

# Tree Testing in Information Hierarchies

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## Abstract

Tree testing is actually a usability technique for evaluating findability in an information architecture. Therefore, a hierarchical structure of the information architecture (IA) is necessary. The main idea behind this test is to set up tasks to particular participants to find some information in the hierarchical structure. Then the participants will go through it and finally selects a subcategory in which they expect the information, described in the task. Based on the results of these tests, the information architecture can be evaluated if it works or it should be redesigned. Also, the results give some measurement to compare different basic approaches of IA with each other. A very common field of application for this test is the evaluation of findability in web pages.

Tree testing can be done in different approaches, so in this survey the paper based approach as well as the approach with online tools are investigated. This paper gives also an overview, of the fundamentals of tree testing and introduces how tree testing should be planned and prepared. Further on, the setup, installing and preparation of the online tools Treejack and Naview will be treated. In the final chapter a short comparison of the results of paper based testing and online testing will be given.

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# Chapter 1

## Introduction

Tree testing is simply a usability technique, which is used for evaluating findability in information architectures. The fundamental work for tree testing was made by Spencer [2003]. The name "tree testing" was first mentioned by Dave O'Brien. He named it tree testing for the reason that it seemed to stick with the participants in a usability test as he described in Brien [2009] .

But tree testing is not the only way to call this technique. In many articles also other names are mentioned. Here a small overview of names, they also refer to tree testing, introduced by Brien [2017].

- Reverse card sorting
- Inverse card sorting
- Task-based category testing
- Taxonomy testing

### 1.1 Findability

Findability describes how easy a user can find a certain information on an information architecture for example in a website. High findability can be reached by defining a good information architecture (IA) and also by a well-designed navigation system (UI). Since this survey is about tree testing, the main focus should be on the information architecture. So if there is an issue in the information architecture, this can lead to enormous costs if the information architecture needs to be redesigned. Therefore, tree testing is a very good idea at the beginning of each project depending on the information architecture.

### 1.2 Why Tree Testing

The main point for usability testing is to check if an information architecture work. But there are other techniques they can be used. So what benefits does tree testing offer? Primarily tree testing can be done without great effort. This makes tree testing very cheap and popular. At the very first version, which was introduced by Spencer [2003], the test can be done without any materials or any technical equipment. Only a pack of index cards and a pen is needed. Also, a main advantage of tree testing is that it is only relevant for testing the structure of the information architecture and the labelling of categories. For that reason tree testing can be performed very early in the design process of the project. At this time no final implementation of the information architecture is needed - only a structure of information in tree form is necessary. To sum up tree testing provides to get early informations about the behaviour of the information architecture. If some issues occur, changes can be performed quickly before the whole layout and navigation system is finally developed. The results of tree testing can also be used to compare trees. So it is possible to develop different kind of trees and compare them with each other.

## 1.3 Combine Tree Testing and Card Sorting

Often tree testing and card sorting are used together to check the information architecture and capture the most important informations about it. Therefore, the question arises, what should be done first, tree testing or card sorting. The following points are based on Koh [2016].

### 1.3.1 Card Sorting

Card sorting gives an overview how participants would organize an underlying content. They will group the content in a way that it is most logical for the participants. In this stage of process two different methods of card sorting can be used.

#### Closed Card Sorting

The first method allows the participants only to organize information to predefined groups. This is called closed card sorting and allows easy comparison between participants.

#### Open Card Sorting

The second type is called open card sorting. Here the participants are able to organize the content into group categories, which are created and named by them. The participants also defines relationships between the groups in a way that makes sense for them.

### 1.3.2 Sequence of testing

Card sorting will give an overview of potentially problems of classifying and grouping content. Based on these results an appropriate information architecture can be build, which eliminates these difficulties. This information architecture should be tested. Tree testing is now the best option to do this. Thereby card sorting is usually done before tree testing. imarklab [2016]

## 1.4 Types of Tree Testing

There are different types how tree testing can be performed. Since this decision is essential for the further process, it should be done with great care at the beginning of each test. This decision influences also the preparation for the test itself. The types of tree testing are based on KIU [2017].

### 1.4.1 Moderated vs. Unmoderated

Is a direct contact to the participants relevant, for example to explain any obscurities, or can the test also run without human support? A typical example of a moderated type of tree testing is the paper-based version. This type of testing require human interaction with the participants. At the beginning of a paper-based test, it is necessary to introduce oneself and give a short explanation why this test should be executed. But not only paper-based testing can run in a moderated form. Also, the online testing version can be handled in moderated form. At online moderated testing, the moderator can interact with the participant using a web service, similar to online meeting. The participant has the opportunity to share the display with the moderator. In this case the moderator is able to see, if the participants hesitate by choosing some answers. But usually online tests are unmoderated. So one of the main advantages of moderated testing is, if something in the procedure of testing is ambiguous, the moderator can clarify immediately and can control the whole procedure. Also, a moderator can observe the behaviour of the participants and add some impressions to the test results. But also for the unmoderated version there are some reasons. First thing is, that no extra manpower is needed for the testing purpose. So the unmoderated testing is cheaper and tests can be performed simultaneously, so much more

information (test results) can be acquired over the time. Also, a fact, which should not be ignored is, that the behaviour of users might be different, if they are observed. This could falsify the data.

### **1.4.2 Remote vs. Face-to-Face**

Both are moderated types, but in the case of face-to-face the moderator stays in the same room as the participant. In the remote version, the moderator interacts with the participants over the internet (web based service). Hence, a main disadvantage of face-to-face testing is, that the moderator needs a place where the testing procedure can take place. Also, the flow rate of tests during a specific time period might be lower comparatively to remote testing.

### **1.4.3 Paper Based Testing vs. Online Tools**

In this case online testing means that the test procedure is not moderated (but it can, as described above), however paper-based testing is always moderated. As mentioned before, the paper-based tree testing was the first version of tree testing, originally done with index cards. So the benefit of paper-based tree testing is most certainly the fact, that a test can be done fast and without much effort. A test can run also, if the information architecture is not finally finished. But if the size of the tree is growing, writing index cards for each categories by hand can become very annoying. Nowadays tree testing is mainly done by online tools. The idea behind the testing concept remains the same, but testing the information architecture becomes faster. Also, large trees can easily imported in the tools for example as spreadsheets. And the main advantage for participants is, that they can perform the test at any time. In case of manpower, which is necessary for paper-based testing, the online testing become cheaper if the number of tests increases. Another benefit of online testing is the easy recruiting of participants. So large number of willing participants can be achieved, which increases the amount of test data for evaluating. As recording results of paper-based testing can be very tedious, because of manually adding the participants choosing paths to a spreadsheet, online tools facilitate this enormously. Also, the analysis of the record is much easier, because of integrated analysis and visualization algorithms.



