

**POLITECNICO
MILANO 1863**

HYPERMEDIA APPLICATION:

WEB AND MULTIMEDIA

BOOKSTORE PROJECT

Usability Evaluation Report

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1 Introduction

1.1 Revision History

Version	Date	Authors	Summary
1.0	20/06/2019	Davide Avanzi, Francesca Bernecich, Fabrizio Carsenzuola	Final review
0.1	20/05/2019	Davide Avanzi, Francesca Bernecich, Fabrizio Carsenzuola	Living document

1.2 Abstract

This document reports our evaluations on the usability of the web application we developed. The target audience of this document are the future developers of the system, as well as the project owner, prof. Garzotto.

1.3 Reference documents

- “HYP_2018_19_PROJECT_SPECIFICATIONS.pdf”: Project assignments
- “PROJECT THEME HYP2018-19 - FRONT END TECH - Till July 2019.pdf”: Front-end document specifications / C-IDM
- “project-manual.pdf”: Back-end document specifications
- “USABILITY EXAM AND REPORT.pdf”: specifications on the usability report to deliver

2 Usability evaluation: heuristic inspection

2.1 Inspection

Figure 1: C-IDM

2.2 Results

Figure 2: C-IDM

3 Usability evaluation: empirical testing

To further prove the results of our analysis, we conducted some empirical tests. We'll report in this section how we crafted and carried out the test, along with its results.

3.1 Goal

We conducted this usability evaluation to test whether our website was easy to use by the target audience we selected, with the purpose to reveal confusing experiences which may reveal bugs or other issues with our application.

3.2 Test definition

The empirical test we conducted consists in a series of tasks that a group of users had to complete in the website while being compliant to a set of rules and with the screen being recorded. We'll provide here a summary of the test and how it has been defined.

3.2.1 Audience profile

We decided to take as reference audience the profile of the user we think will use our website the most: the college student (age 20-25), with a passion for reading books and an overall knowledge of the web and online shopping platforms. We then recruited five different users of this kind and asked them to perform our test.

3.2.2 Participant profiles

Participant #	Age	Gender	Education
1	24	Male	Bachelor Degree
2	23	Female	Bachelor Student
2	24	Male	Bachelor Degree
3	20	Female	Bachelor Student
4	24	Female	Bachelor Degree

Table 1: Participant profiles

3.2.3 Rules

These were the rules each user had to follow: failing in respecting those rules would have revealed great flaws in the design of the website.

1. You should continue to work on each task until you either complete it or reach the point at which you give up/wrong answer or seek assistance.
2. You have three attempts to complete the tasks. You can also have one tip from the supervisor. If you can't complete theme within the first three attempts, please report it in the evaluation form.
3. You have at most 4 minutes to solve each task. If you can't complete them within the first four minutes, please report it in the evaluation form.

3.2.4 Tasks

1. Suppose you want to buy some books, before doing so you need to be logged in: complete the registration procedure and create one account for yourself, then login.
2. Suppose you want to buy a book for your friend that likes a lot Tolkien but already owns The Lord of The Rings. Find another suitable book add it to your cart.
3. Before buying Child of Time, suppose you want to know more about one of the two writers of this book (Robert Silverberg): have a look at his biography.
4. Suppose you want also to read about JK Rowling: reach her page and get to her biography.
5. Suppose you change your mind and you don't want to buy a book: remove it from your cart.
6. Suppose you want to participate to an event. You like a lot wizards stories. Find a suitable event for you and get more informations about it.
7. You are finally done: perform the logout from the system.

3.2.5 Questions

These are the questions we asked to the user who completed the tasks. Each question is defined with a linear scale answer from 1 to 10, ranging from “strongly disagree” to “strongly agree”. At the end of the test we collected suggestions and thoughts from the users.

