PolyCAT USABILITY STUDY

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Introduction:

Our team conducted a study on usability on the PolyCAT Library system. We were aiming to uncover interactions with users that were not previously known. We broke down the study into two parts:

1) Each team member individually conducting their own study and evaluation.

2) Combining our individual results into one group study and evaluation.

We have attached each individual survey on Blackboard with this document. Below, we listed our combined survey after reviewing the individual contributions. After taking each survey individually and reviewing our data, we combined our final conclusions and comments that we noticed users experienced. Using the feedback from our surveys, we constructed a prototype of a proposed solution. Both the details of the investigation and our solution was presented in class, and a summary can be found later in this documentation. Our overall hope is to help the designers of the next version of PolyCAT improve the overall design to benefit all potential users.

Team Survey:

System Identification:
Cal Poly's PolyCat System

Tasks and Activities:

1. Identify which search tabs if any which may be more functionally significant.
2. Search of a textbook.
3. Search for multiple textbooks.
4. Mark a functionality not used.
5. Indicate any text on any page of the PolyCat system that seems ambiguous.

6. Remember any feelings during evaluation process (e.g. frustration).
7. Locate and access 'Live Help'.
8. Search for a resource from another library using Interlibrary Loans
9. Search for a resource from another library using Link+
10. Can you locate the library map in Polycat?
11. When searching by a word, identify which limit options, if any, may be most helpful in narrowing your search.

Metrics:
Each criteria will have room for comments and explinations for scale.
1. List of all the tabs with a 0-5 rating (5 = most significant)
2. Scale of satisfaction with a 0-5 rating (5 = definitely satisfied)
3. Page layout satisfaction with a 0-5 rating (5 = definitely satisfied)
4. Page organization satisfaction with a 0-5 rating (5 = definitely satisfied)

PolyCAT Survey :

Evaluation form:
Please fill out the following after each task is performed

1. Given the list of the search tabs rate each on a 0-5 scale (5 = most significant).

Word :
Author :
Title :
Subject :
Call Number :
Author/Title :
Journal Title :

Comments:

2. Rate your satisfaction after searching for a single textbook with 0-5 scale (5 = definitely satisfied).

 Circle one: **1**   **2**   **3**   **4**   **5**

  Comments:

3. Rate your satisfaction after searching for multiple textbooks with a 0-5 scale (5 = definitely satisfied).

 Circle one: **1**   **2**   **3**   **4**   **5**

  Comments:

4. Rate your satisfaction of the page layout of the PolyCat System after completing the above tasks using a 0-5 scale (5 = definitely satisfied)

 Circle one: **1**   **2**   **3**   **4**   **5**

  Comments:

5. Rate your satisfaction of the page organization with a 0-5 scale (5 = definitely satisfied). Does the system

have any confusing or unexpected outcomes?
Circle one: 1   2   3   4   5

 Comments:

6. If a resource cannot be found how easy is it to locate another library to find it on a 0-5 scale (5 = extremely easy).
Circle one: 1   2   3   4   5

Comments:

7. When a resource is found what is the most useful information on a scale from 0 to 5. (5 being the most useful)?

Title:
Location:
Call Number:
Status:
Publisher:
Description:
Contents:
Summary:
Bibliography:
Subject:
Added author
ISBN:
Senior Projects:

Comments:

8. How easy is it to search for a resource set aside by your Instructor on a 0-5 scale (5 = definitely easy).
Circle one: 1   2   3   4   5

 Comments:

9. How easy is it to ask a librarian a question on a 0-5 scale (5 = definitely easy)
Circle one: 1   2   3   4   5

 Comments:

10. If and library website included a floor by floor map which displayed the location of a resource how interested would you be in using it on a 0-5 scale (5 = definitely interested)
Circle one: 1   2   3   4   5

 Comments:

11. Given the list of the limit options, rate each on a 0-5 scale (5 = most helpful):

a. Search and Sort

   Circle one: 1   2   3   4   5

   Comments:

b. Date

   Circle one: 1   2   3   4   5

   Comments:

c. Format of Material

   Circle one: 1   2   3   4   5

   Comments:

d. Location

   Circle one: 1   2   3   4   5

   Comments:

e. Publisher

   Circle one: 1   2   3   4   5

   Comments:

f. Language

   Circle one: 1   2   3   4   5

   Comments:

12. Rate and discuss how easy it is to read and understand the results page. Is the information all relevant to your search? Is some information ambiguous?

