

EYETRACKING

PROJECT

USER STUDY

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INTRODUCTION

The following report is written for the media industry as a target group. Our main goal with this report is to present our results about an eye tracking experiment we did in March 2023 as part of our Web Documentary course at the Høgskulen i Volda.

The report contains a method part that systematically describes the process, ethical considerations, and potential methodological pitfalls leading to our results.

WHAT IS OUR MAIN PURPOSE?

Our main purpose with this project is to find out how people use web documentaries. As a starting point we chose to work with a web documentary from the last year class with the title: Explore Skaar - A man living on an island alone.

We evaluated an existing web documentary based upon three criteria: Usability, pedagogical functionalities and visual attention.

Furthermore we will present our main findings and suggested improvements. In the final chapter we conclude our results and discuss them separately.



For our evaluation we used the Tobii Glasses 3 PRO eye tracking equipment to measure how people navigate through the web documentary and what gets their attention. We worked with five randomly chosen people at different ages representing our participants.

The results were recorded using the glasses and compressed to mp4 video files for further evaluation.

The web documentary we used for this project is available for a public audience under the following link: <https://teklab.uib.no/artikler/telling-tales-together-web-documentary-2022/>

METHOD

This research has two main purposes, firstly, for us as students to get to understand the way people use and navigate through interactive web documentaries. Secondly, to see if we can figure out ways to improve an already impressive web documentary on the following criteria:



Usability

Readability and navigational understanding



Pedagogical functionalities

How well the content communicates



Visual attention

What does and doesn't get attention

We predicted that the results of this test would vary to some extent between people from different age groups and backgrounds. Therefore, we created a non-homogeneous group, consisting of five people, to participate in our research. The five participants we chose for our project are from a different age and therefore representing a larger audience.

We purposely let the participants go through the web documentary without us explaining anything about the web documentary itself, nor the navigation. We stayed quiet during the whole test process which took five minutes per participant. The reason we did this is to simulate a realistic experience, someone who will see this web documentary on a newspaper's website, for example, will also go through it without prior knowledge and without talking. The location of the tests was in a corner of the library at Høgskulen i Volda, which we thought to be a realistic place for going through such a web documentary. We were looking for a quiet place without too many distractions.

