

User Testing

TESTING APPROACH

In order to assess the user experience and take it into account when designing the prototype, I have chosen one of the digital libraries proposed in the case study. I have chosen this specific application because, after all the studies conducted earlier, I believe it meets many of the criteria we are looking for, and it seems like a good starting point for designing the prototype.

Next, I have selected two of the requirements proposed in the case that, due to their characteristics, seem particularly relevant to me when designing the digital library. Specifically, these are the two requirements for which I have previously created flowcharts.

For each of these requirements, I have proposed three tasks that the selected users should perform actively. That is, during the process, they will take note of the ease or difficulty encountered, paying special attention to the points that they find most challenging. Furthermore, they are required to, if possible, perform the three tasks consecutively, so that we can verify if there might be any issues when restarting the search criteria.

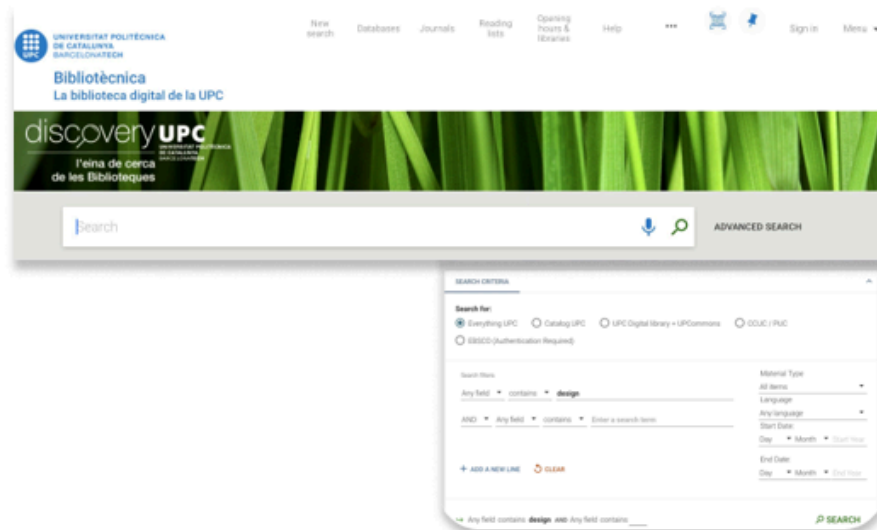
Finally, each of them will use a different device to perform the tasks: desktop, tablet, and mobile.

Subsequently, they will complete a brief survey, evaluating each of the aspects they are asked about. At the same time, they can provide comments related to these aspects that they believe can be helpful for improving the design.

Reference application

Biblioteca de la Universitat Politècnica de Catalunya (UPC)

<https://biblioteca.upc.edu/>



REQUIREMENTS AND TASK PROPOSED

Advanced Search

Task 1

We have a book on our shelf that we use frequently, and it's so worn out that it's quite uncomfortable to use. We would like to know if we could find this book in the digital library.

Task 2

We have a book written by an author we find interesting, but we would like to know if this author has made more publications of any kind (books, essays, articles, etc.).

Task 3

We are conducting a study and need to find three or four recent books on a specific topic related to our profession or studies (the user can choose the topic they deem appropriate).

SURVEY

1. Have you found it difficult to locate the access to the advanced search from the main screen?
☐ No ☐ A little ☐ Yes
2. What groups of criteria have you used? (you can select multiple)
☐ Search Filters ☐ Material Type ☐ Language ☐ Date range
3. If you needed to use multiple criteria at the same time, did you find it difficult to do so?
☐ No ☐ A little ☐ Yes
4. Have you used boolean options to combine criteria (AND, OR, etc.)?
☐ Yes ☐ Yes, but it was hard ☐ I did not need it ☐ I did not know how to do it.
5. Have you applied filters to the obtained results?
☐ Yes ☐ Yes, but it was hard ☐ I did not need it ☐ I did not know how to do it.
6. What did you think of the list of items found when selecting what you were looking for?
☐ Quite clear ☐ A bit confusing ☐ Very confusing ☐ Were not what I expected
7. Have you been able to complete all the tasks?
☐ Yes ☐ Yes, with a little help ☐ No, I could not complete task(s) ____
8. Did you find it challenging to restart the search when moving to the next proposed task?
☐ No ☐ Yes, a little ☐ Yes, it was very difficult
9. Was there any action that you found difficult to locate?
☐ No ☐ Yes: _____
10. Have you encountered issues related to accessibility?
☐ insufficient contrast ☐ font too small ☐ icons too small ☐ icons too close
☐ others: _____

User Testing

REQUIREMENTS AND TASK PROPOSED

Search History and Saved Queries requirement

Task 1

We have been conducting quite a few searches, and in one of them, we saw a book that might interest us. We need to check the search history to try to locate it.

