Cooperative Evaluation Project Anobii.com

CS4826 – Human-Computer Interaction
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1. Introduction

This artifact represents the result of a project issued within the module of Human-Computer Interaction (CS4826) at the University of Limerick.

The first part of the project consisted in performing a heuristic evaluation of an interactive system, based on Nielsen's usability heuristics, which are guidelines against with the effectiveness and the efficiency of an interactive system, in terms of usability, can be evaluated.

This is the second part of the project and is based on a different evaluation technique: the **cooperative evaluation**.

The heuristic evaluation has been carried out by a team of experts, which had to recognize usability issues through the hint of guidelines, their expertise and their sensibility towards Human-Computer Interaction and user-centered design aspects. However, the heuristic evaluation doesn't involve the most important thing: the **end-users**. It is its biggest limitation.

Interactive systems are designed for end-users, are evaluated by end-users, are welcomed by end-users, are rejected by end-users and, of course, are used by end-users. For these reasons, there is the need for **user-based evaluation techniques**: the cooperative evaluation is one of them.

These two techniques, namely heuristic evaluation and cooperative evaluation, are complementary. As they are performed by different perspectives (i.e. the expert's perspective and the user's perspective), they provide different results, which can be **analysed and compared** in order to extract a more detailed and useful information about the system. Moreover, the overall contribute can be more than the sum of the single contributes as often the relationships among different elements allow to discover more aspects.

The analysis allows to identify a series of issues. The evaluations are meant to provide a feedback that can be used in order to improve the current version of the system. Hence, the analysed data provides a basis for the issuing of a number of (re-)**design recommendations**.

The cooperative evaluation involves, as we said, the end-users (which effectively are co-evaluators, even if we'll refer to them as "participants" or "users" to disambiguate with us, "evaluators"). Then, it turns out that the **human factor must be considered and managed fastidiously throughout the process**. The understanding and the interpretation of the users' actions is prominent as well as the need to make the situation as more **realistic** as possible. If the users don't behave naturally, the effectiveness of the technique is reduced and it may also end up with misunderstandings.

The cooperative evaluation process is structured as follows:

- **Definition of the crucial tasks** representing the essential interactions
- **Recruitment of participants** representing likely users of the system
- **Observation sessions** where the participants perform the selected tasks on the system and **data is collected**
- **Data analysis** and extraction of **results**

From these results, a set of **design recommendations** are provided, aimed to enhance the system for what concerns usability and interaction effectiveness.

We'll delve into the details of these aspects and of the cooperative evaluation in later sections.

2. The Interactive System to Evaluate: Anobii.com

In this section we provide a short description of the interactive system we are evaluating, i.e. the object of this project: the Anobii website.

In a few words, Anobii is **a social network for book readers and a book retailer**.

   "Our mission is to bring book lovers together and encourage reading."

The name "Anobii" is derived from *Anobium Punctatum*, the latin word from bookworm.
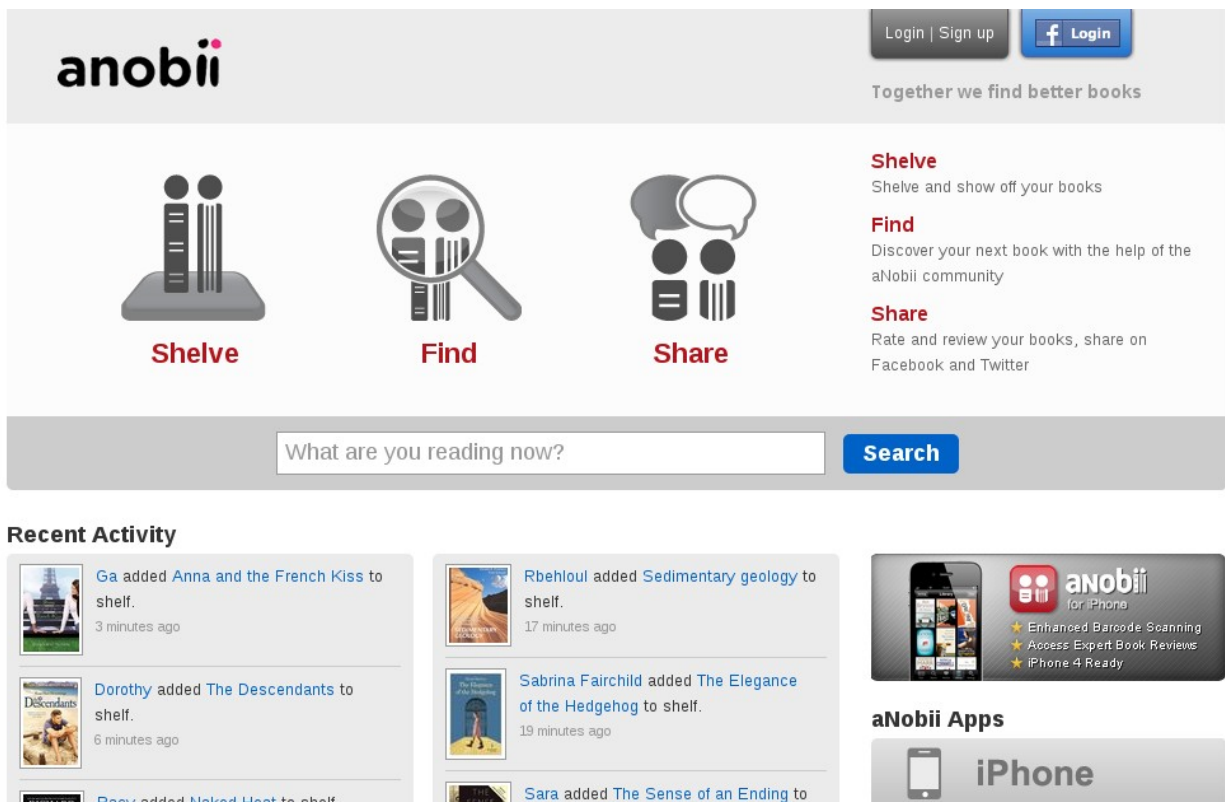

Illustration 1: The Anobii.com Homepage

Its service can be characterized by three main functions or verbs.

