M. Teresa Doherty and Erin R. White

Room reservations at VCU Libraries

How we coped with rapid growth and overwhelming demand for student study space

As many academic libraries have expanded their student spaces, they have also dealt with an increased demand for use of that space and accompanying difficulty in ensuring equitable access. James Branch Cabell Library at Virginia Commonwealth University (VCU) grew from a two-story basement home for the university's main academic collections in the mid-1970s to a five-story space for collections, student collaboration, staff work, and several other tenants in 2009. By that time, VCU's student population had exploded to more than 30,000, library collections soared to over 2 million volumes, and VCU ranked last in Virginia in terms of library space per student. To remedy this issue, the libraries planned to renovate much of the second floor to create a student learning commons, including 14 new study rooms.

Facilitating easy, equitable access

For years, the dozen or so study rooms in Cabell Library had been available only on a first-come, first-served basis. The rooms were not locked, so students did not have to check out a key to use the space. Unfortunately, this openness made it difficult to enforce policies on groups' use of rooms and ensure equitable access to the rooms.

Student groups often "camped out" in rooms for long stretches of time. There were often disagreements between students about access to these rooms, security had been called to mediate in several situations, and all agreed that it was not the best way to provide access to such a high-demand resource.

As construction was underway to remove stacks full of bound journals to create student collaborative space, including 14 new study rooms, representatives from the library information systems (LIS) and circulation departments investigated options for allowing students to reserve study rooms in advance. The options included:

• **Booking rooms by hand (sign-up sheets).** This process would have been both staff-intensive and difficult to enforce. The ideal process would involve little-to-no staff intervention.

• **Booking the rooms through the integrated library system.** There was some precedent for this; a presentation rehearsal room had recently been set up in this fashion, but it turned out to be a cumbersome and awkward process and did not scale well for the number of study rooms available.

• **Booking rooms through another online system.** Ideally this system would allow students to easily reserve rooms themselves, but in limited intervals based on a set of reservation policies. Librarians performed an environmental scan of the room reservation landscape at VCU and found that no other facilities used automated room reservation systems. Soon after, however, we discovered the article "OpenRoom: Making Room Reservation Easy for Students

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and Faculty" in the June 2010 issue of the *Code4Lib Journal*[1] and were intrigued by the possibilities of this open-source room reservation system. We contacted Brad Faust, assistant dean for library information technology services at Ball State University (BSU) Libraries, to discuss how this service worked on the ground, and decided that the software fit our business rules and needs.

At first we worried that BSU's honor system may not be effective at VCU in a library with an average daily door count exceeding 12,000. Other building use policies, however, specifically our quiet and silent study areas on the upper floors of Cabell Library, had been successful in part because students were vigilant in enforcing them. This previous success indicated to us that the honor system could indeed be successful in Cabell Library. We made plans to implement OpenRoom at the beginning of the fall semester, 2010, for all group study rooms (29 rooms in total, located on three floors).

Implementing the system

Software

In June 2010, the LIS department went to work with the OpenRoom source code from BSU Libraries. The BSU developers had both released the code publicly on the BSU Web site[2] and provided a helpful overview of how the software worked in the *Code4Lib Journal* article. Using the documentation provided on the Web and in the software download, LIS developers went to work installing and customizing the system.

Like VCU Libraries' existing Web environment, Open-Room is based on a MySQL and PHP architecture, which made installation on our Linux Web server straightforward. Installation instructions in the software bundle included a quick-start guide and an SQL script to create the MySQL database tables needed to run the application. We installed the OpenRoom files in a directory on our test server, created the database in MySQL, and ran the script to create the database tables. From that point the software was running as an "out of the box" implementation and was ready for customizations.