1. Overall, these tasks were difficult
2. The language of the tasks you were given was easily understood
3. The content (including images) was easy to understand
4. The pages of the website were fast to load (in average)
5. The texts in the website pages were useful to complete your tasks
6. The text in the website pages were relevant about the topics dealt with
7. I could quickly get to know the structure of the site
8. The organization of the site was clear
9. Under each section the site was well organized
10. It was easy to find the information that I needed
11. I got what I expected when I clicked on things on this website
12. The site helped me to find what I am looking for
13. Using this website was effortless
14. Using this website made me feel tired
15. The layout of the pages was consistent
16. The colours helped me to distinguish different sections or actions
17. The highlighted areas helped me to find what I was looking for
18. I think that I would like to use this website frequently
19. I found this website unnecessarily complex
20. I thought this website was easy to use
21. I think that I would need assistance to be able to use this website
22. I found the various functions in this website were well integrated
23. I thought there was too much inconsistency in this website's designs, layouts or architecture (pretty much anything that bothers you consistency wise)
24. I would imagine that most people would learn to use this website very quickly
25. I found this website very cumbersome/awkward to use
26. I felt very confident using this website
27. I needed to learn a lot of things before I could get going with this website

3.3 Test results

The test results were overall satisfying, all users were able to complete the tasks while being compliant with the rules. We recorded the test sessions and uploaded to a cloud folder, here is the link:

3.3.1 Answers averages

Here we provide two graphs with the average scores, by user and by question.

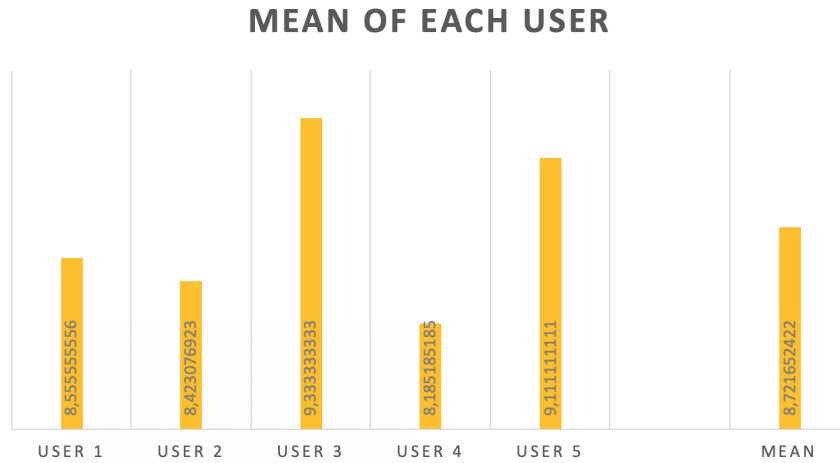


Figure 3: Average score given by each user

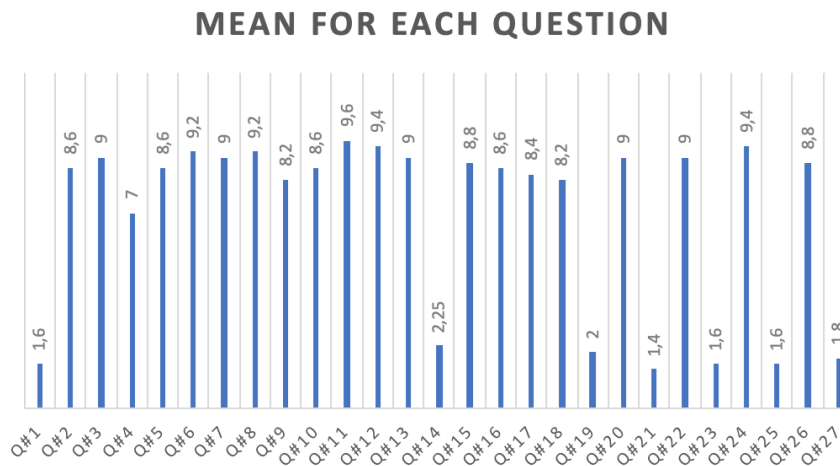


Figure 4: Average answers for each question

3.3.2 Answers breakdown

Here we provide a breakdown of the answers for each question.

