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Expertise from Experience

Training material

Project outcome report

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1 Introduction

The project "Expertise from experience" developed and implemented a training course on accessibility for people with disabilities. Through the training, participants will gain expert knowledge in how to work with web accessibility professionals and web professionals, providing advice on accessibility on a consultancy basis.

Due to the stricter legislation in Finland, Sweden and other EU countries, the need for accessibility expertise has increased, especially among municipalities and authorities. People with disabilities have a wealth of experience of what works and what doesn't in digital services. Together with the knowledge of their own needs, this experience constitutes a unique form of informal expertise on accessibility that our project wants to utilise.

Against this background, Funktionsrätt Åland and Stiftelsen Funka have been collaborating to develop and implement a joint training course aimed at people with disabilities in both Åland and the Stockholm region. The course is tailored for the participants, to suit people with different backgrounds, experience and circumstances.

This document describes the content of the training, based on the 5 modules described in the curriculum:

1. Digital skills

2. Introduction to web accessibility, including a rights-based perspective

3. Technical requirements in web accessibility

4. Formulating user needs and providing feedback

5. Theory and practice of web accessibility testing

2   Module 1:1 Disabilities and assistive technology

2.1 Learning objectives

- Learn more about different disabilities
- Understand more about various assistive devices that are being used

2.2 Overview

- Abilities and aids
- Visible and invisible
- Needs not represented in the group
- Focus is on assistive technologies that you use on the web

2.3 Contents

2.3.1 Introduction

Accessibility means that all people, regardless of ability, can access information and services. What is necessary for some - is good for all.

Disabilities can be permanent, temporary, depending on the situation.

Diversity of conditions:

- Sight
- Hearing
- Cognition
- Motor skills
- Speech
- Writing & reading

Accessibility for more people: mobile users, people unfamiliar with technology, elderly.

Needs change according to the situation.

2.3.2 Vision

The needs differ:

- Severely visually impaired/blind
- Visually impaired
- Colourblind

Assistive technology:

- Screen reader
- Braille - keyboard and reader
- Reading aloud
- Magnification
- Individual adjustment of brightness, contrast, font etc.
- Voice control

2.3.3 Hearing

Assistive technology:

- Hearing aids
- Cochlear implants
- Apps
- Subtitles
- Adjustable volume control
- Separate audio tracks
- Vibrating/Visual notifications

2.3.4 Motor skills

Assistive Technology:

- Controlling the computer with:
  - Voice
  - Eyes
  - Special mouse/device
- Virtual keyboard
- Flexible time for input

- Autotext for input fields

2.3.5 Reading and writing

Assistive technology:

- Input
    - o Word prediction
    - o Voice control
- Output
    - o Reading aids
- Other assistive technologies
    - o Focus / Reading ruler
    - o Change colour/shape/font

2.3.6 Understand

- Use of picture glossary
- Summary with example questions
- Picture support

2.3.7 Additional information

- About assistive technology and prescribing

www.1177.se/Stockholm/undersokning-behandling/hjalpmedel

- Assistive technology show room from the Stockholm region habilitation centre

www.habilitering.se/kunskap-och-stod/visningsmiljo/

- Apps for assistive technology

www.appsok.regionstockholm.se

- Assistive Technology Center in Åland

www.ahs.ax/patienter/alla-mottagningar-och-avdelningar/hjalpmedelscentralen

2.4 Assignment

- Think about what might be difficult for two groups to which you do not belong.
- Write: "This (example) might be difficult for people who…"

3   Module 2:1 Rights-based introduction to web accessibility

3.1 Learning objectives

- Understanding what is included in the UN Convention and the Web Accessibility Directive
- Understand your rights
- Understand the difference between legislation and standards

3.2 Overview

- What is in the UN Convention
- What is the Web Accessibility Directive
- Why is it important
- Who is covered by the directive
- Legislation and standards

3.3 Content

The UN Convention on the Rights for Persons with Disabilities

The Convention was adopted by the UN General Assembly on December 13, 2006.

