Project Description

Minrva Mobile Development Overview

The Undergraduate Library at UIUC values the involvement of students in not only the content generation of technology, but also in the development of the technology. Particularly, as smart phones become ubiquitous amongst college students (roughly 53% of US cell phone owners have a smart phone according to a recent Pew poll), the Undergraduate Library is investing significant resources in mobile application development. A major part of this effort is recruiting students with interest in mobile development to investigate, design, and deploy mobile applications which enhance student research and use of library resources and services.

The Undergraduate library has recently developed the Minrva mobile application to enhance the mobile library user experience. This application was developed for the Android operating system and is in the process of being ported to the iOS operating system and to a mobile website. In addition, technologies such as a Wi-Fi powered indoor positioning system based on a modified Naïve Bayes algorithm, optical character recognition (OCR) software utilizing a neural network, and a search engine built from data mining techniques have been and are currently being developed by students for the next Minrva release.

Participating in this project offers students the opportunity to gain professional mobile development and/or related mobile web development experience. Students will be free to choose from one of the many project ideas that the Undergraduate Library has collected, or may alternatively choose to pitch a new idea for a mobile application. The application prototypes that are developed during the project will be integrated into Minrva and made available to all UIUC students.

Technical Details

Provided

1. Github Repository of Minrva 1.0 source code for reference purposes or code base2. Schemas, dictionaries, and catalogs for students to see what types of data are available3. RESTful Webservices (aka data feeds) to provide access to the data4. A continuously updated documentation base5. Liaisons willing to help customize data feeds6. IRB certified user studies to test end products

Deliverables

1. Create or choose a library oriented mobile application(s) to build2. Design the data model(s) necessary to support the application idea3. At minimum, implement the Android, iOS, or web version of the application4. Revise implementation based on patron input gained from IRB certified user studies

Expectations

1. Prior to proposing a project students should meet with UGL liaisons to learn more about MINRVA.

2. A brief one-page project proposal should be written highlighting what the project hopes to achieve.

3. Students should meet with the liaisons to review the project proposal. At this point students will consult with liaisons on established coding project practices (languages, storage of code, testing servers, etc.)

4. A design document should be created. The design will indicate what modules are to be created and which existing MINRVA modules will be used. This document would be approximately 3 or 4 pages.

5. Once the design document is drafted, the student should meet with the liaisons to review the document.

6. Once the design document has been reviewed the student will develop and test their new modules.

7. The student and the liaisons will review the new modules together and determine if any improvements or revisions should be made.

8. Any suggested revisions will be made to the code.

9. The final deliverables are the project proposal, the design document and the code for the new modules.

Mobile development employs cutting edge technology. Unique challenges include a lack of computer memory, hard drive space, processing power, and screen real estate. In addition, mobile software must be compatible over a broad range of mobile operating systems and hardware specs. Thus, students are expected to be able to investigate the trade offs of using different technological tools while developing their mobile application. In addition, well-written reports explaining the pros and cons of the technological solutions are a must.

Labels
• None