

XXX

Institutional Review Panel for Human Subjects
Questionnaire A

*Please address the attached questions in numerical order, submitting **ONE** original and **EIGHTEEN** copies with signature(s) copies of your response to:*

*Secretary
Institutional Review Panel for Human Subjects
XXX*

Questions on IRP policy should be directed to your advisor; the Panel Chair, XXX or the Panel SecretaryXXX. Questions on deadlines or Panel responses may be directed to the Secretary.

Notes: Clearly indicate your status in your response

GS	Graduate Student
'02	Undergraduate Student (your appropriate year)
AD	Advisor
PI	Principal Investigator

Make sure to include your signature and the signature of your advisor (if applicable). **ALL** applicants other than professors **MUST** list an advisor.

In order to ensure prompt review of your Questionnaire A, please respond fully to each of the attached questions. If further information is requested by the Panel, the review process may be delayed.

SUBMISSION DEADLINES/12:00 noon MEETING DATES/2003-2004

September 10, 12 noon	September 22, 2003
October 8, 12 noon	October 20, 2003
November 5, 12 noon	November 17, 2003
December 3, 12 noon	December 15, 2003
January 14, 12 noon	January 26, 2004
February 11, 12 noon	February 23, 2004
March 10, 12 noon	March 29, 2004
April 7, 12 noon	April 19, 2004
May 5, 12 noon	May 17, 2004

The attached questions reference the "Investigator's Statement of the Policies and Practices to be followed in the Conduct of Research Involving Human Subjects."

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1. State the title of the proposed research.
If applicable, please *list the agencies* (University and/or other) that have been asked to fund this research.

Research Title: Evaluation of Password Multiplier

Agencies: National Science Foundation (Graduate Research Fellowship)

2. State approximate dates for starting and ending this research project after it has been approved by the Panel.

Beginning October 4, 2004, ending March 2005.

3. State the name of the Investigator(s), departmental address(es), e-mail address(es), fax number(s), and campus phone number(s). All applicants other than professors must also list the name, departmental address, e-mail address of a faculty advisor. Use the abbreviations listed on the cover page to identify all names listed.

XXX

4. Check if data will be collected from or about any of the following protected populations:
☐ minors ☐ prisoners ☐ pregnant women ☐ fetuses ☐ institutionalized mentally disabled (individuals residing as patients in an institution who are mentally ill or retarded; emotionally disturbed; psychotic; or senile).

For additional requirements regarding these categories of protected subjects, consult the Secretary of the Panel.

None of the above apply.

5. State the purpose of the intended research, specifying the problems addressed, what is to be learned, and identify the specific objectives of the research.

The purpose of this study is to evaluate usability issues of the Password Multiplier program. Usability issues include, but are not limited to, discovering the errors novice users encounter when installing and running the program, learning the users' mental models of how the program works, and also collecting the feedback users have on possible design improvements.

Participants will attend one or two sessions and must bring their laptops. The first session will be approximately 90 minutes long. Participants will provide background information about their web surfing behavior. They will also demonstrate the login process for several websites; simultaneously, they will explain their password selection and recall processes. We will then direct students to a website describing how to install and run the Password Multiplier program.

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Participants will be directed to install the Firefox (<http://www.mozilla.org/products/firefox/>) browser program and the Password Multiplier extension on their laptop; furthermore, they will be directed to use the “think aloud” approach to describe the issues they encounter. There will be a 20-minute time limit for completing this task. The researcher will complete the task in the case of a timeout. After the program is installed, we will ask participants to go to a website from a list and demonstrate they can change their password using the Firefox browser with Password multiplier and demonstrate they can login using the new password. If the participant is unable to complete the task within 10-minutes, the researcher will walk the participant through the process until they are able to change the password. The participant will then spend 30-minutes using the Firefox with Password Multiplier to login to as many websites as possible and change their passwords. Participants must demonstrate the password has been changed by attempting to login to the website again. We will follow-up with a short interview asking the participants to describe the strengths and weaknesses of the Password Multiplier program. Finally, participants will be debriefed on the first session of the study. This session will be videotaped.

