

Topics to Address in the Research Proposal

Use this template to provide a description of your research proposal. All applications for review should contain the following information, presented in paragraphs prefaced by the number of the item and the underlined descriptive phrase. When not applicable, DO list the heading and then indicate N/A.

Please note that if this study is part of an NIH funded grant proposal, you will need to attach ONE copy of the complete grant proposal, in addition to the information requested below.

I. **Title**

Walk-up Study of People Working in University Common Areas

II. **Investigators (co-investigators)**

William I. Wolff
PhD Candidate, Department of English

Daniel A. Updegrove (faculty sponsor)
Vice President for Information Technology

III. **Hypothesis, Research Questions, or Goals of the Project**

The goal of this study is to learn about student usage of laptop computers and the University of Texas wireless network in University common areas. At the University of Texas 80% of common areas and 40% of classrooms have wireless access points. Forty-five percent of undergraduate students and 57% of graduate students own a laptop computer, but only 33% of undergraduate students and 61% of graduate students access the wireless network.

Little is known, however, about student preferences when using laptops and the wireless network on campus. Nor is it known what barriers are keeping students from bringing their laptops with them to campus and accessing the wireless network. Nor what structural barriers are keeping students from working comfortably in the common areas.

As I prepare and present publications based on this project and my dissertation, survey responses will contribute to research in the areas of Instructional Technology, and Higher Education studies, and will provide the University of Texas at Austin with suggestions for future implementation of laptop- and wireless-specific policies. More specifically, I hope the data obtained from these surveys will contribute to a growing body of literature speculating as to the future direction of wireless use in higher education.

IV. **Background and Significance:** Describe relevant background literature to support the rationale for doing this study. This rationale should provide sufficient information

to justify the study. It should be limited to no more than two to three pages. Cite appropriate references.

During the 2004 spring semester Tim Eakin and Tom Bohman commissioned the first large-scale study of the public network at the University of Texas at Austin. The study, entitled “Analysis of ITS Telecommunications and Networking: Public Network Access Usage Data,” covered a 102 day period and looked at student, faculty, and staff usage of both the wired and wireless public network, and it is the wireless results that I am interested in here. The study found that 15,058 unique wireless users, of which 33% were undergraduate students and 61% were graduate students. The study also found that more users accessed the wireless network from the School of Law (26.5%), the Business School (18.4%), and College of Engineering (13.9%), than other schools. It is interesting to note, however, that when looking at the number of users of the network, the College of Engineering has the most (2734), followed by the College of Natural Sciences (2496), and the College of Liberal Arts (2366) (25).

The use of wireless network access and the purchase of laptop computers are growing not only at the University of Texas at Austin, but across the country. According to the *ECAR Study of Students and Information Technology, 2004: Convenience, Connection, and Control*, 93.4% of students own a computer. Of those, 38.5% of seniors and 52.7% of freshman own laptops. These numbers are comparable to results from the University of Texas at Austin ITS Survey 2004, which shows that 93.5% of students own a computer, and 45% own laptops. Of those 45% who own laptops, 33% of undergraduate students and 61% of graduate students access the wireless network. The ECAR study finds that students are using laptops because they enjoy ease of access to information anywhere and anytime. But, there are several barriers limiting student laptop use on campus: access to applications, access to printers, and limited technical support services. At the University of Texas, we suspect that there are several other barriers: access to power supplies, access to secure storage; and access to work-friendly environments.

Complementing the ECAR study, which while illuminating does not focus exclusively on laptop and wireless issues, are the results from a study of approximately 50 elementary, middle, and high schools as part of the “Anytime, Anywhere Learning initiative” (Rockman). Rockman’s study has found that wireless laptop classrooms that become more active, collaborative learning environments. Teachers assign more complex assignments and provide more authentic assessment. Students are more engaged with their studies and are more productive – particularly students with a history of behavioral problems. And students have a drastically increase attitude towards writing:

- 76% enjoy writing on laptops instead of paper
- 80% state laptops make it easier to write and revise
- 73% state they earn better grades for their laptop work (Rockman)

I bring these results up here because if K-12 education is going to be using computers in and out of the classroom to transform education, then universities should anticipate educating students who are not only comfortable learning with technology, but prefer using wireless laptops for learning inside and outside of the classroom. This study will begin to look at issues that affect current students' use of wireless laptops with the hope the results will provide an understanding that can shape the way we prepare the university for the laptop users of the present and future.

