

Progress Report
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Group C2, Client: Tribler



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1 Executive summary

This report describes the progress of student team C2 of the course Usability Testing and Redesign for IDE at the Technical University of Delft. Our goal is to evaluate, test and redesign the latest -unreleased- version of the file sharing program Tribler. This document starts with a description and critical discussion of the product followed by a user test, results and conclusions; summarized on this page.

1.1 Description and critical discussion of Tribler

Tribler is a so called peer to peer download program which can be used to download and share files with other users. Tribler combines different types of downloadable media in one program such as Torrents and YouTube movies. Tribler is unique compared to other downloading programs because of the friends function in it. Users need detailed information from each other in order to be friends and create their own community. It is possible to share bandwidth with friends and realize faster downloading times that way.

The critical discussion about Tribler can be divided in three segments: Interface, language and social aspects. The interface has a lot of unclear use cues¹ at the moment and it is difficult to find certain functions. The language that is used does not really fit in the goal of making a download program for non-technical users. Furthermore we think that the social aspects of Tribler will not grow to the potential that they have.

1.2 Usability test

For our usability test we wanted to focus on the interface and how it contributes to the use of Tribler. Besides that we wanted to find out how the users interpret the social aspects in Tribler; about the friends function and being part of a social online network. For our test we used twelve participants who worked in pairs; in that way we wanted to evoke discussion during the test in order to understand what they were doing.

Tribler was presented to the participants as a software program for downloading. We did not give them any further information so we could see how they would react on the interface without any knowledge of it or about the functionalities behind it. They were given 16 tasks to see if and how they completed them and in order to see if they understand the functionalities and language of Tribler. When the tasks were done we conducted an interview to discuss the test and to get information that was not covered during the test.

1.3 Conclusions

We can conclude that the interface is causing a lot of problems. The lack of feedback and feed forward results in the fact that a lot of trial and error is needed to fulfill a task in Tribler. Buttons are not understood and functions can not be found or recognized by the participants. This results in a negative attitude towards the program since they are confused about what they can do where in the program.

We thought that the language which is used in Tribler would be a problem for the non-technical user. During the test we found out that there are indeed problems with certain terminology that is used. Most of the participants were able to use Tribler though so we might have overestimated this problem.

We can say that the participants do understand that they are part of a downloading community. We have the feeling though that the users do not really understand the extra functionalities that Tribler has to offer in contrast to other downloading communities. We can carefully say that they like the functions (such as friends making) when we discuss and explain them but they do not understand them fully with just the tasks we gave them.

¹ Usecues are conceived as meanings, given to product characteristics, in terms of what functionalities a product has and how these possibilities can be activated. Usecues involve primarily a pragmatic, bottom-up notion, rather than departing 'top-down' from cognitive, ecological or other 'fundamental' processes. (H. Kanis, M. J. Rooden and W. S. Green, Usecues in the TU Delft design course, School of Industrial Design Engineering, Delft University of Technology)

2 Tribler discussion and usability test

In this chapter we will describe shortly what Tribler is about and we will give our critical discussion about the downloading program. This will be followed by our research questions, our usability test approach and briefly the results that came out of it.

2.1 Description of Tribler



Tribler is a so called peer to peer download program which can be used to download and share files with other users. Tribler combines different types of downloadable media in one program such as Torrents and YouTube movies. Tribler is unique compared to other downloading programs because of the friends function in it. With detailed information users can be trusted friends and create a community. It is possible to share bandwidth with friends and realize faster downloading times that way.

Tribler has a clear and simple appearance and seems to have as little information as possible visible. The makers of Tribler try to be different than other downloading programs that have a more 'technologic' appearance; it shows that they want to focus more on the non-technical user. The Tribler screen is divided in four segments: Overview (menu) on the left, search bar (with obvious family filter) on top, current menu in the middle and downloads/uploads on the right. Only the middle screen changes according to which menu options are chosen. The search function can be extended using RSS links of torrent site making the searching range bigger.

2.2 Critical discussion of the product

The critical discussion about Tribler can be divided in three segments: Interface, Language and social aspects.

2.2.1 Interface

The interface is very minimal at the moment which does not result in an easier to read download program. There is a lot of information missing like feed-forwards about the actions you can perform. A good example for this is the search function (figure 1: search box): it is totally unclear if (and how) you can do an advanced search or even change the type of multimedia you would like to search for. There is also no clear indication when you can interact with a certain part of the interface or not. The user needs to click around to find where interaction is possible or where just static information is displayed. An example here is the right segment of Tribler showing the current downloads; the first thing you try is (right-) clicking there but nothing happens. We also miss any detailed information about what you can do in the different menus of Tribler.



Figure 1: the search box without cues for further searching

2.2.2 Language

It is clear that Tribler is supposed to be easily understood by the user so it can open-up to the non-technical user. In Tribler we still find numerous technical terms and 'internet slang' such as 'RSS link', Torrent, IP and Port. Especially when you would like to change something in the Preferences menu you need more computer knowledge than an average user to change something. An exclamation mark in the top right can indicate that there is a problem. Clicking on it results in an advice about what the user can do to solve it (figure 2: advanced settings advice). The user is proposed to configure the modem/firewall/router or even 'UPnP settings' in the advanced network preferences. These are settings where the average computer user can do more harm than good.



Figure 2: Advanced settings advice

2.2.3 Social aspects

Making friends is an essential feature of Tribler if you would like to use it at its best. Detailed computer information (figure 3) is needed for making friends which can only be gotten from people themselves. There is no way of getting into contact with other Tribler users through Tribler itself. Therefore the users are dependant on their existing internet network which does not contribute in making a community out of Tribler. Besides that a user might have difficulties finding his/hers own user information when the 'invite friends' function is not used. Furthermore the group function in Tribler seems useless at the moment and there is no information on what you can do with it.

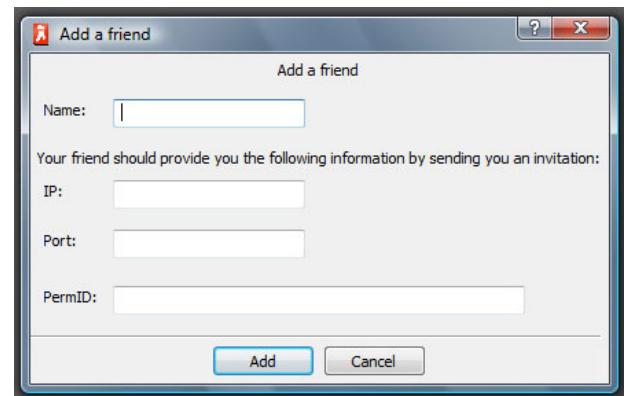


Figure 3: Add a friend box

2.3 Usability test

Our usability test is based on our critical discussion about Tribler which was also the bases of our research questions. In this chapter we will state our research questions, how we did our usability test and briefly the results of the test.