   Circle one: 1   2   3   4   5

   Comments:

13. Rate your satisfaction after searching for multiple textbooks with a 0-5 scale (5 = definitely satisfied).

   Circle one: 1   2   3   4   5
   Comments:

1**4. In your opinion and recent experience, do you think PolyCAT presents too many available options? (For example, having a number of tabs)**

  Yes   No

Comments:

15. Do you think your experience of using PolyCAT would be more productive and faster if there were few presented options? (Do you like having a lot of options for searching, or do you find it just confuses and/or slows you down?)

             Yes   No

16. Do you feel that the time spent using Polycat overall was too long? 0-5 scale (5 = too long).

 Circle one: 1   2   3   4   5

 Comments:

17. Did you feel that the "Live Help" online feature was easily accessible? 0-5 scale (5 = extremely accessible).

 Circle one: 1   2   3   4   5

 Comments:

18. Did the error messages received after failed searches help with your next searches? 0-5 scale (5 = definitely helped).

 Circle one: 1   2   3   4   5

 Comments:

19. Was Polycat's user interface intuitive for you as a user? 0-5 scale (5 = extremely intuitive).

 Circle one: 1   2   3   4   5

 Comments:

20. After finding the books searched, do you prefer a printer to print out the call number of the book over other methods? 0-5 scale (5 = prefers printer).

 Circle one: 1   2   3   4   5

 Comments:

21. Do you feel the search results are well ordered in relevancy to your inquiry? 0-5 scale (5 = extremely relevant).

Circle one: **1**   **2**   **3**   **4**   **5**

 Comments:

22. How would you rate Polycat overall compared with other library search experiences?
0-5 scale (1 = other experiences are better, 3 = no comparison or equal, 5 = Polycat was extremely better).

 Circle one: **1**   **2**   **3**   **4**   **5**

 Comments:

Final Usability Comments:

Jeddy's Comments:
   In summary, the PolyCat system does perform the task of searching for a resource within the Cal Poly Library's ability. The Cal Poly library either has the book or not and the PolyCat system indicates whether the book is checked out or not. However, in our evaluation, we felt that many of the functionality may provide more than what is necessary for the typical Cal Poly user. We felt by narrowing down the functionality, the usability of the PolyCat system would increase with usage and satisfaction. The PolyCat system is more of locating tool. We feel that modeling a search engine similar. Google Maps would be a more accepted system. This type of search engine would simply provide the location of the book if necessary. However if the book is not available, then an option for interlibrary loaning should be accessible. There exist a link for interlibrary service, but no one will choose this unless they cannot find a book. We feel that the link on the initial PolyCat webpage provides no help to a user until after they have failed to locate the book through PolyCat search. To conclude, the PolyCat system has most of the necessary functionality desired by a user, but the organization and layout were the main obstructions from a more positive usability result.

Justin's Comments:
Searching: I think searching for a resource should be as simple as possible. This means an input text area and a submit button.

Results: Once the general search has taken place and the results are returned the user can choose to limit the search by selecting WORD or TITLE etc.
The way in which results are initially displayed should be easily readable and understandable. I would just like to see a list of Titles. The user can then
Look at additional details about the book or view the location of the book.

Ask a Librarian: I think this could be a very useful feature for students needing help but based on our results it seems not many people even know about it
and even use it. I think a main reason why people don't use it is the setup necessary to create a chat. Students should press a link to chat and a small pop up window
should appear. They can enter there cal poly user name and password to submit the information to start the chat.

The Link+ is a nice feature but the relationship between "Search another Library" and "Link+" is not clear. Perhaps this could be built right into the search. When the results come back the user can select only resources located in the

Cal Poly Library versus all found resources. Resources from another library can be display in a different style from other resources in the list of results.