Shelve:

- Books can be managed in a shelf and categorized
- Users can keep track of their readings

Find:

- Popular, recently added and most-reviewed books can be easily discovered

- Users can find out books by searching them

- Users can take a peek in the shelves of readers with similar tastes, or be hinted by friends and the Anobii community

Share:

- Reading groups, book clubs and discussion forums can be created

- Users can share their shelves and wish-lists with their friends on the most common social networks

- Readers can express their rating and provide reviews for books

Anobii is available on the web, on Facebook, on Twitter, on mobile (apps are available for both Android and iPhone), and on tablet.

To summarise, **Anobii provides services and integration to support the creation of a community of book readers where people can "shelve, find, and share"**.

2.1. Sections excluded from the evaluation

The whole Anobii website is quite large. For this reason, we leave out some parts of it.

First of all, our usability test considers only the **standard web Anobii version**. In other words, the versions of Anobii that are available on Facebook, mobile and tablet platforms are <u>not</u> included in our evaluation. However, it may be possible that some interfaces between Anobii and these systems are inspected.

Secondly, **the following sections are <u>not</u> considered**: Blog, Developers, Retailer-related features, Community Support (Forum – GetSatisfaction.com), Groups.

3. Cooperative Evaluation

This section describes the cooperative evaluation process. It represents the documentation of what happened in the process and how we have performed the work and applied the technique in order to collect useful information for improving the system.

3.1. Task Generation

The task generation process can be split into two steps:

- **Identification** of the tasks
- **Formulation** of the tasks

The output of this phase is an artifact called *task sheet*, which will be used during the evaluation sessions to guide them.

3.1.1. Identification of the tasks

In order to get the best from the cooperative evaluation, the **"right" tasks** have to be selected. What we mean by the word "right" is summarized by the following facts:

- The tasks should express the essence of the interaction with the system, they should be the **most important, significant and realistic** tasks
- Tasks with an **increasing degree of difficulty** should be included
- The tasks should cover the **parts** of the system **we are most interested in** and, at the same time, ensure an **acceptable degree of coverage**

In particular, it is useful to reason about what are the *system goals*. Moreover, we can leverage on the knowledge of the system collected **from the heuristic evaluation**.

The system goals are directly expressed by the Anobii website through the three terms:

- Shelve
- Find
- Share

So, the majority of the tasks should be able to be associated to at least one of these activity areas.

3.1.2. Formulation of the tasks

As the tasks have to be performed by the users, it is necessary to write them down in an appropriate way. This means that a clear and concise language should be used. Moreover, other aspects should also be considered:

- **WHAT over HOW**: tasks should be worded **in terms of their goal**, not in terms of execution; in fact, our actual interest is to see how the users manage to carry out the goal

- **Instructions**: they should be **detailed enough** and possibly specify the **steps** that have to be carried out

- **Ambiguity** should be **minimized**: the users should be able to understand what to do without any further explanation

In addition to this, tasks have to be associated with approximate **time boundaries**, which will be compared with the time that the users will spend to perform them.

3.1.3. Task Sheet

The task sheet is the artifact produced during the task generation phase. It will be described and given to the users during the evaluation sessions. It contains the descriptions of the tasks that need to be performed on the system.

The following table reports the chosen tasks along with their timing information (which won't be shown to the users so that they won't feel pressure), which have been roughly estimated.

Task No.	Task Description	Timing Information
1	Log in to the system with the following credentials: • Username: 11153555@studentmail.ul.ie • Password: coopeval Next, update your screen name to "CooperativeEvaluator" and set your gender as well.	Time to complete = 1 min Deadline = 2 min
2	Add a book you've recently read into your shelf and update its details. In particular, set: • Rating • Reading progress • Where and When you got it • One tag to it	Time to complete = 1 min 30 s Deadline = 3 min
3	Display the most popular books about Music.	Time to complete = 30 s Deadline = 1 min
4	Search a user named "robyonrails" and display his wishlist. From his wishlist, search the book "Designing Interactive Systems" and add it to your wishlist. Next, search in his shelf for books of Patricia Cornwell. Finally, send him a message to compliment for his shelf.	Time to complete = 2 min Deadline = 3 min
5	Search the books authored by Donald Knuth and published by Addison-Wesley.	Time to complete = 30 s Deadline = 1 min

Task No.	Task Description	Timing Information
6	Search a group of your taste and display its collection of books.	Time to complete = 30 s Deadline = 1 min
7	OPTIONAL: In your shelf, create two tags "Best" and "Worst", and associate a few books to them. Next, select all the books with the "Best" tag and export the list into an Excel document.	Time to complete = 2 min Deadline = 3 min
8	Look at your statistics (reading history, visits on your shelf) and log out from the system. *Thank you very much for your contribution!*	Time to complete = 30 s Deadline = 1 min

Note that users should complete the tasks in about 10 minutes. It seems to be a good balance between a superficial session and a thorough one. Anyway, this setting can be adapted after the feedback from the first sessions. Also, note that these times assume a fast Internet connection, no delays and that no time is spent in reading/understanding the task.

3.2. Recruitment of Participants

Before recruiting the participants, a big question should be answered:

Who are the likely users for the system?

In fact, it is essential to evaluate the system against the people who will probably use it or against those who are interested in the goals that the product allows to accomplish.

As Anobii is fundamentally a social network for book readers, it turns out that the most likely users are represented by **people who are interested in books and reading**. This may imply several actions and goals carried out by these people about books that map with the features provided by Anobii, such as:

- Cataloging and categorizing own books

- Keeping track of the status of own books and feeling proud for oneself reading statistics

- Providing comments and reviews about books as well as reading the opinions of other readers

- Exploring new books by peeking at the shelves of friends

- Join groups with book readers with similar interests

Also, it would be nice to recruit people with **different background and expertise with technology** so to evaluate if the system usability scales with the expertise of its users.

Next, when looking for participants, we could **approach** people by introducing our project and asking appropriate questions to discover if their profile is coherent with the traits that we have identified for potential users:

> *"Hi, are you interested in books and reading?*
>
> *We are students who are carrying out a project that consists of an evaluation of the Anobii.com website. Do you know it? It's a kind of social network for book readers where you can shelve your books, find new ones, share your experience in reading and interact with other readers.*
>
> *We need your help in order to evaluate the website in terms of usability. Could you help us?*

We should also decide **how many** participants to involve in our evaluation sessions. Actually, the actual number is not really important. What is important is to identify a minimum number of participants in order to provide a **sufficient amount of information** for the analysis. This choice is related to how much time we have for the project, how much time our participants can spend for us, and, of course, how much time the evaluation sessions take.