2.3.1 Research questions

We have two main research questions which are divided in more detailed questions which can be answered with our user tests.

- Is the user able to make use of the functionalities of Tribler?
 - Is the user able to complete the given tasks in Tribler? To what extend does the user have problems during the test and where is the basis of these problems?
 - What problems are related to misleading usecues in the interface?
 - What problems are related to technical language?
- Does the interface help the users understand the functions behind Tribler?
 - Does the user understand how the file sharing works?
 - Does the user understand how to use sharing bandwidth & speeding up torrents?
 - Is the idea of participating in an 'online social downloading community' clear?

2.3.2 Participants

The test involved twelve participants, ranging in age from 20 to 29 years old. We asked them about their downloading experience on beforehand and mentioned that our test was about a software application, in order to keep them from being biased. They all have experience with using computers; they all use one every day for multiple hours. None of them has ever used Tribler and one of the participants has only heard about Tribler. To elicit discussion between the users we had two users performing the tasks together. We asked them to think aloud in order to understand better what they are doing.

2.3.3 Test location

The tests were conducted in a room with two computers situated next to each other (figure 4: test set-up). The two users took place on one of the computers; the other computer was used by one of the researchers to capture the data from the test. The test leader sat in between the two computers.

2.3.4 Procedure

The participants were invited for a specific time. When they arrived we asked them to take a seat behind the computer. We explained the procedure to them and started straight after that with the first task. The participants were given 16 tasks in total. The test leader would present them with one task at a time. From the pilot test we set times for each task in which that task could be completed. The test leader watched the time and would either hint the participants or proceed to the next task if (s)he thought this was appropriate. After finishing all tasks we conducted an interview to talk about the test and ask some questions.



Figure 4: test set-up

2.3.5 Tasks

The tasks were structured in such a way to prevent a task from showing what we wanted to find in a following task. In total there were 16 tasks to be completed by the participants. The tasks could be marked as either Completed, Completed with difficulty or Failed. Examples of tasks are 'searching for a certain file' 'making friends' and 'changing advanced settings.' A complete list with tasks can be found in Appendix A.

2.3.6 Collection of data

The data was collected using a software program to capture the screen of the users. A webcam was connected to this software as well to tape the users while using Tribler (figure 5: capturing screenshot). The tests will be analyzed and the interviews transcribed. The complete analysis can be found in appendix B: Transcriptions

2.3.7 Retrospective Interview

At the end of every test we conducted a retrospective interview. This interview is to evaluate the test with the participants. Furthermore it gave us room for questions that emerged during the user test. We had a guideline to ensure all aspects were covered. This guideline can be found in Appendix C: Retrospective Interview.

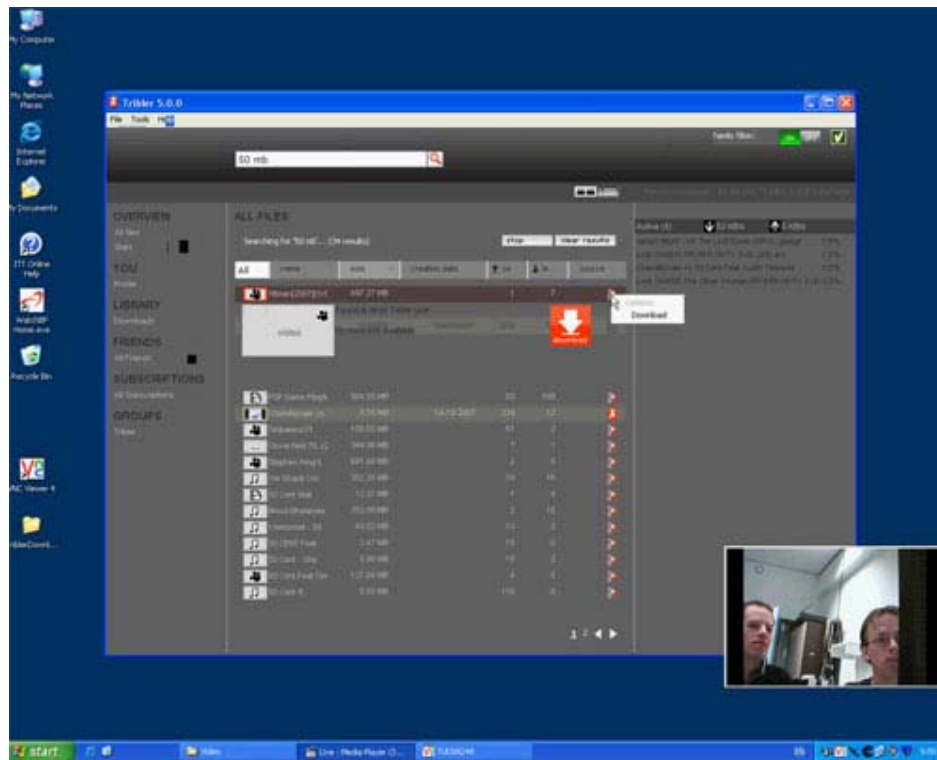


Figure 5: Capturing screenshot

2.4 Usability test results

2.4.1 Task completion

The results of task completion are shown in the graph below together an explains o task. The results are shown according to the pairs (two participants per test), called 'tests 1-6' in the y-axis.

TASKS	Test 1	Test 2	Test 3	Test 4	Test 5	Test 6
task1: exploration	•					•
task2: downloading "lost" episode	•			••		•
task3: find movie smaller than 50MB	••	•	•	•	•	••
task4: locate files on your hard disk	•			••	••	
task5: from who are you downloading			••	•	•	
task6: add a friend	•					
task7: find the needed info to be invited as a friend			•		•	•
task8: determine how much has been downloaded			•			•
task9: please watch the video while you are downloading	••		••	••	•	
task10: make a download go faster				••	••	••••
task11: change profile and picture						
task12: Search for what one of your friend has available for download			•		•	•
task13: Try to share one of your files	••	••	••	••••	••••	•••
task14: please stop sharing one of your files	•	•		•		
task15: extend your search		•		•	••	•
task16: change upload and download limits	••		•	•		•

Green – completed | **Yellow** – completed with difficulty | **Red** – failed | No color – missing
 •• amount of problems occurred

Problems that occurred during task 4 (locate the downloaded files on your hard disk) were:

- Top menu not visible (P8 – 2 times in task 4);
- Misleading behavior (not always functioning) (P9 – 1 time);
- Users don't understand why a torrent stays at 0% (P10 – 1 time);
- Preferences menu is not obvious indicating download location (P11 – 2 times).

These problems are mainly structural and technical.

Problems that occurred during task 5 (find out from whom you are downloading) were:

- Open destination is misunderstood (P12 – 1 time);
- IP addresses are not representing the people behind the files (P13 – 1 time);
- More info is expected to contain file sources (P14 – 2 times).

These problems are mainly language problems.