## Chapter 2

# Upfront Planning

This chapter is based on the findings of [Brien, 2017; Whintenton, 2017]. Good planning in the beginning of the creation of an information hierarchy will save a lot of time and effort later, since it is easier to design and structure it from the scratch than to change it afterwards. Tree Testing can be used to get a baseline score for an existing website, test revision to an existing structure or to compare completely new designed structures of information hierarchies.

First of all, a decision on which kind of test should be run has to be made. This decision could be influenced by the amount of money which is available for the test, how much time it can take or of course which results should be achieved and which improvements of an information hierarchy need to be made.

### 2.1 Online Tools

A really easy way to do tree testing is by using online tree testing tools. There are only a few online testing tools available, which could be used. Advantages of using online tools are that the tests can be done moderated or unmoderated. Therefore, people can simply participate the test at home via a web browser by just clicking on the invitation link. The tools also provide flexible testing opportunities where the administrators can customize their tests with different messages and tasks for the participants. One main advantage is, that those tools often come with different automated analysis features, where the results can be seen and compared immediately, without putting any effort and time in analyzing the results.

Unfortunately there are really not many online tools available. There have been some more in the past. No completely free tool could be found. All Tools are quite expensive, but some have free trial versions. Later on in this paper, two of those online tree testing tools are described more briefly and reviewed.

### 2.2 Alternative Ways of doing Tree Testing

Due to the high pricing of the available online tools, information hierarchy designers came up with some other ideas of testing the hierarchy. They invented some creative, but especially cheap or even free ways of testing.

#### 2.2.1 Folder Clicking

First example is to test an information hierarchy via the folder clicking method in a file system. The information hierarchy can be represented by simple folders. The first level of the hierarchy are the first folders in the main testing directory, the second levels are in those first folders and so on. The participants just go through the structure by clicking their way through the folders. This type of test could be done moderated or with the help of some screen recording tools, to investigate the process of finding information.

## Site Maps in Editors

Some HTML editors provide tools for creating an interactive site map. This site map could be used by the participants to click all the way down in the information hierarchy.

### 2.2.2 HTML Prototypes

Sure it is also possible to just build a little HTML prototype of the information hierarchy. There even exist some JavaScript libraries which provide functions for creating clickable tree structures, which makes the process of building an own prototype much easier and quicker.

## 2.3 The Tree

Testing a whole information hierarchy leads to the best test results, but if the information hierarchy is too large, there is the opportunity to just take several parts of it. When creating a new tree, several points should be taken into account. Not only the content is an important part, it should be also based on the knowledge of the target user groups and of course on the testing results of previously done tests of the existing information hierarchy. If possible, there should be a balance between wide-shallow and deep-narrow for the information hierarchy. If the tree is wide, the participant is probably able to find a fitting term in the first level of the tree. The naming of the labels should also be well-chosen. Often real users cannot relate to company internally used terms, so they should be clear and easy to understand for everyone. It is also important to use the link text and not just the page titles, this could lead to wrong results within the testing procedure. Some labels should be excluded and it needs to be agreed on which ones are not needed. Most of the time headlines like “Overview”, “Contact”, “Help” and “Search” do not have to be used in the tree. By creating the tree a big mistake is to leave out “hidden” content. This can happen if the information is important, but it does not have an own page and is somewhere on another page. If there is the possibility, it can be good to create and test a couple of trees and compare the results of each tests. Therefrom it is possible to derive the most understandable information hierarchy with the best findability. It also could help to take the parts with the best results and combine it to a new structure.

## 2.4 The Tasks

The tasks should include the most common and the most critical items a user can find within the information hierarchy. To save some time it is possible to use tasks already used in another usability test, since they most of the time handle important parts or structures which are not working as good as expected. About 8-10 tasks per user and testing session are sufficient. It is more fun and less frustrating for the participant and the testers if one test doesn't take too much time. It is also good to give participants the opportunity skip certain tasks to avoid frustration. In moderated tests if the participants stuck or go in a completely wrong direction, it is allowed to give hints. Tasks should be well-prepared and chosen. The best tree test does not help, if the tasks are not chosen as well. The tasks should be written well-structured and clear. It is important to not give the solution right away in the task description. Terms in the tasks should be phrased differently than the labels in the tree.

## 2.5 The Participants

To have good results about 50 to one hundred people are needed. Often it is not easy to convince such a high number of people to participant a test and give away their free time. It is easier to get volunteers for online testing than for paper card based testing, since people can participate at home without going to an office and can freely choose the time, they want to do the test. It can help to use ads for the test, if this is possible. Small give-aways could also help to make the participation of the study more attractive. It gets complicated if you have a really specific target user group of your information hierarchy. Then the whole recruiting process needs

more effort. Also, if the test is done paper card based, a plan how to get the right participants should be made and furthermore the whole schedule should be well-chosen.





## Chapter 3

# Tree Testing Example

In the following chapters real examples of a paper based tree testing and examples of tree testing with the help of the online tools NavView and Treejack are shown.

### 3.1 Information Hierarchy

As example information hierarchy for the following tests the information hierarchy of the website of the technical university of Graz is used. A tree was created by taking the navigational structure of: <http://online.tugraz.at>. This seems like a good information hierarchy for the tests, because it contains a lot of links and therefore a lot of information, which can be found.

### 3.2 Tasks

Since the free plans of the online tools are limited to a certain number of tasks, it was agreed on testing three tasks for the trial and of course comparison of the tools.

Following tasks were selected:

- Task 1: Find information about the Institute of Interactive Systems and Data Science.
- Task 2: Find the secretary of the personnel department.
- Task 3: Find information about the Stahlbau-Zeichensaal.

Task 1 was selected because it is one of the common items to find in the information hierarchy. Task 2 was selected because it is one of the critical items to find as it is a deep node in the tree and not that easy to find. Task 3 was selected because it is findable more than once in the tree and there is no optimal path to find the information.



## Chapter 4

# Paper Based Tree Testing Example

For the paper-based test the same tasks are used as in the online tool testing process. For testing purpose two participants were invited.

### 4.1 First Task

Looking for the Institute of Interactive Systems and Data Science.

- First participant

The session started with a short introduction and asking the participant if there are any obscurities. As the participant did not have any question, the testing process was started immediately. The taken path of participant one was: Card 3 (Faculties), card 29 (Computer Science and Biomedical Engineering), card 34 (Institutes) and card 36 (Interactive Systems and Data Science). As shown, the goal was accomplished.