Ratification: Sweden 2009, Finland (including Åland) 2016.

Brief overview of the Convention:

- 50 articles
- Major importance for international standardization, policy and legislative drafting
- Gender equality and equal treatment work
- International monitoring of implementation
- Step-by-step implementation

What does the Convention mean?

- Obligation to consider individual needs and offer services to all who need them
- Promote, protect and ensure the full and equal enjoyment of all human rights

The Convention on the Rights of Persons with Disabilities general principles:

- Respect for inherent dignity, individual self-determination, including freedom of choice and independence of individuals
- Full and effective participation and inclusion in society
- Respect for diversity and acceptance of persons with disabilities as part of human diversity and humanity
- Respect for the developmental potential of children with disabilities and respect for their right to preserve their identity

Legislation

Goals for legislation:

Everyone should be able to use digital services, regardless of ability

Background:

- Digitisation of society
- Good: Easier, faster, more flexible
- Bad: Does not work for everyone
- Guidelines for web accessibility
- Different rules in different countries
- Better if everyone has the same rules

The Directive:

- Law in all EU countries in 2018
- Minimum requirements
- Countries can do more - but not less

Applies to the public sector

- Websites

- Mobile apps
- Documents

Who is covered:

- Public sector
- Municipalities, regions and authorities
- State and municipal companies
- Tax-funded actors providing public services
- E.g. schools, assistance, health care
- In Åland (in Finland) also banks

Who is not covered:

- TV companies
- Non-profit organizations

What should be accessible?

- Website
- Intranet
- Extranet
- Documents
- Apps

Exceptions:

- Archives and documents published before application
- Live broadcasts
- Maps (navigation options needed)
- Historical collections
- Third party content

Legislation and standards

The legislation:

- Who is affected
- What is included

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The standard:

- How to do it

The legislation:

- Public sector
- Websites, apps, documents

The standard:

- Technical requirements and specifications

Standards are needed

- Easier for users
- Easier for suppliers

3.4 Assignment

How does the Web Accessibility Directive relate to the UN Convention on the Rights of Persons with Disabilities? Please describe!

4   Module 2.2 Application of the Web Accessibility Directive

4.1 Learning objectives

- Learn more about the Web Accessibility Directive
- Understand how enforcement is carried out
- Get an overview of how the Directive works in practice

4.2 Overview

- How the Directive is applied in Åland, Finland and Sweden
- Enforcement
- Accessibility statement
- Feedback mechanism

4.3 Content

Monitoring agencies

Government of Åland

DIGG, Agency for Digital Government

Requirements for Member States:

- Information and support
- Facilitate training
- Cooperation with user organisations
- Monitoring agency set up
- Reporting back to the EC

Ensure compliance with the law:

- Supervision
- Self-declaration

- Feedback

Monitoring takes place in two ways:

- Spot checks
- Full assessment

Accessibility statement

- What is inaccessible and how
- Alternative formats
- Disproportionate burden
- Feedback mechanism
- Link to complaint handling

When am I entitled to alternatives?

If something that should be accessible is not, the user should be offered alternatives upon request.

Disproportionate burden

- Too expensive or difficult
- Individual assessment

Users have power

- Tell the website owner what's not working!
- Ask questions
- Ask for alternatives

4.4 Assignment

- Go to the national monitor agency's website.
- Can you find what websites and apps they are monitoring this year?
- Is there information on who they have monitored before?
- Can you find information on your right to raise accessibility concerns?

Describe how you found the information.

5 Module 2.3 Accessibility statement

5.1 Learning objectives

Understand the accessibility statement.

- Who is it for?
- What should it contain?
- Where can you find it?
- How should you read it?

