Senior Project Database Search Interface Report

Idea

At Cal Poly, senior project information is scattered throughout the campus. Students find senior project ideas based on their existing knowledge, what they hear from their peers, and from their professors. They often ask the advice of advisors or find inspiration from old senior projects. Because students must consult several resources in order to determine their senior project topic, having a central database for students to go to search for a topic would be helpful. Having a central database where students can search for old senior projects or new ideas would not only benefit students, but professors and the community as well.

Description

Based on data collection activities conducted with a paper-based prototype, we found that a majority of students feel that it is not easy to start a senior project and that one of the many difficulties is finding a topic. A majority of students also feel that working with a partner on a senior project would be valuable. Our final project was to create a database that could be developed for use in the Senior Project Center located in the Learning Commons. The Senior Project Database Search would allow users to find a senior project topic or partner. Users could also post a senior project topic or a search for a partner. Another feature would be a discussion board where users could find resources and interact with other users working on projects similar to their own. The targeted audience of the Senior Project Database would be students, professors, companies, and communities.

Design

Test subjects felt that the paper-based prototype was easy to follow and understand. Because of the positive feedback received on the paper-based prototype, we decided to maintain a similar layout for the new web-based prototype. We also kept goals of simplicity, intuitiveness, and being easy to use in mind when designing the interface for the database. In hopes of achieving consistency, we used the Cal Poly Library website (main page) and PolyCat website as a basis. We conducted a usability study of the PolyCat website in order to understand how users felt about the current state of the site. Our usability study revealed that the PolyCat website was simple, and we liked the look of the Library main page. However, we chose to add more features to the Senior Project Search Database interface in order to provide users with more options and to maximize the use of the Database. Based on the comments of the test subjects of our usability study, we added features such as allowing users to post descriptions of projects. In addition, we added additional criteria to the search features.

Development

Due to the time constraints, the focus of the project was on the user interface of the Database Search and not the back-end functions of it. We used Dreamweaver MX to implement our design. (See Appendix A for images of the interface). The Senior Project Database Search presents users with five main options: Topic Search, Topic Post, Partner Search, Partner Post, and Discussion Board. Each of the search features offer users relevant search options such as keyword, major, planned start date, and year. The Topic Search feature also includes additional search options such as advisor and project type. The post features require a minimal amount of information in order to post a message so they aren't cumbersome to the user. The Discussion Board feature deviates from the uniform interface of the other features. The Discussion Board utilizes a different interface that is more conducive to a more interactive and dynamic atmosphere. The Discussion Board follows a format that is more commonly used in discussion boards already available on the internet. It offers a general area where announcements can be posted and read and there is an area that has steps on how to start and finish a senior project. Other options include being able to discuss topics and a miscellaneous area where random questions and information can be exchanged. Another key difference in the Discussion Board area is being able to log-in in order to have a more customizable experience and to regulate the Discussion Board.

Usability-oriented Perspective

In creating the Senior Project Database Search interface, we kept several usability goals in mind. Our interface is effective because it allows users to use the system for which it was intended. Users can easily learn about the senior project process and search for ideas and partners. The system does not offer any frivolous options that get in the way of the core functionality of the system. Once introduced to the interface, users immediately know how to use it and can complete there tasks efficiently. Users do not have to go through unnecessary steps to find a topic or do a partner post. Because each of the interfaces is similar to each other, the user will be familiar with the system no matter where they are in it. With the different options broken down and consistent interfaces, users can easily learn how to interact with the interface. More over, the interfaces have been kept consistent so it will aid users in remembering how to complete the tasks. All of these aspects only serve to encourage users to become more comfortable with the Senior Project Database Search. If users are comfortable with the system, then they will continually make use of it.

User-centered Perspective

Throughout the entire process, we have taken steps to ensure a user-centered system. By collecting data early on by interviewing students and having students answer questionnaires, we were able to gain insight into the needs of the potential users of the system. We learned what information students were already familiar with in the senior project process and we learned what students were unfamiliar with so we could incorporate that information into the system. Conducting our initial usability study of PolyCat provided us with both subjective and objective measurements of how students felt about a potential layout for our interface. In addition, by using an iterative approach in which we went through several cycles of design, development, and testing, we were able to continually incorporate user suggestions. Incrementally increasing the complexity of our prototypes allowed us to address issues before they became difficult to address.