- Second participant

Like the first participant, after the introduction and explanation everything was clear and the test could start unproblematically. The chosen path was: Card 3 (Faculties), card 29 (Computer Science and Biomedical Engineering), card 34 (Institutes) and card 36 (Interactive Systems and Data Science). The information could be found without any problems.



Figure 4.1: First Participant - First Task

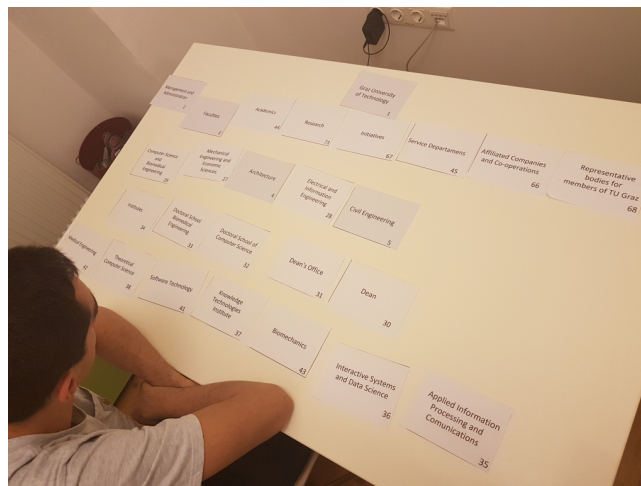


Figure 4.2: Second Participant - First Task

## 4.2 Second Task

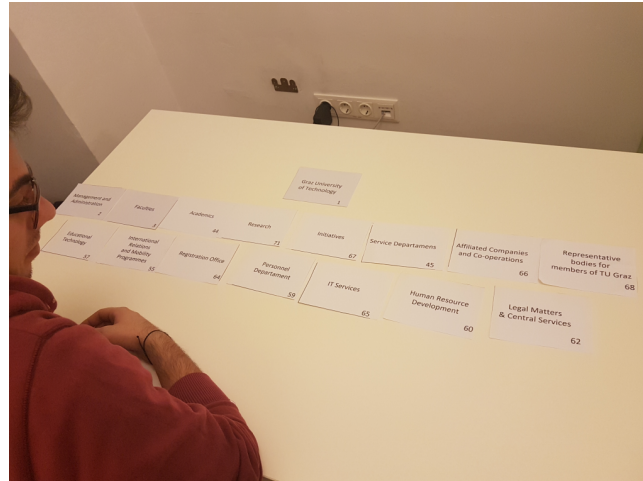
Where would the participant expect to find information about the Secretary of Personnel Department?

- First participant

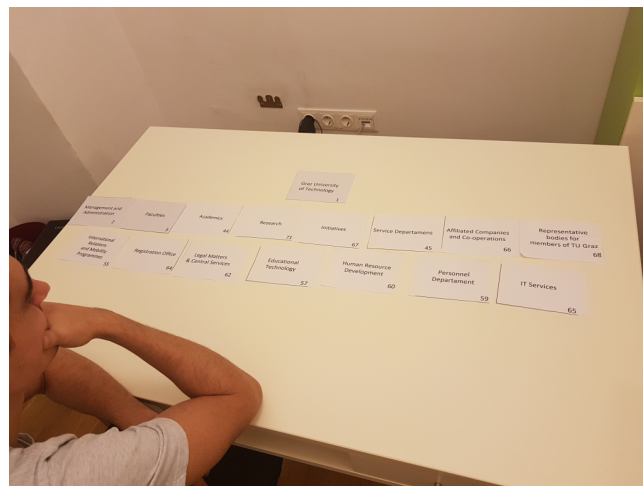
In this case of testing, the participant decided to went back at a special step, so the taken path of participant one was: Card 2 (Management and Administration) (Went back), card 45 (Service Department), card 59 (Personnel Department).

- Second participant

In this testing scenario there was no need for going back. For this participant it was clear which path is to take, so it was: Card 45 (Service Department), card 59 (Personnel Department).



**Figure 4.3:** First Participant - Second Task



**Figure 4.4:** Second Participant - Second Task

### 4.3 Third Task

Where would the participant expect to find information about Steel Construction Drawing Room?

- First participant

The path for this task was found without problems: Card 3 (Faculties), card 5 (Civil Engineering) card 10 (Institutes) and card 13 (Steel Structures).

- Second participant

The second participant found the same path as the first participant, except for the last card: Card 3 (Faculties), card 5 (Civil Engineering) card 10 (Institutes) and card 15 (Laboratory for Structural Engineering).

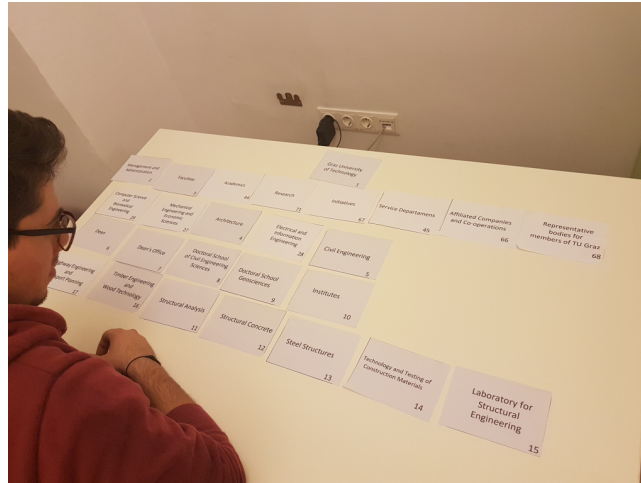


Figure 4.5: First Participant - Third Task

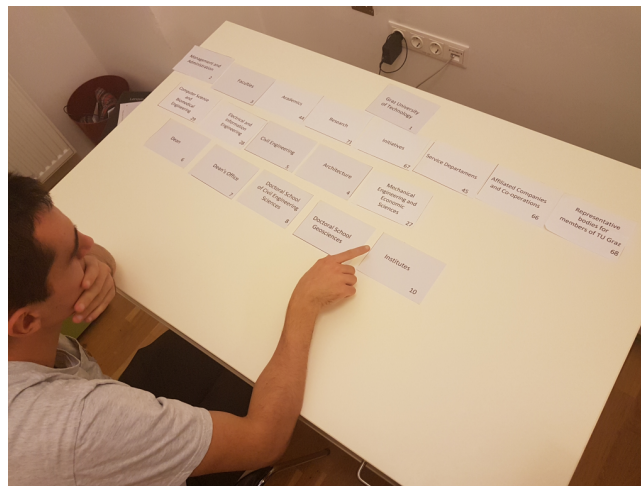


Figure 4.6: Second Participant - Third Task

## 4.4 Analysis

For analysing purpose there is a table including the participants in the first column. Then the paths of the three different tasks chosen by the participants are also listed in the table. This makes the analysing process much easier.

