

SUMMER STIPEND APPLICATION

Name	<u>C Bradley Dilger</u>	Faculty Rank	<u>Assistant Professor</u>
Department	<u>English & Journalism</u>	College	<u>Arts & Sciences</u>

1. Title of Project: Evaluation of Modular Open-Source Course Support Software

2. Abstract: (this page)

Many English & Journalism faculty wish to better integrate computing and teaching with course support software (courseware) such as WebCT and Blackboard. These products, as provided by WIU, provide some benefit, but are hindered by inflexibility.

Modular open source courseware offers a cost-effective alternative. Instead of the “one size fits all” approach of WebCT and Blackboard—many features with little customization—this project will evaluate systems which provide fewer features, but extensive customization for specific courses. Preliminary surveys suggest this approach will benefit English & Journalism’s writing and writing-intensive courses and distance education initiatives, as well as improving the overall general education experience.

3. Budget

A. Personnel Services

1. Summer Stipend	<u>\$ 3000.00</u>
2. Graduate Assistant	
3. Student Help: <u>usability testing</u>	<u>400.00</u>

B. Other Line Items

1. Travel	
2. Equipment	
3. Commodities: <u>rewriteable CDs for data backup</u>	<u>40.00</u>
4. Contractual: <u>Red Hat Linux support contract</u>	<u>60.00</u>
5. Telecommunications_	

Total (not to exceed \$3500.00)	<u>\$ 3500.00</u>
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4. Narrative: on a separate page

5. Evaluation Procedures: on a separate page

6. Vitae: please attach a current vitae

Signatures:

Applicant _____ Date _____

Department Chair _____ Date _____

Dean _____ Date _____

Summer stipend application, 2003-2004

C Bradley Dilger, Assistant Professor, English & Journalism
October 10, 2003

4. Narrative

Many English & Journalism instructors have supplemented the software available in our computer classrooms using Web-based course support software (courseware) such as WebCT or Blackboard. These systems, provided by WIU computer support units, provide useful capabilities such as online chat, file upload and download, electronic gradebooks, and online quizzes. Courseware can enrich not only the in-class experience but is accessible from students' home computers, WIU public computer labs, or the University Writing Center.

However, the systems currently in use have several drawbacks.

Commercially produced enterprise-level courseware like WebCT and Blackboard is intended for use in a wide variety of educational contexts: at all levels of study, in numerous disciplines, supporting numerous pedagogical approaches, and many different types of students. This flexibility enables almost any WIU instructor or student to use the systems. However, it also fosters a "one size fits all" mentality. The design of the courseware may be ideal for a large lecture-based course, but not so great for a small discussion-oriented class—or vice-versa. Generally speaking, enterprise-level courseware works acceptably for everyone, but ideally for no one. It provides tangible benefits, but is not optimized for best usability and effectiveness.

By design, commercial courseware encourages replacement of faculty-designed and controlled web sites with its particular approach. Instead of creating customized syllabi and other resources, with courseware providing supplemental capability, faculty using courseware are directed to template-oriented approaches. This does provide faculty with a unified methodology for creating online resources to support their research and teaching. However, it also channels effort into proprietary formats and reduces the amount of work which faculty do without courseware. Unfortunately, this can discourage faculty from switching to another courseware system, even if the other is clearly better: it's just too hard to get content out in a usable form. As I noted in my dissertation, the tendency of these systems to "lock in" course content also mandates continued expenditures for software licensing, giving universities little leverage to resist annual increases in licensing costs.

Many proprietary courseware systems, and technological systems in general, suffer from what Robert R. Johnson calls a "system-centered" mentality. Because they are complicated and expensive, requiring a tremendous investment in both employee time and software licensing fees, technological systems can develop a sort of inertia which encourages decision-makers to privilege preservation of the system over the needs of its users. System users (in the case of courseware, faculty and students) are discouraged from learning the intricacies of a system or suggesting revisions in its design, since that is a potential threat to the system. Instead, users are forced to adopt a "get along, go along" attitude toward the system—despite having to use it daily.