Problems that occurred during task 9 (please watch the video while you are downloading) were:

- There is no clear indication if a file is watchable or not (P19 – 1 time);
- Movies are technically not playable, and the play ASAP button is still available (P20- 2 times); Weak feedback from a file that is being downloaded (P3 – 1 time in task 9, 5 times overall).

These problems are mainly technical and use cue.

Problems that occurred during task 13 (try to share one of your files) were:

- They want to right click on a file to add it as a torrent file (P27 - 1 time);
- They want to drag it into Tribler (P28 - 3 times);
- Confusion between add torrent and create torrent (P29 - 5 times);
- No adequate feedback on completion of torrent creation (P30 - 1 time);
- Subscriptions are not understood (P31 – 1 time in task 13, 4 times overall);
- Creation of torrent is hidden in the top menu (P32 - 3 times);
- Users try to copy and paste the file (P33 - 2 times).

These problems are mainly due to technical problems. Participants do not understand how to complete the task. They indicate that they miss the feedback which should show them what they have done.

Problems that occurred during task 15 (extend your search) were:

- Subscriptions are not understood (P31 - 3 times in task 15, 4 times overall);
- Users do not know which link to add (P35 - 1 time);
- Users clicked on the big dark titles and not on the actual links (P36 - 1 time).

These problems are mixed.

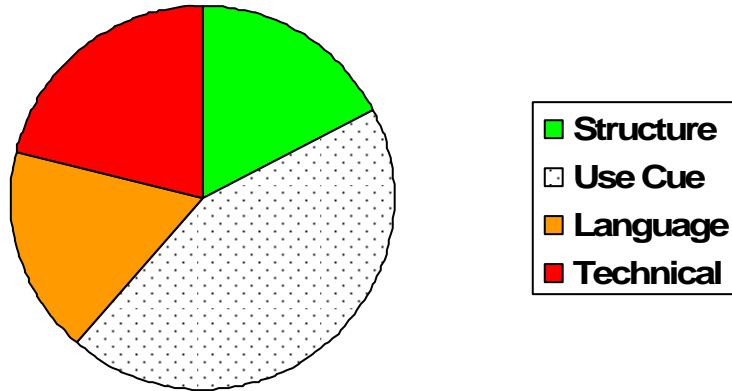
2.4.2 Problem definitions

We divided the problems in four types: structure, use-cue, language and technical problems.

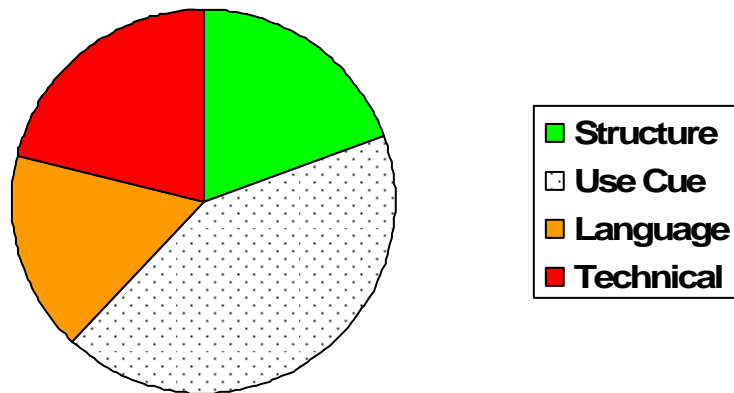
- Structure problems are problems related to the way the program is set up/ structured and the hierarchy they use. Structure problems: P1, P8, P11, P14, P17, P25, P29, P31, P32, P34
- Problems related to the use cues are where they are not recognized or where they are misinterpreted. From the long list of problems underneath it is clear that a lot of problem are related to use cues. A problem that we expected to see and also came across was that users clicked on the big dark titles and not on the actual (light grey) links (P36). Use cue problems: P2, P3, P4, P6, P8, P9, P14, P15, P18, P19, P21, P23, P24, P25, P26, P27, P28, P30, P31, P32, P33, P34, P35, P36, P38
- Language problems are related to misleading terms. For example the terms boost and ASAP are seen as having the same functionality: They are both seen for speeding up the download. Language problems: P2, P12, P13, P16, P22, P24, P29, P31, P35, P37
- Technical problems are problems mostly related to technical flaws in the program and are not always possible to change with the interface. These technical problems result in confused users because they are often related to a lack of feedback or feed forward. Technical problems: P1, P3, P5, P9, P10, P15, P19, P20, P27, P28, P33, P38

The problems per definition are visualized in the following diagrams:

Amount of different problems per type



Occurrence of problems per type



2.4.3 Retrospective interview

These are the highlights from interviews (per category). The interview was mainly focused on the social aspect of Tribler.

- *Networks*
2 participants say they would form a community with people with the same interests. They think it would be nice to get tips from others about what to download. One mentions that these people are not real friends but just contacts. One says it would be convenient though to be able to chat or exchange messages with the friends. One mentions that since you already get recommendations (by the hearts in Tribler) there is no specific need to have groups as well.
- *Friends*
One participant says that he thinks communities and friends are a hot topic at the moment. There are a lot of websites that provide this feature as well, but having it in the download program itself is a benefit to him. Having to provide people with the detailed information as it is right now is beneficial to two of the participants. They conclude that you can only add friends yourself as opposed to anyone just signing you up as a friend when they have your email address. On the other hand they thought it was a bit hard to find all the needed information, but when we showed them that it could be send in an email when you click 'invite a friend' they liked the idea better. A few participants mentioned that they missed a chat function, since this is common in online social networks.
- *Sharing bandwidth*
The users who mentioned something about sharing bandwidth and making as much friends as possible all agree that it is nice if people help you with boosting your download, but they wouldn't want to be helping others all the time. This would result in only adding 'real' friends in Tribler.
- *Looks*
In 3 out of the 6 tests people said they dislike the looks. In one test they mention that it is too grey and in two other tests they mention that it doesn't look very friendly. In 5 out of the six tests it comes up that the overview is unclear; participants do not know where they can click and where not. The benefit of the download status on the right is not seen, since there is no interaction possible.
- *Control*
In 4 out of the 6 tests the participants found the program to be reliable enough. Some said that you would probably start using this program if your friends are using it as well, so that makes it more reliable.
- *Language*
When we asked the participants the meaning of specific terms used in Tribler they were not able to explain them exactly. Most participants knew what the terms were related to but the exact function/meaning wasn't understood. Examples of problematic terms are: torrent, leecher and seeder. These terms were problematic to novice and experienced downloaders.

3 Answer to research questions and conclusions

3.1 Research questions

To what extend does the user have problems during the test and where is the basis of these problems?

3.1.1 Understanding the interface: functionalities and tasks

Is the user able to make use of the functionalities of Tribler? Is the user able to complete the given tasks in Tribler?