Participants



Participant 1

FEMALE, LATE 20'S



Participant 2

MALE, EARLY 20'S



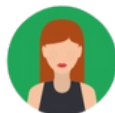
Participant 3

MALE, EARLY 30'S



Participant 4

FEMALE, 50'S



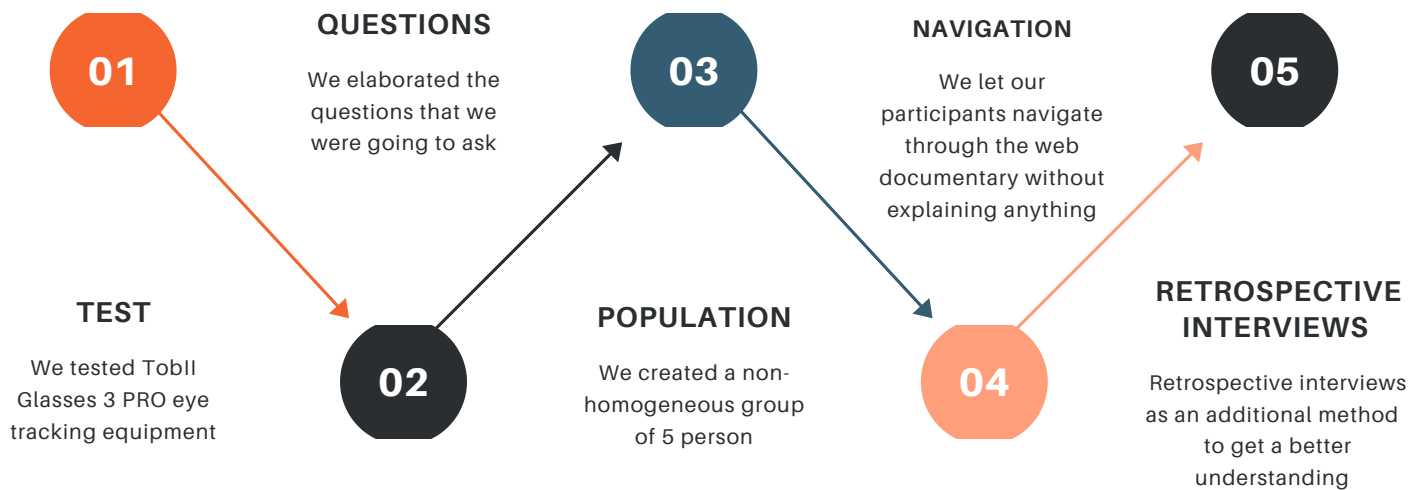
Participant 5

FEMALE, 50'S

Afterwards we choose to conduct retrospective interviews as an additional method. The main purpose was to get a better understanding of their thought process, and to ask their opinions about (certain elements of) the web documentary. These interviews were both recorded and written down. In essence we combined a silent 'fly on the wall' approach in the eye tracking test. And a more personal, qualitative approach in the retrospective interviews.

Before doing the real tests we tested the equipment and questions on one of our group members and changed the questions where we felt we needed more answers.

WORKFLOW



MAIN FINDINGS

During our study, we have learned that the user is guided in a linear way, making them all start navigating in the same direction at the beginning until reaching the interactive map that is the main part of orientation inside the webdoc. This interactive map allows the user to access the different information that is shown through icons that explore different aspects of the documentary.

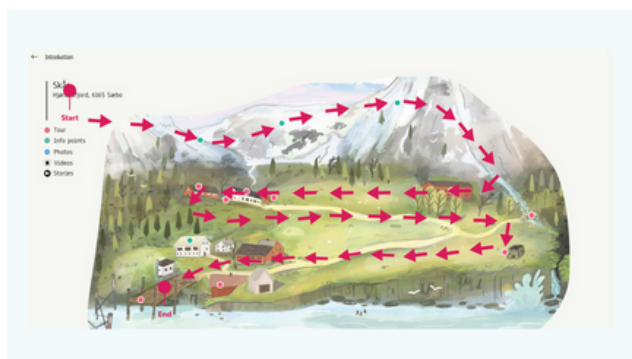
After analysing and tracking the eye movements of the studied users, we have seen that:

01 TWO WAYS TO READ THE MAP

There are two ways in which the subjects read from this interactive map. We have noticed that a majority chooses to explore the interactive map from left to right and from top to bottom.

This is because in Europe we read texts in this way. We interpret the way we access certain visual information in this way as well.

The other behavioural pattern shown by participants reading the image and selecting the information they want to see is that the users are unconsciously looking for elements to guide their view and orientate on the map. They start at the top of the image and work their way down the map until they reach the bottom. This reading is due to the fact that on the map, we have induced lines (shown by the slope of the mountain for example) and represented lines (such as roads) that attract the eye's attention because they are basic visual elements for the human eye.



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VISUAL ELEMENTS ARE MORE ATTRACTIVE

Images from inside and outside the house, videos, drawn art, animations or the elements of nature itself shown are the ones that most attract the user's attention.

These visual elements are usually presented together with an accompanying text with information related to what is to be explained, and constitute a greater visual weight. For this reason, information not contained in visual elements such as videos is to a certain extent ignored by the majority of users, whose attention is held by the previously mentioned elements. During our study we have seen that users start to read the text but it does not manage to retain their attention due to its length. Many users look away to other areas of the page due to the existence of distracting visual elements located at the edge of this information. Therefore some information is lost for the attention of the reader.

In addition, the text is sometimes reported by some users to be small in size and some visually impaired users have reported that it is difficult to read. We think that this is a big problem in an interactive format that is intended to provide information about a fact for a bigger audience.



The fact that the web documentary works with self-exploratory navigation and is presented on a map with several points that have no apparent connection is difficult to

understand for the users. There is not enough attention paid to the story being told, but rather to the site and the views showed.

