

Proposed Technical Revision of Iowa State University Electrical Engineering/Computer Engineering Senior Design Course Information and Notes

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Proposal Abstract

The Senior Design Course Information and Notes web page is a very important tool in the Senior Design course at Iowa State University. This document, located at <http://seniord.ee.iastate.edu/CLASSNOTES/TITLEPAGE.htm>, contains a vast majority of the information needed to successfully complete Senior Design. However, the layout of the information causes the document to be hard to read and follow. Therefore, I propose to redesign the information to make the document more accessible to readers. I also propose to add an additional document format, PDF, to make downloading and printing the information easier for students.

Problem Statement

Senior Design is a required course for all Electrical and Computer Engineers at Iowa State University. They usually enroll in the first semester of their senior year, and take the class for a full year. The students are all placed on design teams and given a separate design problem to solve. Some projects are from university professors while others are from industry.

Although the completion of the design project is the most important part of Senior Design, there are many other very important parts to the course. Students are required to go through all the planning stages that engineers in industry would. They are required to write project plans, technical solution plans, and marketing posters. Only when this planning is done can the students start on the actual design and implementation stages. This is why the course information and notes page is so important. This document outlines the entire course. It gives the schedule of events in Senior Design, shows the requirements of the course, and gives an outline of what all the document plans are to include.

However, the information and notes page has some flaws. It is completely HTML based, meaning that it will be read in a web browser on a computer. Because it is a somewhat lengthy document, it should be laid out so that it is easy to read. This is not the case. The document is written in small type and the headers are hard to distinguish from the rest of the document.

The second problem with the document is that it is not printer-friendly. It is a logical assumption that students will print this document to a hard copy for reference. Because of the layout issues I discussed above, the printed document is also hard to read. Moreover, because the HTML pages are broken up into chapters and appendices, the student must navigate through thirteen chapters and seventeen appendices to print off the entire document. This process is even more difficult than normal because there is no way to sequentially move through the document. Each time the user wants a new chapter, it is

necessary to return to the table of contents to find the chapter in question. This process would be much more efficient if all the information was also included in one document.

Proposed Plan

Goals

The proposed plan has two main goals:

1. Rewrite the HTML of the Senior Design Course Information and Notes page so that it is easy to read and navigate in a computer web browser.
2. Migrate the same information to a PDF document for easy downloading and printing.

Implementing the Plan

Implementation of the plan will consist of creating a standard design for all the information in the web page. This will include headings, tables, and figures. The main goal of this design will be ease of navigation and reading for the student seeking information on the Senior Design web page. All chapters and appendices will be rewritten for this standard design. I will do this revising in a text editor, and not a commercial HTML design program. The web page is not graphics intensive, so a graphical user interface is not necessary to design the page. Also, editing the HTML code by hand allows me to tweak the code to make it look its best.

The second part of the implementation will be taking this standard design and porting it to Adobe Acrobat PDF format. This is the preferred format for lengthy online documents because it can be read by virtually any type of computer. An added benefit is that PDF format is an industry standard. This means PDF documents look almost exactly the same on any computer platform. Finally, it also gives much more flexibility in the layout of text and visuals than HTML, which allows the documents to be read and printed very easily.

Benefits of the Document Redesign

The main benefit of this technical redesign will be an online document that is very easy to read and navigate for its target audience: students in Senior Design. At this time, many students complain that the current document does not allow them to easily find the necessary information. This redesign will change that situation. The redesign will also allow students to quickly print out the entire information and notes and store it on a local computer in the form of a PDF file.

Approach

The redesign will consist of three steps. The first step will be the standardization of the layout for all information in the Senior Design Course Information and Notes. Once this is completed, the HTML pages will be rewritten to take advantage of the new design. Finally, the web pages will be translated to one PDF document that maintains the design specifications. These three steps must be completed by the end of the semester, which is May 1, 2000. There will be no cost in this rewrite. All the information and software necessary is freely available.

Evaluation

This plan can be evaluated on its success by deciding whether the stages stated above were completed on time. Success can also be evaluated by looking at the finished document and seeing whether the goals were reached. In other words, is the document easy to read, navigate, download, and print by a student in Senior Design? This question can be answered by showing the original document and the redesigned document to current students and asking their opinions on the quality of the redesign. Finally, to illustrate the advantages that the new web page contains, I will create a PowerPoint slideshow that compares and contrasts the original document and the revised document.

Qualifications

As a student currently enrolled in Senior Design, I have a first-hand view of the problems contained in the current course information and notes. Because I am a student, and because this document is targeted toward students, I feel I can bring good ideas on how this document should be redesigned to make the students' life easier. I am also a student in English 314, the Iowa State technical writing course. This gives me a good perspective on what makes up a quality technical document. Finally, I also have a good background with computers, HTML, and page layout programs, which will help me complete the proposed plan in a timely manner.

Conclusion

The Senior Design Information and Notes web page is already an extremely important resource for students in Senior Design. However, with the changes I outlined above, this document can be even more helpful for students. These modifications include changing the layout of the web page to make it easier to read and navigate, and also porting the document to PDF. It is my sincere hope that you strongly consider this proposal and accept the plan for redesigning the web page.