Let's roughly estimate how long a session is:

- The time to complete the tasks is 10 minutes in the worst case
- If the testing environment is ready (as it should be), a couple of minutes will be taken before the evaluation session begins – people are made comfortable and they are given the *Declaration of informed consent* form
- A couple of minutes will be spent at the beginning for introducing the project, explaining the cooperative evaluation, and remembering the users that they are not tested but the system is
- About 5 minutes for the final interview

So, the time of a session per participant is about 20 minutes, but it is subject to jitter and can vary. The first sessions will allow us to adjust this time accordingly to our needs and, even more, our participants' needs.

Considered the task list, the time we have, and the amount of information that we'll be able to gather, **we will involve a number of users approximately between 5 and 10**.

3.3. Ethical issues

Before the participants can start the evaluation session, they should be made **aware** of a number of ethical issues. Thus, they are given the ***Declaration of informed consent*** form to sign in (shown on the next page).

This is necessary as the participants should be aware of:

- they are not under test, the system is
- they can withdraw at any time
- they have access at the collected data

They should also be told what the cooperative evaluation consists of and how the data will be collected.

3.3.1. Declaration of informed consent

I, the undersigned, hereby declare that I am willing to take part in a research project that is part of a course assessment for the CS4826 module, Human-Computer Interaction at the University of Limerick. The nature of this study is as follows:

Title: Cooperative Evaluation

Purpose: In this study we intend to evaluate the Anobii.com website in terms of its usability. This involves asking users to perform certain tasks offered by the system or product that are representative of the types of tasks users would normally perform using this system and give feedback in terms of how usable or otherwise the system or product is.

I declare that I have been fully briefed on the nature of this study and my role in it and have been given the opportunity to ask questions before agreeing to participate. I understand that my role in this evaluation is as a co-evaluator and that this is <u>not</u> an evaluation of my ability, knowledge or intelligence, rather it is an evaluation of the system or product in terms of how usable it is.

The particular tasks that I will be required to perform have been explained to me and I understand them. I also understand that that I will be required to "think-aloud" while performing these tasks. The "thinking aloud" method has been explained to me and I understand that no personal, private or confidential information is required from me.

I fully understand that there is no obligation on me to participate in this study and that I am free to withdraw my participation at any time without having to explain or give a reason. I am also entitled to full confidentiality in terms of the details of my participation and my personal details. I understand that some or all of the data (verbal and behavioural) may be used (quoted) in the report on the evaluation for illustrative purposes but I shall not be identifiable from this data either in the body of the report or in appendices.

I also understand that my participation in this study <u>may</u> be recorded by video or audio means as well as in the form of notes taken by observers and I agree to this. However, should I feel uncomfortable with being recorded at any time, I can request that all recording equipment be switched off. I am entitled to copies of all recordings made during the session if I wish to have them.

I acknowledge the fact that deception and concealment are inappropriate to and not required in this study and that no attempt will be made to elicit information or actions from me using these means.

_____   _____

Signature of participant   Date

Moreover, the users should also be made feel as more **comfortable** as possible, so that they will be able to express themselves and their opinions in a natural way. Some attitudes and expedients can help by this point of view, maximizing the quality of the contributes:

- **Informal** feel

- **Free** and open discussion

- **Discretion** and tact with the use of recording equipment

We'll also use, of course, gentle manners as we recognize and appreciate the help of the participants.

3.4. Observation Sessions and Data Collection

3.3.1. Testing Environment and Recording Equipment

When the participants arrive, the testing environment should be **ready**. This means that:

- A **laptop** should be on with a **browser** window pointing to the Anobii.com website

- An **Anobii.com account** has been provided (and prepared on purpose) so that the user is not required to register

- The **screen recording program** should be open as well in background (so that it can be easily started at the beginning of the session)

- The **task sheet** should be near the laptop

- One evaluator should be sit near the laptop with a **paper for quick notes** and a **list of question** to ask the participants at the end of the session

- One evaluator should be ready with a **camera for audio/video recordings** or (if it is not needed) should be ready for **taking notes** and **thinking at specific questions** to ask the participant during de-briefing

For what concerns the platform, *Debian Linux* is running on the laptop. The browser that will be used for interfacing with the Anobii.com website is *Google Chrome*.

The screen recording program is **XVidCap** and will be used for registering the interactions. It is particularly useful because it allows us make videos of the executions of the tasks. These videos can easily be viewed, analysed and compared one another later on.
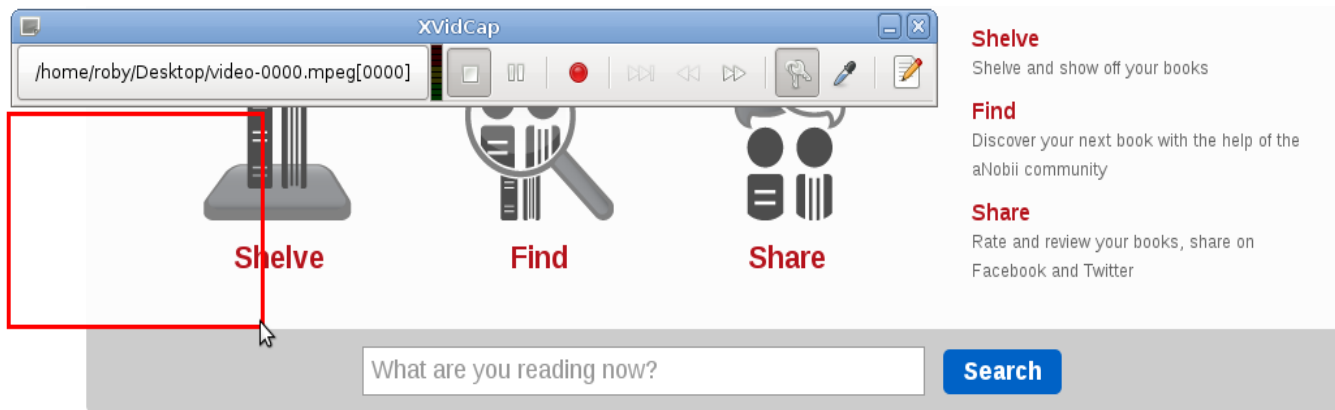
Illustration 2: XVidCap - Resizing the recording area