The first hurdle was to connect the login system. We wanted all VCU students, faculty, and staff to be able to log into the system using their university IDs. Out of the box, OpenRoom comes with the ability to log in through an LDAP server. We couldn't
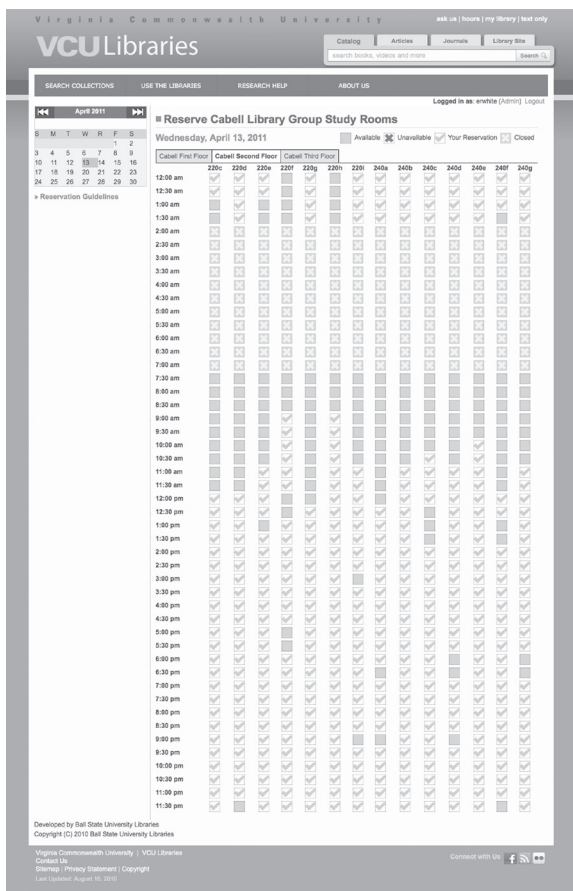
A screenshot of a "Bingo" in which all study rooms are booked simultaneously for a 30-minute time period. View this article online for detailed images.

get it to work, and after some head scratching, we discovered that the LDAP functionality was not enabled on our Web server. Because the Web team had recently begun connecting our Web applications to VCU's Central Authentication Service (CAS), which is more secure than LDAP, we took time to port over a login script that would connect OpenRoom to CAS, rather than using the LDAP settings. This switchover included making some minor changes to the OpenRoom configuration code, too.

With login functional, LIS began to customize the look and feel of the software so that it matched the rest of our Web site. Using the themes directory in the OpenRoom directory, we linked to standard header and footer files that were being used across the VCU Libraries Web site. In addition to "skinning" OpenRoom with a VCU Libraries theme, we also added the ability to display an image for each study room next to the room's name and capacity in the room description.

We created new images to replace the out-of-the-box images to more clearly represent room availability: greyed-out X's for closed rooms; red X's for other users' reservations; VCU gold checkmarks for users' own reservations; and solid green squares for rooms available to be reserved.

During the customizations, LIS also entered information about each study room, building hours, and special closing dates.

Policies
As the Web team worked on the software, public services managers worked with staff in the circulation department, the service point where the greatest impact would be felt,

Building manager David Morrison drew an advertisement for the room reservation system on a moving whiteboard.

to decide on reservation policies. Policy decisions included:

• Durations of reservations (we decided on a two-hour maximum, in 30-minute increments)

• How much time each student could reserve in a given time period (we chose six hours per week)

• The frequency of allowed reservations (one every two days, or as we chose to explain it—three per week)

• The window limit (we chose to limit reservations to 14 days in advance). If the patron who placed the reservation did not arrive at the room to claim usage by 15 minutes into the start time of the reservation, it would be considered forfeit and available to any other patron.

Guidelines for the use of library group study rooms were drafted, based in part on the text used by BSU, and we linked to these guidelines from the reservation site and in reservation confirmation e-mails.

Staff training
Library staff had anticipated that the most difficult part of the transition from open rooms to reserved rooms would be the interactions between students already using a room and those who had reserved the space and were arriving to claim it. We trained security guards and library staff in public service positions, especially those in circulation, on how to assist patrons in these situations. We encouraged staff and security to be sympathetic to those students being asked to vacate a space, to take the opportunity to explain how easy the reservation system is, and to encourage the group to take advantage of the program to find a space for their group to continue to

work. We encouraged all patrons to either print a copy of their reservation confirmation e-mail, or to have it available on a mobile device to assist in such situations. We hoped that students would treat others as they would wish to be treated in the same circumstance.

Launch

Publicity

The Learning Commons renovation wrapped up over the summer of 2010, and we held the ribbon-cutting ceremony just days before the fall semester began. The room reservation system launched a few weeks later, just after the Labor Day holiday. Library staff developed a variety of publicity materials to let students know that, after years of asking, they could they could reserve a study space in the library. We distributed fliers to students who used the study rooms during the first week of class and gave details of the upcoming service. We updated the Cabell Library Facebook page, sent notices to the daily VCU e-mail newsletter and to the VCU Library news blog, posted fliers in each study room which announced "You Asked For It—You Got It!," and added text to the self-checkout machine receipts.