Usability Study

In order to gain feedback on our interactive prototype, we developed a questionnaire for our target audience to fill out. The questionnaire asked users about their overall impression of the interface, the look and feel of it, and their thoughts on the features offered. The questionnaire consisted of both open-ended questions and ones that were answered according to a ranking scale. The environment in which the study took place was informal and was performed in test subjects' homes. We attempted to target a variety of users as our test subjects by asking students from different majors to fill out the questionnaire. The study showed that everyone believed that the interface had a good first impression. (See Appendix B for complete results). Also, most ranked the look and feel as high. Because of the user satisfaction with the overall appearance of the system, few changes were made to it. However, as a result of some of the user comments we modified the prototype to include the following changes: made the color scheme more uniform, added a more extensive help page, and re-organized the search fields.

Usability Evaluation Plan for Complete System

In order to fully evaluate the Senior Project Database Search, we developed a usability test that can be conducted once the system is more complete. The usability test would involved observing users as they perform tasks associated with each of the main features of the database: search for a senior project topic, post a senior project topic, search for a partner, post a partner, and log into the discussion board to learn about use the discussion board. While the subjects are completing the tasks, the observers would document the time it takes users to complete each task, and also note the difficulties they are having with the system. In addition, users would be asked to rank their overall satisfaction with the Senior Project Database Search. The test subjects would not be limited to only students as before. Professors and possibly companies would be asked to participate as well.