By completing this study, I hope to gain a greater understanding of how students are using laptops and the wireless network in common areas on campus; what barriers are limiting their use; and how they are finding ways to get around those barriers. More specifically, I hope the data obtained from this study will contribute to a growing body of literature speculating as to the future direction of wireless use in higher education and how university structures (fees, funding, infrastructure, organization) inform innovation.

Works Cited

Eakin, Tim, and Tom Bohman. "Analysis of Public Network Access Usage Data: Public Network Access Usage Data." 14 July 2004. http://www.utexas.edu/its/utnet/reports/2004/pna_2004-07.pdf

Kvavik, Robert B., Judith B. Caruso, and Glenda Morgan. "ECAR Study of Students and Information Technology, 2004: Convenience, Connection, and Control." ECAR. 2004. http://www.educause.edu/ir/library/pdf/ecar_so/ers/ers0405/rs/ers0405w.pdf

Rockman, Saul. "Getting Results with Laptops." *Technology & Learning Magazine*. Oct. 2004: <http://www.techlearning.com/story/showArticle.jhtml?articleID=49901145>.

V. Research Method, Design, and Proposed Statistical Analysis

This project involves written surveys, with the possibility of a follow-up interview. Below is the order of procedures that will be followed.

- i. **Screening Process.** Participants will be individuals using common areas on the University of Texas at Austin campus. Locations will be limited to the following locations: Flawn Academic Center lobby, McCombs School of Business atrium, the Student Union patio, the Law School, the School of Engineering, and the School of Education.
- ii. **Notification.** Participants will be contacted by the primary researcher and asked if they would be willing to answer questions that will take no more than 5 - 10 minutes.
- iii. **Survey.** The primary researcher will record respondent's answers in paper form. Data will be stored in a secure database.

- iv. **Analysis.** Researchers, with the aid of consultants in the Research Consulting division of UT ITS, will analyze the survey in order to select segments that can be used to inform ideas in my dissertation.
- v. **Follow-up Interview and Focus Group.** Participants will have an opportunity to state if they are willing to participate in a follow-up interview and/or a Focus Group.
- vi. **Write-up.** The researcher will present initial findings and research procedures from this research project in his dissertation, at professional and academic conferences, and in peer review journals.

The primary outcome of this project will be data necessary for a greater understanding about the state of laptop and wireless use at the University of Texas at Austin.

VI. Human Subject Interactions

A. Sources of potential participants

Participants will be adults 18 years of age or older (all members of the university: faculty, staff, graduate, undergraduate) of any ethnic background, male or female. Participants are expected to be in good health. Survey participants will include approximately 300 individuals from the University of Texas at Austin.

Walk-up surveys will be conducted in the following locations: Flawn Academic Center lobby, McCombs School of Business atrium, the Student Union, the Law School, the School of Engineering, and the School of Education.

B. Procedures for the recruitment of the participants.

I will recruit participants by walking up to them and asking if they would be willing to participate in a brief survey.

C. Procedure for obtaining informed consent.

Each participant will be asked to agree to an informed consent document (see Appendix C), and will have the opportunity to keep a copy for their records.

D. Research Protocol.

Surveys will concentrate in the following areas:

1. laptop ownership
2. barriers to laptop ownership
3. use of university wireless network
4. use of common spaces
5. barriers to using common spaces
6. benefits of using common spaces

Surveys will be completed either in print; responses will be recorded by the primary investigator.

The survey will be conducted during the Spring 2005 semester when the temperature is warm enough for people to be working outside.

In addition to the survey, a participant may be asked to participate in a focus group. Focus group questions will be submitted as an Addendum to this study, and will be based on this study's responses. Participated reserve the right not to be included in a focus group.

VII. Potential risks

The primary risk that participants may feel may be in terms of the confidentiality of their responses to the questions. Participants will have the option of refusing to answer any of the survey questions. All identifying information will be omitted from any discussion of the interview in written and published interpretations of the data.

The survey will be conducted in person and recorded on paper by the primary investigator. The responses will then be transferred by the primary investigator into a password-protected MS Access database stored on my password-protected office computer and on the University's password-protected Coldfusion server. All print responses of surveys will be stored in a locked file cabinet in my home office. Transcripts and files will be labeled using a code in order to protect against identification of participants if a particular tape or file were accessed inappropriately. The code list will be stored in the secure location noted above.