Ian's comments:

I agree that the search should be very simple, with any possible search filters available after the search is done with a keyword. A simple text area with a submit button would be very suitable. The results page has way too much information. The user may get the feeling of being overwhelmed when presented by massive amounts of information all at once. A better solution to the results page would be to only present the user with the author and title of the resource, and if the user wants more information on it, they can expand the search result and view more details. The look and feel of the system does not mesh well. The colors are not very welcoming and I think it takes away from the overall user's experience by distracting the user. The layout needs to be changed and made more intuitive for the user. Another problem with the system is that even if the user finds a source, there is still more work for the user to do to map the ISBN or Dewey Decimal number to a location within the library. This can be fixed with a graphic that would show the exact location or row to find the book. Another possibility is that the desired ISBN or Dewey Decimal number, as well as floor and location can be printed out to the user on a ticket. This ticket could be in the form of thermal paper printed from a restaurant ticket printer. PolyCat provides the user with many good search utilities, the problem is that the way in which they are presented and the flow of the system could make these utilities more powerful and ultimately more user friendly

Huy's Comments:

Some positives:

- The Polycat user interface on the web is really convenient for most users away from the Library.
- Among the positive things, the main window's text and design layout presents a clear and consistent layout that a user can follow.
- The tabs clearly identify the areas related to the search, so that users are able to specify exactly what field they want.
- When the correct information is found, Polycat resets itself to the main page, which is a nice feature.
- Any user can access Polycat from outside the library to find out if their book has been checked out. The design layout clearly shows this well.

Some negatives:

- The example text below the search field are suitable for quick references, but I feel that it is unnecessary in an intuitive UI design.

- The HTML based Polycat refreshes information and resets the page after a time limit. This may be better in the library, but annoying for off-campus users.

- The other user screens did not match the design layout of the main window. The HTML was basic and felt busy/cluttered with too much information.

- Test subjects usually retyped failed search queries in alternate tabs in the hopes of it finding better results. A single search bar would better suffice.

- The color scheme for a majority of Polycat pages seems out of date and inconsistent.

- The Library chat function directs users to a external website. The directions and fields that the page requires users to enter feels intimidating, and most of our test subjects just asked if they could 'just skip it'.
- The Link+ function directs users to an external website. There was not enough information to describe what the page does. Going back through the navigation causes a 404 page refresh error.

- The search sometimes yields irrelevant results instead of displaying a failure message.

- Words found from the search query should be highlighted to show relevant matches.

Michelle's Comments:
    I think that there should be a FAQ page, or some sort of quick start guide, accessible from the PolyCat main page. While most students have used library resources, there may be some who are not familiar with technology or a library search system. The PolyCat help page is helpful, but it is more of a description instead of for troubleshooting purposes. We have found through usage and testing that there are many additional functions that PolyCat provides, but they are not listed anywhere on the website (or if they are listed, it is not easily accessible). Many of the buttons were ambiguous as to what their functionality was until testing it out. All functionality of the PolyCat system should be listed and accessible by all users.

In a user interface aspect, perhaps the search help button found on the Word Search page could pop up a new window for someone to reference next to the web browser window instead of jumping to a lower section of the page. Also, search fields could be lined up, such as on the search word page. This makes it easier for the user to follow the organized information on the page. Also there are many different fonts and font sizes on the website, which makes it feel messy.

Phil's Comments:
    In our studies, it has been shown that a small percentage of students regularly use PolyCAT. A small percentage of those people know how to fully utilize the capabilities of PolyCAT which was apparent when we asked the user to perform specific tasks. The results of our evaluation leads us to believe that more people would use the PolyCAT interface if it was updated and simplified. A typical user we evaluated spent several seconds trying to decide which option to choose when searching for a known title. In short, a new user to PolyCAT is initially confused with the bombardment of available options. We have found that a user would have a more enjoyable experience if presented to them much fewer search options. Using PolyCAT on our own, we have found that narrowing all of the available tabs to one tab and search box is entirely feasible. The search engine PolyCAT uses is good at finding relevant information.

Another common complaint from our participants were the crowding of information on the results page. Most, if not all of the participants found the metainfo about the search irrelevant.

Lastly, PolyCAT is a powerful system with any advanced options that most of our participants have never used before. If those options were more easily identifiable, more people would use it and appreciate it.

