	BITM 2313 **HUMAN COMPUTER INTERACTION**

LAB 7: ANALYSING THE ACCESSIBILITY ISSUES

BITM 2313	**SEMESTER 2**	**SESSION 2020/2021**

1.0 OBJECTIVE

To find the flaws in user interface design and accessibility recommendation.

2.0 INTRODUCTION

Accessibility is the concept of whether a product or service can be used by everyone—however they encounter it. Accessibility laws exist to aid people with **disabilities**, but designers should try to accommodate all potential users in many contexts of use anyway. You should consider the number and types of potential accessibility issues users will have.

These are common barriers:
- **Visual** (e.g., color blindness)
- **Motor/mobility** (e.g., wheelchair-user concerns)
- **Auditory** (hearing difficulties)
- **Seizures** (especially photosensitive epilepsy)
- **Learning/cognitive** (e.g., dyslexia)

Ability barriers can also arise for any user:
- **Incidental** (e.g., sleep-deprivation)
- **Environmental** (e.g., using a mobile device underground)

3.0 EXPLORING WEB ACCESSIBILITY ISSUES

Here are a few common accessibility issues for websites and ways to fix them. This should come in handy for basically any website because they are a kind of web accessibility basics.

- **Color contrast.** The text should have a sufficient contrast ratio against the background so users with low vision problems don't have difficulty reading it.
- **ALT text.** Images are meaningless to screen readers without a relevant ALT text describing their content.

- **Link purpose.** Link text should give a clear picture to screen readers of what will be found on the destination page.
- **Video captions.** Videos need to have captions in the form of subtitles that reflect not just phrases but also meaningful sounds like music or laughter.
- **Media control.** Users need a way to quickly pause videos and other animations on your website.
- **Field labels and instructions.** Every field should have a label clearly associated with it and error messages should have helpful instructions.
- **Clear heading structure.** Screen readers need to be able to navigate through your content while understanding its hierarchy, for which the logically structured H1-H6 HTML tags are vital.
- **Semantic markup.** Not just the heading but all other website elements (lists, tables, emphasized text, etc.) should have a proper HTML markup clear to screen readers.
- **Keyboard navigation.** Users who cannot use a mouse will appreciate it if your website supports keyboard navigation in at least the basic actions.

4.0 LAB ACTIVITY

While it takes a fairly technical background to detect all accessibility issues and features, there are many accessibility problems that can be quickly and easily identified without the need for a highly technical background. You can discover accessibility by following these instructions:

i.   Acess to any websites in the web. Eg: YouTube, Netflix, Microsoft etc.

ii. **Try zooming a page**. Use the zoom feature on your browser to enlarge a page to 150% or 200%. If your browser has the option to zoom only the parts of the page that are text, experiment with this as well. Now you can see how the page will display for someone who has low vision and needs to enlarge what's on their screen. Will they be able to see and read everything? Does some text now look like it has been cut off, or overlaps with other elements of the page, or is otherwise askew? Describe your experience.

iii. **Try navigating without a mouse**. Put away your mouse, and use only your keyboard to navigate the web and perform different functions online. This is what can be like to go online without full use of your hands. Many people with physical disabilities have to rely on keyboard controls – or the equivalent, such as a sip-and-puff device that essentially does what a keyboard would do.

   A website should be fully usable without a mouse. For instance, you should be able to use the tab key to navigate through the elements of the page (or shift + tab to go backwards), and the tabbing should be in proper order, not skip all over the page. There should also be an indicator of where you are tabbing to on the page (it's called "keyboard focus," for example a thin line around the part of the page you've just tabbed your way to). Describe your experience.

iv. **Try turning down the volume.** Remove your earbuds or mute your computer's volume control. Now try using multimedia on a few websites. When you watch a video, are there captions (subtitles that display important

audio content) so you can still understand what's being said? For bonus points, turn your volume control way, way up. When you land on a website, does an animation, video or audio clip start playing automatically, without a way for you to shut it off easily? Imagine if you couldn't hear the sound and wasn't even aware of it – unlike everyone else you've just managed to disrupt around you! Describe your experience.

v. **Try performing tasks slowly**.Try filling out an online form or updating your profile page – slowly. Every time you complete one task, count to fifty before moving to the next one. Many people with disabilities take more time than average to navigate the web. Perhaps they can't move their hands or fingers quickly. Or they may have low vision and be unable to speed-read.

Some people use assistive technology (AT), such as screen-reading tools, which can add to the time it takes to perform tasks. When you use a website slowly, are you suddenly "timed out," with all your work lost? Or are you given an option to extend your time limit? If you're logged in, does your session expire – and do you get bumped out – without any warning? Describe your experience.