Accessible Digital Services: A Pilot Project

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Abstract

European Accessibility Act (EU Directive 2019/882) requires that both public and private sector actors guarantee the accessibility of certain products and services. In the field of higher education IT, the European Accessibility Act is applied to most of the digital services. In many cases the sheer scale of things may feel overwhelming. This paper describes the approach of University of Helsinki IT services in tackling problems and providing solutions in the process of developing and procuring accessible digital services.

1 Introduction

University of Helsinki (UH) consists of 30 000 degree students, 8 000 staff members, and 600 digital services. Majority of the services have been developed or procured before the European Accessibility Act and accessibility has not been built in as a default.

However, the goal is to make digital services accessible. For the coming years, University of Helsinki is planning to enforce mandatory accessibility check to all digital services that should be compliant to European Accessibility Act and national accessibility legislation. Another goal in the field of accessibility is to ensure that all relevant digital services publish accessibility statement documentation. The third goal is to ensure accessibility in procuring digital services and digital service development.

To further these goals and to find out the scale of the task University of Helsinki IT services has started a pilot project.

2 Key Focus Areas

The first task for the pilot project was to define key focus areas that University of Helsinki IT department could provide support for. Main defining criteria were to find areas that would provide most

impact at the beginning and fit in the role of university centralized IT. In the workshops and interviews of IT personnel, software developers and digital service product owners five key focus areas arose:

- Accessibility audit procurement

- Guidelines for software development

- Automatic tools for accessibility checks

- Accessibility statement

- Accessibility requirements in procuring digital services

The following sections describe the objectives of the pilot project for these key focus areas, as well as the initial findings and solutions. The pilot project is carried out in two phases, from which the first four-month phase has already taken place. The first phase involved analyzing and testing of the service objectives on a small scale and building the service. The second phase will be taking the service to product owners and software developers to see how it works, and this phase is currently ongoing.

2.1   Accessibility Audit Procurement

The first objective for the pilot project was to provide support for product owners in procuring external accessibility audits. This was tested in the first phase of the pilot project by procuring and carrying out external accessibility audits for two digital services, with following results.

Procuring an external accessibility audit or accessibility consult services on many occasions shows as the easiest way of ensuring accessibility of a digital service. However, not all vendors of accessibility consulting services are equally capable. There is some variation in quality of the results between different accessibility audit service providers, and the product owner should take care to compare and select an audit service provider that has been found capable. Another problem is the cost of audit, with smaller scale digital services procuring an external audit is not a financially viable option.

Other findings of the first phase of the pilot project are related to product owner's capability and knowledge of accessibility: it already takes some knowledge to be able to define the scope of the audit.

Therefore, it was concluded that providing assistance for the product owner in procuring an external accessibility audit, defining the scope of the audit and carrying out the process of the audit with the accessibility consultant was a necessary form of support.

During the project it was also noted that the cost of an external audit is a major concern for many digital services. In several instances, after hearing the cost of an external audit, product managers decided to try assessing the accessibility themselves with the help of automatic tools and screen reader software.

It seems that the biggest demand would be for in-house accessibility audits that would be carried out by in-house accessibility experts. In the scope of this pilot project, this is not a viable alternative but could be something that should be investigated as a possibility. However, the expectations include

that in-house accessibility audits should be offered free of charge within the organization, which is a problem in a larger scale.

2.2   Guidelines for Software Development

In University of Helsinki, software development is carried out by either using outsourced resources (Product Owner being a representative of University of Helsinki) or UH software development team. For effectively enforcing accessibility requirements in software development, general guidelines were needed. The second objective for the pilot project was to provide general guidelines in UH software development.

In the first phase of the pilot project, it was concluded that understanding and following accessibility requirements is not yet a part of the basic skillset of a software developer. The developers needed guidelines for identifying development tasks that required attention in terms of accessibility, clarification of roles and responsibilities concerning accessibility and checklists for testing features against WCAG accessibility requirements.

It was also concluded that accessibility checks with automated tools should be introduced as a part of software developer's working routine. Accessibility should also be a part of software development project DOD (Definition of done), and accessibility principles should be enforced along the way.

During the project it was noted, that in many small-scale software development projects assessing accessibility falls into shoulders of product owner. Also, the bulk of accessibility assessment tends to occur in acceptance testing, which is already a bit late in the process. It seems that the goal should be to introduce accessibility as a responsibility for the whole software development team. Software developers should also be trained to use using accessibility check lists and automated tools to catch accessibility issues before passing over their work to acceptance testing.

2.3   Automated Tools for Accessibility Checks

There are several tools that are available to assist software developers, product owners and content creators in assessing accessibility of a digital service and individual web pages. Some of the tools are free of charge and some require commercial licenses.

The findings of the first phase of the pilot project concerning automated tools were, that using tools that require paid licenses are not financially viable option for all digital services and projects. Therefore, it was necessary to find alternatives that were inexpensive to use or free of charge. However, the pilot project found out that tools that are free of charge may be subject to unexpected changes or limitations of functionality. Therefore, two free of charge tools were selected for the second phase of the pilot project instead of one.

The problem with automated accessibility checking tools was also that interpreting reports of automated tools and finding the best way to apply software fixes according to the findings may require advanced understanding of accessibility principles and technical options. Also, the automated

accessibility checking tools should be used along with screen reader software to get more complete results. It was also noted that some product owners found a steep learning curve in starting to use screen reader software.

