

Laptop Use in University Common Spaces

A survey of laptop use in common spaces at the University of Texas at Austin revealed students creating anywhere, any time learning environments

By **Bill Wolff**

Following the implementation of a wireless network at the University of Texas at Austin in fall 2000, wireless coverage by spring 2005 included approximately 80 percent of common spaces and 40 percent of classrooms. About the same time (2002–2004), graduate and undergraduate student laptop computer ownership increased (from 45 percent to 57 percent for graduates and 22 percent to 45 percent for undergraduates) while desktop computer ownership decreased (from 55 percent to 40 percent for graduates and 75 percent to 55 percent for undergraduates).¹ In spring 2004, Information Technology Services (ITS) began a series of biannual studies assessing public wired and wireless network usage.² The studies track total unique users, connection times, student degree status, and student college or school affiliation. They don't track the locations from which students access the wireless network or the type of work students are doing when using the wireless network.

Anecdotal evidence existed about the many students who use their laptops and the wireless network in university common spaces, but little was known about how, where, and why students use laptops on campus, and less was known about students' awareness of university wireless network policies and security. The university also had little evidence concerning logistical barriers (such as inappropriate furniture or lack of access to power outlets) that might keep students from working



comfortably and effectively in university common spaces.

To better understand some of these issues, I conducted a study specifically on student use of laptops in university common spaces. That study addressed the following questions:

- What are the overall patterns (spaces used, frequency, duration) of student

laptop use in common spaces on campus?

- Are there differences in laptop ownership and use by gender, degree status, or field of study?
- Can students find secure long- and short-term on-campus locations to store their laptops?
- How aware are students of wireless

network bandwidth usage, funding, and connection security?

- How conducive is the physical space for doing work (with or without a laptop)?

For the purposes of this study, common spaces were defined as lobbies, lounges, hallways, cafeterias, atriums, courtyards, and other spaces (indoor and outdoor) where students may individually or in groups convene to relax, eat, and work. The study excluded all libraries and designated study spaces.

Results and Discussion

During administration of the study, which ran for 30 days in April and May 2005, 100 students working in common spaces in eight buildings were randomly approached. Of the 81 who agreed to participate in a brief survey, 51.8 percent were female and 48.2 percent were male³; 76.5 percent were using laptops when approached, and 23.5 percent were not using a computer of any kind. The participating students represented 10 of the 17 university schools and colleges. The majority were undergraduates (67.9 percent), with 23.4 percent graduate or MBA students and 12.3 percent law students. All participants owned either a desktop or a laptop or both a laptop and a desktop.

Overall results indicate that regardless of gender, degree status, or college affiliation, students purchased laptops, brought their laptops to campus, and used common spaces at a similar rate. Most students were not aware of university public network bandwidth limitations, perhaps indicating sufficient bandwidth for their needs. In addition, many students did not know about their wireless connection security or even what security meant in the context of wireless networking.

The majority of students described their experience with wireless in their common space location as “excellent” and their overall wireless experience at the university as “less than excellent,” with the main determining factor being the frequency of signal interruptions. These trends were consistent regardless of gender, degree status, common space location, how often they brought their

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laptops to school, and how often they worked in a particular location. Complete survey results and data analysis can be found at <<http://www.cwrl.utexas.edu/~wolff/laptop-report.html>>.

Survey results indicate that students are rethinking and redesigning common spaces into anywhere, any time learning environments. One surprising, statistically significant finding was that 96.2 percent of students used university common spaces for activities directly or indirectly related to learning. When asked what they were currently working on, students responded with 11 items, which were then broken down into the following three categories:

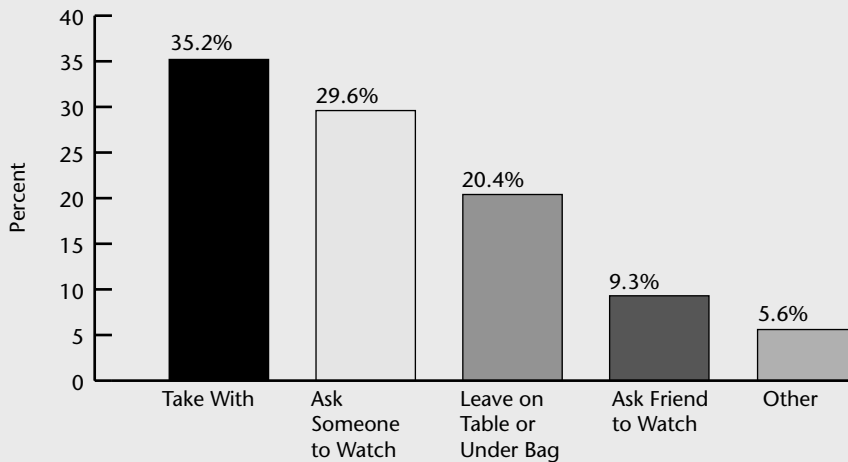
- School and/or Learning Related—online research, school work, studying for a test, registering for classes, conducting TA office hours, Web design and coding
- Internet/e-mail—browsing the Internet, checking e-mail
- Personal—chatting with friends, paying bills, playing online games

Items within the first category are self-explanatory, as are the items under the Personal category. The Internet/e-mail category, however, requires explanation because of the multiple functions that e-mail and browsing the Internet serve—both can involve personal or learning-related activities. For example, a student checking her inbox might find e-mail from friends and family, as well as from her instructor with an assignment update. Browsing the Internet, ranging from reading blogs to checking the news or shopping, could be educational depending on the goal of the activity.