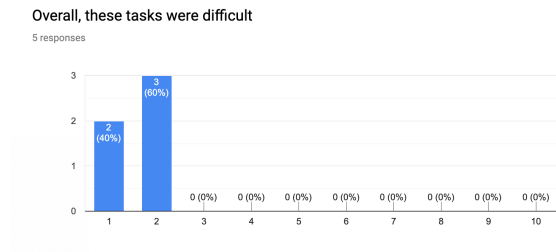


Figure 5: Question 1

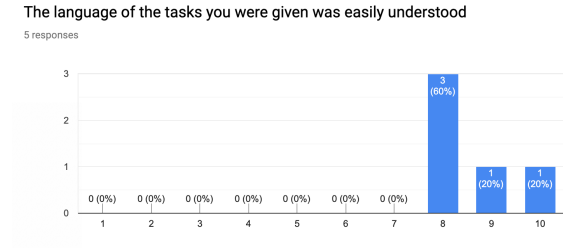


Figure 6: Question 2

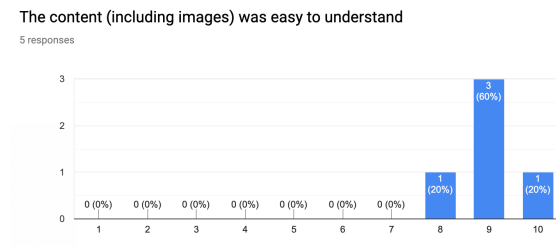


Figure 7: Question 3

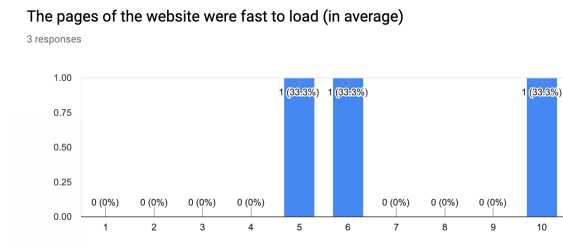


Figure 8: Question 4

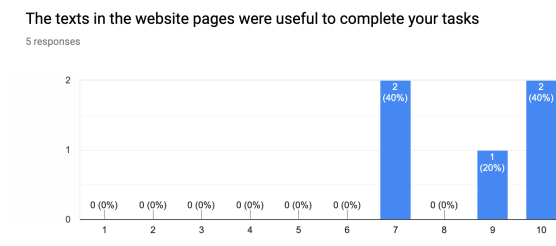


Figure 9: Question 5

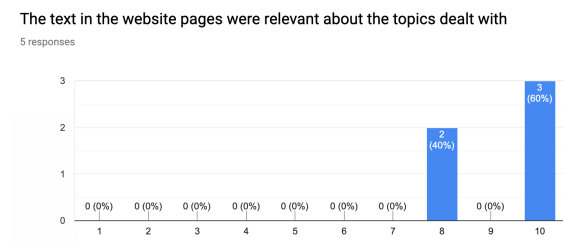


Figure 10: Question 6

I could quickly get to know the structure of the site

5 responses

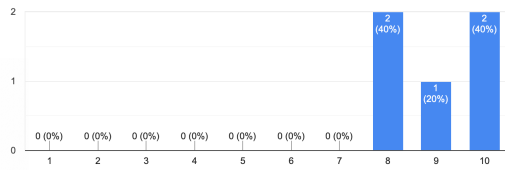


Figure 11: Question 7

The organization of the site was clear

5 responses

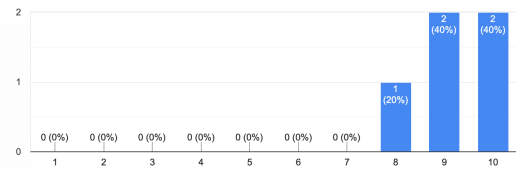


Figure 12: Question 8

Under each section the site was well organized

5 responses

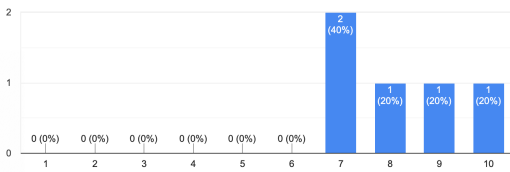


Figure 13: Question 9

It was easy to find the information that I needed

5 responses

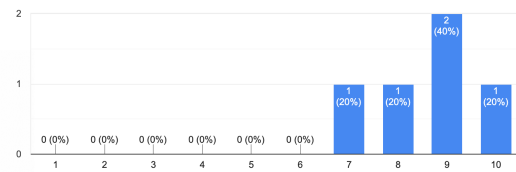


Figure 14: Question 10

I got what I expected when I clicked on things on this website

5 responses

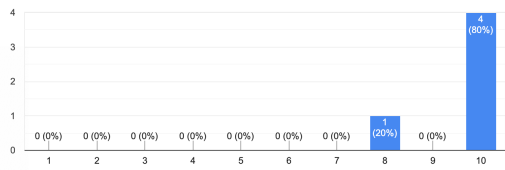


Figure 15: Question 11

The site helped me to find what I am looking for

5 responses

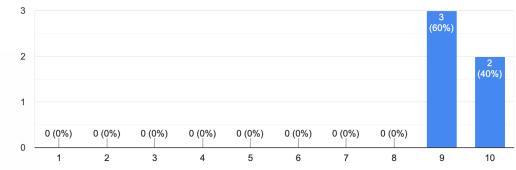


Figure 16: Question 12

Using this website was effortless

5 responses

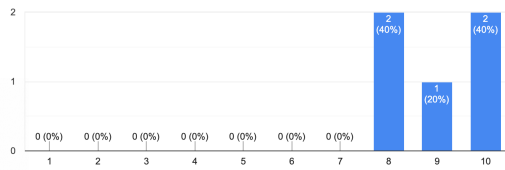


Figure 17: Question 13

Using this website made me feel tired