I am uncomfortable requiring students to use courseware which validates this disenfranchising relationship with technology, and embrace Johnson's alternative: the methodology of "user-centered design." My project will be guided by this principle, explained at length in his *User-Centered Technology*. The basic notions are simple: focus on the needs and long-term success of the user, not of the system. Don't impose a design on users and expect they will adapt to it: involve users in system design, and adapt systems to meet users' needs whenever possible.

Open Source courseware systems such as Moodle, CourseWork, Eledge, Edventure, Whiteboard, and MIT OpenCourseWare offer a user-centered alternative to commercial courseware. Indeed, many of these systems have been designed by programmers and teachers unsatisfied with the approach of commercial enterprise-level products. Instead of “one size fits all,” they use a modular, highly customizable design. They are intended to provide a few capabilities in a highly customizable and well-developed manner, as a supplement to other online resources—as opposed to the comprehensive, “wide but shallow” approach of systems like WebCT and Blackboard.

The Open Source development model offers access to program software code and encourages communication between programmers and all types of users. I consider it ideal for user-centered design and development. Open Source courseware offers remarkable levels of customization: if I cannot convince a system’s programmers to modify their product to meet the pedagogical needs of English & Journalism faculty, because I have access to source code, I can change the software myself. Notably, because these programs use common computer file formats, migrating content from one system to another is possible—eliminating a central cause of system-centered thinking.

I believe user-centered courseware will facilitate a better educational experience for our first-year and general education students, English majors, and graduate students alike. While it may not do all the things WebCT and Blackboard can do, it will do some things far better.

Objectives

I seek to develop a locally administered courseware system for English & Journalism faculty, based on Open Source software, and customized to meet the needs of English & Journalism courses taught in the Summer 2004 semester.

Working directly with my colleagues, I will identify desired capabilities, or areas of need, and find courseware which addresses those issues.

I will investigate the feasibility of the modular approach to courseware. Will it enable extensive customization and user-centering, as I argue here? Will it provide adequate capability for each class involved in the project? Will it be scalable to a larger number of students and a diverse collection of English & Journalism courses?

I will strive for a high level of user satisfaction through formal usability testing. Steve Krug has noted that the quality of usability testing results is radically improved when testers are paid a stipend—even a very modest one. To this end, I seek funding for formal usability tests, as noted below.

I will learn more about the logistics of locally operated and controlled server resources operating on our local area network under a “real time” load.

While this project will be limited in scope, I hope that it will pave the way for a larger scale implementation of user-centered courseware, and I will actively seek funding for such a project, should the efforts proposed here demonstrate promise.

Procedures

The project will follow the following procedure:

1. Develop a pool of English & Journalism instructors interested in using courseware in classes taught during Summer 2004, or available to evaluate demonstration courseware at that time.
2. Install Red Hat Linux on two English & Journalism computers and configure them for use as courseware servers (restricting access as necessary using software firewalls). Establish procedures for data backup and automated security auditing.

5. Evaluation procedures

At the end of the Summer 2004 term, I will evaluate the success of this project in several ways:

a) Distribution of exit survey to students enrolled in participating courses.

Faculty participating in the project will ask their students to complete a survey about their use of the courseware system. While such surveys are sometimes of limited use, they identify large problems, and almost always produce several excellent, very helpful responses.

b) Interviews with instructors and selected students.

I will interview faculty who participate in the project (both as a group and individually). Also, I will seek to discuss the courseware with students who, in the exit survey or at another time, expressed strong positive or negative opinions regarding the system.

c) Analysis of server logs.

By analyzing the logs of project Web servers and courseware, I will determine how often the courseware was used, and for what purpose; how often errors in usage occurred; and what patterns in usage merit further consideration. Open source software such as Analog and Logrep is available for this task. Of course, all log analysis will respect the privacy of students and instructors involved: identifiable user information stored by the system (such as login names) will be replaced with randomized data.

d) Preparation of final project report.

As required by this grant, I will produce a final project report. While I will follow the format suggested of the Office of Sponsored Projects, I hope to write this report in a manner which allows presentation at a conference in Fall 2004 (such as the Midwest Modern Language Association annual convention). I also intend to publish an article based on this research in a scholarly journal (such as *Composition Forum*, *Computers & Composition*, or *Kairos*).