

Testing Universal Design of a Public Media Website with Diverse Users

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Abstract. Testing with users can identify more issues than other testing methods. Many researchers have argued for the importance of user testing in Universal Design. However, testing Universal Design with diverse users poses many challenges. In this paper we will share our experience with testing the Universal Design of a public media website with real users. We discuss the challenges faced and lessons learned in the process.

Keywords. Universal Design, web accessibility, user testing, WCAG 2.0

1. Introduction

Many researchers have emphasised the importance of user testing in Universal Design [1-2]. Testing with real users can identify design issues that cause difficulty, confusion, or misunderstanding, which lead to delays, errors or inability to complete the tasks the design is intended for. User testing can identify more barriers than other testing methods such as heuristic evaluation and focus group. It is recommended to combine user testing with other methods. However, testing Universal Design with diverse users is a challenging process. It requires more effort and special considerations.

The state-owned Norwegian Broadcasting Corporation (NRK) is the largest media house in Norway. In cooperation with NRK New Media, the department responsible for publishing and rendering content at the NRK.no, we have tested Universal Design of NRK.no using several types of testing methods for triangulation [3], including heuristic evaluation, focus group interview and user testing. In this paper we will reflect on our experience with the user testing focusing on the process from planning, recruiting to carrying out the testing and the special considerations taken when testing Universal Design of a website.

2. User testing of NRK.no

A user test typically consists of the following steps: setting up the goal, planning the test, recruiting users, preparing tasks and scenarios, carrying out the test, collecting data, analysing data, and reporting issues and recommendations. The goal of our user testing was to determine if the website can be used efficiently by diverse users, in different situations, and with different technical equipment. In this paper, we focus on

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the first steps from planning to carrying out the test. In the process, we have referred to literature and resources such as [1-2] on conducting user evaluation with participants with impairments, guidelines by W3C.

2.1. Recruitment

In order to cover the diversity within the user groups of NRK.no, we recruited 21 participants for the testing based on the following criteria (some participants satisfied multiple criteria): 1) ability characteristics including reduced mobility, hearing, vision, cognition, or mental health; 2) age including adults and seniors; 3) foreign language (and cultural) background; 4) underprivileged and low ICT skills. Two approaches were used to recruit participants. First, we contacted non-governmental organisations (NGOs) for disabled persons, retired people, ethnic minorities and underprivileged groups. Second, a collaborating research institute used its network to recruit participants with cognitive impairments and people with beginning dementia.

2.2. Task design and testing

We designed tasks for the testing in the following manner. We first referred to results from our previous heuristic evaluation and focus group interview. We then checked if the tasks designed cover WCAG 2.0 principles. We also assessed and redesigned tasks taking characteristics of participants' background into consideration, particularly for participants with severe cognitive impairments. Such redesign includes rephrasing certain words, breaking down tasks into smaller chunks and even removing some tasks.

Special attention needed to be taken when preparing and conducting the test: 1) preparing for diverse location and technical preferences/needs (e.g. devices, assistive technology, OS, browsers) and appropriate data collection methods; 2) Communicating with participants in their preferred modality, including different presentations of consent form and tasks (e.g. writing tasks on separate cards, reading aloud, sign language interpreter). 3) Preparing cash as reward to participants instead of gift cards.

3. Conclusion

Our experience with testing Universal Design of a public media website with diverse users shows that several challenges must be addressed in recruiting, planning the tasks and carrying out the testing. We found that it is difficult to use WCAG 2.0 to guide the design of the tasks. Many lessons have been learned in the process. For example, for recruiting participants it is important to nurture a good relationship with NGOs and disability organisations and show how the potential participants benefit from the testing.

References

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