### 4.4.1 Path of Task 1

This shows that the tree is consistent, at least for the first task, as the path was the same for both participants.

### 4.4.2 Path of Task 2

Doing the second task, the first participant went back to find the information while the second participant choose the path directly. None of the participants were able to find the correct path, as it was:

	Scenario 1	Scenario 2	Scenario 3
Participant 1	3.29.34.36	2(No).45.59	3.5.10.13
Participant 2	3.29.34.36	45.59	3.5.10.15

Figure 4.7: Results

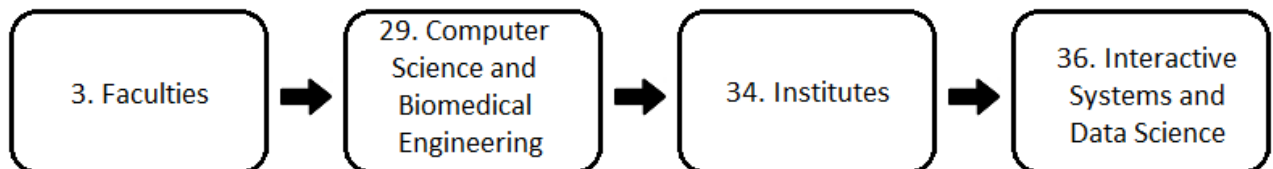


Figure 4.8: Task 1

#### 4.4.3 Path of Task 3

The third task shows that there are changes to be done, because different endings suggested that it is not very clear where the information can be found.

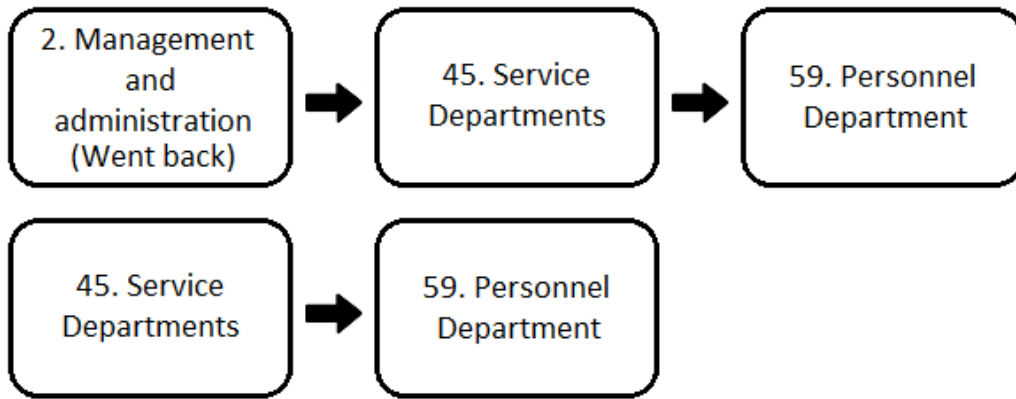


Figure 4.9: Task 2

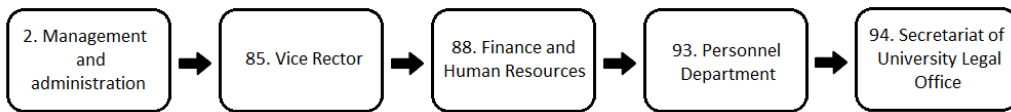


Figure 4.10: Path 2

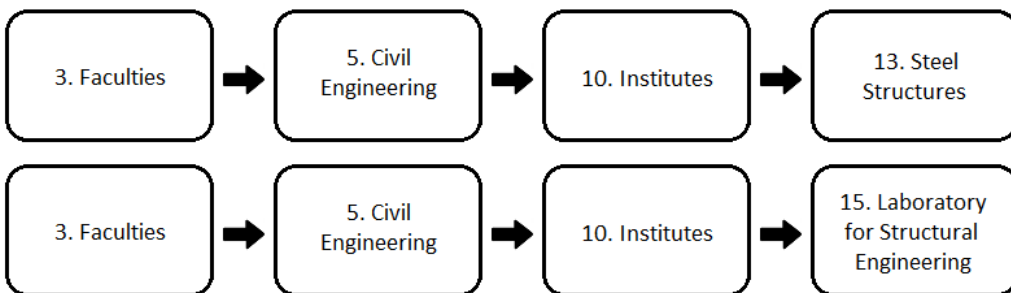


Figure 4.11: Task 3



## Chapter 5

# Online Tree Testing Tools

Online Tree Testing offers several advantages to paper-based tree testing, such as:

- Unmoderated testing
- Flexible testing options
- Automated analysis

Test participants only need their web browser, available anywhere and anytime. Instructions and questions can be easily included to the test. The greatest benefit is the automated test analysis. Different analysis tools offer a deep insight in what the participants have done.

Tool	Availability	Remark
Treejack	available	Tested the free plan.
UserZoom	available	Asked to get an access - no response.
C-Inspector	unavailable	Since 01.01.2014 not available anymore.
PlainFrame	unavailable	Offline - Website down.
Naview	available	Tested the free plan.

**Table 5.1:** Tree Testing Tools - Overview

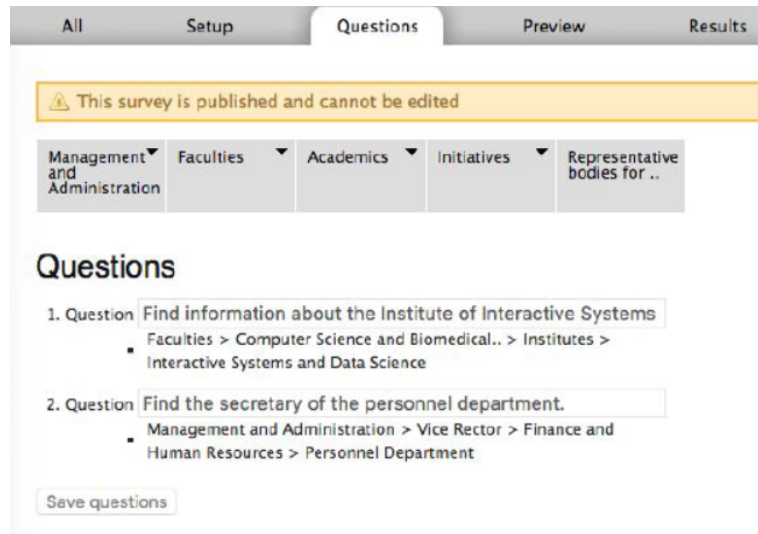
After getting an overview which tools are available on the web, five tools could be found. As you can see in table 5.1 two of them have been tested, two are not available anymore. UserZoom's support team refused to get in touch. Therefore, just the tools from Treejack and Naview could be evaluated. The impressions of their usage are described in the following subsections.