The most striking finding about student common space use patterns is that so few students (3.8 percent) used university common spaces for completely personal activities. No graduate, MBA, or law students used their time in university common spaces for solely personal activities. The majority of students (72.5 percent) used common spaces for activities directly related to school and/or learning. Almost one quarter (23.7 percent) used common spaces for activities indirectly related to learning.

These trends are consistent regardless of gender, degree status, or common space location. They are fascinating considering that the university did not originally conceive the common spaces visited as study spaces. For example, all MBA students surveyed were working in an atrium that doubles as a cafeteria, and all but one law student were working in lounges outfitted with leather recliners, armless sofas, and coffee tables (the other was sitting on a hallway bench).

Study results also suggest that once students begin working in a particular space, they become invested in the niche they have created. The majority of participants (67.5 percent) had been working in their common space location for more than 30 minutes. (Of the students who had been working for more than an hour, 91.7 percent were doing work directly related to school and/or learning.⁴) When asked if they had found a secure place to store their laptop if they wanted to temporarily leave their current location, 81.2 percent answered no. The one-third of students who took their laptops with them when they wanted to leave for a short time spoke of frustration with having to do so. More troubling, more than 50 percent reported leaving their laptop completely unsecured, either leaving it on the table by itself or asking someone to watch it (see Figure 1). Students made a clear distinction between “asking a friend to watch their laptop” and “asking someone to watch their laptop,” meaning someone they did not know and therefore could not trust. Leaving the laptop on the table completely unattended is even more troubling. For many students, the benefits of having a

Figure 1**Short-Term Security Choices**

good space evidently outweigh the risks of having their laptops stolen.

A lack of access to power outlets compounds the security issue—if the student leaves with the laptop and other materials, both the space and the outlet are lost. Common spaces in only two locations had enough power outlets in convenient locations to provide adequate support for students' power needs. Laptop cords in other locations (especially those with almost all power outlets in center support columns) dangled and stretched over and around tables, across hallways, and behind students in ways hazardous to laptops, students, and passers-by. Most students who brought their laptops to campus used common space locations to charge their laptop batteries yet expressed considerable frustration with the number and location of power outlets in common spaces:

- "There are only some tables near outlets; you have to get lucky to get a spot by an outlet."
- "I would like more outlets so I can actually plug in my laptop; when my battery runs out, I have to work on something else."
- "I had to buy an extended 6-hour battery because of the lack of power outlets."
- "There aren't enough power outlets considering the [number] of students on campus."

When asked about long-term storage for laptops on campus, 81.2 percent of students said they had not found secure long-term storage, with 51.4 percent preferring to keep their laptops with them. Of those who stated they had found secure long-term storage, 84.4 percent left their laptops in campus lockers and 15.4 percent left them at their on-campus workplaces. While leaving a laptop in a locker is more secure than leaving it in the open, many of the lockers did not have high-end locking mechanisms. Some students stated that they "hadn't looked" (10.8 percent) or had "no need" (5.4 percent) for long-term storage.

Recommendations

Laptop security and access to power outlets are clearly issues important to students working in common spaces on campus. They can be addressed, however, with a few simple measures.

When considering short-term laptop security, a practical and inexpensive solution is to attach metal eyelets to the tables. Students can run their laptop locks through the eyelets to secure their computers.

Long-term storage is another issue. One solution to the problem of lockers with weak locks would be to update the lockers with a more secure locking mechanism, such as a coded lock instead of a removable key. Universities could also offer

annual common-space locker rentals, just as many do with gym lockers. Those lockers could be larger to accommodate laptops and books and could have a more secure locking mechanism.

In buildings with power outlets located at ground level, raising the outlets above the tabletops can be accomplished using extension boxes and conduits. Furniture could be arranged to bring the tables closer to the outlets for easier access.⁵

Colleges and universities have reached a critical stage in developing their wireless networking environments—environments that include common spaces. Understanding how, where, and why students use laptops can only help those networks grow in ways that support learning. *e*

Acknowledgments

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Endnotes

1. See <<http://www.utexas.edu/its/surveys/>> for University of Texas at Austin Information Technology Services (ITS) Survey results from 2002–2004.
2. See <<http://www.utexas.edu/its/network/wireless/>> for "Analysis of Pubic Network Access Usage Data" results from spring 2005, fall 2004, and spring 2004.
3. This breakdown is consistent with the overall university population (51 percent female, 49 percent male). See <http://www.utexas.edu/academic/oir/statistical_handbook/04-05/> for the most recent data.
4. Results from this study do not show how long a student was planning to stay in that location and, therefore, do not give a complete indication of the total time students spent in common spaces. This question will be addressed in follow-up studies.
5. This idea was conceived of and implemented by the physical plant after the final report was written.

Bill Wolff (bill.wolff@mail.utexas.edu) is a doctoral candidate with a Computers and English concentration in the Department of English, University of Texas at Austin.