5.2 Content

Information about the statement:

- Available on all public websites and apps
- Lists accessibility issues
- Provides information on how to contact the website owner about problems

Aim of the statement:

- Describe what is not accessible
- For the monitoring agency
- For the users
- Easy to understand - and detailed!

Template:

- Who and what it applies to
- Status of accessibility
- What is inaccessible and why
- Alternative formats
- Date and method
- Feedback and contact
- Exceptions

5.2.1 Analysis

What should you look for?

- How they write - not just what
- Is everything included
- Is there a plan for remediation?
- Do they seem interested in feedback?

How can you find it?

A statement should be easy to find.

- In the footer
- In the menu
- Under "About the website"
- Find it via Search function
- Where else?

5.3 Assignment

- Go through the statements of 3 public sector bodies
- Can you find their accessibility statement?
- How did you find it? What methods did you try?
- Is it easy to understand?
- Summarise what is good/bad (e.g. is there anything missing or is the content difficult to understand?)
- On what was bad, give suggestions on what the agency could have done better.

6 Module 3:1 Standard EN 301 549

6.1 Learning objectives

- Understand how the EN standard is structured
- Understand how the EN standard can be used

6.2 Overview of the standard

- What is the EN standard
- How is it structured
- How much do you need to know?

6.3 Content

6.3.1 Technologies covered

- Hardware
- Documents that are not web documents
- Software including apps
- Video communication services
- Web technologies
- Support services
- Emergency services

6.3.2 Structure

- Chapter 0-3: Background, scope, references, definitions
- Chapter 4: Functional performance (user needs)
- Chapter 5: General requirements

Requirements for certain services:

- Chapter 6: Two-way voice and video communications
- Chapter 7: Video

- Chapter 12: Documents and support
- Chapter 13: IT for emergency services

Requirements for digital products:

- Chapter 9: Web
- Chapter 10: Documents
- Chapter 11: Mobile applications
- Chapter 8: Hardware requirements

6.3.3 Useful annexes

- Annex A: Minimum requirements of the Web Accessibility Directive
- Annex B: Requirements and user needs mapping table
- Annex E: How the standard is intended to be used

Functional performance:

- How the solution should work
- Effects, i.e. functional requirements
- Based on the varying capabilities of users
- At the heart of the standard
- Evaluate the impact for different groups

Groups: Vision, hearing, speech and language, motor skills, cognition

Annex A: Minimum legal requirements

- Unconditional = Always applies
- Conditional = Only applies when …
- Chapters: 5, 6, 7, 9, 10, 11, 12

Annex B: How it all connects

- How important the requirements are for the different user groups

Annex E: How to read the standard

- An instruction on how to use and read the standard
- Written in human language

6.3.4 Chapter 9. Web

- Based on WCAG 2.1 level AA
- WCAG has explanatory documentation

Examples

9.2.1.1 Keyboard navigation

All content should be accessible and usable with the keyboard. Test this by:

- Checking that you can tab to all links, form fields, buttons, image links and media controls.
- Make sure you can tab away from all elements without getting stuck.
- Confirm that everything can be done with the keyboard, without mouse or touch.
- Check that you can navigate with the arrow keys in the drop-down menus without selecting anything directly.
- Check that you can activate links, buttons and image links by pressing Enter.

To test, you need to:

- Understand the requirement
- Understand which groups are affected
- Master a test method
- Be able to identify borderline cases

EN 301 549 V3.2.1

6.4 Assignment

- Read requirement 5.3 Biometrics.
- Find the requirement in Annex B.
- Describe which groups are affected.
- In what way do you think these groups are affected?

7 Module 3:2 Pedagogical requirements

7.1 Learning objectives

- Get to know a selection of pedagogical requirements

7.2 Overview

- What are pedagogical requirements
- Examples of three pedagogical requirements:
- Finding information in more than one way
- Error messages
- More than just colour
- Go through how to test these.

7.3 Content

Design (pedagogical) and content are as important for accessibility as the technical code.

Pedagogical requirements include requirements for the layout and how objects are placed.