Craig's Comments:

- I felt the user interface had an overwhelming amount of information based on user responses. Even off-site library pages such as Link+ had a easier user interface menus. In addition, based on responses, the 'Live Chat' function in Polycat seems intimidating. A majority of users requested to skip the tasks regarding registering for live chat after finding the entrance to it.

- I also have concerns for the pre-filters used in searches. I recommended post searches because if one gets overwhelmed with a lot of information, one should add filters after to narrow the search down. Polycat does not allow this. Instead, a user must press back, or retype more keywords in the search field, and that results in an entirely new search.

- I've noticed through my testing with Polycat, several places where users cannot navigate backwards. Places like the Interlibrary Loans link, the 'live chat' page, or the Link+ doesn't allow users to see their recent search results. One of our users asked if they were to ask a question involving their search results, how would one refer to the results if the page changed after clicking on 'live chat'?

- In addition, most users turned to us and asked 'what is this?' regarding features. Poor explanations for powerful features such as the 'Saved Marked' , 'Live Chat' and items associated causes users to ignore the feature.

Project Presentation Summary:

Our presentation focused on two points:

1. The inconsistency and flaws users pointed out when they were evaluated

2. Our proposed solution based on our study

Our presentation material was based on the observations we saw in surveying not only other people, but each other as well. After we took the surveys, we brainstormed ideas on how to improve the overall layout of PolyCAT.

1. Inconsistency and Flaws

When the user is initially presented with the starting page of PolyCAT, we noticed that he/she is usually overwhelmed with the amount of available options. The available tabs, and the limit options are used as pre-filters, which we found unnecessary since the majority of our users used this option to post-filter their results. When users were using PolyCAT, the majority would ignore all of the pre-filtering options and immediately type in a key word. When a large amount of results were appear, he/she would then hit the back key to go to the original page and then use the filters. We noticed that this caused extra actions and time being spent, when it would have been must easier to just create a post-filter for the results. It was also noted that in rare cases, a user can use all of the available pre-filters and accidentally filter out the result they were actually searching for!

The navigation design structure of Polycat poses several inconsistencies. On the main window, Polycat shows several icons as navigation. As the user navigates away from the homepage, the links sporadically changes causing slight confusion. Links would either disappear or reappear depending on the page. Some users clicking on 'Library Home' expected to return to the Polycat home screen, but they were linked to the library's homepage on the Internet instead. In addition, the icon for Library Home becomes click-able on some pages, and not for others. The Polycat icon should be a click-able to return back to the homepage, but it's not. Our results show that confusion in the navigation often adds to frustration and causes users to spend extra time on the computer.

After users performed searches, they encountered a search result page comprised of basic HTML tables. From a design perspective, our team felt that it did not match the design style of the main Polycat window, and the text displayed was too cluttered. Some users expressed that they were a little overwhelmed with a lot of information, and they had to navigate backwards a lot to look at other search results to record information requested. Although the users navigated through the results correctly and identified the call number for the book found, our team felt that a more efficient way of presenting the

information exists.

When the user becomes confused or runs into a problem, we asked users to to access a Help link for more information. Navigating to the link caused slight confusion. While the help link is normally found at the right end of the list of common links, PolyCat shows it as the left-most link in header area. The help page itself has an organization of links at the top of the page that references details in lower areas on the same page. Adding numbers next to the links may add a better sense of organization to the help page. When the link is clicked, the help page is displayed in the same browser window, causing users to navigate backwards if they want their search results again. We found that the help page is should pop up in a new window so that the user can reference it without losing information on the page they were originally at.