VIII. Potential benefits

This project provides research subjects with the rare opportunity to discuss their experiences working in common areas on campus. As the university moves to complete wireless coverage, respondent's responses will inform how the university approaches making access to the wireless network barrier-free and work-friendly.

IX Sites or agencies involved in the research project

N/A

X. Review by another IRB

N/A

Appendix A: Survey Questions

Please see file named “wolff-walkup-questions.rtf”.

Date: _____ Time: _____ AM / PM _____ Survey Number: _____
 Location (circle): FAC lobby / BCA Atrium / TNH / ENS / UNB / SZB Work position (circle all that apply): sitting at table / at desk / on bench / laying down / standing / inside / outside
 Describe if different: _____ Describe if different: _____

Over 18? Y / N Grp / Alonn (circle) Size? Gender:	Laptop Brand: Other Visible Devices:
Using a laptop	No laptop
Currently connected to wireless network? How often do you bring it to school? Where do you plug it in to charge the battery? Secure location for storage? Secure location if had to leave location temporarily? Do you own a desktop? Yes / No Brand?	Do you own a laptop? Brand? Have you thought about buying a laptop? Yes / No Brand? Do you bring it to school? (circle below) ← Yes: Have you used wireless at school? Yes / No No: Why not? Do you own a desktop computer? Brand?
What factors went into deciding to buy your laptop?	What factors would influence your decision to buy a laptop?
Can you access all computer applications with your laptop that you would be able to access using a university computer lab or classroom? Explain: _____ →	How long have you been working in this location today? How often in this location? What are you working on? (skip to furniture question below)
How much bandwidth are you allowed per week on the public network?	How secure do you think your connection is when using the wireless network? not secure / somewhat secure / very secure / not sure Explain: _____
What/who do you think funds wireless in this location?	
How conducive to using your laptop is the furniture in this location? not conducive / somewhat conducive / very conducive Explain: _____	How conducive to doing work in general is the furniture in this location? not conducive / somewhat conducive / very conducive Explain: _____ (skip to residence questions below)
What has been your experience with wireless in this location? bad sometimes bad okay sometimes good excellent haven't used wireless in this location	What has been your experience with wireless at UT in general? bad sometimes bad okay sometimes good excellent haven't used wireless at UT
Explanation of above response:	Explanation of above response:
Res. Type: Dorm:	High Speed? Yes / No If Yes, Cable / DSL Wireless? Yes / No Company:

Walk-up Study of People Working in University Common Areas -- Survey Number:

Undergrad / MA / PhD / EdD / JD / MBA / _____	Major / Concentration:	Year:
Contact for Focus Group? Yes / No	Email if Yes:	

Other Participant Comments:

Investigator Notes (to be completed after completion of survey):

Consent to Be Photographed

I, _____, agree to be photographed by William I. Wolff, the Primary Investigator of this study.

I understand that the digital photo being taken is for research purposes only, and that neither my name nor any information that could identify me will appear with this photograph. I understand that this photo may be used in publications resulting from the data obtained in this study.

I understand that the photograph will be stored in a secure, password protected folder on a password protected computer.

I agree that I am not being forced to have this photograph taken, and that I can refuse to have the photograph taken at any time.

Participant Signature

Date

Photograph Number(s):

IRB# _____

Informed Consent to Participate in Research

The University of Texas at Austin

You are being asked to participate in a research study. This form provides you with information about the study. The Principal Investigator (the person in charge of this research) or his/her representative will also describe this study to you and answer all of your questions. Please read the information below and ask questions about anything you don't understand before deciding whether or not to take part. Your participation is entirely voluntary and you can refuse to participate without penalty or loss of benefits to which you are otherwise entitled.

Title of Research Study:

Walk-up Study of Students Working in University Common Areas

Principal Investigator(s) (include faculty sponsor), UT affiliation, and Telephone Number(s):

William I. Wolff, M.A.
Doctoral Candidate
The University of Texas at Austin
1 University Station B5500
Austin, TX 78712
(512) 471-9293

Daniel A. Updegrave (faculty sponsor)
Vice President for Information Technology
The University of Texas at Austin
Flawn Academic Center, FAC 248
1 University Station G9800
Austin, Texas 78712
(512) 232-9610

Funding source:

N/A

What is the purpose of this study?