Task 2

We need to locate several books related to a study we are conducting, but we do not have time now to review them. So, to get ahead, we will initiate a search and save the criteria used to retrieve them at another time.

**** On this website, there is no option to save search criteria, so I have set this task as a test to ensure that users complete the others and also navigate through the page's options. ****

Task 3

The day has come when we can dedicate time to review the books we found in one of the searches we saved, so we need to retrieve it. Please try to do that now. Then, try adding more search filters.

SURVEY

1. Have you found it difficult to locate the access to the search history?
☐ No, it was easy ☐ Just a bit ☐ Yes, it was difficult
2. Did you manage to retrieve and reuse any search from the history?
☐ Yes, it was easy ☐ Yes, but it was difficult ☐ No, I could not do it
3. Have you found it difficult to locate the access to the saved queries?
☐ No, it was easy ☐ Yes, it was difficult ☐ Yes, I needed help
4. Did you find the search you were looking for?
☐ Yes, it was easy ☐ Yes, but it was difficult ☐ No, I could not do it
5. Were you able to add additional search criteria?
☐ Yes, it was easy ☐ Yes, but it was difficult ☐ No, I could not do it
6. Have you been able to complete all the tasks?
☐ Yes ☐ Yes, with a little help ☐ No, I could not complete task(s) ____
7. Was there any action that you found difficult to locate?
☐ No ☐ Yes: _____
8. Have you encountered issues related to accessibility?
☐ insufficient contrast ☐ font too small ☐ icons too small ☐ icons too close
☐ others: _____

Extra question:

After completing the six tasks, what aspects do you think could be improved that may not be covered in the questions you've answered before?

User Testing

"Lola"



Behaviours

- Takes care of her diet
- Do exercise twice a week
- Tends to be reserved
- Is very emotional
- Really enjoys her job
- Very busy

This user has completed the tasks searching for documentation related to her work as a psychologist.

The device she used is a **smartphone**.

Demographics

- Psychologist
- 52 years old
- Lives in Alicante
- Married, 2 kids
- Household 20k-25k/yr

Needs & Goals

- Time to take care of herself
- Would like to work in just one place
- would like to be one of the best in her field

SURVEY: Advanced Search tasks

1. Have you found it difficult to locate the access to the advanced search from the main screen?
☐ No ☐ A little ☒ Yes
2. What groups of criteria have you used? (you can select multiple)
☒ Search Filters ☒ Material Type ☒ Language ☐ Date range
3. If you needed to use multiple criteria at the same time, did you find it difficult to do so?
☒ No ☐ A little ☐ Yes
4. Have you used boolean options to combine criteria (AND, OR, etc.)?
☒ Yes ☐ Yes, but it was hard ☐ I did not need it ☐ I did not know how to do it.
5. Have you applied filters to the obtained results?
☐ Yes ☐ Yes, but it was hard ☒ I did not need it ☐ I did not know how to do it.
6. What did you think of the list of items found when selecting what you were looking for?
☒ Quite clear ☐ A bit confusing ☐ Very confusing ☐ Were not what I expected
7. Have you been able to complete all the tasks?
☒ Yes ☐ Yes, with a little help ☐ No, I could not complete task(s) ____
8. Did you find it challenging to restart the search when moving to the next proposed task?
☒ No ☐ Yes, a little ☐ Yes, it was very difficult
9. Was there any action that you found difficult to locate?
☐ No ☒ Yes: The link to advanced search and the options in the dropdown menus.
10. Have you encountered issues related to accessibility?
☐ insufficient contrast ☐ font too small ☐ icons too small ☐ icons too close
☐ others: _____

SURVEY: Search History and Saved Queries tasks


1. Have you found it difficult to locate the access to the search history?
☒ No, it was easy ☐ Just a bit ☐ Yes, it was difficult
2. Did you manage to retrieve and reuse any search from the history?
☒ Yes, it was easy ☐ Yes, but it was difficult ☐ No, I could not do it
3. Have you found it difficult to locate the access to the saved queries?
☐ No, it was easy ☒ Yes, it was difficult ☐ Yes, I needed help
4. Did you find the search you were looking for?
☒ Yes, it was easy ☐ Yes, but it was difficult ☐ No, I could not do it
5. Were you able to add additional search criteria?
☒ Yes, it was easy ☐ Yes, but it was difficult ☐ No, I could not do it
6. Have you been able to complete all the tasks?
☐ Yes ☐ Yes, with a little help ☐ No, I could not complete task(s) 2
7. Was there any action that you found difficult to locate?
☒ No ☐ Yes: _____
8. Have you encountered issues related to accessibility?
☐ insufficient contrast ☐ font too small ☐ icons too small ☐ icons too close
☒ others: Sometimes the texts of the options overlapped or appeared cut off.