We have several comments through usability testing stating that the 'Help' link was not very helpful overall when the user runs into a problem and needs help troubleshooting. The help page gave too much of a general description of certain aspects of PolyCat as well as additional functionality.
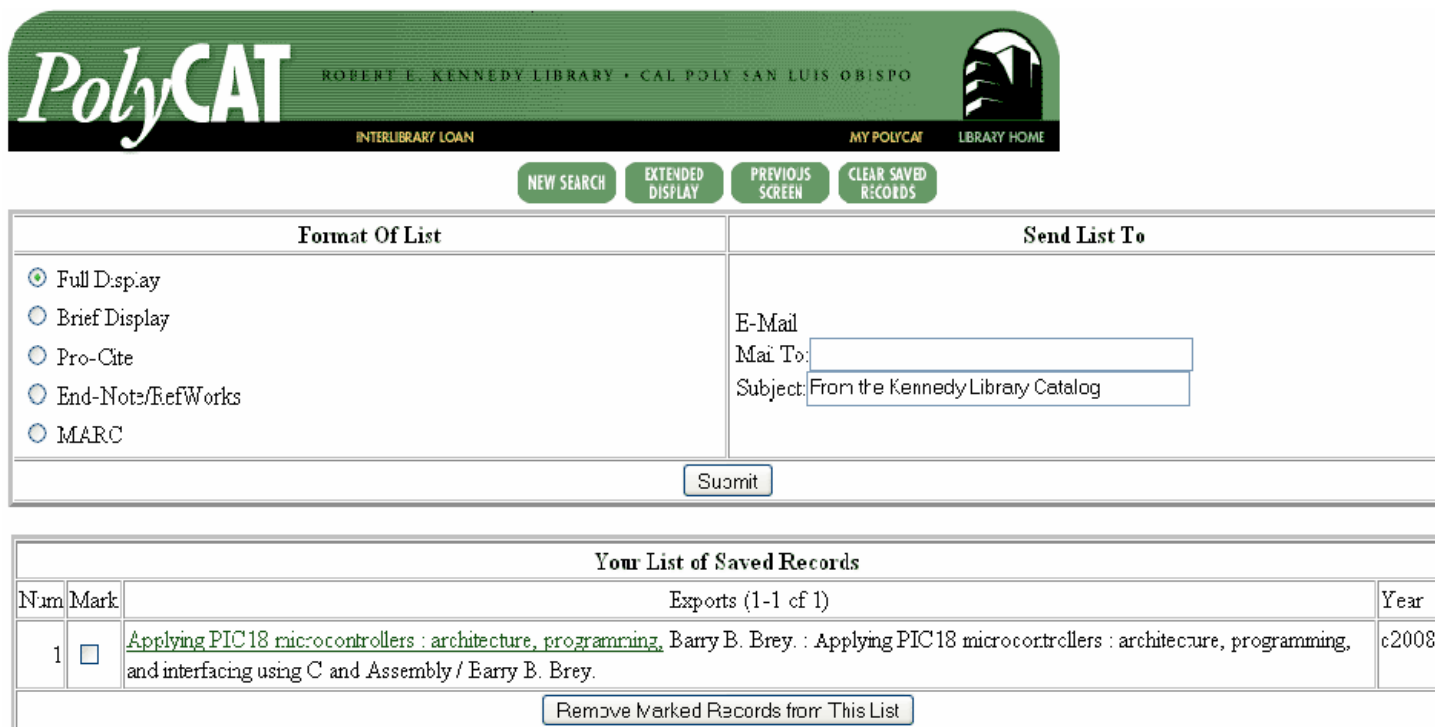

figure 1a

Polycat has very powerful features available to the user. But due to lack of online documentation/explanations the user gets frustrated at looking for directions so they end up ignoring it. Of many powerful features, the 'Save Marked Feature' was one that we asked some users to experiment on (*figure 1a*). The 'Saved Marked Feature' is a HTML-based feature to save user selected search results to later email. When encountering the task, a lot of users turned around and asked us how to use it. We simply responded, can you try and find out how, experiment, or you can skip to the next step if you wish. The results varied evenly. We also asked users to look at the "Format Of List" table to see what each term means. None were able to do so. Users also experienced a page loading error when navigating backwards from this link. Based on our study, we feel a brief explanation on the side could help users understand and use this feature more effectively.

Interlibrary *Services* is also a feature that has a high learning curve due to lack of online explanations. Most users that tried the feature simply gave up after their card information did not work. One person commented later saying they would rather look for another book option rather than search other libraries. Users also experienced a page loading error when navigating backwards from this link.

