

Week 11 Lab - Workbook

Institution: [Platform](#)

Site: HCSI826/CSIT226/CSIT826 (S220) Human Computer
Interaction

Book: Week 11 Lab - Workbook

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Table of contents

- [**1. Introduction**](#)
- [**2. General Questions**](#)
- [**3. Design for All**](#)
- [**4. WCAG2.1 - Web Content Accessibility Guidelines**](#)
- [**5. Group Work**](#)

1. Introduction

This is the final week of labs where you will be performing activities in class. In week 12, you will be viewing the videos that you made for your projects and asked questions about the interfaces that you demonstrate in your video (through scenarios).

This week you will be carrying out the following activities:

- General Questions
- Design for All
- WCAG 2.1
- Final Group Work

2. General Questions

Answer the following questions individually (then discuss as a class):

1. Define Accessibility.
2. What is an Assistive Technology?
3. Provide 3 examples of assistive technologies built into an operating system.
4. Provide 3 examples of alternative input devices.
5. Provide 3 examples of alternative output devices.

As a class, discuss the following:

Visual impairments (including: blindness, low vision and colour blindness)

- How can visual interfaces be transformed into intuitive and efficient nonvisual interfaces?
- What are the current models of interaction independent from graphical and spatial presentations available?

Hearing disabilities

- How can computers be used to translate written or spoken English to sign language? (note Sign Languages are different to verbal and written languages and different in different countries ~ even which speak English)

Speech impairments

- How can we support conversation in systems? (typically between 110-160 words per minute)

Mobility impairments

- How can efficient interaction be supported without the use of a standard keyboard or mouse?
- What software tools can be provided to minimize the use of difficult devices such as phones, paper, and environmental controls?

Cognitive impairments

- How can interfaces be adapted to suit different cognitive levels?

3. Design for All

Read the Following Articles

<https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/design-4-all>

<https://www.interaction-design.org/literature/article/understand-the-social-needs-for-accessibility-in-ux-design>

- *How can we design systems for all?*
- *What are the key features for accessible UX design?*

4. WCAG2.1 - Web Content Accessibility Guidelines

In small groups, you are to select a popular website (you can choose the site to review) and conduct a review of the site against WCAG 2.1 and present the results to the class.

<https://www.w3.org/WAI/standards-guidelines/wcag/glance/>

Student can use the tools available at <https://www.w3.org/WAI/test-evaluate/> to start the evaluation of the website.

Perceivable

- Provide text alternatives for non-text content.
- Provide captions and other alternatives for multimedia.
- Create content that can be presented in different ways, including by assistive technologies, without losing meaning.
- Make it easier for users to see and hear content.

Operable

- Make all functionality available from a keyboard.
- Give users enough time to read and use content.
- Do not use content that causes seizures.
- Help users navigate and find content.
- Make it easier to use inputs other than keyboard.

Understandable

- Make text readable and understandable.
- Make content appear and operate in predictable ways.
- Help users avoid and correct mistakes.

Robust

- Maximize compatibility with current and future user agents, including assistive technologies.

5. Group Work

Spend the remaining time in the lab working on your group project. This is your final chance to discuss the project with your tutor.