### 5.1 Naview

Naview [2017] is an online tree testing platform provided by Volkside Pty Ltd located in Melbourne/Australia. Volkside is specialized in improving user experience. Their product portfolio contains converting websites into wireframes, project management tools for remote teams, Twitter analysis tools and of course design, build and test information architectures. For further information please visit their website.



**Figure 5.1:** Creating an Information Architecture



**Figure 5.2:** Inserting Questions to the Test

### 5.1.1 Setting up

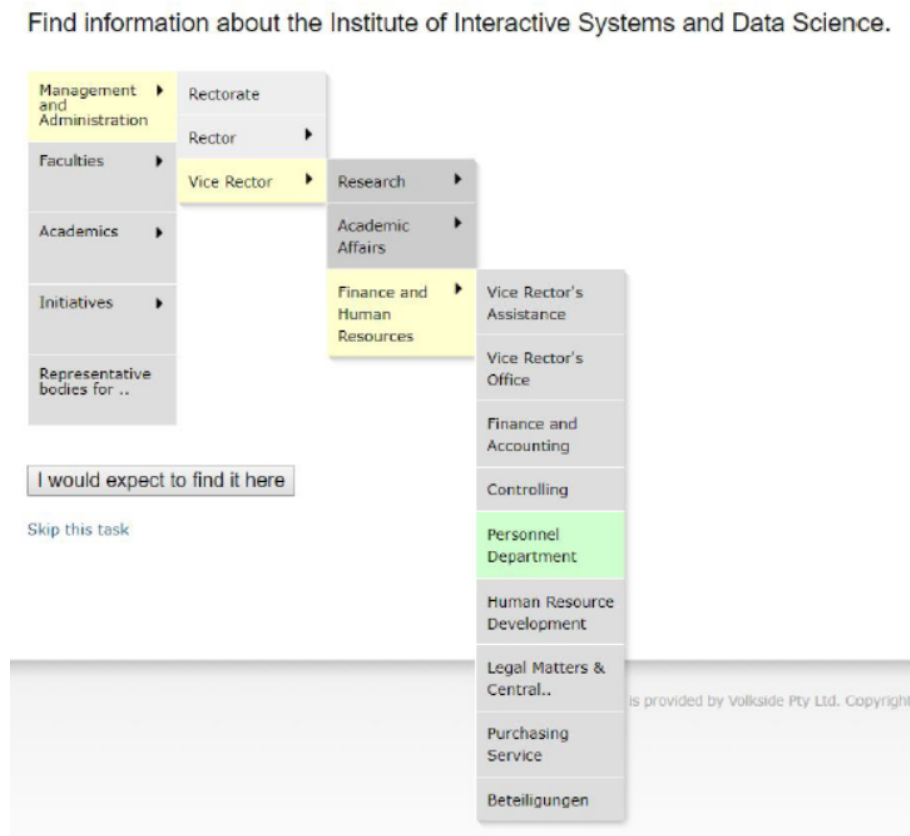
To be able to create a tree test, it is necessary to sign up for free. The tree test is really fast set up in Naview then. A test, survey or Naview's wording 'navigation' is created by clicking 'Add new navigation'. After naming the test the tree can be inserted either by copy/paste or typed in by hand. (see Figure 5.1) The levels of the tree are identified by tabs. Be careful: if using copy/paste from a text editor be sure that there are just characters, tab signs and new-line signs, no other non-printable signs! Otherwise an error will arise if entering question's answer. Introduction, instructions, conclusion and help sentences can be formulated in survey's setup. Tree testing questions (tasks) are asked and answered easily by walking through the tree in den questions' tab. (see Figure 5.2) Publishing will be the last step for setting up the Naview's tree test.

### 5.1.2 Performing

Due to the set up of the tree test introductions and instructions are shown before the first task. Starting point of each question is the tree root. You can navigate through the tree and mark the node you expect to be the correct answer. During the tasks each click in the tree is tracked. Also it is possible to skip tasks. After finishing the tasks a conclusion appears and you can close the site.

### 5.1.3 Analysis Tools

Looking at the test (survey) results a short summary is given at first. Information of the overall success rate, number of participants and the actual test state are displayed. Also average success rate, time, directness, responses, skipped tasks and backtracked walkings per task are analyzed. If you want to get deeper insights in each task there is a detail analysis view where each click is shown graphically.



**Figure 5.3:** Performing a Naview Tree Test

#### 5.1.4 Pricing

There are four different packages:

- Gold (\$119/month)
- Silver (\$89/month)
- Bronze (\$39/month)
- Free plan

The packages differ in their functionality limitations, like tree level (4-6-7-8), nodes (100-200-800-1500), questions (2-5-20-30), siblings (10-20-30-40), number of tests (1-1-5-20), number of allowed participants (10-10-50-200) or export possibilities. In principle Naview fullfills the requirement to find out the weakness of information architectures. But compared to Treejack it is a really stripped down tool. Rudimentary analysis tools, marginal UI/UX and also limited functions. Confronted with the error arising during setting up the tree, even the support team recommends Treejack:

Naview: ...This sometimes happens if the underlying structure is changed. Can you please try removing this answer and re-adding it again? Please let me know how you go.

User: Tried that before, always the same error!

Naview: We can try to replicate the errors if you can send through your structure and correct answers. Also, if you are looking for another tool for tree testing I can highly recommend Treejack, it is excellent...

