Informed Consent for Participation in Research Activities

Project Title: Cataloging software using a semantic-based approach for software discovery and characterization

Principal Investigator: Michael Hucka; Address: MC 139-74, California Institute of Technology, Pasadena, CA 91125; Phone: 626-395-8128; Email: mhucka@caltech.edu

Experimental Subject's Bill of Rights:

You have been asked to participate as a subject in a research study. Before you decide whether you want to participate in the study, you have a right to:

a. Be informed of the nature and purpose of the experiment;
b. Be given an explanation of the procedures to be followed in the research experiment, and any drug or device to be utilized;
c. Be given a description of any attendant discomforts and risks reasonably to be expected from your participation in the experiment;
d. Be given an explanation of any benefits reasonably to be expected from your participation in the experiment;
e. Be given a disclosure of any appropriate alternative procedures, drugs or devices that might be advantageous to you an their relative risks and benefits;
f. Be informed of the avenues of medical treatment, if any, available to you after the experimental procedure if complications should arise;
g. Be given an opportunity to ask any questions concerning the research experiment or the procedures involved;
h. Be instructed that consent to participate in the experimental procedure may be withdrawn at any time and that you may discontinue participation in the research experiment without prejudice;
i. Be given a copy of this form and the signed and dated consent form; and
j. Be given the opportunity to decide to consent or not to consent to the research experiment without the intervention of any element of force, fraud, deceit, duress, coercion or undue influence on your decision.

I understand my rights as described above:

_____
Signature of participant

Purpose of this Research Study:
We seek to develop methods to help computer users find software for different purposes. We are using surveys and interviews to help us understand how computer users find software today, including what kind of features people look for, the situations in which they do or don't search for software, and what kind of facilities they believe could help them find software. This is not a clinical medical study and does not involve drugs or treatments; it is entirely about software and computer use. The survey questionnaire is expected to take approximately 10-15 minutes to complete. The face-to-face interviews are expected to take no more than 1 hour, and likely less.

If you have any questions about any part of this informed consent, please ask the researcher. Questions are encouraged.

Background: When they need to find software for a task, many scientists ask their colleagues, search the web, or use whatever they see used by others in the literature. This unsystematic approach often produces suboptimal or biased results and can lead to waste of effort, problems reproducing results, and

more. A comprehensive software index could help address these problems, but past efforts at cataloging software have been largely unsuccessful: software is created and evolves too rapidly for humans to monitor thoroughly. We believe automation could help generate and maintain a software index, and the goal of this project is to develop new methods to enable effective software discovery and accurate software characterization by looking in open-source repositories such as GitHub and SourceForge. As part of this work, we are using user surveys and interviews to gain insight into social factors surrounding software reuse.

Who Can Participate: We anticipate that this study will include up to 300 male and female participants in the age ranges of 18-65 years.

What Will Be Done: This part of the research consists of both an online survey and subsequent interviews. The survey consists of a web-based form implemented using Google Forms, and features various types of questions with checkbox, list selections, and written text as the answer formats. The follow-up interviews will take place either face-to-face or electronically via a system such as Skype, Google Hangouts, or similar. The interviews are expected to last 45-60 minutes and will be conducted by Dr. Michael Hucka and/or Dr. Matthew Graham.

Video/Audio recording:
With the permission of the interviewees, we will record the audio portion of the interviews. The recordings will only be used by us to verify our notes from the interviews; the recordings themselves will never be made public. The recordings will be kept stored on a computer maintained by the PI (Hucka) in an encrypted, password-protect format, and will not be placed in a web-accessible location. Participation in the surveys and interviews is entirely voluntary.
* I give consent to be audiotaped during this study.
Please initial: ___Yes ___No
* I give consent for the recording resulting from this study to be used as described above.
Please initial: ___Yes ___No

If you are uncomfortable at any time you may stop the experiment. If you decide afterward that you do not want us to use your data, you may call and ask to have your data removed from the study.

Collaborative Study/Sharing Research Data:
All work will be conducted by the personnel on this project.
Possible Benefits:
You personally will not benefit directly from participation in this research study in any way. This research may help extend our understanding of how people (including yourself) look for and find software, especially software for scientific applications.

Possible Risks and Discomforts: You have been informed that the possible risks and discomforts of this study are as follows:

Physical discomfort: No physical discomfort is anticipated.

Psychological discomfort: No psychological discomfort is likely, although participants may feel annoyed at being asked a lot of questions.
Alternatives:
Your alternative is to choose not to participate in this study.

Withdrawal from Study:
If you first agree to participate and then you change your mind, you are **free to withdraw** your consent and discontinue your participation at any time. Your decision will not affect your relationship, if any, with

the California Institute of Technology and you will not be penalized or lose any benefits to which you would otherwise be entitled.

To withdraw from the study, you only need to let the experimenter or the PI (Michael Hucka) know. You can do this by calling them on the phone or email. You will not be asked to explain your reasons. .

We may also withdraw you from the study without your consent for scientific or technical reasons. We will not be able to give you detailed explanations of the reasons.

Confidentiality of Records:
Any information from this study in which you might be identified will be confidential. By signing this form, however, you allow the study investigators to make your records available to the Caltech Institutional Review Board Office and Regulatory Agencies as required by law. If information generated by this study is published, you will never be identified by name.
Data collected from this study will be kept in Michael Hucka's laboratory at the California Institute of Technology. We will take every reasonable step to ensure that no unauthorized person will have access to the data generated by this study. Paperwork about this research will be kept locked and digital data will be password protected.
The data collected from this study will not become a part of your medical record.

Offer to Answer Questions and Research Injury Notification: The principal investigators or their research associates have offered to answer any and all questions regarding your participation in this research study. If you have any further questions or in the event of a research related injury, you can contact the principal investigator at mhucka@caltech.edu (Michael Hucka), or the Caltech Institutional Review Board Administrator at (626)395-1309 or at irb@caltech.edu.

Explanation of Treatment and Compensation for Injury:
In the unlikely event of illness or physical injury resulting during participation in this research, the principal investigator and the research study staff will assist you in obtaining appropriate medical treatment by summoning the paramedics by calling Caltech Security (x5000). Should the medical professionals determine a need, you will be transported to the nearest hospital emergency room. In most cases this would be Huntington Memorial Hospital located in Pasadena. This study does not provide financial assistance for medical or other related costs. Your insurance carrier will be billed for the cost of such treatment. You, however, do not waive any legal rights by signing this form.

Voluntary Participation with Right of Refusal: You have been informed that your participation in this research study is voluntary. You are free to withdraw your consent for participation in any part of this study without any penalty.

IRB Review and Impartial Third Party: This study has been reviewed and approved by the Institutional Review Board (IRB) of the California Institute of Technology. A representative of that board, from the IRB Office, is available to discuss the review process or your rights as a research subject. The telephone number of the IRB office is 626-395-1309 and their email is irb@caltech.edu.

Sponsor of this Research:
National Science Foundation - ;

Signature for Consent: The above-named investigator has answered your questions and you agree to be a research subject in this study. You have carefully read the information contained above in the "Experimental Subject's Bill of Rights" and understand fully your rights as a potential subject in a research experiment involving people as subjects.

Print Subject's Name: _____Date: _____

Subject's Signature: _____ Date: _____

Parent or Guardian's Name: _____Date: _____

Parent or Guardian's signature: _____Date: _____
(only if subject is younger than 18)

Print Investigator's Name: _____Date: _____

Investigator's Signature: _____Date: _____

Informed Consent Version Name: 15-0504:Full Application:Expedited Approval