The camera will serve primarily for documenting the project and recording the words and comments of the participants. To this aim, the microphone of the laptop may be used as well, with programs such as *gnome-sound-recorder*.
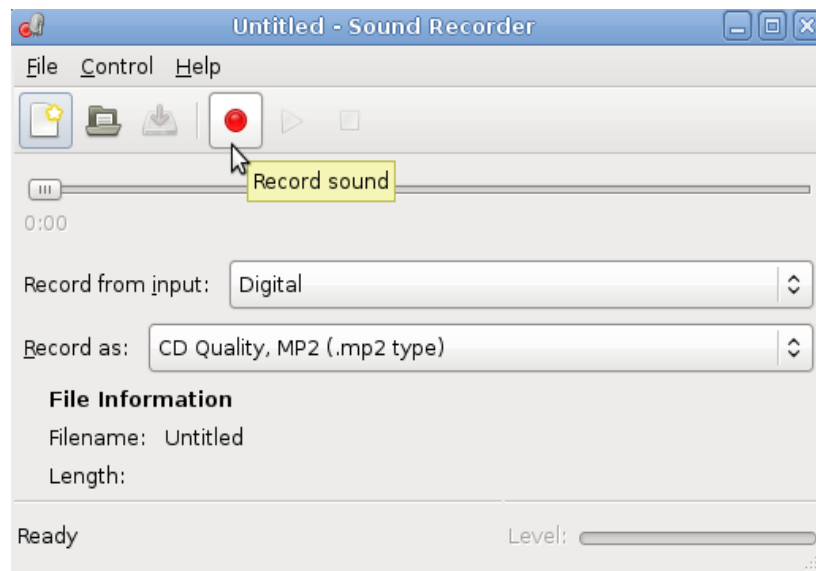

Illustration 3: gnome-sound-recorder - It may be used to register users' comments

3.3.3. Evaluation Sessions

Before the beginning of the evaluation sessions, we may ask the participants to tell more about themselves in order to make their **profile** up. We can ask for example *how many books the participants read during a year* (excluding school books) and what they think about the *relation between books and technology*. It may not be necessary but we think it could help to link their comments with their actual needs in the light of their background.

When the testing environment is arranged, the recording equipment is working, and the participant is ready, the evaluation session can start.

The setting. The participant is sitting at the laptop. One evaluator, the one whom interacts with the participant, is sitting beside him or her. Another evaluator is ready to take notes. The third evaluator (if present) may be documenting the session, recording the comments by the user, or taking notes as well.

Introduction. The evaluator who interacts with the user introduces to the evaluation session and provides a summary of the method which is used. The introduction is addressed to the user and may be something like this:

> *"Now we are starting an evaluation session of the Anobii website, a social network for book readers and book lovers.*
>
> *This is a project issued within the module Human Computer Interaction at the UL. The method we use is called Cooperative Evaluation. It consists of asking users like you to perform a series of tasks in order to evaluate the system in terms of usability. Based on the collected data, we'll draw some re-design recommendations.*
>
> *You are helping us to gather the information we'll use to suggest improvements to the system. You've signed the Informed Consent Form and you know that you can withdraw at any time. Remember that you are not under test, the system is. We really appreciate your help.*
>
> *The tasks to perform on the system are listed in the task sheet we've given you. Please comment your actions, impressions, and doubts while performing the tasks. Think aloud. Moreover, I'll ask you some questions to investigate your feeling of the system. Feel free to ask me questions as well if you don't know what to do.*
>
> *At the end of the session, I'll ask you a few question about your experience in using the system.*
>
> *If you are ok, you can start now. Thank you :) "*

The session. The evaluator should make sure that the user expresses **aloud** his/her thoughts, prompting the participant with questions if necessary.

Examples of typical **"prompt questions"** that have been used are:

- Before proceeding with the task, could you tell me what are the steps you think to perform in order to accomplish the goal? In other words, what are your intentions to reach that goal?

- Is this what you expected from the system?

- What do you think about this response by the system?

- What have taken you here (in the website)?

- What are you looking for?

- Are you feeling this task easy/hard?

- What would you do if the task included …
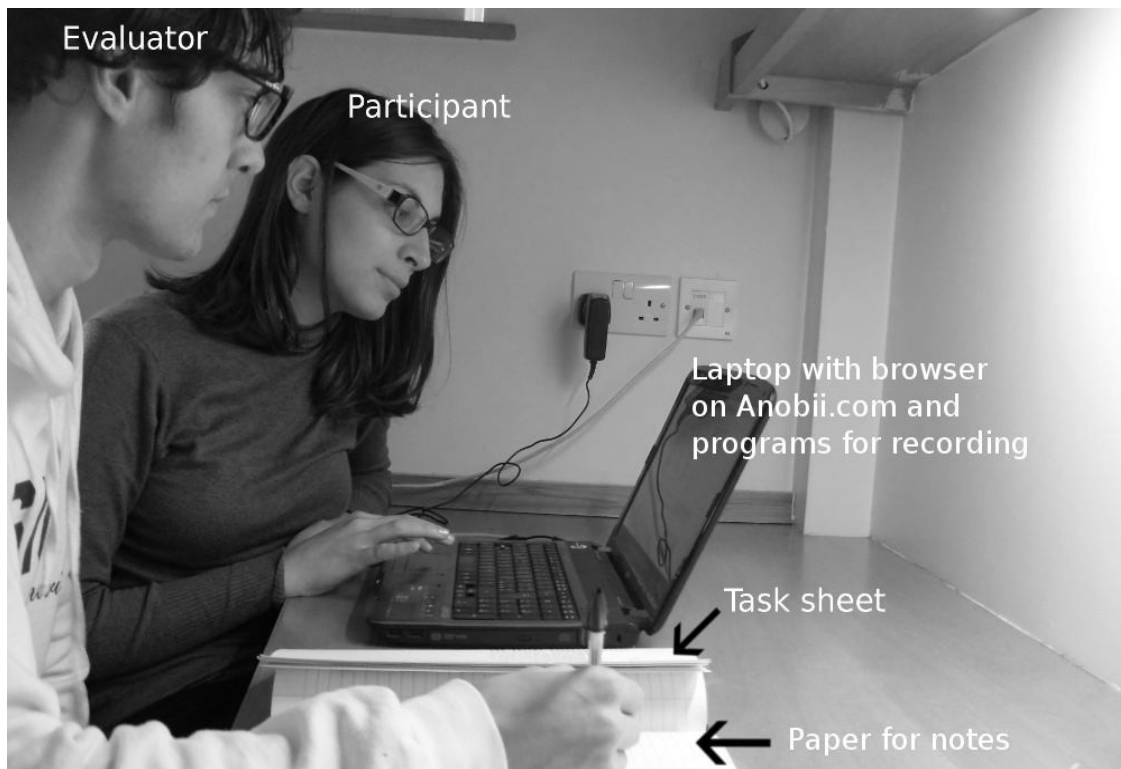
- or if we changed the task so that … ?