So far in the scope of this pilot project it remains to be seen, how product owners adapt to using automated tools and screen reader software to assess accessibility in their digital services. The project has organized a couple of smaller practice sessions for product owners that have been seen as useful. There have not yet been any completed accessibility assessments in which a product owner would have written accessibility statements by themselves.

2.4   Accessibility Statement

In the first phase of the pilot project it was concluded that the easiest way to acquire accessibility statement for a digital service was to procure it as a part of an external accessibility audit. If procuring an external audit is not possible, automated accessibility checking tools and screen reader software should be used to assess the accessibility of the digital service. The latter option is problematic: this requires the product owner of the digital service to get familiar with the required tools. Therefore, it would seem viable to have support for the product owners in the initial phase of starting to use the tools.

During the project it was also noted, that if every accessibility issue is meticulously stated in the accessibility statement, it would be hard to read. Also, if the accessibility statement is not specific enough, the user might not get all the needed information. So, the project team decided that further research should be put into understanding the value of accessibility statement to the user in order to focus into things that would have the most benefit to the user.

2.5   Accessibility Requirements in Procuring Digital Services

The process of acquiring accessible digital services can involve procuring existing software or procuring software developer resources, or a combination of these two. In the sake of clarity, in this presentation, these two options are presented separately.

2.5.1. Procuring Off-The-Shelf Software

Compliance with the criteria of the latest version of the WCAG guidelines, i.e., the criteria of level A and AA of WCAG 2.1 guidelines, should be required in procuring off-the-shelf software. However, in the first phase of the pilot project it was concluded that some of vendors lack basic understanding of accessibility and tend to get confused with the accessibility requirements.

Therefore, it would seem worthwhile to open some of the most crucial requirements in the tendering documents in a more detailed way, in addition of requiring compliance of WCAG guidelines. The most crucial requirements should be a bit more detailed than in general WCAG 2.1. guidelines, tailored to the functionalities of the software to be procured, and preferably target the ability of the software to provide necessary information and functionality to the users using screen reader software.

Accessibility requirements should also be noted in agreement documentation, and preferably the agreement documents should be included in the initial tendering documents. It is crucial that agreement document states that the compliance with WCAG accessibility requirements is the responsibility of the vendor and the buyer has the right to accessibility audit the digital service and select the consultant making the audit. It should also be stated in the agreement documentation that the vendor is responsible of fixing accessibility issues of the digital service at their own expense.

It was also suggested by the project, that an accessibility assessment - at least of the most crucial functions of the digital service - should be introduced to the process of validating the offers. In some instances, the buyer was reluctant to validating the accessibility at the procurement phase stating that having covered accessibility in the agreement documents would suffice. However, in the long run it would seem feasible to include the validation of accessibility requirements to the procurement process. Validating the requirements before accepting the offer is in many cases easier than pointing them out later.

2.5.1. Procuring Software Development Resources

In the first phase of the pilot project, it was concluded that in current situation, vendors tend to provide developers unskilled in accessibility and shift all responsibility concerning accessibility to the buyer unless clearly stated otherwise. When procuring software development team as a resource, tendering documentation should include clear statement of expectations towards skills of the developers in following accessibility guidelines as well as responsibilities of different roles and parties involved.

The project discussed with University of Helsinki agile software development framework contractors, and the contractors stated that clearly stated responsibilities and expectations towards the accessibility skills of the development team would benefit both parties.

3   Conclusions

Introducing accessibility to a digital service after it has already been built is very expensive both in terms of money and in resources. In an environment with several hundred digital services introducing accessibility is also a balancing act. Limited resources must be directed to actions and digital services that have the greatest impact.

The results of the project so far suggest that the first action should be to introduce accessibility principles to digital service procurement and development processes. The significance of this action is two-fold. First, it is necessary to stop the influx of digital systems with major accessibility deficiencies into the organization. Second, by introducing accessibility requirements to tendering documents and making sure that digital services that are offered meet the accessibility criteria will in the long run send vendors the message that accessibility must be taken into account in order to sell digital services.

After service procurement and development processes are addressed, process to evaluate organization's existing digital service portfolio should be started. Once again, with limited resources setting priorities is crucial. In higher education, usually digital services that are used by a large number of students for crucial parts of their studies would come at the top of the priorities list.

The easiest way to assess accessibility of digital services would be to procure external accessibility audits. However, as it is not a financially viable option for a large number of digital services, key staff members should be trained into using automated tools and screen reader software to assess accessibility.

In the discussion about digital services and accessibility, there are often two different views presented about the significance of accessibility. The first view is that accessibility is something that benefits only a small minority of users with disabilities. To contrast this view, it is often said that following accessibility requirements in designing or fixing a digital service makes the service better for all the users. It is true that many accessibility requirements address problems that, when fixed, benefit the user experience for all user groups. However, this is not automatically true with all the requirements. There is also room for interpretation in how the requirements should be applied.

Therefore, it is crucial to strive to understand the purpose of the requirements in the context, and when the resources are limited, set priorities.

4   Author biography

ThM Antti Eväsoja works an IT project manager in University of Helsinki, his career spanning a bit over two decades. His main work interests include software and service development projects. www.linkedin.com/in/antti-evasoja