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POOR UNDERSTANDING OF HISTORY

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UNFAMILIAR TECHNOLOGY FOR SOME USERS

Many users are unfamiliar with the 360° technology. They are only sometimes conscious about it. They do not realise its interactivity at the time, interpreting it as a simple image.

Those users who make use of the technology check the environments shown but end up clicking on the interactive icon they saw in the first place.



After the questions asked to the subjects, they all claimed that the interface was intuitive, straightforward, natural and easy to use when understood. They

agreed that it created problems that made it difficult to use when exploring with touchpad and on Mac OS. The other devices have not shown these difficulties.

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USABILITY

SUGGESTED IMPROVEMENTS

Our study has led us to discover various different improvements that could be made for the web documentary to increase usability.

Difficulty in navigating

The beginning sequence of the web documentary shows a bird view gif of skaar, which is slowly panning out and displaying text before resetting again. It can be difficult to know that you are supposed to scroll down to proceed. This could be made clear by adding a graphical element towards the end of the gif, such as some arrows moving downwards or adding text like "scroll down".

Unfamiliar technologies to some users

Some users may be unfamiliar with the 360 view and do not understand when you are able to turn the screen or not. This could be mitigated by adding a graphic element in the centre of the screen, such as a curved double-sided arrow forming an ellipse, accompanied with a word like "rotate". Or an animation showing how to operate the 360 view.

One of the biggest flaws

People with poor eyesight would have a hard time reading the smaller text and following the story. A potential solution to this would be to allow the text to be spoken aloud by clicking a button. It is standard for such text-to-speech buttons to have the icon of a speaker, often located in the upper right corner from the text

Functions unclear

After scrolling, the function of the buttons you can press are unclear. The first button, "Hei!", is not an English word and it does not give any indication of what to expect after clicking on it. It would be better to replace it with "Greetings!", to convey that you are about to be greeted. The second button, "explore", could say "explore skaar" for more clarity

Incompatibility on other devices

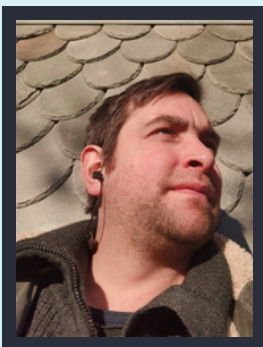
The web documentary does not look good on mobile devices. The content does not fit the screen correctly, and navigating is very tedious. The web documentary could have been better optimised for mobile devices during production.

CONCLUSION

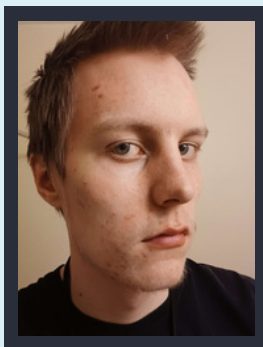
As a matter of fact, the study with the eye tracking technology has led us to the conclusion that visual elements with a higher visual weight are placed on the right, and attract the user's attention more than elements on the left. Also, elements that are larger in size and highlighted with a different colour are more attractive than the rest. Those elements that stand out from others are those that are more easily recognisable to the human eye, such as faces, pastoral or mountain scenes, people and/or gestures.

The participants are open minded and interested in new kinds of media formats like the web documentary. One thing that became apparent however, was the difference in usability between the age groups. Some things, like difficulties scrolling with a mousepad, or using a macbook when not used to one, are technical problems that can occur to anyone. However the ease of navigation and the problems with small letter sizes seemed bigger with the older participants.

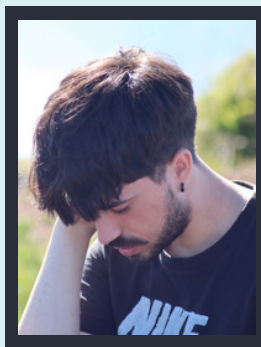
We found out that virtually all of the participants prefer interactive elements to long written text. This is an aspect that we should be aware of in terms of creating a new web documentary.



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ALEJANDRO
OVALLE GUARDIA



WOUTER GASSE

Thank you for reading!