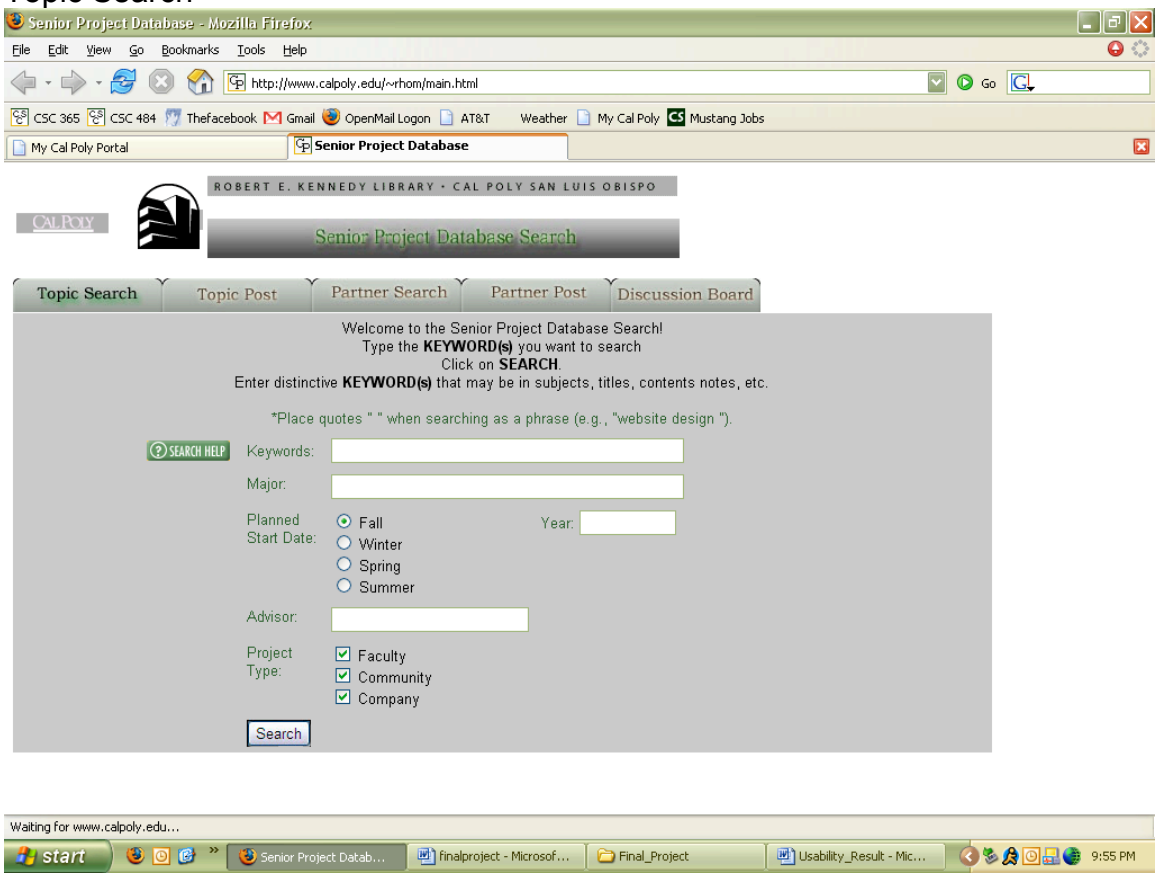
Further Work

A completed and functional version of the Senior Project Database Search is feasible and would be beneficial to both Cal Poly and the community. This project could be carried on by

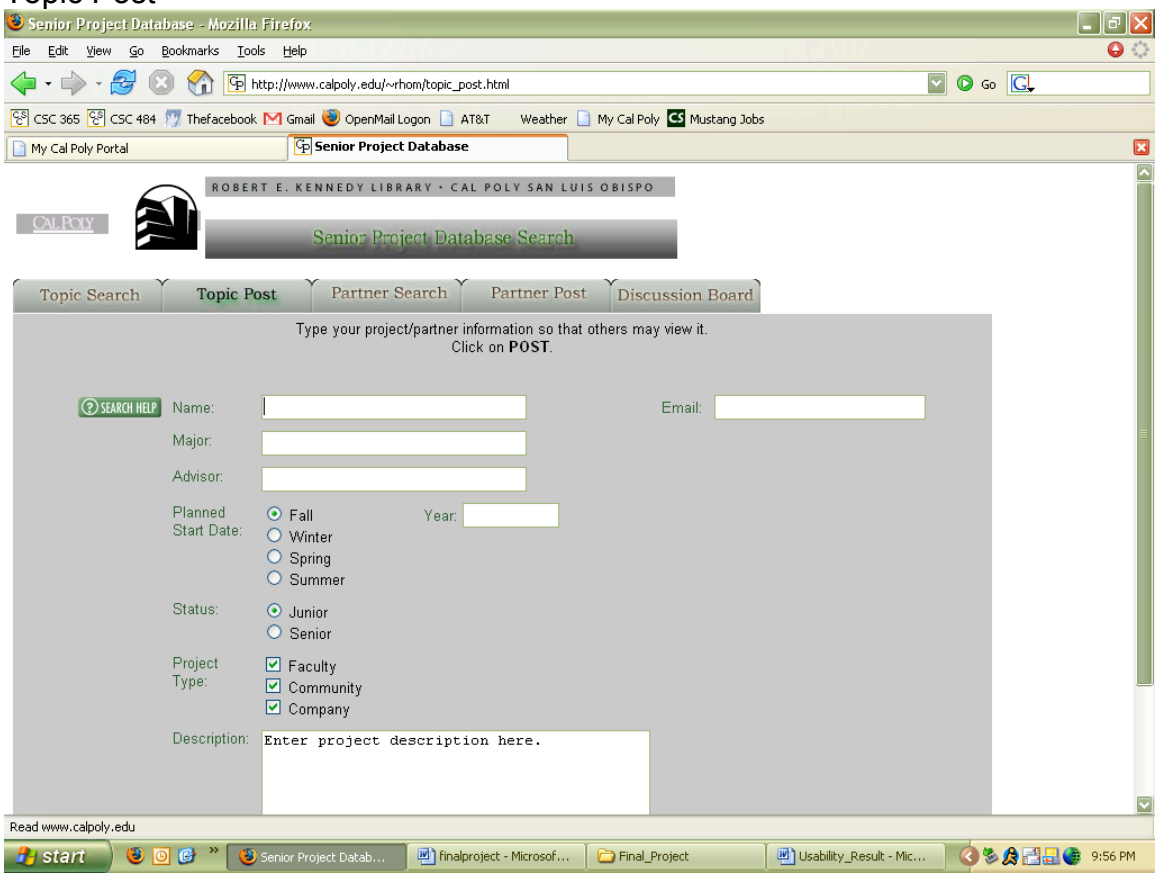
others through a senior project or a CSC 366 project. Implementing the Senior Project Database Search is a practical project that students at Cal Poly could finish. A fully functional version of the Senior Project Database Search would serve as a key feature to the Learning Commons.