The '*Live Chat*' feature we asked users to experiment on, led users to an off-site webpage with a lot of text and information to fill in. One of the users asked us: 'Can I just move on or do I need to fill in this stuff?'. We responded if it bothers you, then you do not have to proceed, however if you want, you can try and login to the '*Live Chat*'. A large number of our participants chose to not enter the information, showing us that the directions might be too cluttered and intimidating.

Link+ was the final feature we asked some users to experiment with. It was an off-site page with a brief description on Polycat as: " for books?". From Polycat, users were confused immediately on how to proceed. By pressing the link, users were sent to a off-site page and allowed to search for books. Due to lack of descriptions on how Link+ is associated with Kennedy Library, most users proceed to the next task indicating a problem in intuitive design.

2. Our proposed solution

Based on research, our team formulated several improvements for a redesign in Polycat's user interface. The following screenshots shows our ideas represented in a prototype version of Polycat.
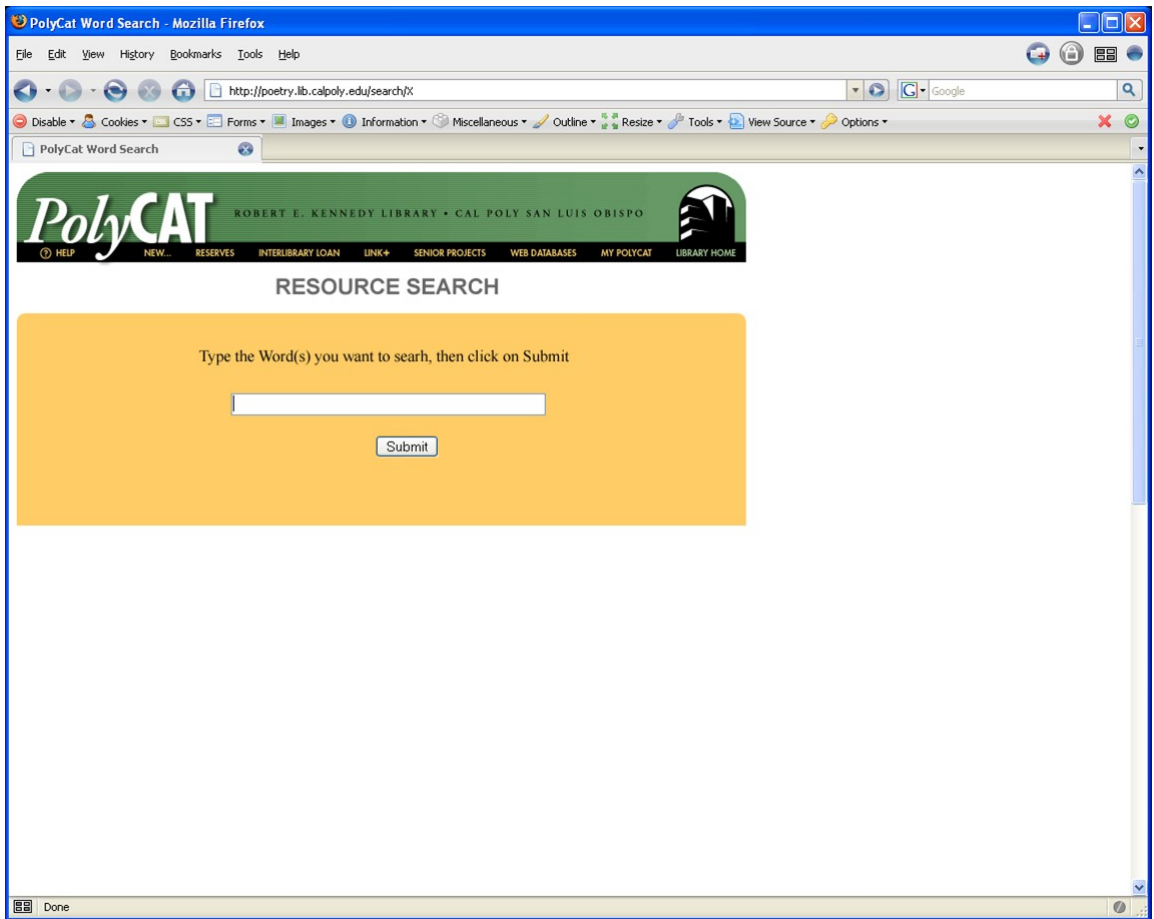
figure 2a

