Current System and Problem

vMoodle is a virtual machine based online learning system which extends the Moodle course management system.

- Moodle forums lack many features found in social networks that would be useful for helping students learn better.
- Moodle does not encourage social interaction between users, which keeps it from effectively building a community of learning.
- Much information about students cannot be discerned from purely classroom interactions. While Moodle is not intended for that, it would be valuable information for educators.

Requirements

Users must be able to post on vMoodle Social such that it would work as if they posted through vMoodle’s regular forum. Therefore, posts made in vMoodle Social should appear on vMoodle and vice-versa. Secondly, users should be able to rank replies to questions they feel are accurate and useful, in order to promote the user that posted the response. Users could search for relevant information before posting a new question, to avoid redundancy. Users could mark their questions with relevant tags to aid other users later on. Students should be given tools to connect with other students outside the classroom. Users should be alerted when new information is available in vMoodle Social. Finally, teachers and administrators should be able to gather relevant information from the forums for educational purposes.

System Design

The front end is configured as a canvas page loaded into facebook, depending on whether the application is accessed through desktop or mobile the user will be directed to the corresponding page. vMoodle Social asks the user for permissions to access their basic Facebook profile information and logs the user in using the Facebook API.

To implement the main elements of the views HTML was used, and CSS for styling. Javascript and JQuery (Jquery mobile for the mobile web application) were used to load dynamic content without having to refresh the whole page. The Tiny Carousel plugin was used to present the trending tags in a slider. The Bitpixels.com API was used to create thumbnails of the website resources posted on the resource wall. Firebug and Chrome developer tools were used for debugging purposes.

Screenshots

Figure 1: Current Moodle forums from Senior Project class.

Figure 2: vMoodle use case diagram.

Figure 3: vMoodle System decomposition diagram.

Figure 4: Home page wireframe

Figure 5: Comments page wireframe

Summary

vMoodle Social is a solution for the need of more interactive online education tools which can enhance on-campus and virtual classroom learning communities. It has useful functions for both student and professor users. It is implemented as a client server system; the server runs Apache, PHP, mySQL, and Moodle 2.4. The user interface was designed in order to engage users while meeting their needs, it was implemented using technologies such as HTML, Javascript, JQuery, Jquery UI, Jquery mobile, and CSS.

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