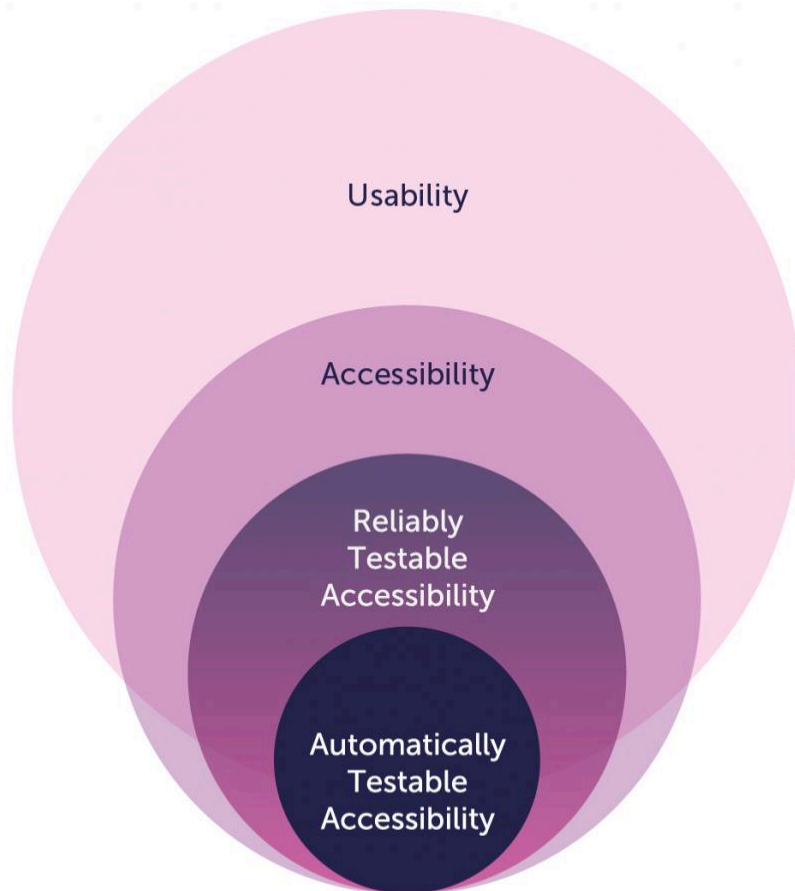# Usability Testing, Focus Groups and Feedback

Usability testing is the best way to know if your content and functionality works for real people with cognitive and learning disabilities.

Usability is important for everyone. If web content and applications are difficult to use, they cannot be accessible for people with cognitive disabilities. Automated testing for accessibility focuses on more technical areas of accessibility, and cannot assess ease of use. It is vital for people with cognitive disabilities that development teams do not rely solely on automated accessibility testing, but ncorporate Design Patterns as described in the Appendix, and if possible test with people who have cognitive disabilities.

Finding people to include in usability testing who have different learning and cognitive disabilities can be relatively easy, such as friends, colleagues, relatives or neighbors who:

- Are older and struggle to use computers, or have age-related forgetfulness;
- Are at an early stage of dementia

- Have dyslexia, dyscalculia or ADHD
- Have a learning or intellectual disability
- People with acquired cognitive issues (for example, due to neurological trauma) who have the same challenges as people with other disabilities such as:
    - having difficulty (asking a family member to help) with booking travel booking or hotel booking online
    - being unable to use online banking
    - coping with content forms and pop up windows when errors occur

It is beyond the scope of this document to provide a guide to usability testing and user-research, however, there are many resources available such as:

- How to Conduct Usability Testing from Start to Finish, from UX Mastery.
- Usability.gov usability testing resources.

4.1 Differences from usability testing with the general population

There are some differences when testing for accessibility, and that includes when testing with people who have cognitive impairments:

- Ensure that the participation forms are easy to understand, send them to the participant in advance, and allow plenty of time for the participant to ask questions and fill in forms;
- Allow the participant to bring a carer, family member or friend to attend with them. If your tester has a guardian you should get informed consent from both the tester and their guardian;
- It helps to provide easy methods of assessing mood, rather than asking for the participant to verbalize, try asking them to select a smiley face, such as:

Figure 1 A simple mood selector

- Ensure the person does not feel like they are at fault for making mistakes. While this is always important during usability testing, this scenario is even more likely for people with cognitive impairments.

Some brief guidance on usability testing:

1. Can your users (people with learning and cognitive disabilities) manage each task reasonably easily and fast. You can time the task taken to complete, and note any parts

that where the users are slowed down or seem to struggle. Also note any errors that they making including clicking on the wrong thing.

2. Is completing the task frustrating or upsetting?
    1. You can ask the users how they are feeling before and after the tasks (or rate their mode such as selecting the smiley which represents how they feel, such as:
    2. ask them if anything was annoying.
3. How can you make it better for your users (people with learning and cognitive disabilities)
    1. You can analyze the data collected above
    2. ask them how they feel about the system and if anything was annoying.
4. If the user if failing blame the designer and not the user. Such as " it is so helpful that you are doing this because our designers are not very good, or are always playing computer games so they think everyone is good at this stuff" or "you are really helping us make this useable by real people and not just engineers" . Stop the process if users are getting distressed despite this.

As a short overview, usability could be measured based on efficacy, efficiency and satisfaction. This can be done by measuring or tracking:

- successes and noting any errors to measure efficacy,
- time taken per task to measure efficiency, note that the relative time between tasks is often more useful than absolute numbers. and
- user's mood and comments to measure satisfaction.

At the end of the evaluation you should be able to answer:

- What prevents the user from completing a task?
- What creates confusion? When and why do they misinterpret the interface?
- What produces an error and an incorrect action?
- When does the user get frustrated or upset
- When does the user misunderstand navigation, menus and controls?
- How can these problems be avoided?

Note you will need to get informed consent from the tester before testing. Explain what they will be doing and why it is helping you. If there are any risks they need to be explained and understood. If your tester has a guardian you should get informed consent from both the tester and their guardian. Make sure potential participants are aware they can withdraw from the testing situation at any time and that their comments will be anonymised before being used in any report.