A simplified search for the homepage will be the main change from the former version Polycat's user interface (*figure 2a*). There will no longer be pre-filters for "Word", "Author", ect. Instead, the filters are implemented as post-filters after the search query to help users narrow down results.
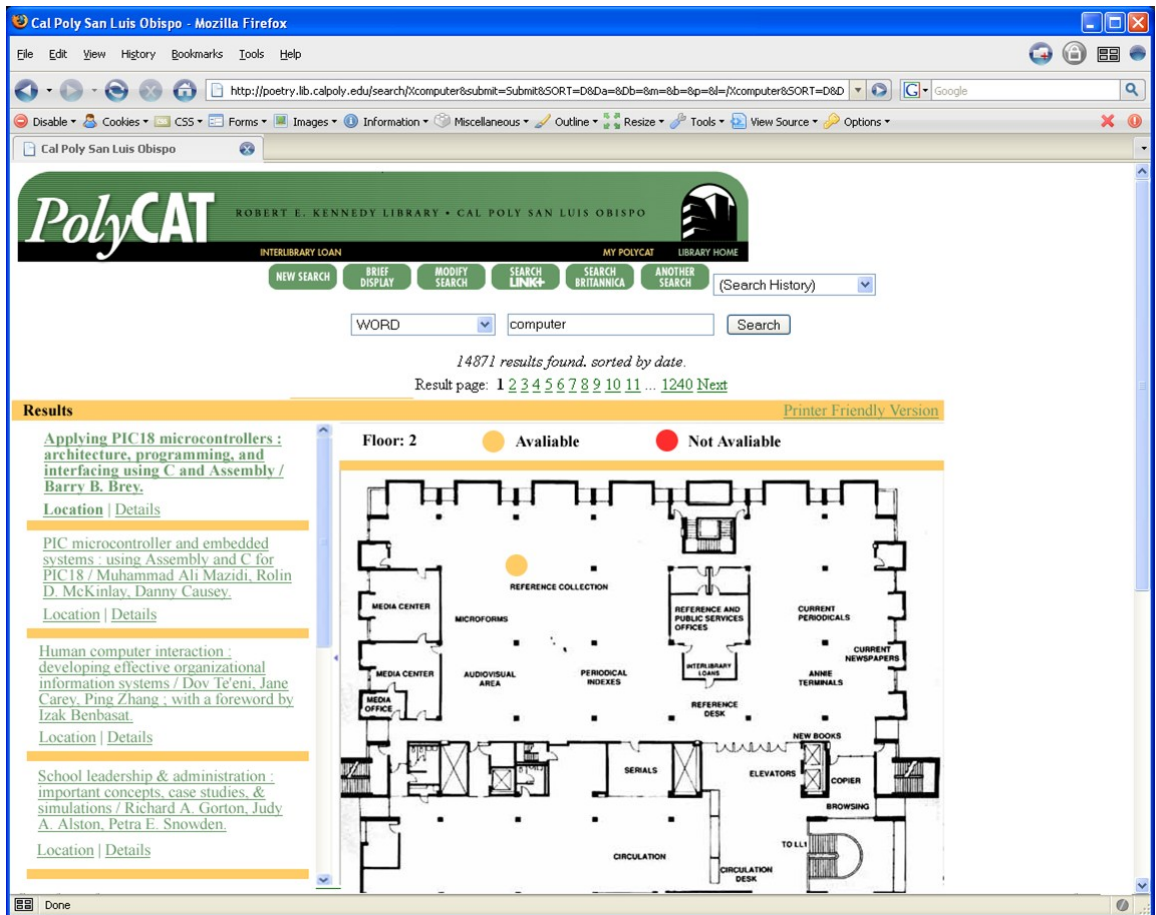
figure 2b