- Consistent and clear interface
- Logical functions
- Menus and navigation
- Information and help

7.3.1 Example 1: Finding information in more than one way

Different people have different approaches to navigating websites.

- Menu
- Search function
- Content overview
- A-Z
- Frequently asked questions and answers (FAQ)
- Step-by-step guides

- Tag cloud
- Link trails

7.3.2 Example 2: The error message

- Should be easy to understand
- Should be clearly displayed on the website
- Should be displayed with text
- It should be clear which field is wrong.
- Example - Error message

7.3.3 Example 3: Using colour

- Do use colours
- But don't let colour be the only way to discern information.
- What does this mean?
- Links (for example) should be graphically distinguished from other text, for example by
  - underlining
  - placement
  - symbol
  - size

Tool for testing a website: Colourblind Web Page Filter

Tool for testing a Chrome plugin:Color blindly

7.4 Assignment

Test on three municipal websites:

(1) Find information in more than one way. Try to find your way to Contact us. Can you find more than one way? Which ways are there?
(2) Is there anything that stands out with colour alone
(3) Error messages. Test the input fields on the leave comments page and in the search field. Leave mandatory fields blank, fill in invalid values.

8 Module 3:3 Content requirements

8.1 Learning objectives

Get to know a selection of content requirements

8.2 Overview

What are content requirements

Examples of three content requirements:

- Alternative texts
- Subtitled films
- Clear links

Go through how to test these.

8.3 Content

Content requirements are requirements to ensure that the content is understandable.

- Structure the text
- Write clearly
- Offer alternatives to text, image, video, podcast

8.3.1 Images

Alternative texts

Describe images and content that is not text:

- photos
- images
- diagrams
- animations

- icons

Text alternatives should be able to replace and describe the image.

Name of the requirement: Non-text content

In English: Non-text content

How to test?

People who use screen readers will have the alternative text read to them. Discuss together whether it describes the image.

Or use a tool such as Image Alt Text Checker or Image Alt Text Viewer

8.3.2 Video

- Caption all videos with audio
- Caption all spoken words
- Identify speakers
- Caption all other relevant sounds

Example of sounds:

- [a phone ringing]
- [dog barking]
- [music playing]

Closed or open captions

Closed captions:

- Can be switched on or off
- Identified as CC

Open captions

- Always visible
- Cannot be deactivated

Captions can be automatic or manual

Name of the requirement: Text descriptions. Captions (prerecorded)

8.4 Assignment

Test on three municipal websites:

        1)   Alternative texts to images
- Do all images have an alternative text?
- Do the images have alternative texts that correspond to what they show?

        2)   Captioning videos
- Are all videos captioned?
- Do they have open or closed captions?
- Do the captions correspond to the audio?

9 Module 3:4 Technical requirements

9.1 Learning objectives

- Get to know a selection of technical requirements

9.2 Overview

- What are technical requirements
- Example of three technical requirements:
    - o Navigating with the keyboard
    - o Headings
    - o Automatic testing tools
- Go through how to test these.

9.3 Content

Technical requirements are about making assistive technology work.

- Technical standards
- Right element for the right thing
- Possible to navigate regardless of whether you use a mouse, keyboard or touchscreen

9.3.1 Keyboards

How to navigate with the keyboard?

Navigating with the keyboard

- All clickable objects must be possible to reach and use with keyboard only.
- Tabb order should be logical.
- The focus mark shall be visible

9.3.2 Headings

Structures the content.

- Helps to understand the content
- Each page must have a heading at level h1.

How to test:

- Is everything that looks like headings marked as headings?
- Do the headings have a logical order?

Use a tool:

Tool – https://hinderlingvolkart.github.io/h123/

Save it as a link.