We will wait for at least one week before beginning the second session. In the second session, participants will be asked to login to some of the websites they visited in the previous session. We will be documenting if they participant is using the Password Multiplier program or not. At this time, we will ask for suggestions to improve the design of the application. We will also present participants with clips from their first session, asking them to walk through their thought patterns during times of difficulty. At the end of the session, we will debrief and thank participants. Participants will recover to their pre-study state if they use Firefox with the Password Multiplier extension to re-login to websites and change their passwords. We will also offer to guide participants in reverting their passwords and help them in uninstalling Firefox and the Password Multiplier extension for the participant. . Finally, we will answer any questions about the study. This session will be videotaped and the session will required approximately an hour.

6. Describe in detail the procedures which will be used to achieve the objectives of the research project; *include copies of the consent form, letters, survey forms, questionnaires or other applicable documentation.*

Participants will be compensated at the rate of \$10 per session, where sessions will last no longer than 2 hours. Compensation will be indicated in both the advertisements and the consent form. Please see the attached example advertisement and consent form. Videotaping consent will be asked in a separate form. Please see the attached example. Both sessions will involve some questions about website logins. See the attached example questions. Debriefing will be provided verbally in addition to a paper version. An example wrap-up text is attached.

7. Describe in detail the method of subject selection. Special attention should be paid to subject selection/ affiliation when XXX students will not be used for the subject pool. Also include information about any compensation schedule and rates to subjects.

XXX

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Participants will be XXX undergraduates who use laptop computers. Recruiting methods may include flyers in campus boards or direct approaches (calling, e-mailing, personally asking). Videotaping consent will be a prerequisite for participating in this study.

Compensation was addressed in Question 6.

Participants will be given at least 24 hours from the initial time of contact with the project investigators to decide whether or not they would like to participate and will be permitted to withdraw at any point during the study.

8. Will the standard "informed consent" form be used or modified, and if not, why not?

We will use our own consent forms for our study, an example consent form is attached. All information from the standard consent form will be included in addition to written information for experiment procedures and participant compensation.

9. Does the proposed research involve deception, e.g., through provision of misinformation, withholding information, etc.? Explain why it is necessary to involve deception(s) in the research.

No.

9. Provide a full account of the debriefing procedures to be followed, if appropriate.

At the end of the study/experiment, participants will be given a paper re-iterating the research goals of the session and also the benefit their participation will have with respect to these goals. An example of this wrap-up speech is included in the application.

We will verbally explain this information and thank them for their participation. Finally, we will ask the participant if they have any questions and answer before ending the session.

11. Does participation by human subjects or informants place any group or class of individuals in physical, legal, social and/or psychological jeopardy? If so, how can the potential risk be assessed?

No.

12. Does the research place individual subjects at risk? If so, please describe fully the ways in which the risk will be controlled.

No.

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13. In your view, how are any possible risks that may be involved in the research justified by the potential benefits resulting from the investigation.

There are no known medical or psychological risks associated with this research.

14. How will the confidentiality of the subjects' responses be guaranteed? What provisions are made for the storage of confidential material? Who has access to such material?

Confidential material such as videotapes will be kept in a locked filing cabinet for a period of five years. The cabinet will be accessible to the members listed in Question 3.

During the preparation and execution of the experiment electronic material may be kept on a file server that is password protected. The members in Question 3 will have the privilege to view or modify the data. Additionally, anyone with root privileges on the file server (such as the computer support staff) will have similar privileges.

15. In the event that outside agencies are involved (in data gathering, processing, and storage), how will the rights of the subjects be guaranteed by that agency?

No outside agencies are involved.

15. Describe the process being undertaken to secure IRB and/or other appropriate institutional approval necessary to conduct research with subjects at another institution or organization. Attach copies of the approval.

We are only seeking IRB approval for the research. We are submitting Questionnaire A.

17. Training and Certification. All University personnel who interact with human subjects or with identifiable subject data as part of this research project must complete the University's training program and be so certified prior to initiating contact with subjects or identifiable subject data. Furthermore, all third party contractors or subcontractors or collaborating institutions whose personnel will interact with human subjects or with identifiable subject data as part of this research project must certify to the IRP that their personnel have undergone appropriate internal training as well.