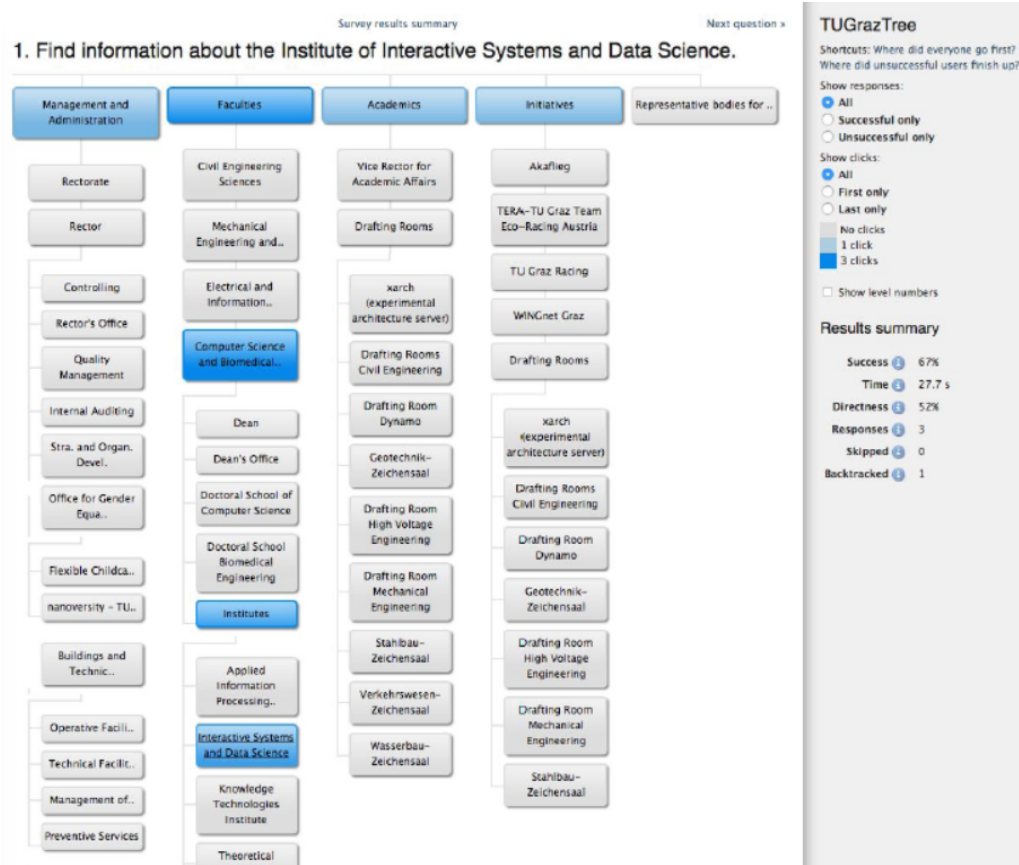


Figure 5.4: Analysis in Detail

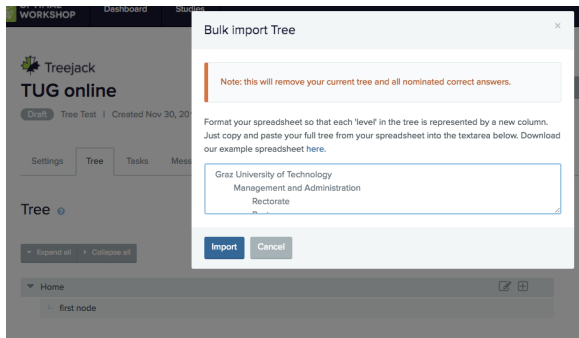
## 5.2 Treejack

Optimal Workshop Ltd. Optimal Workshop [2017] was founded in 2007. The company offers software for different research tasks. Treejack was one of the first tools developed by Optimal Workshop. They also provide First-Click, Card Sorting, Questionnaire, Qualitative research tools. Concerning their enumerated customers a lot of famous companies like google, netflix or dropbox are using their software.

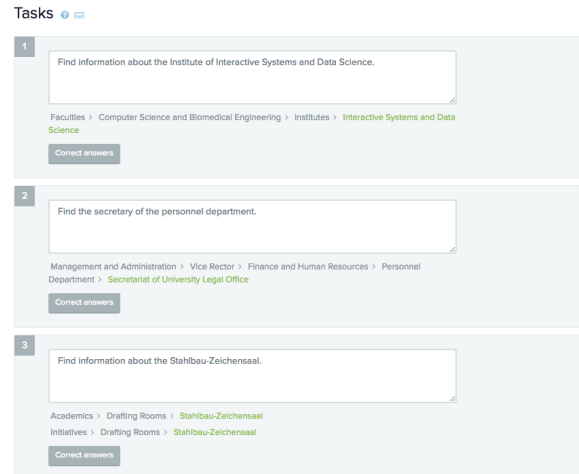
### 5.2.1 Setting up

To use the free plan version it is necessary to sign up to get an account. Created the account it is not only possible to perform tree tests, but also the other tools can be tested. It is all handled from the 'Dashboard' UI. Decided to do a tree test, it is very fast set up. The tree can be generated by pasting a spreadsheet into a text area (see Figure 5.5), whereby the hierarchy is symbolized by columns - cell 'A1' would be the root-node, cell 'B2' the first child, cell 'B3' the second child and so on. The second possibility to create the tree is manually by their UI.

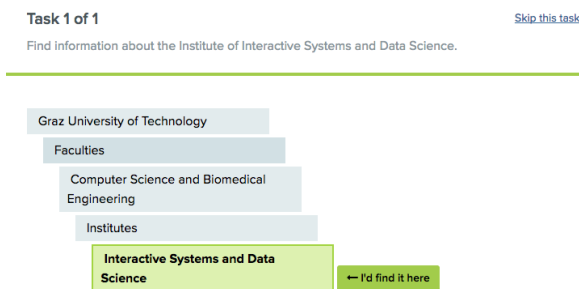
Inserting questions to the test is also straight forward by writing the questions and walking through the tree to select the correct nodes. (see Figure 5.6) Writing customized messages like welcome messages, instructions, thank you and closing words can be shown too. If the administrator wants to evaluate some questions, it is possible to set up questions before, while and after the tree test tasks. Questions can be answered by open text, single / multiple choice or a slider. Participant identification by mail address or identifier name can also be configured. Some features are just available for upgraded versions like a modified UI or a closing date for the study. The last step is to launch the tree test study.



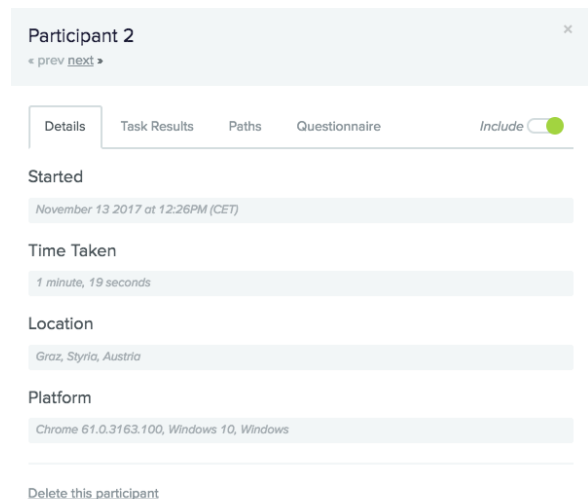
**Figure 5.5:** Creating an Information Architecture



**Figure 5.6:** Inserting Questions to the Test



**Figure 5.7:** Performing Treejack Tree Test



**Figure 5.8:** Tree Testing Results - Analysis per Participant

## 5.2.2 Performing

When performing Treejack tree tests there are just two considerable points compared to the Naview tree test: the really fine UI and that Treejack provides questions as mentioned in 5.2.1. After displaying the introduction and the instructions, the pre-study questions are asked. Then the tree test tasks have to be done, the thank you words signalize the end of the test.