Appendix A

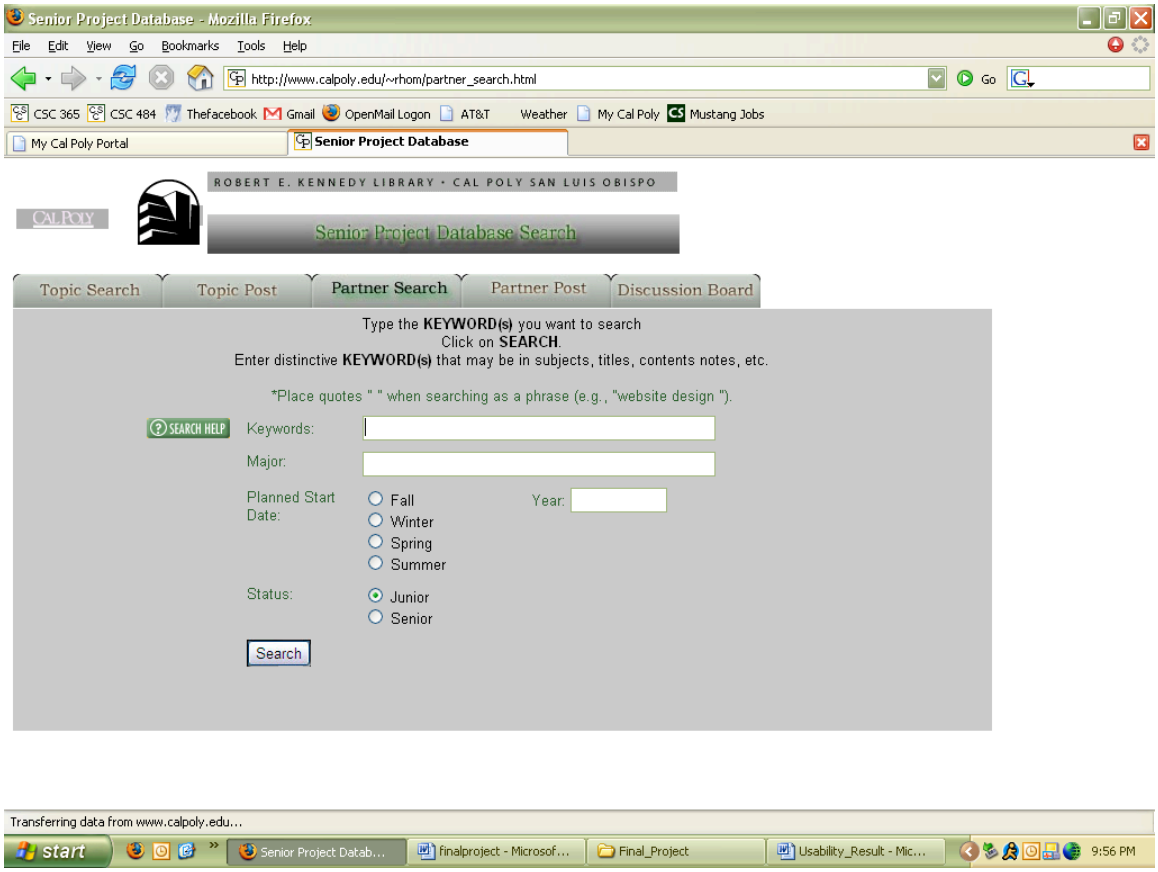
Topic Search



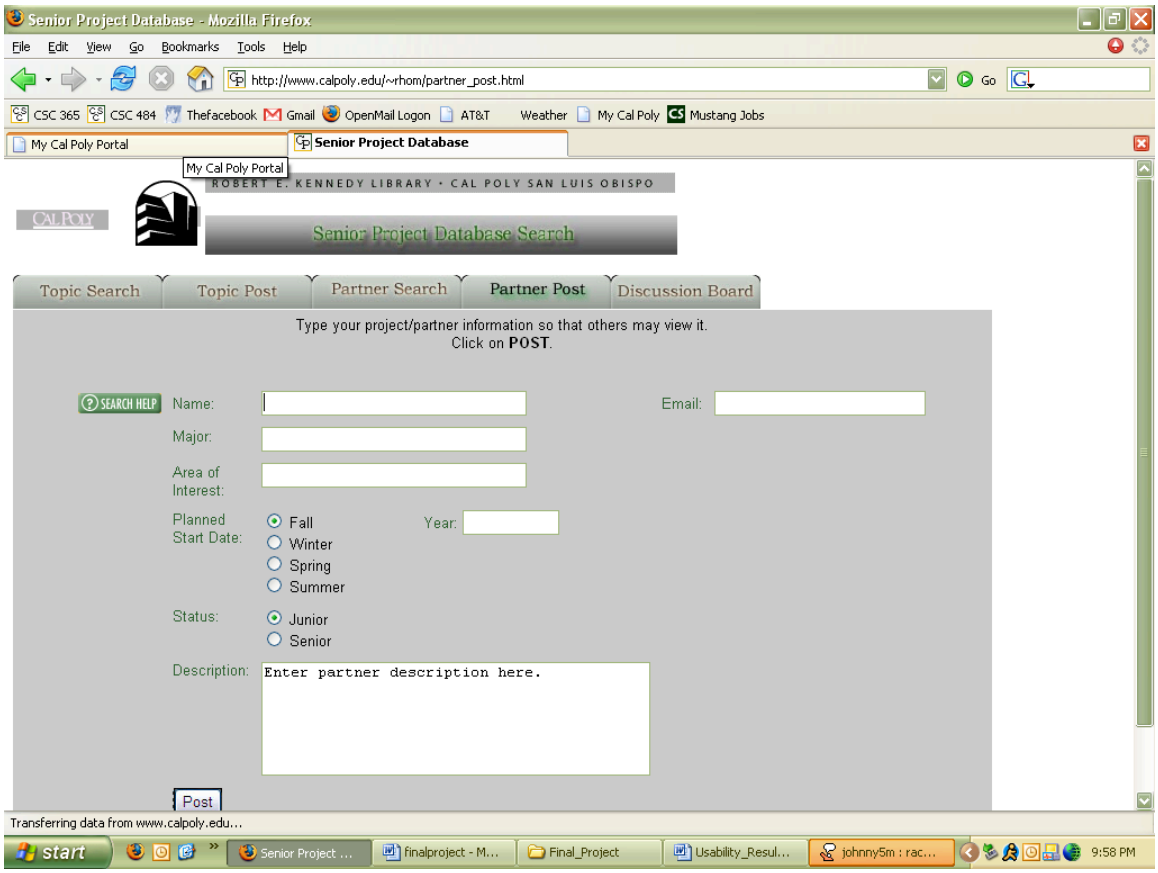
Topic Post


Senior Project Database - Mozilla Firefox
File Edit View Go Bookmarks Tools Help
http://www.calpoly.edu/~rhom/topic_post.html
CSC 365 CSC 484 Thefacebook Gmail OpenMail Logon AT&T Weather My Cal Poly Mustang Jobs
My Cal Poly Portal
Senior Project Database
ROBERT E. KENNEDY LIBRARY · CAL POLY SAN LUIS OBISPO
Senior Project Database Search
Topic Search
Topic Post
Partner Search
Partner Post
Discussion Board
Type your project/partner information so that others may view it.
Click on POST.
SEARCH HELP
Name:
Email:
Major:
Advisor:
Planned Start Date:
Fall
Winter
Spring
Summer
Year:
Status:
Junior
Senior
Project Type:
Faculty
Community
Company
Description:
Enter project description here.
Read www.calpoly.edu
start
Senior Project Datab...
finalproject - Microsof...
Final_Project
Usability_Result - Mic...
9:56 PM