Most participants were not capable of completing all the given tasks in Tribler. They were given a specific amount of time to complete a task. In this time a task can be completed, completed with difficulty or failed. Most participants came across difficulties in tasks 4 (3 out of 6), 5 (4 out of 5), 9 (4 out of 4), 13 (5 out of 6) and 15 (5 out of 6). All these tasks are not essential for using the program. All individual difficulties are described in Appendix D: Problem list. We refer to the problems out of this list with P# where # stands for a number.

3.1.2 Understanding the language: Bandwidth and speeding up torrents

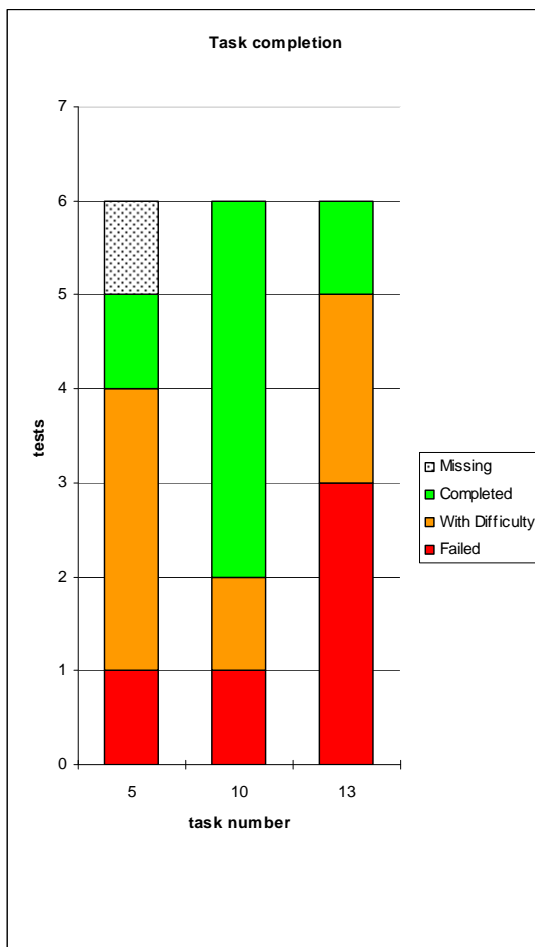
Does the user understand how to use sharing bandwidth & speeding up torrents?

Looking at the tasks related to use sharing bandwidth & speeding up torrents we concluded that the user does not understand how to use sharing bandwidth & speeding up torrents. The tasks related to this research question are:

- Task 5; Can you tell where the file is coming from, and from which people?
- Task 10: Please speed up a video download
- Task 13: Could you please share a new file with others using Tribler. The file to share is called "Things we lost in the fire" within the "Tribler" directory on the desktop.

It was very hard for the participants to complete task 5 and 13 (see graph to the right). The participants who failed to complete task 10 used ASAP to speed up their download. By using this function they did not come across the possible use of friends for speeding up a download. Those who have used the boost function do understand that they have to click on their friends to boost them. But if they understand the idea behind this is still questionable.

In the interview supports this conclusion. The interview questions related are:



Do you think there is a certain philosophy behind Tribler?

- Did you notice you were part of a network?
- Do you think it is wise to get as much friends as possible?
- Would you like to participate in such a community?
- Would you make your own community?
- How did the friends-making-thing go?

Most participants did notice that they were part of a network. The use of friends was not always understood. Five out of twelve participants did understand the benefits from doing the tasks.

Quote from test 5:

Test leader: What do you think about the friends' functions?

Participant R: It was clear.

Participant T: Does it have an added value for the program?

Participant R: they can really help you to boost your download speed?

Participant T: Yes.

Participant R: that has benefits of course.

After explaining the friends function they saw the use and some even saw the possible benefit of creating groups with similar interest.

The use of torrents was not always understood by the participants. Only in one test the participants were able to complete the task to share a file of their own. When we asked, most of the participants did not know the exact meaning and use of a torrent was.

Is the idea of participating in an 'online social downloading community' clear?

As described above we can say that the participants do understand that they are part of a downloading community. We have the feeling though that the users do not really understand the extra functionalities that Tribler has to offer in contrast to other downloading communities. We can carefully say that they like the functions (such as friends making) when we discuss and explain them but they do not understand them fully with just the tasks we gave them.

3.1.3 Understanding the social aspect of Tribler (interface feed-forward)

Does the interface help the users understand the functions behind Tribler? Does the user understand how the file sharing works?

Based on the interview we concluded that most participants do not understand how the file sharing works from using Tribler. The participants who know how the file sharing works know this from previous downloading experience. Tribler does not explain the technology it uses. The only mention of the word torrent can be found in the upper grey bar. In the interview were a few questions related to this topic.

Test leader: Do you know what a torrent is exactly?

Participant M: No not exactly.

Participant J: I also do not know what is it but I do know that it is kind a...

Participant : It just is a compact version, or not?

Looking at task13: Try to share one of your files, this opinion strengthened. Five out of six pair of participants were not able to complete the task on their own.

The interface does not help the users a lot to understand the friends function behind Tribler. Many of the participants did not understand this function on their own. These participants mainly had less experience in using downloading software. The function to create a torrent, subscribe to a RSS link and to make use of your friends is difficult to understand.

3.2 Conclusions

3.2.1 Interface

The interface is being marked as confusing by all participants. The separation between the top and left menu and the allocation of the functions here is not always clear to them.

In some cases it's difficult to separate the buttons from what is text only, and this makes it hard to understand what to click and what not. Some of the users mentioned that they did like the structure from the functions in the left menu bar.

The information part about down and uploads on the right is not interactive at the moment. This is confusing for the user since during the tests it was shown that the participants tried to click this part for navigating and finding information about their downloads.

3.2.2 Language

The language used caused some tasks not to be completed. When users have no knowledge about what torrents are it's hard to get what the program is about. On the other hand when using a program like Tribler this is something you would know before you start using it as one of the participants mentioned.

Some other technical terms were not understood by some of the inexperienced downloaders, for instance the terms seeder and leecher. They were able though to use the program without this knowledge.

3.2.3 Social Aspects

The social aspects of Tribler were not clear from the start for our participants. They notice the friends part, and were able to use the existing friends to boost a download when we asked them to do that, but it is not completely clear what benefits it has. Boosting a download by sharing bandwidth was new to all participants, but when this was explained as well as the part of making friends, most participants were positive towards that.

The information needed to add a friend was perceived as difficult to find for all users. They did like the fact that in this way not everyone can just try to add you as a friend which makes it more special. Within the friends function they do miss a chat or some other way of communicating through Tribler itself.

Making groups with people with the same interests for instance was an aspect that some of the participants liked. But since there is already a tool (the hearts) to tell which people have the same taste, making groups didn't sound beneficial to some users.