The goal of this study is to learn about student usage of laptop computers and the University of Texas wireless network in University common areas.

Responses will inform how the university approaches making access to the wireless network barrier-free and work-friendly.

What will be done if you take part in this research study?

You will take part in a survey, which takes 4 – 5 minutes to complete. Questions will ask you discuss your experiences working in common areas on campus. You will also be asked questions about laptop and wireless network uses, and well as when barriers, if any, affect your usage. At the end of the survey you will have the option to provide contact information (an email address) if you are willing to be contacted with follow-up questions and/or willing to participate in a focus group discussion.

You may also be asked to have a digital photo taken of you working in the location so the Principal Investigator can see more clearly how the environment in which you are working affects how you are working. The digital photo being taken is for research purposes only, and neither your name nor any information that could identify you will appear with this photograph. You will have an opportunity to refuse to have a photo taken.

What are the possible discomforts and risks?

The primary risk that participants may feel may be in terms of the confidentiality of their responses to the questions. Participants will have the option of refusing to answer any of the survey questions. All identifying information will be omitted from any discussion of the interview in written and published interpretations of the data.

Survey responses will be stored in a password-protected MS Access database stored on my password-protected office computer and on the University's password-protected ColdFusion server. All printouts of surveys will be stored in a locked file cabinet in my home office. Transcripts and files will be labeled using a code in order to protect against identification of participants if a particular tape or file were accessed inappropriately. The code list will be stored in the secure location noted above.

If you wish to discuss the information above or any other risks you may experience, you may ask questions now or call the Principal Investigator listed on the front page of this form

What are the possible benefits to you or to others?

This project provides you with the rare opportunity to shape the future of working in common areas at the University of Texas at Austin.

If you choose to take part in this study, will it cost you anything?

No.

Will you receive compensation for your participation in this study?

No.

What if you are injured because of the study?

If injuries occur as a result of study activity, eligible University students and faculty may be treated at the usual level of care with the usual cost for services at the Student Health Center, but no payment can be provided in the event of a medical problem.

If you do not want to take part in this study, what other options are available to you?

Participation in this study is entirely voluntary. You are free to refuse to be in the study, and your refusal will not influence current or future relationships with The University of Texas at Austin. You can terminate the survey at any time during the process.

How can you withdraw from this research study and who should I call if I have questions?

If you wish to stop your participation in this research study for any reason, you should contact: William Wolff at (512) 471-9293 or (512) 567-5462. You are free to withdraw your consent and stop participation in this research study at any time without penalty or loss of benefits for which you may be entitled. Throughout the study, the researchers will notify you of new information that may become available and that might affect your decision to remain in the study.

In addition, if you have questions about your rights as a research participant, please contact Clarke A. Burnham, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects, 512/232-4383.

How will your privacy and the confidentiality of your research records be protected?

The survey will be conducted in person and recorded on paper by the primary investigator. The responses will then be transferred by the primary investigator into a password-protected MS Access database stored on my password-protected office computer and on the University's password-protected ColdFusion server. All print responses of surveys will be stored in a locked file cabinet in my home office. Transcripts and files will be labeled using a code in order to protect against identification of participants if a particular tape or file were accessed inappropriately. The code list will be stored in the secure location noted above. All photos will be stored in a secure folder on both my home and office computers.

Authorized persons from The University of Texas at Austin and the Institutional Review Board have the legal right to review your research records and will protect the confidentiality of those records to the extent permitted by law. If the research project is sponsored then the sponsor also have the legal right to review your research records. Otherwise, your research records will not be released without your consent unless required by law or a court order.

If the results of this research are published or presented at scientific meetings, your identity will not be disclosed.

Will the researchers benefit from your participation in this *study*?

No.

Signatures:

As a representative of this study, I have explained the purpose, the procedures, the benefits, and the risks that are involved in this research study:

Signature and printed name of person obtaining consent **Date**

You have been informed about this study's purpose, procedures, possible benefits and risks, and you have received a copy of this Form. You have been given the opportunity to ask questions before you sign, and you have been told that you can ask other questions at any time. You voluntarily agree to participate in this study. By signing this form, you are not waiving any of your legal rights.

Printed Name of Subject **Date**

Signature of Subject **Date**

Signature of Principal Investigator **Date**