The library's building manager (an artist who generally works in neon) drew an announcement parodying *Fast Times at Ridgemont High* on a rolling whiteboard stationed in the lobby of the building. For the first several weeks, we kept a news item displayed on the library's Web site; after that, we added a link to one of the primary dropdown menus pointing users to "study spaces."

**You asked for it!
You got it!
Now tell us about it!**

We want to hear from you.
Please tell us how the new group study room reservation system is working.

E-mail Teresa Doherty at mtdohert@vcu.edu.
Or, comment to our Suggestion Blog.

http://blog.vcu.edu/libsuggest/

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Flyers were placed in all study rooms to let students know that they were available to be reserved.

Gathering feedback

Once the reservation system had been in place for several weeks, we replaced the fliers in each room with ones which said "You Got It—Now Tell Us About It," and asked users to share their comments and suggestions with Teresa Doherty, head of circulation and information services, the representative of the library for this project. Some patrons did reply to their e-mail confirmation to thank the library for creating a reservation system. Several patrons used the library's online suggestion blog to suggest refinements, such as installing signage at each room to indicate the hours already reserved, and hours available.

Use of system and space

We consider the system to be a huge success with students due to our cross-platform advertising, signage in the rooms, and popularity of the space.

For the first semester (from the system's launch on September 7 until December 22, 2010, when all grades were finalized):
- 16,126 total reservations
- 4,005 unique users
- 2,727 repeat users (68% of all users)
- 5 average reservations per unique user
- 3.2 average group size
- 51,923 total students served
- second favorite floor
- 221 half-hour increments when all 29 rooms were booked ("bingos")
- 15 days between system launch and the first "bingo"

Conclusion

Based on the statistics from usage of the system and the decrease in number of security

incidents related to group study rooms, we see this reservation system as a success. Students appreciate the opportunity to reserve a room for their group to work on projects collaboratively, and by responding to our student's request for equitable access to this limited resource, we have given them a voice in the services offered at their library.

Since the launch in September 2010, we developed a mobile version of the system, which allows students to reserve rooms with their smart phones or other mobile devices. We are also considering other student suggestions, such as allowing students to declare their group reservation publicly through the reservation calendar, so they can share their location with friends and study group partners on the Web.

Notes

1. Bradley D. Faust, Arthur W. Hafner, and Robert L. Seaton. "OpenRoom: Making Room Reservation Easy for Students and Faculty." *Code4Lib Journal* no. 10 (June 2010), http://journal.code4lib.org/articles/2941 (accessed February 8, 2012).

2. See BSU Web site at www.bsu.edu/libraries/getopenroom/ ᚾ

Giz Womack for their editorial advice and insight in preparing this article. Again, it's a collaborative effort!

Notes

1. Chris Perry, "Mentoring as partnerships in collaboration: One school's story of professional development," *Mentoring & Tutoring: Partnership in Learning,* 8, no.3 (December 2000), 241–50, www.tandfonline.com/doi/abs/10.1080/713685537 (accessed February 2, 2012).

2. Susan E. Murphy and Ellen A. Ensher, "Establish a great mentoring relationship," *T+D* 60, no. 7 (July 2006), 27–28, www.ebsco.com/ (accessed July 22, 2010).

3. Lois J. Zachary, "Make mentoring work for you: Ten strategies for success," *T+D* 63, no. 12 (December 2009), 76–77, www.ebsco.com/ (accessed July 22, 2010).

4. Molly DiBianca, "How to use reverse mentoring as a retention tool for Gen Y employees," The Delaware Employment Law Blog, Young Conaway Stargatt and Taylor, LLP, October 29, 2008, www.delawareemploymentlawblog.com/2008/10/how_to_use_reverse_mentoring_a.html (accessed February 2, 2012).

5. Alexia Vernon, "Reverse mentoring empowers emerging and established leaders," *Diversity Executive,* May 10, 2009, diversity-executive.com/articles/view/637 (accessed February 2, 2012). ᚾ