4 responses

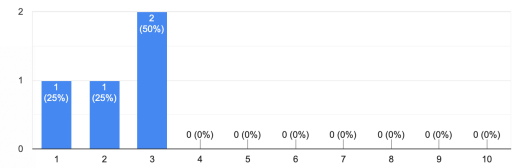


Figure 18: Question 14

The layout of the pages was consistent

5 responses

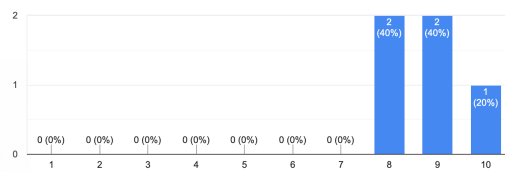


Figure 19: Question 15

The colours helped me to distinguish different sections or actions

5 responses

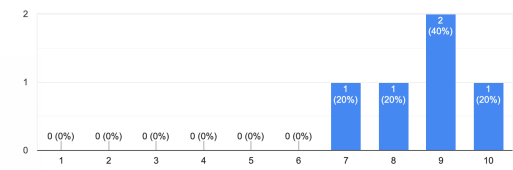


Figure 20: Question 16

The highlighted areas helped me to find what I was looking for

5 responses

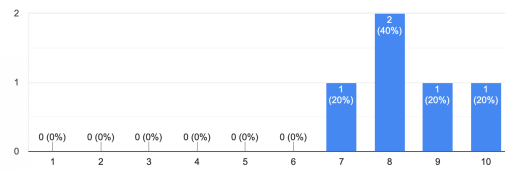


Figure 21: Question 17

I think that I would like to use this website frequently

5 responses

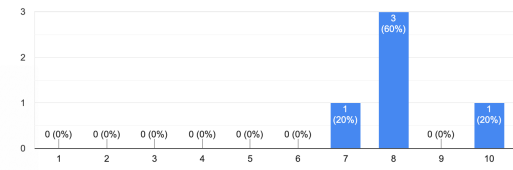


Figure 22: Question 18

I found this website unnecessarily complex

5 responses

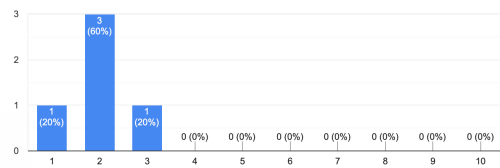


Figure 23: Question 19

I thought this website was easy to use

5 responses

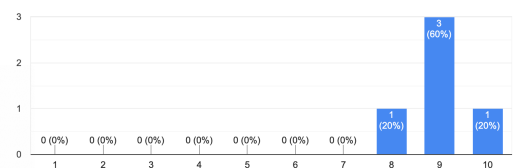


Figure 24: Question 20

I think that I would need assistance to be able to use this website

5 responses

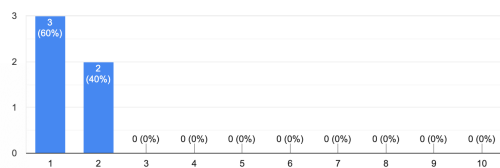


Figure 25: Question 21

I found the various functions in this website were well integrated

5 responses

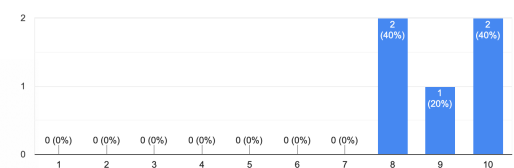


Figure 26: Question 22

I thought there was too much inconsistency in this website's designs, layouts or architecture (pretty much anything that bothers you consistency wise)