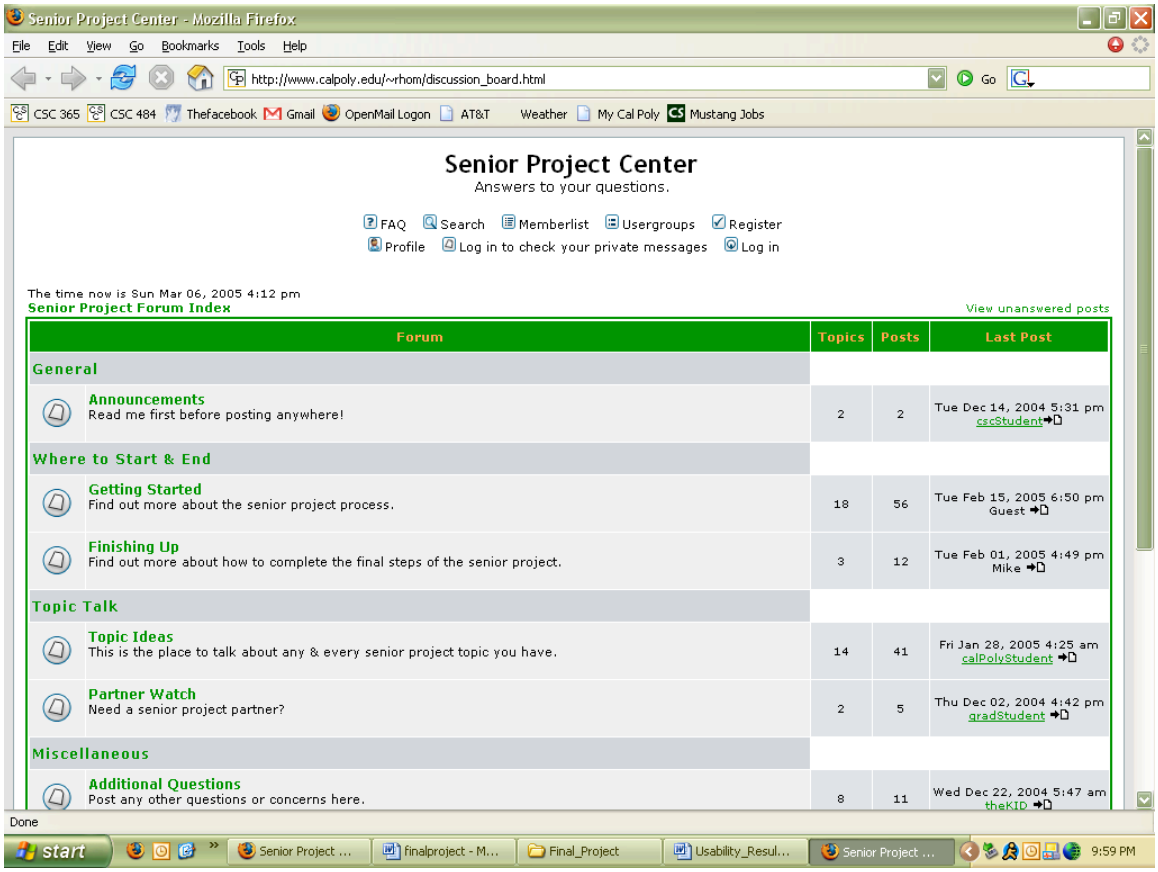
Partner Search



Partner Post

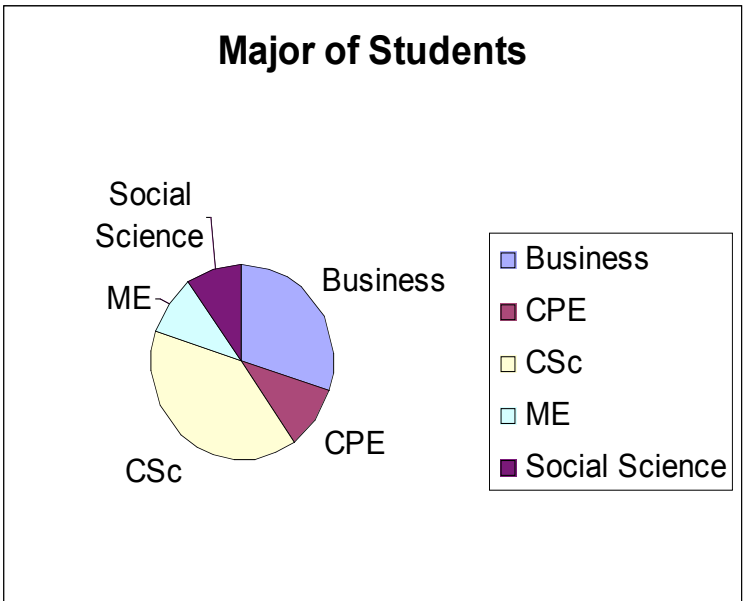


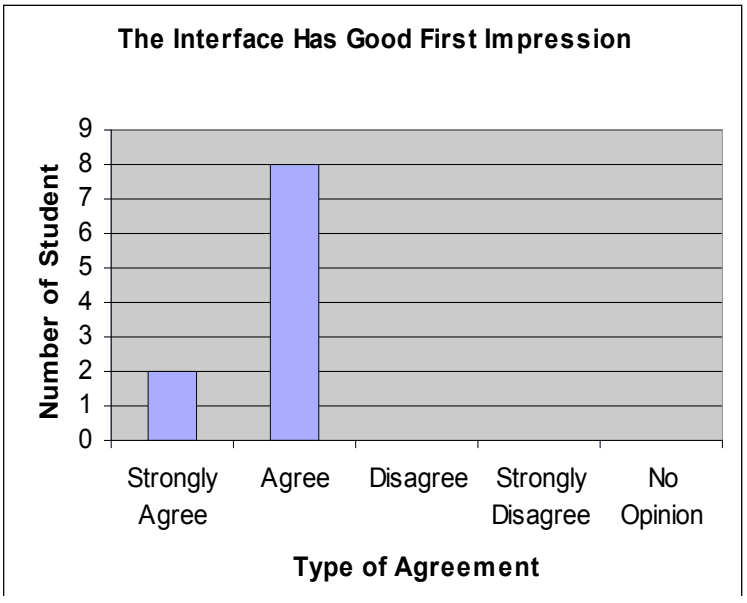
Discussion Board

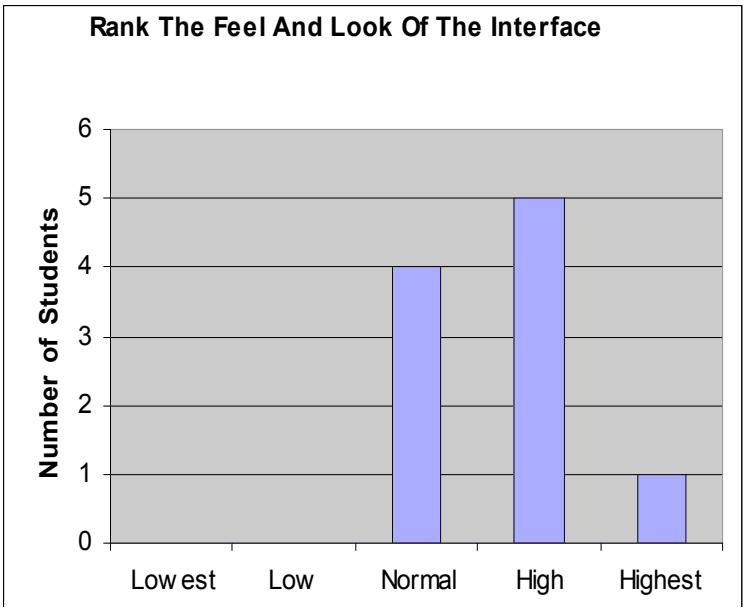


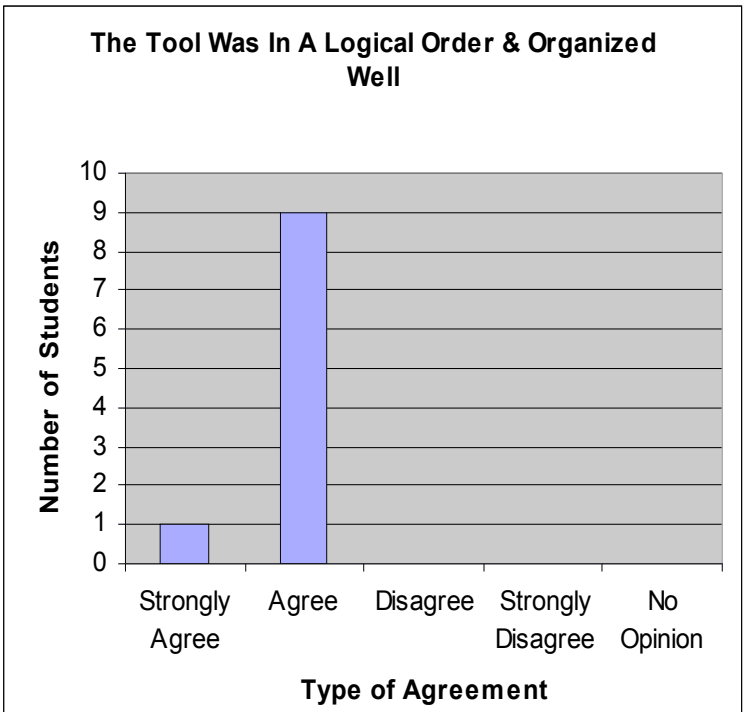
Appendix B

Usability Evaluation of Senior Project Database Search






Rank The Feel And Look Of The Interface
Number of Students
0
1
2
3
4
5
6
Low est
Low
Normal
High
Highest


The Tool Was In A Logical Order & Organized Well
Number of Students
0
1
2
3
4
5
6
7
8
9
10
Strongly Agree
Agree
Disagree
Strongly Disagree
No Opinion
Type of Agreement

1. What is your year and major?

Year	Major
Senior	Business
Senior	Business
Senior	Business
Senior	CPE
Senior	Computer Science
Senior	Computer Science
Senior	Computer Science
Senior	Computer Science
Senior	Mechanical Engineering
Senior	Social Science

2. Your first impression of the database tool was a good one.

Strongly agree	Agree	Disagree	Strongly disagree	No opinion
xx	xxxxxxxx			

