WhiteBoard

An Efficient and Intuitive Learning Management System

Project Proposal

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1 Background

A Learning Management System(LMS) is an interface between students, professors, and school administration. One of the most popular LMSes, especially at colleges and universities, is Blackboard[3]. Blackboard, however, like other LMSes, is extremely slow and has unnecessary features that are often left unused. For example, Blackboards personalize page features are rarely used, and students avoid the discussion boards. These LMSes designs also often make them difficult to navigate. For example, Blackboard has two sets of navigation tabs, and it is not obvious what the difference between them is. These problems add up to create an interface that is slow and difficult to use, even though there is no need for it to be that way. Students today would rather get what they need quickly than have hundreds of features that they rarely, if ever, use. Other LMSes exist too, such as Moodle[2], Veracross[1], and Canvas[4], but they have their own problems, and none of them are open-source or as lightweight as we want.

2 Objective

WhiteBoard will focus on having an efficient, intuitive interface, and it will have features of excellent quality rather than a large quantity of features. It is open-source, allowing it to be customized and used as desired, it focuses on the University of Rochester. Most importantly, WhiteBoard will have a unified user experience. It shouldn't take a student who is majoring in computer science three days to find where the grades are posted, and even then to be confused about what their grade is, and it should be easy to navigate to the University of Rochester website. WhiteBoards design will make such navigation a pleasure.

3 Features

Specifically, WhiteBoard will have the following features:

- Lightning-quick load times
- A secure and painless login system
- Course system, with registration and grades for students
  - Possibly a bonus schedule optimizing utility
- Calendar
- Convenient communication between administrators, professors, and students, both for general communication and announcements
- Open source

4 Current Assets

Our teams combined experience covers PHP and Javascript very well, the LAMP stack and all its associated programming languages, and even configuring a Linux server for web hosting. Everyone on the team understands design, and how to learn from both the successes and the mistakes of systems like Blackboard. As students, we have constant access to Blackboard, and we have the expertise to dive into the site to see what code works well and what code doesnt. We are also constantly learning, and our ability in areas relating to this project will only increase.

We are also using several libraries to assist in creating WhiteBoard. We are using jQuery, a javascript library, and code from the open source PHP-Login project, so that we have a secure but simple to use system.

5 Budget

A large budget shouldnt be necessary. WhiteBoard requires server space on which it can be hosted, but we are planning to get server space on the computer science servers to save money. If we cant get server space there, then we shouldnt need to spend more than $10 per month on hosting.

6 Schedule and Plan

In general, front-end programming/design (i.e. client-side) can be done in parallel with back-end programming/design (i.e. server-side).

Expected Date Done	Feature(s)
10/23/14	Development environment and database structure
10/25/14	Login system and general layout
11/1/14	Courses and grades
11/8/14	Announcements and communication
11/15/14	Schedule/calendar
11/29/14	Presentation

6.1 Development Environment and Database Structure

We will rent a dedicated server from Online hosting. This Ubuntu server hosts a LAMP stack which is the foundation for the website. The web server hosts two copies of the website, one with a functioning version of the site and another with a test version of the site. This allows us to push changes to the server via GitHub and test our code in real time. The database will use MySQL and the SQL programming language. Our database structure will be similar to the open source moodle project's. However, ours will be greatly simplified in order to promote efficiency.

6.2 Login system and general layout

TEXT

6.3 Courses and Grades

TEXT

6.4 Announcements and Communication

TEXT

6.5 Schedule / Calendar

TEXT

6.6 Presentation

TEXT

References

[1] Breuer & Co. Veracross. https://veracross.com.

[2] Moodle HQ. Moodle. https://moodle.org.

[3] Blackboard Inc. Blackboard. https://blackboard.com.

[4] Instructure. Canvas. http://instructure.com.