## 5.2.3 Analysis Tools

The analysis tools are the indisputable strengths of Treejack. There are a lot of different evaluations done by Treejack automatically. Seeing the results of an survey a short summary is given first. The summary shows different things (also see Figure: 5.9):

- Duration of the test (from/to)
- Latest response

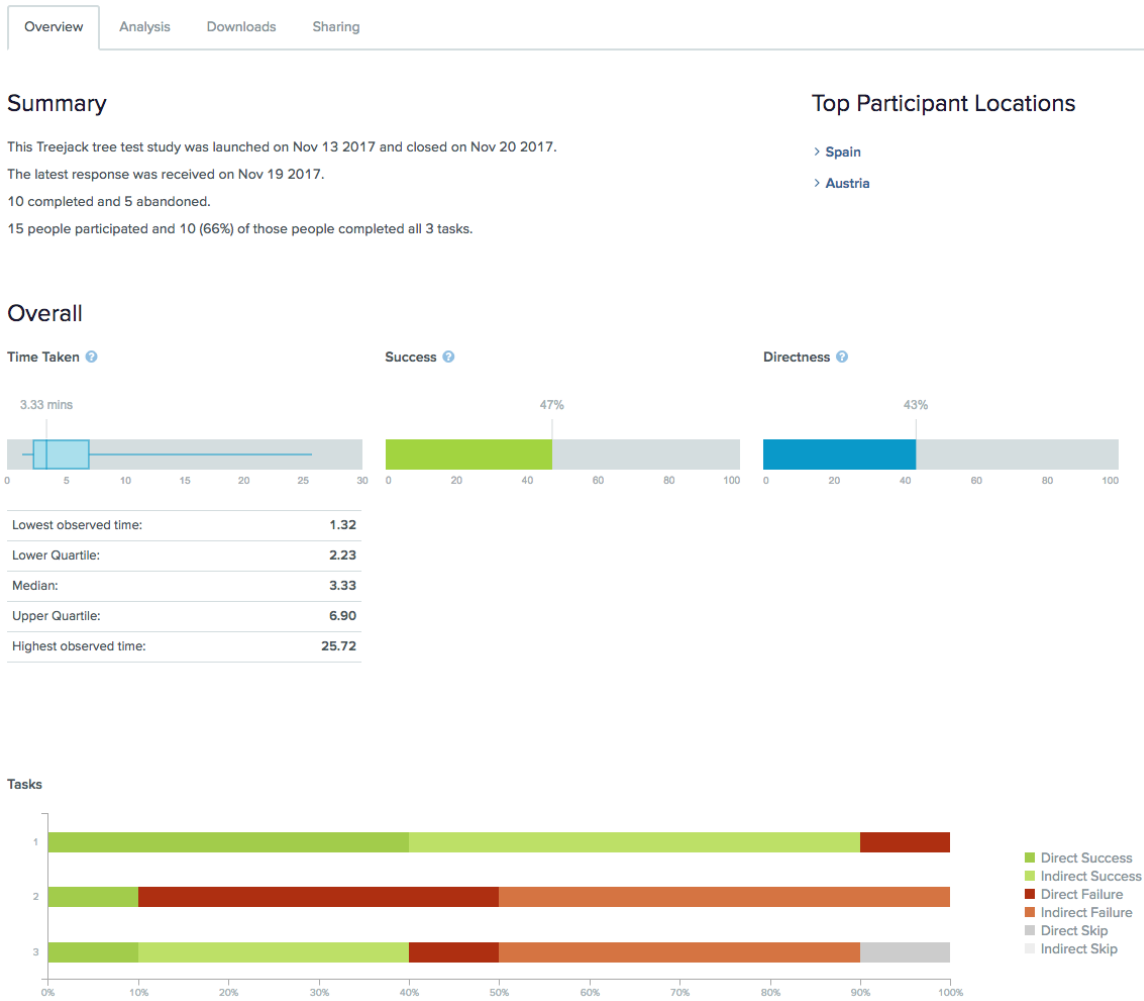


Figure 5.9: Tree Testing Results - Summary

- Number of participants (number of participants done all tasks)
- Locations of participants
- Overall time taken, success and directness
- Direct / indirect success, failures and skips per task

Treejack then offers different, extensive analysis functions. They are divided into analysis per participant and per task. , analysis of the questionnaires, first clicks, paths and destinations.

**Analysis per Participant**

The detailed analysis per participant shows the tracked time (overall and per task), location, the used browser-version, operating system, each click, each path and the answers of the questionnaire. (see Figure: 5.8) If there is a need to exclude a participant from the survey he can be easily be excluded or deleted. Also you can see the participant’s questionnaire evaluation and his used path per task. The questionnaire evaluation shows the results of the questionnaires depending on their type and their placement during the tree test. Of course it can only be nodes of the first level.

The detailed analysis per task offers different analysis charts and measures. It list up the average time and the percentage of direct/indirect success/fail/skip per task. For a deeper research it can be viewed as an

