# Web Tools: Bridge the Gap to Student Employees

Karen McRitchie
Grinnell College
Information Technology Service
Grinnell, IA 50112
641.269.4531
mcritchi@grinnell.edu

## ABSTRACT

The department of Information Technology Services at Grinnell College employs approximately 60 students to assist with the support of faculty, staff and students. They are called User Consultants (UC). These students are responsible for staffing public labs and the campus help desk.

It is a challenge to manage such a large group of students. They are from all over the world. They have varied work schedules and availability. They function independently across the campus. How does one communicate effectively to the entire group? How do they get the opportunity to interact with each other? What can be done to manage daily operations without hiring additional ITS staff?

Taking all of these challenges into consideration, the solution was to use the web. Using web-based tools allowed the student employees accessibility, enhanced communication, and gave them the resources that they needed to perform support almost anywhere on campus.

Since the ITS staff did not have the time for development of such a system, a combination of third party tools, such as Blackboard and Clientele, together with some student computing projects created a web-based management system. This not only assists the ITS staff in managing the students, but it also provides the student staff a "connection" to the department.

## General Terms

Management, Performance, Human Factors.

## Keywords

Web resources, students, management, schedules, communication

## 1. INTRODUCTION

Grinnell College is a private, liberal arts college in central Iowa with an enrollment of approximately 1400 students. The Information Technology Services (ITS) department has a staff of 25, with two support teams of 4 to service the support needs of the campus. The ITS student staff consists of approximately 60 User Consultants who assist in meeting the challenges of supporting the students on campus.

The campus maintains approximately 22 computer labs. Six of these labs are located in the residential halls, nine are public labs with printing and scanning capabilities and the remaining labs are

located within departments and are not supported by the User Consultants. The residential labs are open 24 hours and the public labs are open from 8:00 am until 2:00am. Grinnell College's User Consultants (UCs) also staff the Help Desk that is available for phone support from 8:00am to 8:00pm.


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## 2. Student Employment

The employment of students has become a necessity. There are not enough full time staff to adequately support the campus needs and utilizing student labor is an inexpensive, but challenging alternative.

There are several challenges when one manages a student labor force. The students at Grinnell College are from all over the world. They speak English, German, Portuguese, Spanish, Hindi and Russian among many others. English is a second language to many of the students. The UC program is a group characteristic of this diversity. Another challenge for employing a student work force is scheduling. Each UC has a unique course schedule which changes each semester, along with study hours, sports programs, student organizations and other activities. It would require a full time employee to manage scheduling and shift changes with such a large group of students. Training becomes a challenge due to scheduling issues. In order to have good attendance, classes need to be arranged in the evening and weekend hours, which creates an imposition on the full time staff. Communication becomes extremely important to meet these challenges. The students not only have to receive communications from the ITS department and what is happening on campus, but also need to talk to each other and have access to each other's ideas and advice. Administrative functions add the proverbial "straw to the camel's back." Payroll, time clock functions, and record keeping all need to be performed. The challenges of managing a large group of students required a creative solution.

## 3. A Web-based Solution

The solution needed to be web-based to fulfill all the requirements of the students. They were in many places at different times and the web allowed 24-hour access from almost anywhere in the world. It was almost a perfect solution. Using the web allowed student employees accessibility, enhanced communication and gave them the resources that they needed to perform their job from a lab, their dorm room and even their home.

The problem was time and resources. The ITS department did not have the time or all the resource to develop its own product. There were already many projects scheduled. Since there are already many products that can do some of the tasks that work brilliantly, why should the burden fall on the ITS staff to reinvent the wheel? The tools could combine the current third-party resources with a student-computing project and meet the challenges.

# 4. The Tools

The tools for the web-based resource for the student employees consisted of a simple database program that linked to the third-party products: Blackboard and Clientele. All of these software programs together provide the tools necessary to meet those challenges of managing student employees.

## 4.1 User Consultant Database (UCDB)

The User Consultant Database or UCDB was developed by one of the students, Andrew Kensler ('01). He wrote the application in PHP. This application has the following features after a valid login:

### *4.1.1 News*

This is the first view of the application. It is a text display of any reminders, announcements of new hires and can be used to communicate any important information to the students.

### *4.1.2 Clock In/Out*

This is the time clock. When a student begins their shift or task, they are required to clock in and then clock out when the shift or task is over. It provides a comment area so that they can enter information for the payroll administrator. They can select their lab from a drop down listing, enter the start time, any comments and then click a button, which registers the information. After their task/shift is completed, they repeat the procedure, entering the finish time. This can be used as an actual time clock where the system time is recorded as the time; however, the UCs are allowed to enter start/end times until we find an abuse of this procedure.

### *4.1.3 Time Sheet*

This is the student's view of his or her own time sheet. It is a view of all the time clock entries that they have made since the last payroll period ended. Once payroll is collected, no changes can be made. There is, however, a way to add time as a corrective measure when someone forgets to clock in/out or if the time is not recorded for a task. A student may add hours to their time sheet after a pay period is over with approval of the payroll administrator.

### *4.1.4 Schedule*

At the beginning of the semester, all the UCs are placed together in a large classroom, each lab shift is displayed on a projected screen and they sign up for shifts. No one is allowed to leave the room until all shifts are taken. This becomes their schedule. A student supervisor then enters it into the UCDB schedule where the work schedule for any campus lab can be displayed in a calendar format.