Extra question:

After completing the six tasks, what aspects do you think could be improved that may not be covered in the questions you've answered before?

I haven't been able to save my favorite search criteria.

User Testing

<p>"Carla"</p> 	<p>Behaviours</p> <ul style="list-style-type: none"> • Not very tolerant of mistakes • Do exercise twice a week • Sometimes works as an actress • Tends to be reserved • Very talented visual artist
<p>Demographics</p> <ul style="list-style-type: none"> • Medical student • 18 years old • Lives in Alicante • In a relationship • Household 2k-5k/yr 	<p>Needs & Goals</p> <ul style="list-style-type: none"> • To be the best psychiatrist • To work in a musical • To have enough time for herself

This user has completed the tasks searching for documentation related to her higher studies in medicine.

The device they used is a **Desktop PC**.

SURVEY: Advanced Search tasks

1. Have you found it difficult to locate the access to the advanced search from the main screen?
☒ No ☐ A little ☐ Yes
2. What groups of criteria have you used? (you can select multiple)
☒ Search Filters ☒ Material Type ☒ Language ☒ Date range
3. If you needed to use multiple criteria at the same time, did you find it difficult to do so?
☒ No ☐ A little ☐ Yes
4. Have you used boolean options to combine criteria (AND, OR, etc.)?
☐ Yes ☐ Yes, but it was hard ☐ I did not need it ☒ I did not know how to do it.
5. Have you applied filters to the obtained results?
☒ Yes ☐ Yes, but it was hard ☐ I did not need it ☐ I did not know how to do it.
6. What did you think of the list of items found when selecting what you were looking for?
☒ Quite clear ☐ A bit confusing ☐ Very confusing ☐ Were not what I expected
7. Have you been able to complete all the tasks?
☒ Yes ☐ Yes, with a little help ☐ No, I could not complete task(s) ____
8. Did you find it challenging to restart the search when moving to the next proposed task?
☒ No ☐ Yes, a little ☐ Yes, it was very difficult
9. Was there any action that you found difficult to locate?
☒ No ☐ Yes: _____
10. Have you encountered issues related to accessibility?
☐ insufficient contrast ☐ font too small ☐ icons too small ☐ icons too close
☐ others: _____

SURVEY: Search History and Saved Queries tasks

1. Have you found it difficult to locate the access to the search history?
☐ No, it was easy ☐ Just a bit ☒ Yes, it was difficult
2. Did you manage to retrieve and reuse any search from the history?
☒ Yes, it was easy ☐ Yes, but it was difficult ☐ No, I could not do it
3. Have you found it difficult to locate the access to the saved queries?
☐ No, it was easy ☒ Yes, it was difficult ☐ Yes, I needed help
4. Did you find the search you were looking for?
☒ Yes, it was easy ☐ Yes, but it was difficult ☐ No, I could not do it
5. Were you able to add additional search criteria?
☒ Yes, it was easy ☐ Yes, but it was difficult ☐ No, I could not do it
6. Have you been able to complete all the tasks?
☐ Yes ☐ Yes, with a little help ☒ No, I could not complete task(s) 2
7. Was there any action that you found difficult to locate?
☒ No ☐ Yes: _____
8. Have you encountered issues related to accessibility?
☐ insufficient contrast ☐ font too small ☐ icons too small ☐ icons too close
☐ others: _____

Extra question:

After completing the six tasks, what aspects do you think could be improved that may not be covered in the questions you've answered before?

I would change the filtering system after the search because the options are grouped according to the contents of the results, but I haven't found the possibility to apply preset filters.

On the other hand, I only knew that there was a search history because the task indicated it. In the end, I found it within a menu, but it took me some effort

User Testing

"Álvaro" 	Behaviours <ul style="list-style-type: none"> • Do exercise every day • Quite friendly • Is very emotional • Likes computer games • Very good musician
Demographics <ul style="list-style-type: none"> • High school student • 14 years old • Lives in Alicante • Single • Household 0k/yr 	Needs & Goals <ul style="list-style-type: none"> • To be a teacher when he grows up • To have a luxury sports car • To be a child forever

This user has completed the tasks searching for documentation related to his high school studies.