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Appendices

Appendix A: Complete list of tasks during usability test

The tasks we asked the participants to complete are listed below:

- 2min - What is Tribler about after 2 minutes of exploration?
- 1min - Please search for the episode 4, season 3 of "Lost".
- 1min - Please search for a short film item which is less than 50MB.
- 2min - Locate where the files are on your disk and change the location of the download path.
- 2min - Can you tell where the file is coming from, and from which people?
- 3min - Please add a friend to your friends list.
- 3min - Can you tell how much of the most recent download has been completed in terms of file size? And how much more there is to go?
- 2min - Please watch a video while you are download it.
- 2min - Please speed up a video download
- 1min - Change your picture and nickname
- 3min - See what one of your friends has available for download and start downloading one file.
- 4min - Could you please share a new file with others using Tribler. The file to share is called "Things we lost in the fire" within the "Tribler" directory on the desktop.
- 1min - Could you please stop the sharing of one of your active files?
- 3min - Could you extend your search so that you search through a greater number of sources when you perform a search. (If they do not use the "subscription" section, please ask them what they think about the subscription, and "what the source icons" mean to them.)
- 2min - Please change your download limit to 100kb/s, and your upload limit to 30kb/s.
- What is Tribler about at the very end of the session?

Appendix B: Transcriptions

Note: in order to save time we did not transcribed everything literally. Instead we described everything with time stamps (in order to easily find it back in the videos) and as neutral as possible in order not to influence the raw data. Here we show an example of how this is done. If you would like to see the complete worked out 'transcriptions' please email us at utartribler@googlegroups.com.

Test 3

Task 1 - starting time: 01.06

Completion (completed/with difficulty/failed): completed

Time stamp	Situation sketch (context)	Event description	Event title
01.06	Exploring the program	J opens the program. And starts exploring the menu's on the left side of the screen	Exploring Tribler
02.21			

Task 2 - starting time: 02.32

Completion (completed/with difficulty/failed): completed with small tip

Time stamp	Situation sketch (context)	Event description	Event title
02.32	Downloading Lost episode	J enters `lost second season` in the search bar. And presses enter. They see the thumbnail view. He changes the search query to `lost season 2`.	Searching for Lost episode
03.58		P gives them the tip to search for `Lost s02`	Tip
04.22			

Appendix C: Retrospective interview

This retrospective interview should be more of a discussion than a real question-answer conversation. These questions can be used to steer the conversation into the type of info we want. The cues of each question can be used if they are needed but are of course not question on themselves. The cue questions are most of the time closed. The interviewer should of course not be happy with just a yes or a no and is invited to ask further than what is stated below (why, what, how, can you tell more about..., etc.).

- => Main questions
 - => Cues (can be used to keep or get the conversation going)

Here we go!


- In general, how do you think this session went?
 - Did you enjoy it?
 - Was it difficult?
 - Were you comfortable?
- In what way did your opinion about Tribler evolve?
 - What was your first impression?
 - Did it change at all? How?
 - Are you going to download and use Tribler? Why?
- What do you think about the interface of Tribler?
 - Was it clear which buttons you could use?
 - Was it clear for you to find the functions that you needed?
 - Do you think you are in control of Tribler?
 - How did the friends-making-thing go?
- Can you talk more about the difficulties you encountered during your first use of Tribler?
 - Were there any language difficulties? (technical?, what?)
 - Did you encounter terminology you never heard of before?
 - Was it easy to solve problems you encountered?
- Do you think there is a certain philosophy behind Tribler?
 - Did you notice you were part of a network?
 - Do you think it is wise to get as much friends as possible?
 - Would you like to participate in such a community?
 - Would you make your own community?
 - Do you trust that your identity is secure while using Tribler?
 - Do you see Tribler as an active running program while your computer is on?

Appendix D: Problems index


Problems by Occurrence	Problems by Tasks
<p>Occurred five times:</p> <ul style="list-style-type: none"> • P3, P29 <p>Occurred four times:</p> <ul style="list-style-type: none"> • P5, P18, P19, P31, P37 <p>Occurred three times:</p> <ul style="list-style-type: none"> • P22, P28, P32 <p>Occurred twice:</p> <ul style="list-style-type: none"> • P2, P8, P11, P14, P16, P20, P21, P23, P26, P33 <p>Occurred once:</p> <ul style="list-style-type: none"> • P1, P4, P6, P7, P9, P10, P12, P13, P15, P17, P24, P25, P27, P30, P34, P35, P36, P38, P39 	<p>Task1: exploration</p> <ul style="list-style-type: none"> • P1, P2 <p>Task2: downloading episode of "lost"</p> <ul style="list-style-type: none"> • P3, P4 <p>Task3: find movie smaller than 50MB</p> <ul style="list-style-type: none"> • P5, P2, P3, P6, P7 <p>Task4: locate files on your hard disk</p> <ul style="list-style-type: none"> • P8, P9, P10, P11 <p>Task5: from who are you downloading</p> <ul style="list-style-type: none"> • P12, P13, P14 <p>Task6: add a friend</p> <ul style="list-style-type: none"> • P15 <p>Task7: find the needed info to be invited as a friend</p> <ul style="list-style-type: none"> • P16, P17 <p>Task8: determine how much has been downloaded</p> <ul style="list-style-type: none"> • P18 <p>Task9: please watch the video while you are downloading</p> <ul style="list-style-type: none"> • P19, P20, P3 <p>Task10: make a download go faster</p> <ul style="list-style-type: none"> • P21, P22, P23, P24 <p>Task11: change profile and picture</p> <ul style="list-style-type: none"> • none <p>Task12: Search for what one of your friend has available for download</p> <ul style="list-style-type: none"> • P25, P26 <p>Task13: Try to share one of your files</p> <ul style="list-style-type: none"> • P27, P28, P29, P30, P31, P32, P33 <p>Task14: please stop sharing one of your files</p> <ul style="list-style-type: none"> • P34, P18 <p>Task15: extend your search</p> <ul style="list-style-type: none"> • P31, P35, P36 <p>Task16: change upload and download limits</p> <ul style="list-style-type: none"> • P37, P38,


Problems by type	
<p>Structure problems:</p> <ul style="list-style-type: none"> P1, P8, P11, P14, P17, P25, P29, P31, P32, P34, <p>Use cue problems:</p> <ul style="list-style-type: none"> P2, P3, P4, P6, P8, P9, P14, P15, P18, P19, P21, P23, P24, P25, P26, P27, P28, P30, P31, P32, P33, P34, P35, P36, P38 <p>language problems:</p> <ul style="list-style-type: none"> P2, P12, P13, P16, P22, P24, P29, P31, P35, P37, P, P <p>Technical problems:</p> <ul style="list-style-type: none"> P1, P3, P5, P9, P10, P15, P19, P20, P27, P28, P33, P38 	