5 responses

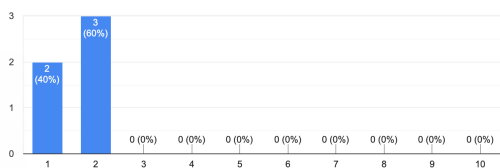


Figure 27: Question 23

I would imagine that most people would learn to use this website very quickly

5 responses

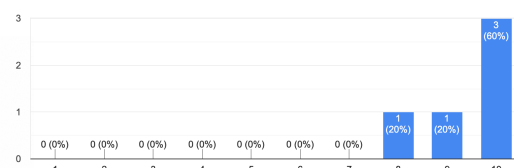


Figure 28: Question 24

I found this website very cumbersome/awkward to use

5 responses

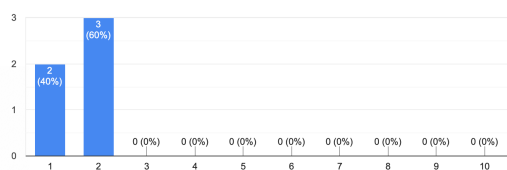


Figure 29: Question 25

I felt very confident using this website

5 responses

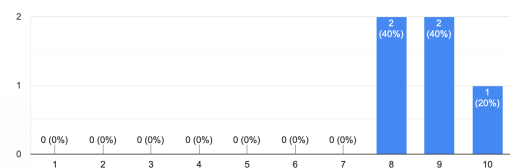


Figure 30: Question 26

I needed to learn a lot of things before I could get going with this website

5 responses

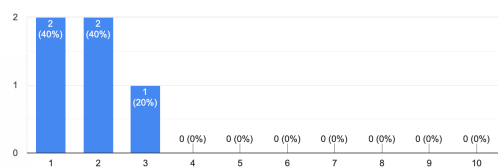


Figure 31: Question 27

3.3.3 Suggestions from the users

These suggestions highlight some issues in the navigation flow that we didn't realize by ourselves:

1. Even though I like the fact there are no useless colours I have to say that some more would be useful, in particular to distinguish some areas on the screen (for example when you click on "books" the work should remain red to allow you to recognise more easily where you are). Second, the text is too small compared to the images. (See "stock", the description of the book and also the description of the event which was far too small). The images drive away too much attention.
2. Add a drop menu under the icon of the person which contains my account (if you're not logged in you would be redirected to the login page) and register.
3. The search of the event was not so intuitive. You may add a section which summarises the topics (e.g. wizards, fantasy, science etc.). When I click on the topic all the relative events open up. Easier for the user, less time consuming and dispersive.
4. In some areas (e.g. event) the font size of the text was too small

3.3.4 Positive comments

1. There are not too much colors, this allows the user to have a clear view on the website.
2. It's simple, clear and without too much useless stuff around. It's user friendly. Nothing is terribly difficult. I think everyone will be able to use it easily. I used it on a PC, don't know about the Smartphone version.
3. I really like that every button/clickable link was in red color, this help me to better use the website

3.3.5 Bugs and issues

The results were very helpful in finding issues in the design of our website, and we are grateful to the users who took part in the test. We also discovered an issue with the overall website: the pages were not loading very fast for most of our users: after analyzing the problem, we found out a speed limit with our custom installation of the server (cloud VPS). We didn't discover this issue before because the developement environment was kept local in our machines.

4 Conclusions

We are overall satisfied with the results of both the heuristic inspection and the empirical test we conducted, the flaws reavealed from this usability evaluation are valid and represent friction points preventing the user from having a smooth experience while using our website. We are also pleased by the strenghts of our design and simple navigation process to reach all the informations an user may need.