Please respond to the following questions:

- a. Have all investigators identified above completed the University's training program (please check appropriate box): ☒ Yes ☐ No. If No, please complete the training program immediately after reviewing ORPA's homepage information about this procedure.

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- b. Are there any current or anticipated future employees or students working on this project who will interact with human subjects or with identifiable subject data?
☐Yes ☒No. If Yes, please state that you understand that such personnel must complete the University's training program before they may interact with subjects or identifiable subject data.

- c. Are there or will there be any third party contractors or subcontractors or collaborating institutions working on this project whose personnel will interact with human subjects or with identifiable subject data? ☐Yes ☒No. If Yes, please append the appropriate training certification information from that entity.

Please note that the IRP **will not approve** this study unless all proper training is completed or certifications are received.

- 18. Include the signature of the Investigator(s) and the date. Also include the advisor's signature, if applicable

Evaluation of Password Multiplier

Principal Investigators

XXX

Project Purpose and Procedures

This study will evaluate the usability issues of the Firefox browser with the Password Multiplier extension. The study will consist of two sessions:

1. *Installation and Usability of Password Multiplier.* Participants will be asked to install and run the Firefox browser with Password Multiplier extension on their personal laptops. They will then be asked to use Password Multiplier to change the passwords for the logins of their commonly used websites.
2. *Review evaluation of Password Multiplier.* After one week of using Password Multiplier on their laptop, participants will be interviewed about the strengths and weaknesses of the Password Multiplier program in addition to reviewing difficulties installing and learning how to use the Password Multiplier program.

We would be very grateful for your participation in any or all parts of the study. As a thank you, you will receive \$10 for participating in one session or \$20 for participating in both sessions.

Sessions will be videotaped. Videotapes will be used for analysis and may also be used for research presentations. Participants must consent to videotaping to participate in the study.

This project may be used in research publications and may be extended for the principal investigators' thesis research.

Participation

We are interested in participants who own laptops. If you are interested in participating, please e-mail XXX

EXAMPLE

Consent Form

Evaluation of Password Multiplier

Principal Investigator

XXX

The following informed consent is required by Princeton University for any person involved in a University-sponsored research study. This study has been approved by the University's Institutional Review Panel for Human Subjects.

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You may participate in any or all parts of the study. Sessions will be videotaped. Videotapes will be used for analysis and may also be used for research presentations. You must consent to videotaping to participate in the study.

This project may be used in research publications and may be extended for the principal investigators' thesis research.

Confidentiality

The identities of all people who participate will remain anonymous and will be kept confidential. The one exception is that excerpts from the videotape may be presented as described above, and your identity may be revealed through those video excerpts. Identifiable data and videotapes will be stored securely in a locked metal filing cabinet or in a password protected computer account. All data from individual participants will be coded so that their anonymity will be protected in any reports, research papers, thesis documents, and presentations that result from this work.

Withdrawal

Your participation is entirely voluntary and you may withdraw from the study at any time. If you wish to withdraw from the study, the researchers can help you re-change your passwords and remove the Firefox browser with Password Multiplier extension.

Remuneration/Compensation

We are very grateful for your participation. You will receive \$10 compensation for participating in one session or \$20 compensation for participating on both sessions as a thank you for participating in this project.

Contact Information About the Project

If you have any questions or require further information about the project you may contact XXX.

Contact for information about the rights of research subjects

If you have any concerns about your treatment or rights as a research subject, you may contact XXX

Consent

We intend for your participation in this project to be pleasant and stress-free. Your participation is entirely voluntary and you may refuse to participate or withdraw from the study at any time.

Your signature below indicates that you have received a copy of this consent form for your own records.

Your signature indicates that you consent to participate in this project. You do not waive any legal rights by signing this consent form.

I, _____, agree to participate in the project as outlined above. My participation in this project is voluntary and I understand that I may withdraw at any time.

Participant's Signature

Date

Student Investigator's Signature

Date

DRAFT

Videotaping Consent Form

Evaluation of Password Multiplier

Principal Investigator

XXX

You are about to participate in a session that may be videotaped. Videotapes will be used for analysis and may also be used for research presentations in the future. Excerpts from the videotape may be presented in research presentations, and your identity may be revealed through those video excerpts.