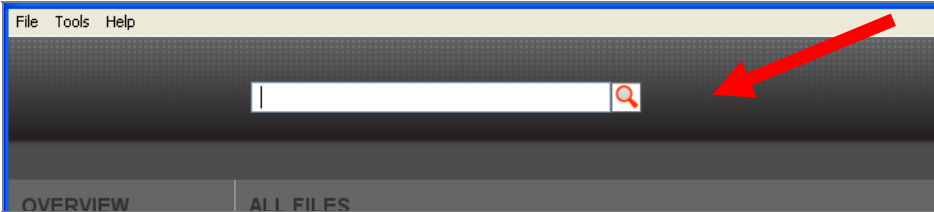
Problems

P1	Going back one page
Problem Type:	Structural, Technical
Title:	Users were expecting to click a back button in the top right corner of the interface in order to undo an action. This function is missing.
Occurrence:	1
Screen Capture:	


P2	Icons misunderstood
Problem Type:	Use Cue, Language
Title:	The "seeder" and "leecher" terms and the icons are not understood by users.
Occurrence:	2

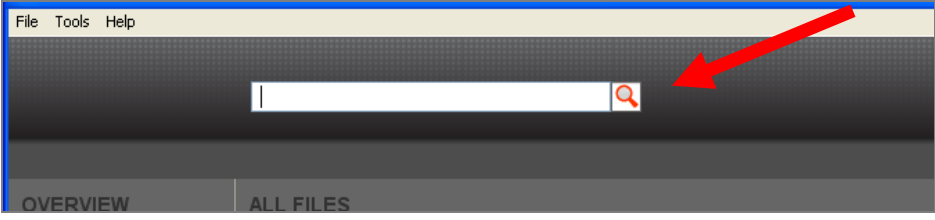
Screen Capture:	
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P3	Weak feedback for indicating that a file is being downloaded
Problem Type:	Use Cue, technical
Title:	When users select a file to download, the feedback of the status bar at the right hand side is very weak in showing a change to a downloading state.
Occurrence:	5
Screen Capture:	

P4	Search box not noticed
Problem Type:	Use Cue
Explanation:	Users sometimes do not notice the search box. Visually the box is not integrated with the search results screen, and is separated by two contrasting backgrounds.
Occurrence:	1
Screen Capture:	

P5	Users are expecting to type in file size into the search bar
Problem Type:	Technical
Title:	When searching for a movie of a particular file size, users would type in the file size into the search box. That functionality is missing.
Occurrence:	4

Screen Capture:	
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P6	Clicking on magnifying glass and expecting advanced search
Problem Type:	Use cue
Title:	Users would expect advanced search options when clicking on the magnifying glass. Functionality is missing. In advanced search they wanted to specify file size parameters (for instance).
Occurrence:	1
Screen Capture:	

P7	Unclear to users that they can view results in list mode
Problem Type:	Use cue
Title:	Some users do not understand what the difference between the two icons is without clicking on them.
Occurrence:	1
Screen Capture:	

P8	Top menu is not visible
Problem Type:	Use cue, Structure
Title:	Users would not notice the top menu items such as "File" and "Tools" and inner functions, as the items are visually separate from the main interface. Users were expecting all functions to be consistently integrated into the main interface below the top menu.
Occurrence:	2

Screen Capture:	
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P9	Misleading behaviour of list tab – (not always functioning)
Problem Type:	Use cue, Technical
Title:	When in certain sections, such as “Profile”, the list tab icons were clickable, yet did not change anything when pressed, misleading users.
Occurrence:	1
Screen Capture:	

P10	Don't understand why a torrent is "0%"
Problem Type:	Technical
Title:	Users do not understand why a torrent remains at 0% for a long time and why it is not progressing right away.
Occurrence:	1
Screen Capture:	

P11	Preferences menu is not obvious in indicating download location
Problem Type:	Structure
Title:	It was difficult for users to find the location of the download folder, as it was so deeply hidden through the top menu.
Occurrence:	2

Screen Capture:

P12 "open destination" is misunderstood

Problem Type: Language

Title: Users are uncertain what the "open destination" option means.

Occurrence: 1

Screen Capture:

P13 IP addresses are not representing the people behind the files

Problem Type: Language

Title: Users do not understand what IP addresses are representing.

Occurrence: 1


Screen Capture:

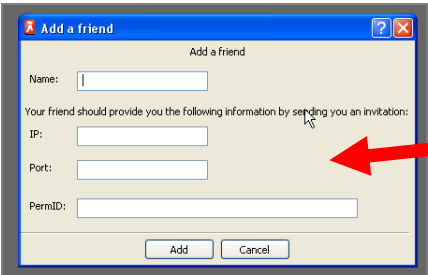
O	IP	L.	Up	I.	C.
	79.36.0.99	L			
	82.0.189.130	L			
*	82.0.189.130	L			
TOTALS:					0 KB/s

P14 "more info" is expected to contain file sources, but this is not the case

Problem Type: Use Cue, structure

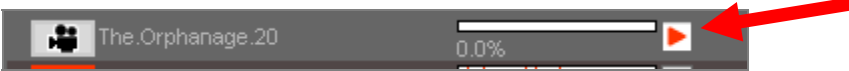
Title:	Users expected to see file sources after clicking "more info".
Occurrence:	2
Screen Capture:	

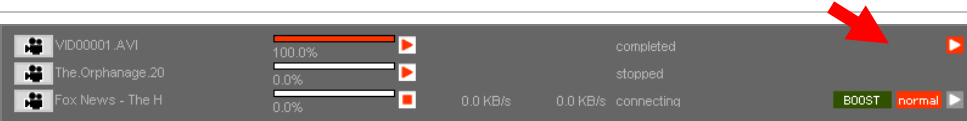
P15	Tribler does not appear in the taskbar at the bottom of windows
Problem Type:	Technical, use cue
Title:	There was some confusion after clicking the minimize button, Tribler disappeared from the windows taskbar.
Occurrence:	1
Screen Capture:	


P16	Users do not know how to obtain an IP address and a PERM ID
Problem Type:	Language
Title:	Users do not know how to obtain such technical information in order to add a friend.
Occurrence:	2
Screen Capture:	

P17	It is not obvious where to find your own information
Problem Type:	Structure
Title:	Users do not know how to obtain such technical information about themselves in order to provide it to their friends.