The device they used is a **tablet**.

SURVEY: Advanced Search tasks

- Have you found it difficult to locate the access to the advanced search from the main screen?
☒ No ☐ A little ☐ Yes
- What groups of criteria have you used? (you can select multiple)
☒ Search Filters ☐ Material Type ☐ Language ☐ Date range
- If you needed to use multiple criteria at the same time, did you find it difficult to do so?
☐ No ☒ A little ☐ Yes
- Have you used boolean options to combine criteria (AND, OR, etc.)?
☐ Yes ☒ Yes, but it was hard ☐ I did not need it ☐ I did not know how to do it.
- Have you applied filters to the obtained results?
☒ Yes ☐ Yes, but it was hard ☐ I did not need it ☐ I did not know how to do it.
- What did you think of the list of items found when selecting what you were looking for?
☐ Quite clear ☐ A bit confusing ☐ Very confusing ☐ Were not what I expected
- Have you been able to complete all the tasks?
☐ Yes ☒ Yes, with a little help ☐ No, I could not complete task(s) ____
- Did you find it challenging to restart the search when moving to the next proposed task?
☐ No ☒ Yes, a little ☐ Yes, it was very difficult
- Was there any action that you found difficult to locate?
☐ No ☒ Yes: I couldn't see the clear criteria button because it was outside the screen.
- Have you encountered issues related to accessibility?
☐ insufficient contrast ☐ font too small ☐ icons too small ☐ icons too close
☒ others: Sometimes the options in the dropdown menus weren't displayed.

SURVEY: Search History and Saved Queries tasks

- Have you found it difficult to locate the access to the search history?
☐ No, it was easy ☐ Just a bit ☒ Yes, it was difficult
- Did you manage to retrieve and reuse any search from the history?
☒ Yes, it was easy ☐ Yes, but it was difficult ☐ No, I could not do it
- Have you found it difficult to locate the access to the saved queries?
☐ No, it was easy ☒ Yes, it was difficult ☐ Yes, I needed help
- Did you find the search you were looking for?
☒ Yes, it was easy ☐ Yes, but it was difficult ☐ No, I could not do it
- Were you able to add additional search criteria?
☒ Yes, it was easy ☐ Yes, but it was difficult ☐ No, I could not do it
- Have you been able to complete all the tasks?
☐ Yes ☐ Yes, with a little help ☒ No, I could not complete task(s) 2
- Was there any action that you found difficult to locate?
☐ No ☒ Yes: search history
- Have you encountered issues related to accessibility?
☐ insufficient contrast ☐ font too small ☐ icons too small ☐ icons too close
☐ others: _____

Extra question:

After completing the six tasks, what aspects do you think could be improved that may not be covered in the questions you've answered before?

I couldn't find access to the search history and had to ask someone else to locate it.

I also didn't find a way to save search criteria for later use.

User Testing

ANALYSIS

Overall, it seems that there haven't been too many issues in completing the tasks proposed by users from different backgrounds and age ranges, using different devices.

However, there are certain aspects where everyone has agreed; for example, the location of the search history access or the impossibility of saving search criteria, which, even though it was a 'trap' task, we must consider as a requirement for our prototype.

There has also been a user who was not familiar with or didn't know how to use boolean criteria in advanced search.

As for the difference in usage when accessing from different devices, users who accessed with mobile devices have complained that options overlapped or were positioned outside the screen. In some cases, they managed to find the element by rotating the device. Apparently, this digital library does not fully adhere to the first universal principle of equitable use.

However, users have highly appreciated the readability, arrangement of different elements, and the ease of achieving objectives, finding what they were looking for quickly and without too many steps.

CONCLUSIONS

From this analysis, we can draw certain conclusions that I list below and that would be advisable to take into account when designing our digital library prototype:

- It is important to place access to the search history at the forefront, rather than hiding it in a menu of generic options.
- We must not forget the option to save search criteria for later use. Users have indicated that this would be a very useful feature.
- We should ensure that accessing the library does not present issues related to the device used.
- Overall, users have highly appreciated the fact that, even though it's an advanced search, very few steps were needed to carry it out successfully.
- No user has complained about difficulties in reading or the icons used to represent actions. From this, we can deduce that good use has been made of typography, colors, and icon designs.