There are links to request shift substitutions and to send email to the scheduled students on this page. For example, if a student is scheduled for a 4-6pm-lab shift in the library and they want to post a sub-request, they simply click on the shift in the calendar and enter the information for the substitution. This can be a permanent request for someone else to take this shift, or it can be for a one-time substitution. Once another student accepts the new shift, their name is entered in the calendar and email is sent to all participants: the UC previously scheduled to confirm the substitution, the UC who has accepted the new shift and the student supervisor.

### *4.1.5 Sub Requests*

This is a viewable list of all the sub/swap requests that have been requested, but not yet accepted by other students. If a UC is looking for additional hours, he or she might browse this listing to see if any of the shifts are desirable. If the student wishes to accept the shift, he will click on the entry in the listing and the same process of entering the new name and sending email will occur as stated previously.

### *4.1.6 UC Directory*

This is a listing of all the User Consultants, their phone numbers, email links, graduation year, rank in UC program, and certifications completed. This listing is a quick reference for information that is widely requested. The certification is listed to confirm that a UC accepting a schedule change is certified to work in the lab where the shift was offered. Several of the computer labs on campus are specialized and require separate training and certification.

### *4.1.7 Combo*

Many of our labs have combination locks on the doors so that only the student employees will be allowed access. Since the combinations are different for each lab, they are all listed in this area for reference.

### *4.1.8 Update Information*

This is a brief entry of email address, phone number, campus mailbox, and a checkbox to tell if the student accepts substitutions. It also displays an area to change the login password for the UCDB. This is all of the information that the UCs are allowed to modify in their profiles and directory lists. The UC Coordinators are responsible for keeping the other records accurate such as training certifications and ranking.

### *4.1.9 Log Out*

The UCDB requires you to logout or will logout on the close of the web browser.

### *4.1.10 Admin Tasks*

The ITS staff has administrative rights to the UCDB program. The students do not have access to this area. The tasks are announcements, UCDB logs, time sheets for all students and system configuration.

## 4.2 Clientele

The ITS Staff at Grinnell College implemented the customer service software, Clientele [1] for the administration of campus support and asset inventory. The web-interface for the software was implemented this summer, which allows all staff access to the searchable knowledge base. Clientele's knowledgebase or Answerbook provides a searchable database that can be accessed via a web interface. The Answerbook entries can be approved for internal or external searches. Currently, the information is only published for ITS staff and student employees (internal searches). There is a plan to allow this knowledgebase search to be available for all campus users.

Clientele is also used by the ITS department for support information and call tracking. The UCs can enter problems for the ITS staff to manage through this interface. For example, if a computer in a lab is not functioning and they cannot correct the problem, a call is entered for that lab in the Clientele system and then forwarded to the appropriate support team. This process provides for a history of equipment problems and also tracks the status of both user and equipment issues.

## 4.3 Blackboard

Last year, Grinnell College implemented the Blackboard [2] portal system for publishing course information to the web. Not only is Blackboard useful for actual courses but also a pseudo "course" was created to utilize the features of Blackboard for the User Consultants. The course is titled UC101, but it is actually a venue for communication among the User Consultants.

### *4.3.1 Announcements*

This is the main page for the course or in this case, the UC Board. The same announcements posted on the UCDB are linked here so that important items are not missed. Announcements posted here also are displayed on the student's custom Blackboard which contains announcements and references for all the enrolled courses and organizations.

### *4.3.2 Course Documents*

The UCs posts all downloadable documents for access. This includes training projects, handbook and any other documents that are used by the User Consultants.

### *4.3.3 Communication*

This area of Blackboard includes email, a discussion board, virtual classroom (chat), roster and group pages. Only the discussion board and chat features are used.

The discussion board is a threaded discussion list that has a few forums moderated by the UC Coordinators to post administrative-type notices. The rest of the forums are open to all the UCs and UC trainees. Forum topics include: networking, operating systems, Macintoshes, PCs, Software, Lab Maintenance, Hardware, UC Chatter (open topics) and Future Campus Technology.

The virtual classroom is used as a "chat" area. Any UCs can enter the classroom and discussions can be held or questions asked to other "live" UCs rather than posting a Blackboard note. This assists in supporting the labs as there are always about 4 UCs on duty at the same time, so they can communicate with each other and any other UCs who just want to "hang out". It is under consideration to allow regular students access to the classroom to submit support questions from their dorm rooms or unstaffed labs, but this has not been planned at this time.

### *4.3.4 Links*

Blackboard has links to the other tools that are available for the User Consultants.

### *4.3.5 Tools*

There are several tools available within the Blackboard application. Most of these tools are actually course related, such as checking quiz grades, but the UCs have used parts of this area.

1. Digital Drop Box—used for trainees to submit final projects for grading.
2. Tasks—used to list the projects and deadlines for the trainees.
3. Manual—UC handbook is in indexed form

## 5. Conclusion

The web-based resources implemented for managing the students in the User Consultant program contain both third-party applications and the UCDB, which was written by one of the student staff. The author of the software is responsible for training the rest of the UC Coordinators in the programming and maintenance of the application and this responsibility will be passed on as the students graduate. Blackboard and Clientele are maintained and administered by ITS staff and when all three applications are utilized, the challenges of a student staff are met.

Diversity is no longer a challenge, scheduling is a breeze and communication has increased since the implementation of the web-based tools. The UCs are required to utilize these tools on a daily basis and the ITS staff spend less time in paperwork and more time interacting with this exceptional group of employees.

## 6. REFERENCES

[1] Blackboard: http://www.blackboard.com

[2] Clientele: http://www.epicor.com