Web App Proposal

Project Overview:

To better facilitate the analytics of library seating, and to enforce more complete data entries, this proposed project would keep these two goals at the forefront of the design process. As an institution of higher learning, it goes hand-in-hand to make this a collaborative project between upperclassman at Humboldt State University. With a small team of 2-3, the conceptual integrity and communication is fortified without the obscurification of managing and keeping team members on track. The added bonus of a senior working with a junior presents a cyclical relationship of mentor and protege, but also extends this software's lifecycle by having a direct line of succession for software management.

This library seating app is intended to provide a simple user interface for quick and concise data entry of which library seats are currently occupied. Users will not have to enter more details for every seat marked as filled, but will have the option to increase the level of detail via secondary selector mechanism (i.e. double-click, or right-click) leading to a pop-up menu. All of this input will be stored in a database to provide storage and querying year after year.

For the first iteration to reach testing in April, the proposed beta product will be entirely web based as this has the highest portability, and allows for features to be tested and implemented rather than device specific bugs taxing development time. An administrator mode will allow the user to add, remove and rearrange seating positions in the library. Seating position templates may be saved to be viewed as a seating design tool, and will only be used for data entry once the user enables it.

Obstacles:

The biggest foreseeable problems with this project will be getting this seating design layout tool operational before the April beta test deadline, as it will require much more testing to be feature complete. User input with data entry will be confined and easily testable, the seating design tool will be far more complex from a testing and feature standpoint. Possible temporary solutions are to delay the deployment of the layout editor to get data from the April test run at which time more focus will be given to the layout editor.

Technical Obstacles:

By using an app that relies on a wifi connection to query/upload data, changing networks while moving about the library might provide some technical difficulties. Possible solutions are:

caching data to be uploaded at a single time, or batch uploading as this will result in more frequent shorter uploads.

Hardware/Software:

Being that this is a web app, all internet enabled devices, ipads, tablets, laptops and desktops should be able to access and use this app via a web browser. A SQL database hosted by the school's ITS department will provide the data tier. The actual app will be written in HTML, PHP and Node will be explored as a solution.

Milestones and Reporting:

1. Data Entry
2. Layout Tool

Milestone	Task	Reporting	Hrs	Date
1.1	Mock-up layout of library interior on Google Map	Meeting with Kris Anderson	20	02/09/2018
1.2	Create various seating objects and icons	Meet w/ Kris	12	02/14/2018
1.3	Design and build SQL database and reporting screen	Meet w/ Kris	35	02/28/2018
1.4	Implement PHP data deposit, query methods, logging in	Meet w/ Kris	60	03/14/2018
1.5	Alpha Testing	Client meeting	50	03/28/2018
1.6	Feedback and maintenance, begin Beta	Client meeting	50	04/11/2018
2.0	Update requirements based on testing feedback	Meet w/ Kris	40	04/11/2018
2.1	Create object placement tool	Meet w/ Kris	60	04/25/2018
2.2	Saving templates and Alpha testing layout	Client meeting	55	05/02/2018
2.3	Maintenance and testing	Client meeting	35	05/09/2018

Deployment:

Software will be undergoing beta testing in April, web app will be reachable and have data input as well as querying functionality. The layout editor tool will be undergoing testing and deployment in May.

Testing:

Unit testing will begin immediately as part of the development process and also after each new module or feature is added.
For the April beta test, there should be limited technical problems as inputs are simple. However, to battle the optimistic programmer problem, two weeks of testing/troubleshooting have been allotted prior to April, and maintenance will continue during the month of ???. With maintenance most likely taking little time, more focus will be on developing the layout editor and testing is scheduled to begin at the beginning of April. With the various inputs, testing and maintenance are scheduled to go through the middle of April by library personnel.

Documentation:

This project will be open-sourced and maintained on a GitHub repository. All pushes will include a readme to use that iteration of the web app. Structural documentation is maintained in the project overview file. A list of features and their current state will be uploaded with each iteration.

Warranty:

By using two upperclassmen, a senior mentor and junior apprentice, the life-cycle of this product could continue indefinitely with very knowledgeable administrators on campus.

Mentor:
Kris Anderson has agreed to weekly meetings to discuss the project status, demonstrations, any blockers, and give project management advice. This will help alleviate pressure on the client and ensure that oversight is being handled properly

Payment:

This project should be paid via work study in an hourly fashion. Initially, this project will have a higher cost to design and implement. Subsequent years will have a lower cost as work will be focused on updates and maintenance.

Contact:
Samuel Alston, sra336@humboldt.edu or (916) 752-2247.