Click on it and it will display the headings on the page.

h①②③

9.3.3 Automated tools

- Software and web services that scan websites to identify accessibility issues
- Can find some problems but not all

Tool:

WAVE Web Accessibility Evaluation Tools

Example of analysis with WAVE

- Identifies images without alt text, low contrast, missing form labels, etc.
- Highlights problems directly on the page, making it easy to see where action is needed.

9.4 Assignment

Test on three municipal websites:

Try using a web page using only the keyboard.

- Can all menu items, buttons and links be accessed using the keyboard?
- Can you see where the focus is?

- Is the focus where you think it is?

Check the headings on your web pages:

- Is everything that looks like headings?
- Do the headings have a logical order?
- Test the web pages with automated tools

10 Module 4.1 The feedback mechanism

10.1 Learning objectives

- Understand how the feedback is supposed to work
- Understand your role as a user
- Understand the potential of constructive feedback

10.2 Overview

Today we will talk about:

- What is feedback
- Why it is important
- How you can do it

10.3 Content

Feedback - what's the point?

- You can get help
- You can get alternatives
- But you can also help!

From the authority's perspective:

You can get help

>> Immediate action

You can get alternatives

>> Compensation via alternative formats

But you can also help!

>> New knowledge that leads to long-term improvement

Why don't they recognise the problems?

- Lack of knowledge
- Lack of understanding
- Lack of resources

The feedback mechanism is …

An important service to users

- Direct contact
- Problem solving
- Empowerment
- Involvement
- Influence

An important part of the construction

- Holds the other parts together
- A prerequisite for success
- Ongoing reality check

An important tool for improvement

- For individual authorities
- For individual officials
- For society at large

What do public authorities offer?

Different channels

- Forms
- E-mails
- Telephone

The majority of users are aware of the feedback mechanism

Only 21% have used it

Examples of why it has not been used more:

- Don't know how to do it
- Can't find the function
- Don't know how to explain
- Can't be bothered

Users need to

- Know that they can feedback
- Understand how it works
- And preferably do it in a good way

Authorities about the feedback:

- Half is actionable
- Majority of authorities say feedback has increased accessibility

The authority needs

- Someone/someone to take care of the feedback
- Knowledge to answer questions
- Possibility to check if it is correct
- Time - to prioritise
- Flexibility, planning, contact with suppliers ...

10.4 Assignment

Select 3 different authorities

Test the feedback function

- How easy/difficult is it to find?
- What channels are offered?
- Is it easy to use?
- Do you get any acknowledgement of reception?
- Give suggestions on what the authority could do better.

11 Module 4.2 Formulate feedback

11.1 Learning objectives

- Understand what is important to you
- Understand what is important to the site owner
- Understand how to give constructive feedback

11.2 Overview

- What must be included in the feedback
- What should be included in the feedback
- How to make feedback effective

11.3 Content

What 'must' be included:

- What is inaccessible
- In what way (what is the problem)
- Where is the problem

What is it that is inaccessible

- The object
- Text
- Image (picture)
- Video (in French)
- Links
- Navigation
- Footer
- …

What is the problem

Desired function

- I am trying to click, open, read, listen ...

What happens

- I am unable to click,
- I cannot open ...

My situation:

- Device
- Operating system
- Web browser
- Version
- Assistive technologies

Where is the problem?

- Describe in words
- Link to the problem
- Screenshot
- Screenshot with markup

What I want you to do

- Fix the problem
    - Suggestion/description/link
- Provide alternative format
    - What, how to whom...
- Reply to me
    - Contact details

When providing feedback, I will include:

- What is inaccessible
- In what way is it inaccessible
  (what am I trying to do)
- Where is it located
- About me: what I use
- Next steps: what I want

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Constructive - what does it mean?

Try to be clear

It is important to be constructive

It's a good idea to be polite

When I give feedback, I should

- Be clear
- Be nice
- Think about the recipient
- Take my time

11.4 Assignment

Try it out on two municipality websites.

Write down what is not working well

Follow the template and create your feedback

Did you receive a response?