Illustration 4: Example of the setting during an evaluation session

De-briefing. At the end of the session, an **informal talk** with the user is carried out to get more information about the usability of the system and about the cooperative evaluation session as well. The focus may be both at the system level (how it feels during interaction) and at the task level (with detailed information about precise operations or kinds of them).

A list of questions has been prepared to provide a direction for the talk:

- First of all, what is your opinion about the Anobii.com website?

- Do you think it provides a useful service? Do you think it may be a nice site for book lovers?

- How did you feel while using the system?

- Were the tasks difficult or easy? Which? Why?

- What would you change about Anobii?

Some questions address the cooperative evaluation process as well:

- Do you think the given tasks are representative of what users may do with the system?

- How did you find the session? Was it long?

- Did you feel at ease?

On the following page, a paper with notes resulting from an evaluation session:

Coop Eval — session

Participant #1 : Valentine

Background info: at University
fond of read...
about abo...

TASK	NOTES
1) Login with given credentials + screenname / gender update	No problems ; profile menu too critical + need an intermediate
2) add recently read book and ... rating • program • where/when • 1 boy	Don't know where to insert in "Add to text" ⇒ didn't expected a book search. Delayed edit box ⇒ click on book cover ⇒ and NOT edit page ⇒ edit from book
Display most popular music books	"No alphabetic order of categories"!
...play ROBTONRAILS' wishlist, ... "beginning..." and add it to your W... ...Cornwell's books on the shelf ... have a memory	wishlist search box confused with "main" - real-time WL search - book NOT FOUND!
...rch books authored by ...th and published by Add-We...	✗ problems in finding D. Knuth'n bo... ⇒ bad search facilities
...a group of your toile and ...its collection	Uses Tags of "larger groups" (no sco...
Best/Want tags, associate ...export "Best" books in Excel	Wanted to export books from the edit tag...

Illustration 5: Paper with notes for an evaluation session: note the reference to the participant, a few words about her background, and the notes organized by tasks

4. Results From Cooperative Evaluation

Here we summarize what the analysis of the collected date has produced, that is a synopsis of what arose from the cooperative evaluation. These results represent the information upon which the design recommendations are issued.

With the help of our participants we have identified new issues and localized parts of the system that need improvements. The following sections synthesize what the cooperative evaluation sessions have produced.

4.1. Task 1 – Login and profile update

Log in to the system with the following credentials:
- *Username: 11153555@studentmail.ul.ie*
- *Password: coopeval*

Next, update your screen name to "CooperativeEvaluator" and set your gender as well.

No particular issues have been originated during the **login phase**.

The "Login" link is where the users expected it to be: at the top of the page.
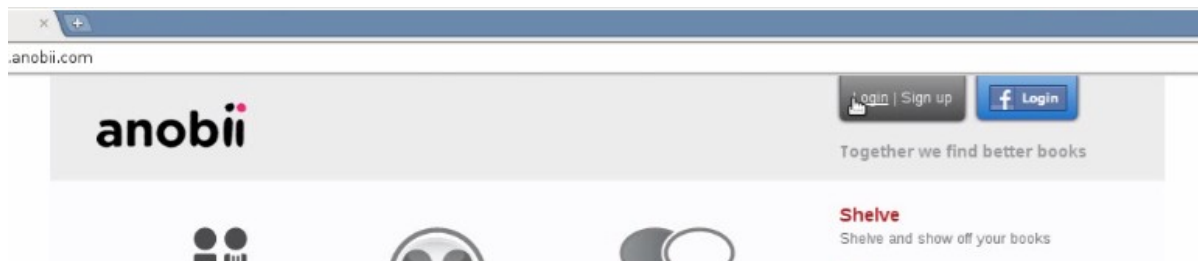
Illustration 6: Login link

A few participants appreciated the Facebook login because it means that they don't need to register for a new account.

About the **profile update**, there have been some (short) delays and vacillations in task execution, primarily due to:

1. The "Setting" link does <u>not</u> bring bring the user directly to one page that allows to change the profile information – i.e. an intermediate page with a settings menu appears

2. The intermediate page presents a menu which is quite long and a bit of time to make the correct decision about what menu item to follow is required

3. The profile can be updated only by bits – it's not available one single page with multiple information to change (but, for this, a more compact design is required)

4. The screen-name can be changed by clicking to "Screen name" and "Your profile" as well,

where the latter includes much more information – is really needed to provide two ways to perform the same thing?
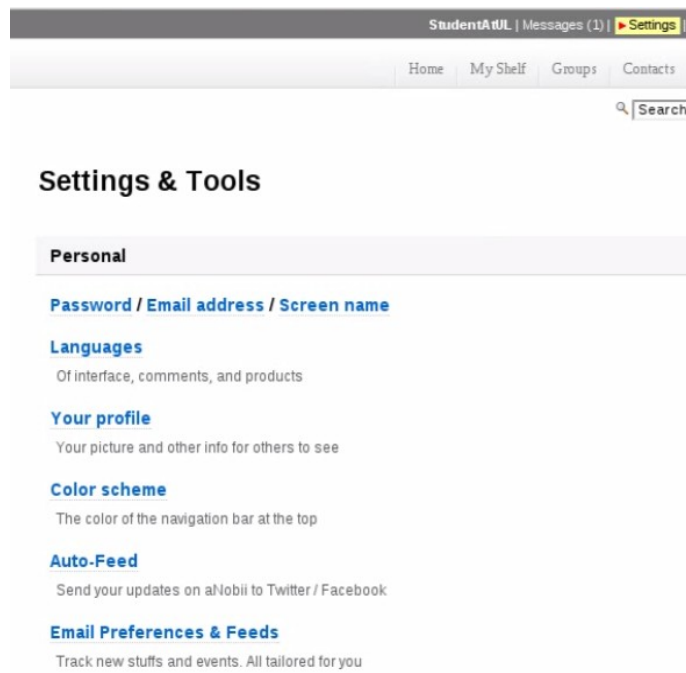
Illustration 7: An incomplete view of the Settings menu

The previous figure shows the **intermediate page** and how this page is articulated.

