UNIVERSITY OF CALIFORNIA AT BERKELEY

Consent to Participate in Research

User Study of Using Interactive Visualizations to Augment Data Analysis in Notebook Environments

Key Information

- *You are being invited to participate in a research study. Participation in research is completely voluntary.*

- *The purpose of the study is to study how users can engage with our newly designed tool to assist data analysis in notebooks.*

- *The study will take a total of two hours and you will be asked to perform an analysis in Jupyter Notebook with a custom extension built by this research project.*

- *Risks and/or discomforts may include frustration with the analysis process. There may be a small chance that confidentiality is breached. However, your participation in this experiment merely implies that you are familiar with data analysis and should pose little risk.*

- *There is no direct benefit to you. The results from the study may help us understand how to integrate interactions into programming environments.*

Introduction and Purpose

My name is Yifan Wu. I am a graduate student at the University of California, Berkeley working with my faculty advisor, Professor Joe Hellerstein in the Department of Computer Science. I would like to invite you to take part in my research study, which looks at how users engage with our interactive visualization-based tool in a notebook analysis setting.

Procedures

If you agree to participate in my research, I will conduct a study with you at a time that we have mutually agreed to at either a conference room in Soda Hall or at a work place

meeting room, if you are a industrial practitioner, or on-line via Zoom, where you will use the Zoom feature to take control of the notebook hosted on my computer.

The study will involve a tutorial on the tool and a data analysis task (30 min), the two data analysis tasks (30 min each), one with just Jupyter Notebook, and one with the extension. The order will be shuffled randomly to avoid introducing bias in our experiment. Finally we will end with an exit survey (20 min) that asks for your experience using the tool---such as whether it was helpful, and other open ended comments you may have. It should last no longer than two hours total.

Your interactions with the UI and the function calls will be recorded by the software and used for our analysis, as well as your survey results. With your permission, a screen cast and audio will be recorded is to accurately record the information you provide, and will be used for transcription purposes only. If you choose not to be audio recorded, I will take notes instead. If you agree to being audio recorded but feel uncomfortable or change your mind for any reason during the interview, I can turn off the audio recorder at your request. Or if you don't wish to continue, you can stop participating at any time. No identifiable information (e.g., audio recording) will be shared publicly. There will be no video recording.

Benefits

There is no direct benefit to you from taking part in this study. It is hoped that the research will help us understand how interactions and programming can be combined for data analysis.

Risks/Discomforts

Since the tool is still in early stage, there is a small chance that you may find it difficult to use. Should it become uncomfortable, feel free to cancel the study at any point.

As with all research, there is a chance that confidentiality could be compromised; however, we are taking precautions to minimize this risk.

Confidentiality

We will record the code you enter and the interactions performed during the analysis session, as well as the notebook content you have produced. None of these information could be linked to you. These anonymous information will be stored on the researcher's laptops (password protected), and they will be used for the research, and potentially shared publicly, such as in a public GitHub repository.

There are two pieces of identifying information---your audio recording and your email address. We will delete your email address once we have provided you with the gift card compensation. We will also process the audio recordings into de-identified data. The audio data will be deleted permanently after we have extracted out the necessary information for the paper submission, which is latest by the last day of 2020. De-identified data will be retained indefinitely for possible use in future research by myself or others.

The information could be used for future research studies or distributed to other investigators for future research studies without additional informed consent from the subject or the legally authorized representative.

Compensation

You will receive a $30 Amazon gift card for immediately after you complete the exit survey.

Rights

Participation in research is completely voluntary. You are free to decline to take part in the project. You can decline to answer any questions and are free to stop taking part in the project at any time. Whether or not you choose to participate in the research and whether or not you choose to answer any questions or continue participating in the project, there will be no penalty to you or loss of benefits to which you are otherwise entitled.

Questions

If you have any questions about this research, feel free to contact me at yifanwu@berkeley.edu.

If you have any questions about your rights or treatment as a research participant in this study, please contact the University of California at Berkeley's Committee for Protection of Human Subjects at 510-642-7461, or e-mail subjects@berkeley.edu.

CONSENT

If you wish to participate in this study via Zoom, please verbally confirm with me at the start of our Zoom call.

If we are completing this study in person, you will receive a physical copy of this document. Please sign and date below. You will be given a copy of this consent form to keep for your own records.

Participant's Name (please print) _____

Participant's Signature _____