3. Rank the look and feel of the user interface on a scale of 1(lowest) to 5(highest).

1	2	3	4	5
		xxxx	xxxxx	x

4. Please explain your reasoning for the ranking in the previous question.

Bad color combination and dull background
Design similar to Library search. Meaning of "Start Date" "Enter" doesn't work
Easy to follow/understand, provided all needed tools
Easy to use
Good color, consistent with searching the library website
Gloomy background
Soft background, professional
Pretty basic interface
Very nice, but too much text on some panel. e.g., "Welcome to senior project search DB"
Very well organize

5. The tool was in a logical order and organized well.

Strongly agree	Agree	Disagree	Strongly disagree	No opinion
x	xxxxxxxx			

6. You would use this tool if it existed.

Strongly agree	Agree	Disagree	Strongly disagree	No opinion

xxxx xxxxxx x

7. What feature did you find the most useful?

All search ability
Ability to search for most of both potential topic can partners
Ability to find people that might want to work on a project with you
Discussion Board
Discussion Board
Discussion Board, can look up any topic, not require to input many information
Discussion Board and Topic Search
Partner search
Partner Search
Partner Search

8. What was the most confusing aspect of the tool?

Differences in project type
None
None
None
None
Partner post/ search
Planned start date/year
Project type. Search fields are a little confusing. Not sure what each one means
Similar panels, need some ways to separate them clearly. For ease of recognizing which field the user is on.
Why it was useful

9. What additional features did you expect from the tool but didn't encounter?

Adding students who are working on the project listed on topic search
Combine partner search and the topic search
Drop down menu for Major (example of year), more uniformity for Discussion Board
Explanations of the fields we have to fill out in the search/posts
Help looking for an advisor
Help looking for an advisor
List of all available projects based on student posting on topic search page
Nothing
Nothing
Nothing