The new interface displaying search results will have a uniform color scheme and layout in conjunction with the main window (*figure 2b*). The search results will no longer be presented with basic HTML tables. They will instead be summarized and presented in a list on the left hand frame. A library map will be displayed for book results on the right hand frame. It will show the book's location in the library along with availability. When the user selects the "*Details*" button, the page will replace the frame showing the map with another frame showing the details, allowing the user to write down miscellaneous information regarding the book.
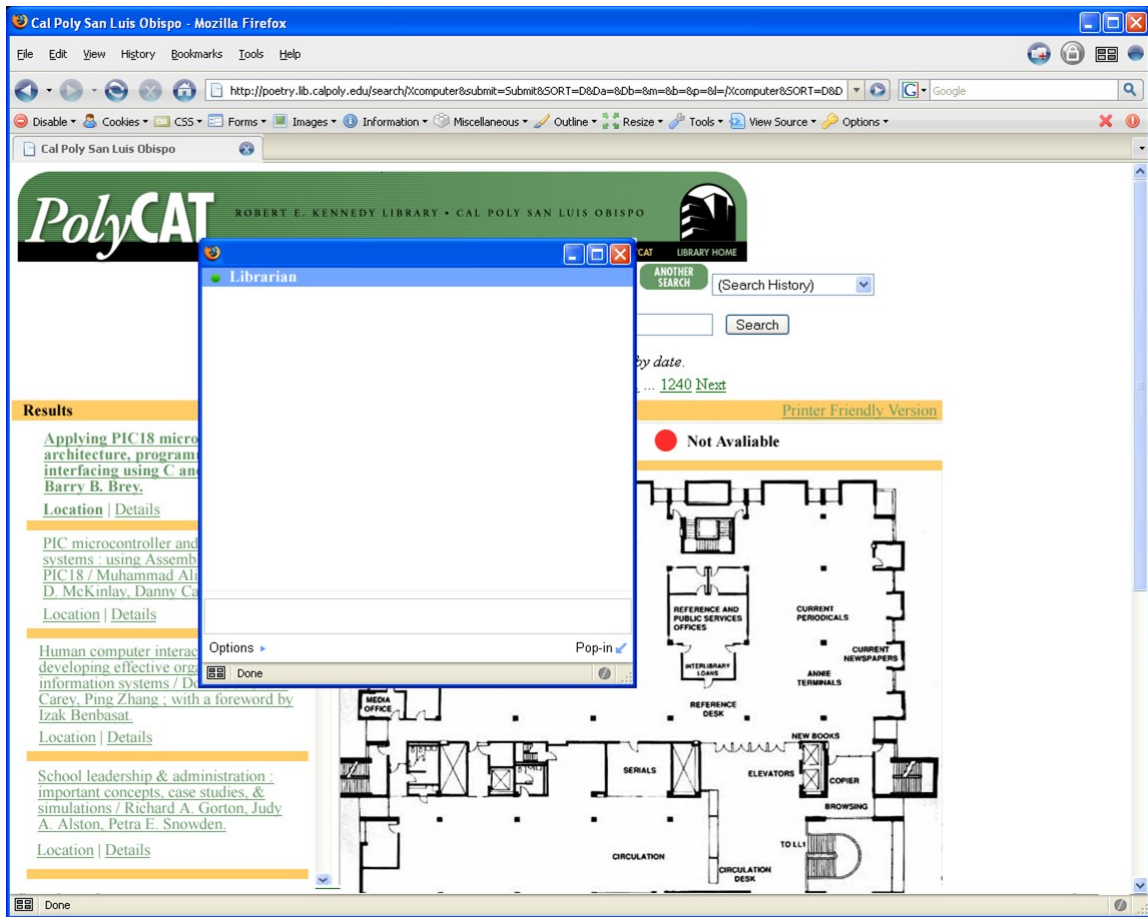
figure 2c

Polycat's '*Live Chat*' feature would be redesigned to have a internal or pop-up widget so users can chat to a live librarian rather than go to a off-site webpage (*figure 2c*). There are a lot of free/paid software available to implement this feature, and the librarian could be a live in-house employee at the help desk. This feature keeps the results on the main window, allowing a user to ask questions about his/her search results while staying in contact with the librarian.

Polycat will also have a redesigned help page with descriptions on relevant descriptions on features and functions available. Help icons with brief pop-up windows will be available next to every link to an off-site weblink.

Our team hopes that our new modified version of Polycat would significantly improve user experiences and provide a more functional and efficient upgrade.