You do not waive any legal rights by signing this consent form. You will not be able to participate in the session without being videotaped. Please indicate whether you agree or do not agree to be videotaped.

DO NOT AGREE	I, _____, do not agree to be videotaped in this study. I understand I cannot participate in the session without being videotaped.
AGREE	I, _____, agree to be videotaped in this session. I understand excerpts from the videotape may be used in research presentations and that my identity may be revealed through those video excerpts.

Participant's Signature

Date

Student Investigator's Signature

Date

DRAFT

Sample Interview Questions

Evaluation of Password Multiplier

Please indicate the extent to which you agree or disagree with the following statements. Use the following rating scale:

Strongly
Disagree

1

Disagree

2

Neither Agree
nor Disagree

3

Agree

4

Strongly
Agree

5

Firefox (the browser) was easy to install.	
Password Multiplier (the extension) was difficult to install.	
It was easy to create passwords with Password Multiplier.	
It was difficult to login with a password created by Password Multiplier.	
It is easier to use Password Multiplier than my current method of creating passwords for websites.	
It is more difficult to use Password Multiplier than to use my current method of creating passwords for logging into websites.	
For logging into multiple websites: it is easier to use Password Multiplier for website login than using a single, universal password.	
For logging into multiple websites: it is more difficult to use Password Multiplier for website login than using a file or piece of paper to lookup my password.	
After learning how to use Password Multiplier, I prefer my current method of creating passwords for websites.	
After learning how to use Password Multiplier, I prefer Password Multiplier to my current method of storing passwords for websites.	
After learning how to use Password Multiplier, I prefer my current method for recalling passwords for websites.	

Improving Design of Password Multiplier (PM)

What would make PM move from the rating X to the to rating X+1 (or X-1)?

- Overall
- Installing Firefox
- Installing PM
- Creating passwords
- Logging in with passwords
- Adopting PM over current method

When was the last time you needed to create a new password for logging into a website?

How did you create your new password?

How did you store your new password?

Is there a time where you used another method for creating or storing a password?

Name two websites where you use different passwords.

If "cannot": Why not?

If "can": Why do you have different passwords for these sites? Can you name any other sites that use different passwords?

Name two websites where you use the same password.

If "cannot": Why not?

If "can": Why do you have the same passwords for these sites? Can you name any other sites that use the same password?

Name a website where you have memorized your password for logging in.

If "cannot": Why not?

If "can": Why do you think you have this password memorized? Are there any other websites where you have memorized your password and login (different password)?

When logging into different websites, some people use the same password for more than one website. Why do you think someone would do this?

What benefits does someone have doing this?

What problems does someone have doing this?

How do you think you can get around these problems?

When logging into different websites, some people use one password for one website and another password for another website. Why do you think someone would do this?

What kind of benefits do you think you might have doing this?

What kind of problems do you think there might be doing this?

How do you think you can get around these problems?

How many passwords do you think one person should have for the websites they visit? Do you have this many passwords? Why or why not?

Describe the last time you logged into a website and couldn't remember the password.

- How long ago was this?
- How did you login to the website?

Name a website where you have logged in successfully after this.

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Wrap-up, Session One

Evaluation of Password Multiplier

To review, we asked you to install the Firefox browser and the Password Multiplier extension. We also asked you to use Password Multiplier to login to websites and create new passwords for website login. We asked you to discuss design improvements to the Password Multiplier program. Your participation has provided valuable feedback in helping improve this system. This session has also helped us learn about the kinds of problems people have installing and using the Password Multiplier program. Thank you for participating in this session. Please feel free to ask the researchers any questions about this session or the session next week. After leaving, if you have any questions about the study, please contact either XXX.

Wrap-up, Session Two

Evaluation of Password Multiplier

To review, we asked you to demonstrate how to use the Password Multiplier program to login to websites and we asked questions about how Password Multiplier could be improved. We asked you to review your video from Session One and describe problems you had using Password Multiplier. Your participation has helped clarify the videotaping data collected in the previous session and has helped us understand the adoptability and learnability of Password Multiplier. We appreciate your suggestions for improving the Password Multiplier program. Thank you for participating in our study. Please feel free to ask the researchers any questions about this session or the last session. After leaving, if you have any questions about the study, please contact either XXX.

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