The next figure shows how the profile page is **scarcely compact**.

Illustration 8: Edit Profile page

Moreover, it is easy to note how much space is kept **unused**, which can be exploited to provide a more unified view of the settings.

4.2. Task 2 – Add book to shelf and update your info about it

Add a book you've recently read into your shelf and update its details.
In particular, set:
- *Rating*
- *Reading progress*
- *Where and When you got it*
- *One tag to it*

Adding a book to the shelf and updating its information are key features of Anobii. They are among the most important tasks. These operations can be performed in two different parts of the websites: in the shelf and in the books' detail page.

From the users' actions and comments, we've drawn the following hints:

1. The "Add to shelf" box in the shelf page works well with ISBNs but users **expect to write down the title** of the book to add – **no hints** during the typing are given and, when clicking to the "+" button, what actually happens is a search with the inserted title as keywords

2. The user <u>can't </u>directly add a book by the title using the "Add to shelf" box

3. On the shelf, when the user wants to update the details of a book, often it happens that the user clicks on the book cover (because the **context window for editing appear with a delay**), resulting in a page change to the book's detail page (and <u>not </u>the page for editing the books details that the user may expect) – this **may be an unwanted transfer away the shelf page**

Illustration 9: Adding a book to the shelf

Consider the previous figure. The book is not directly added to the shelf even if the title has one single perfect match. Note that no hints are provided while typing.
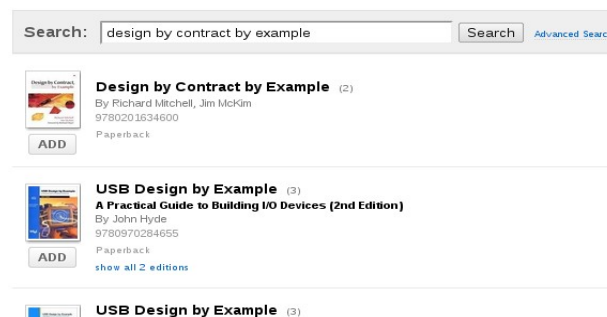
Illustration 10: Trying to insert a book through its title results in a search

The participants usually have not waited for the context window, clicking directly on the cover **with the intention to modify the book information**. Instead of the editing page, however, the book's detail

page appeared.

Illustration 11: Books on the shelf and the context window

Anyway, from the book's detail page, the users managed to accomplish the goal as there is an "Edit / Review" link here as well.

4.3. Task 3 – Display most popular books

> *Display the most popular books about Music.*

This is an easy task but we received useful feedback anyway.

The "Chart" section was not an obvious direction for the participants. First of all, they looked at the homepage, but the list of popular books was at the bottom, so some of them did not see it.

Most importantly, the categories was **not listed in alphabetical order**, so it took some time for the users to find the "Music" category as the complete list is quite long.

The picture on the following page shows this situation.
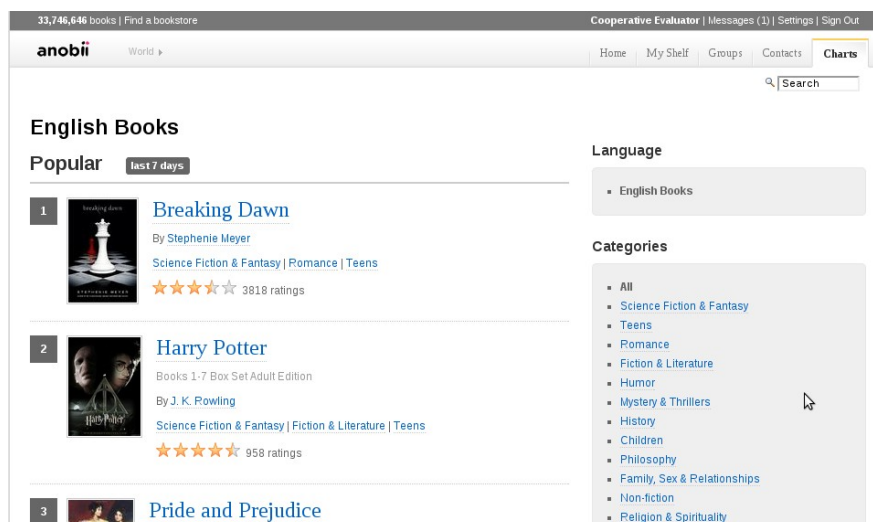
Illustration 12: Most popular books and categories

4.4. Task 4 – Search a friend, search in wishlist and shelf, send a message

Search a user named "robyonrails" and display his wishlist.
From his wishlist, search the book "Designing Interactive Systems" and add it to your wishlist.
Next, search in his shelf for books of Patricia Cornwell.
Finally, send him a message to compliment for his shelf.

The "Contacts" area was a bit **confusing** for our users.
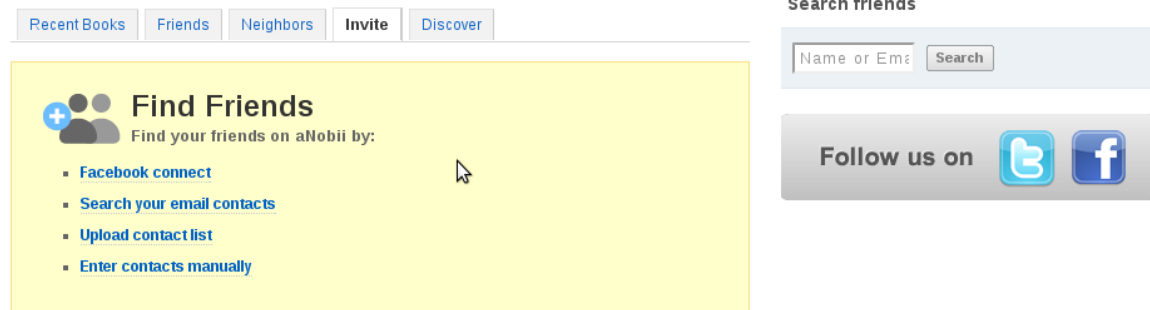
Illustration 13: Contacts area

The tabs of the section were explored before realizing to use the search facility on the right.

