONTO

Toronto, Canada M5S 3G4

DEPARTMENT OF COMPUTER SCIENCE

Title of Research Project:

Investigating the Effects of Age and Parkinson's Disease on Touch-based Pointing and Dragging Tasks

Investigators:

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Background & Purpose of Research:

Detection of Parkinson's disease at the early stage is important to prevent the progression of the disease. However, it requires repeated assessments of a person's motor abilities, and such repeated assessments are not always feasible. Thus, we are interested in exploring how to incorporate assessments into interactions which users frequently have with computer devices (*e.g.*, mobile phone, touch tablets). In particular, we focus on mobile devices because the personal nature and regular use of mobile devices today makes it an ideal platform for collecting data to be used for repeated assessments of motor problems. To that end, we would like to investigate user performance of common tasks on mobile touch-screen devices (*i.e.*, a pointing task and a dragging task) with three participant groups (*i.e.*, young adults, older adults and adults with Parkinson's disease). We hypothesize that there will be a measurable difference in performance (*e.g.*, pointing accuracy, dragging velocity and divergence) between the populations.

Eligibility:

All participants must be at least 18 years old without significant visual impairment. You do not need to be an expert user. We will provide the mobile touch-screen device to use for the study. If you are part of the Parkinson's group, you must have a clinical diagnosis of Parkinson's disease.

Procedures:

Study participation consists of a 15 minute session at the University of Toronto in which you will be asked to perform repeated tasks (*i.e.*, pointing and dragging) on a mobile, touch-screen device.

Voluntary Participation & Early Withdrawal:

Your participation in this study is voluntary. You may decline to answer any question without any negative consequences. You may also withdraw from the study at any time, without any negative consequences. If you decide to withdrawal from the study before its completion, your data will be discarded. The compensation will be calculated as stated in the Compensation section.

Risks/Benefits:

There is no direct benefit to you. You will be compensated for your time and effort. You could benefit from this study because there is the potential for improved means of detecting motor impairments from daily device interactions to help bring early awareness to the user of signs of diseases like Parkinson's, potentially resulting in improved treatment and disease progression outcomes.

Privacy & Confidentiality:

The data gathered in this study will be kept confidential and stored on a computer only accessible by the researchers. The computer is password-protected to prevent access to the data by anyone other than the researchers. The names of all files will be encoded such that they will not be personally identifiable by anyone other than the researchers. All the files will be anonymized and encrypted with EFS (Encrypting File System) on a Windows computer and will be retained for a period of 3 years.

Publication of Research Findings:

The data collected will be used as part of research publications and public presentations. Only anonymized and aggregated versions of the data will be included in these public disseminations of the research.

Possible Commercialization of Findings:

You will not profit from any commercial products resulting from this research.

Compensation:

You will receive \$10 for your participation.

Contact Person:

The experimenter will answer any other questions about the research either now or during the course of the experiment. If you have any other questions or concerns, you can address them to the research director, Khai Truong of the Department of Computer Science. He can be contacted by phone: 416-978-4761 or email: khai@cs.toronto.edu.

If you have questions about your rights as a research subject, please contact the Ethics Review Office at 416-946-3273 or email: ethics.review@utoronto.ca.

Dissemination of Findings:

You may request a copy of the final report for this study from the research director, Khai Truong of the Department of Computer Science. He can be contacted by phone: 416-978-4761 or email: khai@cs.toronto.edu.

Copy of Informed Consent:

You are being given a copy of this informed consent to keep for your own records.

Participant's Printed Name

Experimenter Name:

Participant's Signature

Date