Occurrence:	1
Screen Capture:	


P18	The stop and play icon is not clear in showing the current state or future state
Problem Type:	Use Cue
Title:	Users do not know know if the play/stop icons represent the existing state (currently “playing”), or the future state (“it will play after pressing”).
Occurrence:	4
Screen Capture:	


P19	There is no clear indication if a file is watchable or not
Problem Type:	Technical, Use Cue
Title:	The play buttons are used twice and it confuses users. Once for pausing or resuming the downloads, and later on in playing the video footage. The icons themselves are also sometimes, green, gray and red and it is not clear to the users what those colours represent.
Occurrence:	4
Screen Capture:	

P20	The movies are technically not playable, and the play asap button is still available.
Problem Type:	Technical
Title:	The “play ASAP” button is available for clicking even though movies do not play after the button is pressed.
Occurrence:	2
Screen Capture:	

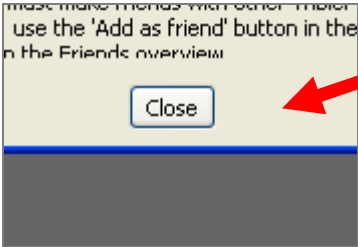
P21	Users are uncertain if it is speeding or not due to conflicting feedback
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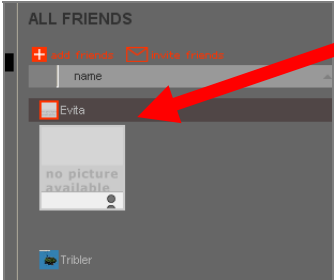
Problem Type:	Use Cue
Title:	When boosting a download, there is conflicting feedback. On one hand it says it is “boosting”, and at the same time the download is still 0 KB/s. This confuses users.
Occurrence:	2
Screen Capture:	

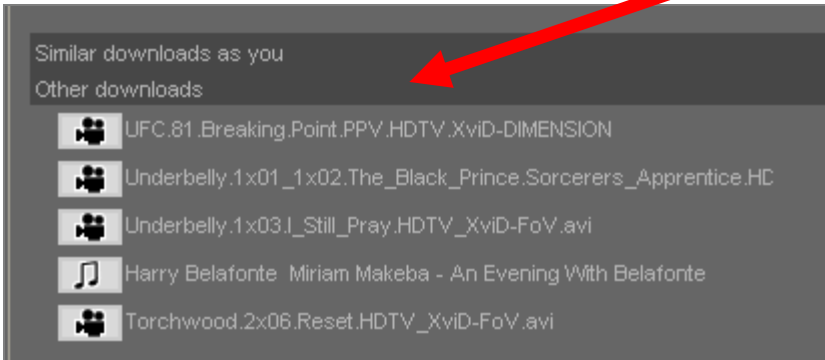
P22	There is confusion and no understanding of ASAP and BOOST
Problem Type:	Language
Title:	The terms “Boost” and “ASAP” are too similar and confuse users who think that both functionalities will speed up the download.
Occurrence:	3
Screen Capture:	

P23	It is not understandable how users can move all friends at once to the right in stead of one by one
Problem Type:	Use Cue
Title:	Users do not understand that they can select their friends to move them from left to right.
Occurrence:	2
Screen Capture:	

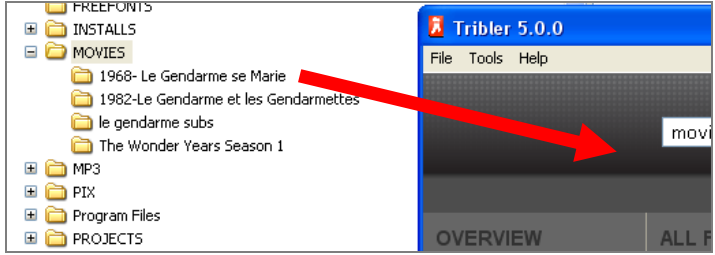
P24	No feedback to confirm which friends have been asked to boost
Problem Type:	Use Cue, Language
Title:	The wording “close” misleads users that the selection will not be accepted, and that it will be “cancelled”.

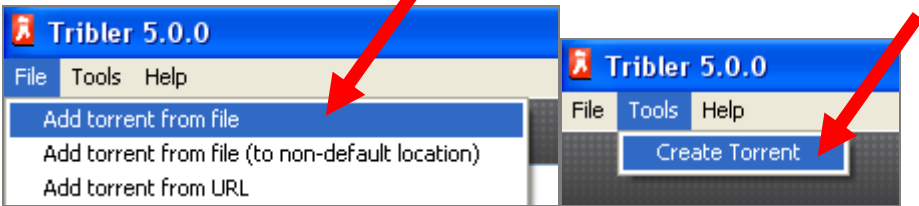
Occurrence:	1
Screen Capture:	

P25	Users think that double clicking on a friend will open up a friend page, but it does not
Problem Type:	Use Cue, Technical
Title:	Users believe that clicking on a name of a friend will bring up more options. It does not.
Occurrence:	1
Screen Capture:	

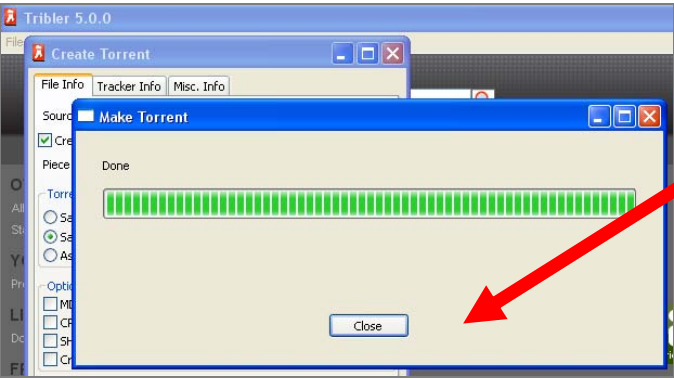
P26	There is no feedback about "no downloads" of a friend
Problem Type:	Use Cue
Title:	Users do not understand what the "similar downloads" section means when there are no download links under there.
Occurrence:	2
Screen Capture:	


P27	They wanted to right click on a file in windows explorer to add it as a torrentfile
Problem Type:	Use Cue, technical
Title:	In order to add a file as a torrent, users wanted to right click it in windows explorer and add it through this way.
Occurrence:	1

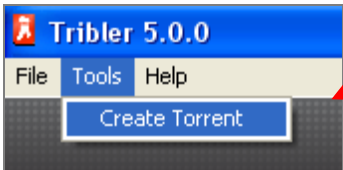
P28	They wanted to drag it into Tribler to add it as a torrent file
Problem Type:	Use Cue, technical
Title:	In order to add a file as a torrent, users wanted to drag it into Tribler from internet explorer.
Occurrence:	3
Screen Capture:	

P29	Confusion between "add torrent" and "create torrent"
Problem Type:	Structure, Language
Title:	The two terms "add torrent" and "create a torrent" are very much related and user do not understand the mental model behind these two functions.
Occurrence:	5
Screen Capture:	

P30	No adequate feedback on completion of torrent creation, when it reached 100%
Problem Type:	Use Cue
Title:	Users thought the close function would cancel the process, and after pressing it there was no further guidance on what to do.