The following are the main issues that arose while performing this task:

1. The **search on the wish-list does not work**: it does not produce any results
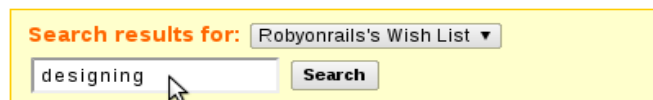
Illustration 14: No results even if "Designing Interactive Systems" is present in the wish list

2. The search box for the wish-list is sometimes **confused** with the search box for the Anobii website/books
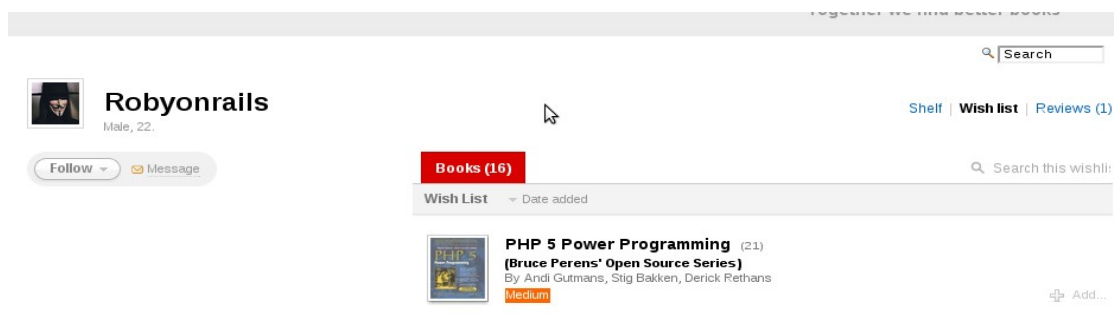
Illustration 15: Note how poorly visible is the wishlist search box

3. The search on the shelf produces the **results on a new page** but it would be nice if the search could produce results in the shelf in real time

Illustration 16: Results not propagated directly to the shelf

4. The books on the shelf can be filtered by the author. Some users complained about the fact that the **authors** in the list are **ordered** by name (and **not by surname**, as they expected instead).

4.5. Task 5 – Advanced search

Search the books authored by Donald Knuth and published by Addison-Wesley.

This task is not very difficult but highlighted one **big defect on the search function**. In fact, it turns out the search facility for books needs to be improved. For example, searching "Donald Knuth" does not provide any results while "Knuth" alone does. This fact is showed by the following pictures.

Illustration 17: No results for "donald knuth"

Illustration 18: Results for "knuth"

Another issue is that it's <u>not</u> possible to **access** to the **advanced search** functionality in pages that are not the search page.

4.6. Task 6 – Search a group

Search a group of your taste and display its collection of books.

As other search facilities, it turns out that the **search function for groups is very poor**. The best way used by the participants to find a group of their taste has been through the tag-based browsing for the most popular groups. Different users complained about the scarce results generated by the search function.

We know that it is a search defect as we tried to search for groups which have been created, but they cannot be found through search in any way. Consider the following picture:

Illustration 19: Search by tags

This is a search based on the tag "hci". It reports two results. Please note that you can search this way only by modifying the query string of the URL (as only the most popular group tags are displayed – on the right – and only those can be selected).

Now, compare with the following search using the search box on the top right:

Illustration 20: Search by keywords - note that no results are displayed even though groups relevant to the keywords exist

4.7. Task 7 (opt.) – Create and use tags, export bunches of books

In your shelf, create two tags "Best" and "Worst", and associate a few books to them.
Next, select all the books with the "Best" tag and export the list into an Excel document.

A bit of discomfort was primarily experienced by the participants during these actions:

1. Association of books to the tags: this was mainly due to the **poorly visibile highlight of the current tag** to which the books will be associated

2. Exporting the books under the "best" tag: some users expected to find out a way for exporting the books in the page for editing tags

3. The Excel document resulting from the export function is sent by email and cannot be download directly by the site

Illustration 21: Tag creation and association of books to tags

Once the link for the editing of tags and the link for for exporting books were found (some delays were accepted as these are secondary features), the interaction was straightforward. Some time was also required so that the users realized that the export function was relative to the bunch of books currently showed on the shelf. So, they had to filter the books on the shelf by tag. It was the most advanced task, so we were aware of its difficulty.

4.8. Task 8 - Reading stats, logout

Look at your statistics (reading history, visits on your shelf) and log out from the system.
Thank you very much for your contribution!

No particular issues have been originated during the execution of this task. The "Logout" link was where they expected it to be.

The "Stats" link was more difficult to find. Some participants expected it to be in the homepage or in the top-level menu. However, we (and our participants) recognize that the most appropriate location of this link is in the shelf page.
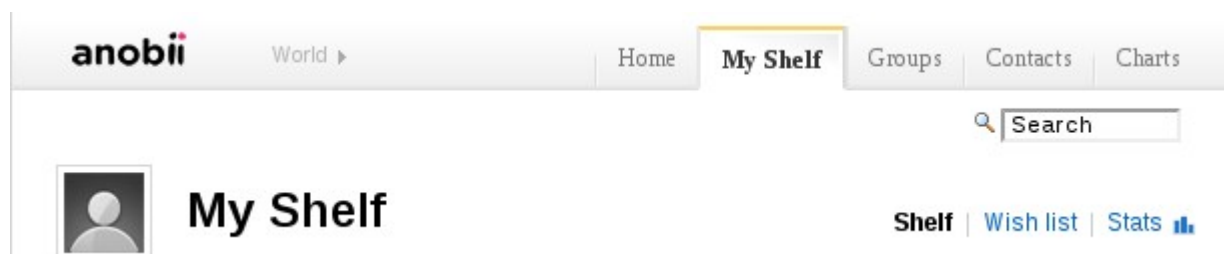

Illustration 22: The "Stats" link is in the shelf page

4.9. Across and outside the tasks: the participants

In this section we provide some additional information about the tasks and about the **interaction experience** as well. Some **details about the participants** are also given so that we can link the results with the analysis.

