**North Carolina State University**

**INFORMED CONSENT FORM for RESEARCH**

Title of Study Empirical Study of Virtual Reality and Live Coding

Principal Investigator Anthony Elliott Faculty Sponsor (if applicable) Dr. Chris Parnin

**What are some general things you should know about research studies?**

You are being asked to take part in a research study*.* Your participation in this study is voluntary. You have the right to be a part of this study, to choose not to participate or to stop participating at any time without penalty. The purpose of research studies is to gain a better understanding of a certain topic or issue. You are not guaranteed any personal benefits from being in a study. Research studies also may pose risks to those that participate. In this consent form you will find specific details about the research in which you are being asked to participate. If you do not understand something in this form it is your right to ask the researcher for clarification or more information. A copy of this consent form will be provided to you. If at any time you have questions about your participation, do not hesitate to contact the researcher(s) named above.

**What is the purpose of this study?**

We want to determine if being able to program while wearing a virtual reality display will affect the time required to complete a given programming task.

Virtual reality has seen a resurgence in popular interest in the past two years. The results of this study will be used as evidence to show advantages and disadvantages of using virtual reality in programming.

**What will happen if you take part in the study?**

Participants will be asked to complete three programming tasks in three different programming environments, one task per environment. Each task will require the participant to position multiple objects in a three-dimensional space in a web browser. Each participant will attempt the same three tasks in the same order. The experiment should take about 60 minutes.

The first programming environment used is a control. Participants will modify code in a text editor and observe the output in a web browser. In the second environment, participants will use a programming tool called RiftSketch for both modification of code and observing the output as it allows users to see the effect of their changes immediately. The third environment will also use RiftSketch, but participants will wear a virtual reality head mounted display called the Oculus Rift for the duration of the task.

Participants will be timed for each task. Tasks will take no longer than 15 minutes. If a participant takes longer than 15 minutes a researcher will stop the task, note the progress made, and then move on to the next task.

A 5 minute training session will be given before each environment is used. This ensures participants are familiar with the features of each environment.

After using all environments, participants will be asked some qualitative questions such as which environment they preferred and why.

Participants will then be given a brief demographic questionnaire and then thanked for their time.

# Risks

Participants may experience mild nausea from using the Oculus Rift. Certain virtual environments are known to be prone for nausea and all of these will be avoided. Participants are allowed to pause a task and resume after a 5 minute break if feeling nauseous. If the nausea persists, participants will be allowed to skip the task.

# Benefits

We anticipate that this study will promote the use of programming while in virtual reality. Participants will benefit from testing out cutting-edge technology.

# Confidentiality

The information in the study records will be kept confidential to the full extent allowed by law. Data will be stored on password-protected computers. Only project research assistants who have the computer password will be able to access the data. No reference will be made in oral or written reports which could link you to the study. You will NOT be asked to write your name on any study materials so that no one can match your identity to the answers that you provide.

**Compensation**

You will not receive any monetary compensation for participating.

**What if you are a NCSU student?**

Participation in this study is not a course requirement and your participation or lack thereof, will not affect your class standing or grades at NC State.

**What if you are a NCSU employee?**

Participation in this study is not a requirement of your employment at NCSU, and your participation or lack thereof, will not affect your job.

# What if you have questions about this study?

If you have questions at any time about the study or the procedures, you may contact the researcher, Anthony Elliott at anthony\_elliott@ncsu.edu.

**What if you have questions about your rights as a research participant?**

If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Deb Paxton, Regulatory Compliance Administrator at dapaxton@ncsu.edu or by phone at 1-919-515-4514.

# Consent To Participate

“I have read and understand the above information. I have received a copy of this form. I agree to participate in this study with the understanding that I may choose not to participate or to stop participating at any time without penalty or loss of benefits to which I am otherwise entitled.”

**Subject's signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Investigator's signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**