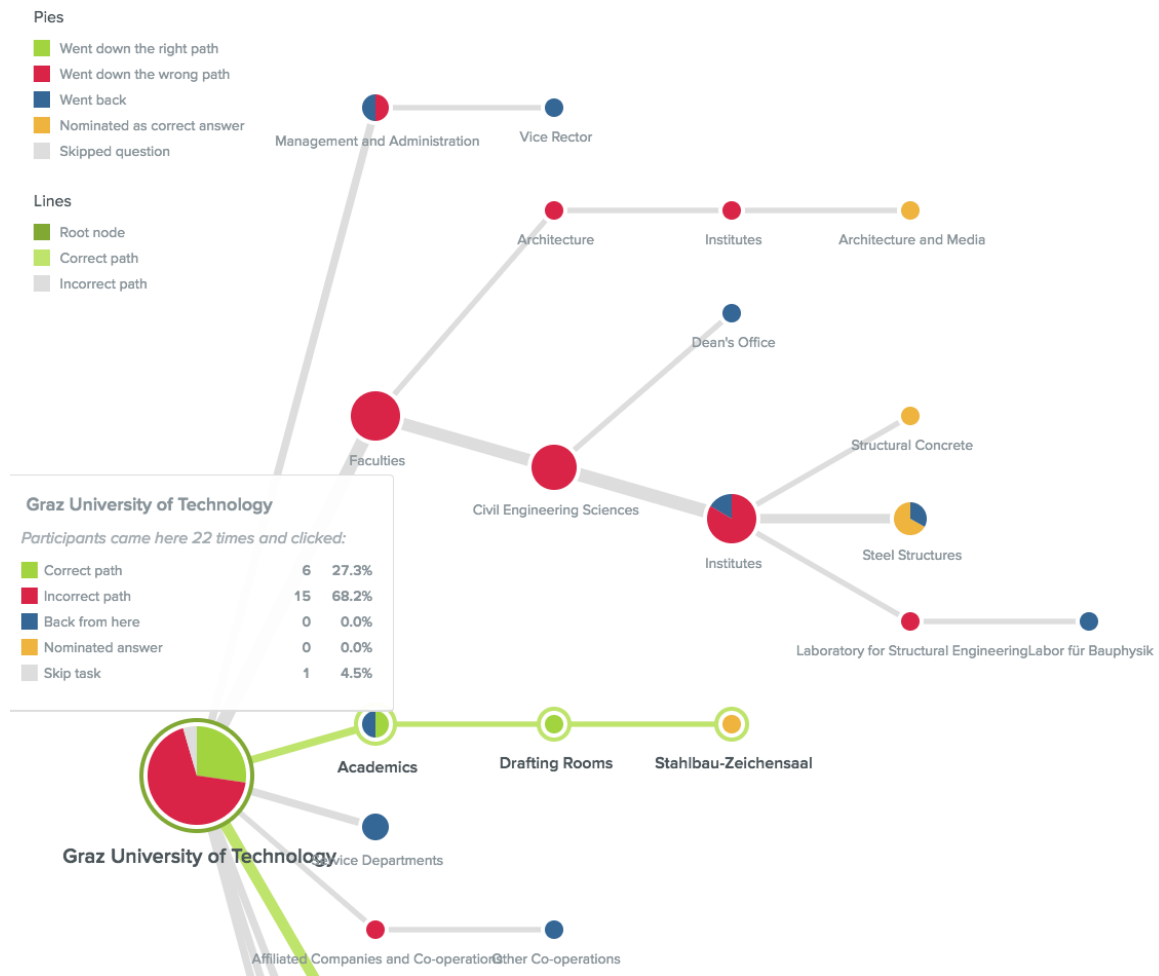


Figure 5.10: Tree Testing Results - Analysis per Task displaying as Pie-Tree

interactive pietree. Here each click on every node is tracked and evaluated. It shows very quickly the strengths and weaknesses of the information architecture.

### 5.2.4 Pricing

There are four different packages:

- Enterprise (individual, get in touch)
- The Suite (\$166/month)
- Pay per study (\$99/study)
- Free plan

Treejack provides a lot of functionality even in the free plan version. Once registered, you can generate unlimited studies. Limited are only the number of participants, the tasks per study and some settings like closing date, participant limit or appearance. 'The Suite' and 'Pay per package' package are fully free of restrictions. All products of Optimal Workshop can be used. Buying the 'Enterprise' version gives total support like customized demo and training to companies by Optimal Workshop. Since UserZoom could not be evaluated, Treejack is the tool that be can recommended. According to forum contributions of tree testing users Treejack and UserZoom are state of the in tree testing. As mentioned before also Naview is recommending using Treejack.





## Chapter 6

# Interpreting Results of Tree Tests

### 6.1 General

Depending on the chosen method of tree testing, the results will be different. So a paper based testing process will basically deliver less information than online tools can do. But at least there are some quantitative measurements for each test, which will be provided from both, online testing and paper based testing methods [Whitenton, 2017]:

- Success Rate
- Directness Rate
- Time Rate

But as described in the above sections, the online tools delivers much more possibilities to display the testing results.

### 6.2 Quantitative Measurements

#### 6.2.1 Success Rate

The success rate indicates the percentage of how many participants found the right location in the tree for a given task. But keep in mind, tree testing only evaluate the structure of a tree (no search function, ...), so a low success rate does not necessarily mean that it will be as low in the final designed version for example of a web page. Also, there are two different types of success rates. At first, there are the overall success rate, which provides information about the success rate of all task together. Furthermore, there also exists the success rate per task, which is much more important. The goal is not to get a 100% success rate overall, but it is important to take into account how each success rate (per task) compares to other similar tasks. This is important because the overall success rate does not provide information about the success rates of the individual tasks. So for example an overall success rate of 60% may be not as bad as it sounds, if 60% of all tasks have an individual success rate of 100% and 40% have an individual success rate of 0%. Therefore, a breakdown of the success rate per task is mandatory.

#### 6.2.2 Directness Rate

Also, a necessary test result is the information about the directness. It is a measurement how many participants selected instantly the right path to the answer without backtracking or to reconsider their decision. Backtracking mostly occur, if participants expect some subcategories after clicking a main category, but this does not appear. Then they return and try another category. Also, the directness rate distinguishes between directness over all

tasks and directness per task. A good practice to deal with directness rate is, to take a look at the directness rates they are much lower than the average rate of the result set.

### 6.2.3 Time Rate

Additionally, to the success rate and the directness rate also the time plays an important role for interpreting the test results. The time rate gives an overview of how long a participant needs to find the right path in an information architecture. Depending on these factors an information architecture with high success rate, can still be rather poor if participants must backtrack several times (directness rate) or take a very long time to find the appropriate results (time rate). Therefore, to investigate an information architecture all these factors must be considered together.

## 6.3 Paper based Testing Results

### 6.3.1 Success rate

- First task

As the path taken by both participant was the correct one, the success rate for this task was 100%. This may be because this task was very common.

- Second task

The success rate for this task was 0% as none of the participants choose the correct path. Maybe this was because there are two different Personnel Department concepts in the tree and this become confusing to the participants.

- Third task

In this case, only one of the participants could find the right path and the other one choose another category card in the end of the search scenario, so the success rate was 50%.

### 6.3.2 Directness Rate

- First task

As shown the first task has a rate of 100% as none of the participants went back during the testing process.

- Second task

For this task the directness rate was 50% because the first participant went back one time.

- Third task

Same as the first task, this task has a directness rate of 100%.

### 6.3.3 Time Rate

- First task

- Duration for the first task per participant:

1. 1min 05sec
2. 1min 10sec

- Second task

- Duration for the second task per participant:

1. 1min 05sec
2. 40sec

- Third task

- Duration for the third task per participant:

1. 1min 55sec
2. 1min 35sec



## **Chapter 7**

# **Concluding Remarks**

As discovered in the survey, tree testing is a very powerful method to get a quick overview if a given information architecture works and also the obtained test results can be used for further action, for example comparison of different information architectures. For quick tests the paper based version is a good choice, because of less effort. To get a deep insight in an information architecture, online tools will be the preferred way.



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