Examples:

	Participant's background	Results and information
1	**Valentina**, 19 She studies Humanities and is fond of reading. She also writes in free time. Computer literacy: intermediate	Time to complete in about 25 minutes (mainly due to slow Internet connection, which made useless measuring the time for tasks). *"It was a bit difficult to find the category [of most popular books] as the categories are not listed in alphabetical order"* *"Authors [for book filtering in the shelf] are ordered by name and not by surname."* Difficulty in exporting the "Best" books. She tried to perform this task from the editing page for tags. She likes the website altogether but does not think it is enough effective in providing the service and encouraging the users to use it on a regular basis. The "shelf" concept is really appreciated. The website is not as social as it may/should be.
2	**Solomon**, 25 International Business graduate.	Tasks completed in about 15 minutes. He experienced some fatal errors during the evaluation session, so

	Participant's background	Results and information
	Computer literacy: skilled	the website was temporarily unavailable. It was quite unpleasant. He was quite disappointed with the website, even though he recognized it to be easy to navigate.
3	**Keane Coolain**, 51 Accountant Computer literacy: intermediate	Tasks complete between 10 and 15 minutes. He is not very interested in books, so he was quite bored and impatient with respect to the tasks. Moreover, he was not very familiar with this kind of websites. He had some trouble in finding the user "robyonrails" and was unable to complete the "export books" task.
4	**Patricia**, 40 IT Professional Computer literacy: skilled	Tasks completed in about 15 minutes. Difficulty in finding the user and in finding the way for sending him a message. Problems in exporting the "Best" books. She was very interested in the website as she likes reading books and was pleasant about how the website was working. She appreciated the integration of Anobii with Facebook as well.
5	**Olawale** Student Computer literacy: skilled	Tasks completed in 13 minutes. He was glad of helping us with the cooperative evaluation and wanted to sign as a new user. (Sometimes, variations to the tasks have been accepted) He said that the website is user-friendly but pointed out that maybe, on many pages, there is too little information.
	Other participants and common issues *For other issues please refer to the previous sections.*	*"I expected the Excel document to appear for download so that I don't need to open my mailbox for it..."* Many complaints about the search facilities. People who are ardent readers were pleased about the shelf and the ability to keep track of their books and reading progress. By an aesthetic point of view, some of the users talked about those "big empty spaces" which are unused.

	Participant's background	Results and information
		The "Contacts" area was generally perceived a bit confusing. Some of the participants explored the area by clicking on the different tabs, without getting the information they were looking for.

Some problems during the execution of the tasks makes it clear that Anobii.com is **not as user-friendly as it should be**. The final interviews highlighted it as well. However, some users were so pleased about it that they actually joined the website.

Having a **mix of age, interests and computer experience** in our selected participants was also an advantage. Some of our users were familiar with using the website while others found it a bit difficult to navigate from page to page. We also noted that the users became more comfortable with the system as the evaluation sessions went on.

5. Design Recommendations

Based on the results originated by the cooperative evaluation, in this section we provide recommendations about how the system should be re-designed in order to improve its efficiency and effectiveness of use.

The following table summarizes our re-design recommendations. To emphasize their validity and to simplify the assignment of priorities, they are linked to the relative results which are synthesized in the previous chapter.

	Re-design Recommendation	**Linked to**
1	The Settings area should be organized in this way: • The "Settings" link points to a page where the profile can be directly updated • There is no longer the intermediate page with all the menu items • A tab panel may be used to change the view of the settings to update, with the voices "Personal", "Books management", "Others", "Goodies" • The forms should be designed in a more compact way and should span the page width entirely	4.1
2	The "Add to shelf" box in the shelf page should be improved in order to facilitate the addition of new books based on the title. Hints should be provided while typing on it.	4.2
3	On the shelf, we recommend that, on clicks to the books' cover, the editing window appears instead of the book detail's page, which can be made accessible in other ways (e.g. through a link in the editing window or a link in a context window, which is already present).	4.2
4	Categories for the most popular books should be listed in alphabetical order.	4.3
5	The search facility on the shelf should display the results directly in the shelf.	4.4
6	The "Contacts" area should be organized in a more clear manner. The tab pane forces the user to explore different tabs until the right functionality is reached. A more compact design should be applied.	4.4
7	The search facility for books needs to be improved as it does not work properly.	4.5
8	A link to the Advanced search facility should be provided along with the search boxes throughout the website.	4.5
9	List of authors for book filtering on the shelf should be ordered by surname (and not by	4.5

	Re-design Recommendation	Linked to
	name, which is usually less known).	
10	The search functionality for groups should be repaired as it's difficult to find groups this way, so the tag-based search is usually preferred even if it's less comfortable.	4.6
11	The user should be able to write the tags upon which the search is based.	4.6
12	In the "Edit tags" page, the currently selected tag should be highlighted in a more visible way.	4.7
13	Exported files with books should also be made available for download in the site. The user should be able to choose if the file is sent by email or not.	4.7

6. Conclusions and Lesson Learned

Here we draw our conclusions about the usability of the Anobii website and compare the two used techniques, namely heuristic evaluation and cooperative evaluation, in the light of the human-computer interaction perspective.

The cooperative evaluation, with its great advantage of involving end-users, provided very useful information about the usability of the Anobii website. The difficulty experienced by the participants during the execution of some tasks pointed out that the website is less usable than what the heuristic evaluation suggested:

- some interactions are not straightforward
- the search facilities work poorly
- the design of the page should be improved towards a more compact design and a better utilization of the space
- the social dimension should be enhanced

It turns out that the two evaluation techniques are complementary. The heuristic evaluation, being expert-based, allows to explore the system thoroughly and, consequently, to know the system in a more complete manner. Using this technique, it's possible to find a lot of issues but missing some big ones. The cooperative evaluation, on the other hand, being user-based, consider what really matters: the end users, with their needs and perspective. Even though it typically does not produce an exhaustive list of problems, it does stress the most important ones, those which are effectively perceived by the users during the usage of the system. What follows is that a good task list is crucial for the success of the evaluation, because it should contain tasks that are representative of the typical user actions and should span an adequate share of the system.

With cooperative evaluation, you have to deal with real users, with people. Then, it is fundamental how you relate and interact with them as well as the interpretation of their actions, thoughts, and comments. A number of ethical issues must also be considered.

The big lesson is that designing interactive systems is not easy because it requires several skills and knowledge from different fields of study. Consequently, different evaluation techniques can be used to identify different issues and to look at the system by different perspectives. However, it turns out that real users have to be involved at some stage of the evaluation process in order to improve the product effectively. As the interactive systems are built to be used by people and to support people to accomplish their goals, it follows that they are the scale against which the usability of a system can be measured.

This project has been really useful to get a feeling about what Human-Computer Interaction is and the importance of a user-centered approach to the development of interactive systems.