Occurrence:	1
Screen Capture:	

P31	Subscriptions are not understood
Problem Type:	Structure, Use Cue, Language
Title:	Users did not understand what subscriptions were about.
Occurrence:	4
Screen Capture:	

P32	Creation of torrent is hidden in the top menu
Problem Type:	Structure, Use Cue
Title:	Users had trouble finding this functionality as it was in the top menu.
Occurrence:	3
Screen Capture:	

P33	Users tried to copy and paste a file
Problem Type:	Use Cue
Title:	In order to add a file as a torrent, by copying and pasting between two windows.
Occurrence:	2

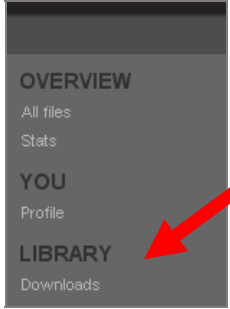
Screen Capture:	
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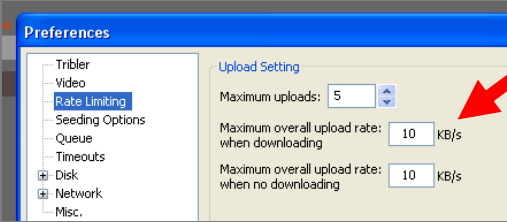
P34	Mistake "all files" for "downloading files"
Problem Type:	Structure, Use Cue
Title:	The display of both sections "all files" and "downloads" is very similar, and sometimes users do not know if the files displayed are search results or their own files.
Occurrence:	1
Screen Capture:	

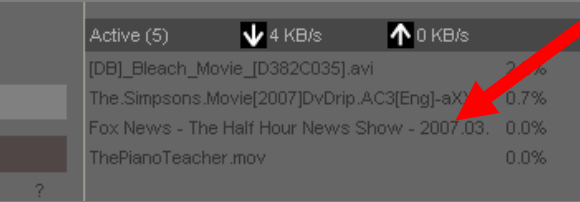
P35	Users do not know which link to add
Problem Type:	Use Cue, Language
Title:	Users did not know what an RSS link was.
Occurrence:	1
Screen Capture:	

P36	Users clicked the big dark titles, and not on the actual links
Problem Type:	Use Cue
Title:	Users thought the headers are clickable.
Occurrence:	1



Screen Capture:	 <p>A screenshot of a mobile application menu. The menu is dark grey with white text. It has three main sections: 'OVERVIEW' with sub-items 'All files' and 'Stats'; 'YOU' with sub-item 'Profile'; and 'LIBRARY' with sub-item 'Downloads'. A red arrow points to the 'LIBRARY' section.</p>
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P37	"Rate Limiting" has two options for upload rates, which were confusing
Problem Type:	Structure, Use Cue
Title:	Users did not know the difference between "maximum upload rate when downloading" and "maximum upload rate when no downloading"
Occurrence:	4
Screen Capture:	 <p>A screenshot of the Tribler Preferences dialog box. The 'Rate Limiting' section is selected in the left sidebar. The 'Upload Setting' section on the right shows two fields: 'Maximum uploads: 5' (a dropdown menu), 'Maximum overall upload rate: 10 KB/s when downloading', and 'Maximum overall upload rate: 10 KB/s when no downloading'. A red arrow points to the 'Maximum overall upload rate: 10 KB/s when no downloading' field.</p>

P38	Users thought the right side of the bar was clickable
Problem Type:	Use Cue, Technical
Title:	Users tried clicking on the link on the right hand side in order to bring up more file details about their downloads.
Occurrence:	1
Screen Capture:	 <p>A screenshot of the Tribler active downloads list. At the top, it shows 'Active (5)' with a download speed of '4 KB/s' and an upload speed of '0 KB/s'. Below this are five download entries with their progress percentages: '[DB]_Bleach_Movie_[D382C035].avi' (2.0%), 'The Simpsons.Movie[2007]DvDrip.AC3[Eng]-aX' (0.7%), 'Fox News - The Half Hour News Show - 2007.03.' (0.0%), and 'ThePianoTeacher.mov' (0.0%). A red arrow points to the right side of the bar for 'The Simpsons.Movie[2007]DvDrip.AC3[Eng]-aX'.</p>

Appendix E: Raw data in excel sheet

TASKS PROBLEMS	Problem #	Test#						Type of problem				
		1	2	3	4	5	6	structure	technical	Use-cue	Language	
C: complete D: with difficulty F: failed M: missing												
task1: exploration		C	C	C	C	C	C					
Going back one page	p1						x	x	x			
Icons misunderstood ("seeder" & "leecher")	p2	x							x	x		X
task2: downloading "lost" episode		F	C	C	D	C	C					
Weak feedback for indicating that a file is being downloaded (weak icon & weak grey text in right bar)	p3	x		x		x			x	x		
Search box not noticed	p4			x						x		
task3: find movie smaller than 50MB		D	C	D	C	C	D					
Users are expecting to type in file size into the search bar	p5	x	X	x	x				x	x		
Icons misunderstood ("seeder" & "leecher")	p2	x										
Weak feedback for indicating that a file is being downloaded (weak icon & weak grey text in right bar)	p3					x			x	x		
Clicking on magnifying glass and expecting advanced search	p6						x				x	
Unclear to users that they can view results in list mode	p7						x				x	
task4: locate files on your hard disk		F	C	C	F	D	C					
Top menu is not visible	p8	x		x				x			x	
Misleading behaviour of list tab - not functioning	p9			x					x			
Don't understand why a torrent is "0%"	p10					x			x			
Preferences menu is not obvious in indicating the download location	p11		x		x			x				x
task5: from who are you downloading		F	D	D	C	D	M					x

It is not understandable why users have to move all friends one by one	p23			x	x			x	
No feedback to confirm which friends have been asked to boost (wording: "close")	p24					x		x	x
task11: change profile and picture		C	C	C	M	C	C		
task12: Search for what one of your friend has available for download		C	C	C	M	C	F		
Users think that double clicking on a friend will open up a friend page, and it does not	p25					x	x	x	
There is no feedback about "no downloads" of a friend	p26			x		x		x	
task13: Try to share one of your files		F	F	D	D	F	C		
They wanted to right click on a file in windows explorer	p27						x	x	x
They wanted to drag it into Tribler	p28	x		x	x			x	x
Confusion between "add torrent" and "create torrent"	p29		x	x	x	x	x		x
No adequate feedback on completion of torrent creation, when it reached 100%	p30						x	x	
Subscriptions are not understood	p31			x			x	x	x
Creation of torrent is hidden in the top menu	p32			x	x	x	x	x	
Users tried copy and paste a file	p33	x	x					x	x
task14: please stop sharing one of your files		D	D	C	D	C	C		
Mistake "all files" for "downloading files"	p34	x					x	x	
The stop and play icon is not clear in showing the current state or future state.	p18		x	x				x	x
task15: extend your search		F	D	F	F	D	C		
Subscriptions are not understood	p31		x	x	x		x	x	x
User do not know which link to add	p35					x		x	x
Users clicked the big dark titles, and not on the actual links	p36						x	x	

task16: change upload and download limits

"Rate Limiting" has two options for upload rates, which were confusing

Users thought the right side of the bar was clickable

	D	C	C	C	C	C			
p37	x		x	x		x			x
p38	x						x	x	