

Educational Laboratory Website Proposal

September 20, 2017

Summary

The goal of educational laboratory website is to give everyone in the department access to the educational lab. It is being designed as a tool that will enable faculty and staff to better share resources, and to collaborate on development projects, and safeguard against single points of failure. Ultimately it is about improving the quality of experiments, the professionalism of the labs, and securing the future.

Some highlights of functions and features are...

- Access all available experiment documents both past and present.
- Able to search labs by range of metric.
- Easy distribution of editable documents to authorized personal.
- Professional look to the education labs on-line presence.
- Platform for the transfer of all lab related knowledge.
- Access to support document.
- Access to lab templates.
- Complete equipment database, including status and location.
- Mobile friendly

Resources needed.

Much of the remaining work can be complete by pjl technicians or by science IT. The next step is to turn the current prototype in its current state into a final product that will be supported by Sci-IT. In talking to the head of Sci-IT it was determined that the most effective way of making this transitioning would be to work with the original programmer to finishing the project and hand over process.

The bottom line is that to finish the project we will need to procure 150 hours of time from the original programmer.

What we have now.

As of today there is a working prototype which can be viewed by going to pjl.ucaglary.ca and clicking on "Future of the PJI". There are 182 labs in our repository, with versions going back as much as seven

iterations, for a total of 744 different documents.

Filter options are working which make it easy for the user to quickly pair down from 744 documents to find only labs that have been used a particular course, or in a year, semester etc. It is also possible to quickly find labs that haven't been done for years, and have been forgotten.

The ability to search labs by keywords.

Further information, including access to all code and organizational diagrams, can be found at github.com/pgimby/pjl-web.

What we need to finish.

- Finish developing the remaining features of the website. (150 hrs - Original Programmer)
- Authentication method applied for download of source code. (Sci-IT)
- Security audit by Sci-IT. (Sci-IT)
- Finish building the equipment database. (70 hrs - Tech)
- Finish adding keywords to the repository database. (35 hrs - Tech and/or Instructor)
- Build database of equipment manuals. (100 hrs - Summer Student)
- Transition final product to final destination as determined by Sci-IT. (Sci-IT)

Benefit for the Department

The main advantage to the department as a whole is that it collects and displays the collective knowledge of staff, both past and present, in a way that is user friendly. It provides a platform for collaboration on development projects. Finally it enables the smooth transfer of lab knowledge, and removes single points of failure. No longer will information be stored in some place known only to one person.

How it will effect lab development.

The document repository has been reconstructed to allow for better collaboration for lab development projects. From the site an instructor will be able to download the latest version of a lab to make changes. They will also have access to any data that has been collected, and will be able to look into the history of the lab, and see how else it has been used in the past. They will be able to view manuals for the equipment they want to you, and even be able to tell how many of units we have of any piece of equipment they may want to use. Someone working to develop a lab will also be able access to some of the papers that where used in the original development.

How it will effect the work for technical staff.

On the most basic level this website will reduce the complexity of setting up labs from a job that requires significant training to a job that could be completed with little to no training. The mobile version

of the website will provide and equipment list for each lab, a location for each piece of equipment, and a status report for each piece of equipment. If the person setting up the lab is new, they can also simply open the document and a photograph of the setup will be visible.

