**Reflection Questions Lab :1**

1. What accessibility enhancements were the most challenging to implement, and why?

Ans. 1. Keyboard Navigation: It is hard to make sure that you can move through everything like buttons, forms, etc. using just the keyboard. If the order of where you go next wasn’t right, it could confuse people who don’t use a mouse.

2.Screen readers: We need to make sure tools that read the screen assistive technologies for blind users could understand everything. If we didn’t use the right labels or roles, they might skip over important stuff.

Color contrast: We need to make sure the text is easy to read against the background. Sometimes, the design looked good, but the colors didn’t stand out enough, so we had to change them to make it easier for people to see.

4.Dynamic content: For things that change on the page like error messages popping up, we had to make sure the screen reader would notice and read them out loud. That meant adding some special code to highlight the change.

5. Videos and Audio: We had to add captions or text for videos and audio to make sure everyone could understand them, even if they couldn’t hear.

1. How do ARIA attributes improve the experience for users relying on assistive technologies?

Ans: ARIA attribute are special HTML labels that teel the assistive technologies more about what’s on the page. They make websites easier to understand and use for people with disabilities.

1.Roles: Tell the screen reader what type of element it is like a button, banner, or dialog box, even if the webpage uses custom code instead of regular HTML elements.

2.Labels (aria- label, aria-labelledby): Provide extra descriptions for buttons, links, and other items so people know what they’re for.

3.States (aria -checked, aria-expanded): Say if something is open or closed, checked or not checked, so users know what’s happening.

4.Live Regions(aria-live): Make sure that new or updated info (like a notification or error message) gets announced to the user right away.

1. What tools did you use to check color contrast, and how did they help?

Tools used: WebAIM Color contrast checker, axe DevT ools, Chrome DevTools (LightHouse),Color contrast analyzer etc.

These tools measure the difference between text color and background color. These tools compare the color of the text with the background color. They make sure there’s enough difference (contrast) so that the text is easy to read for everyone including people with vision problems. It makes sure text is easy to read for everyone. It helps avoid designs that are too faint or hard to see. It helps us meet accessibility guidelines.

According to web content accessibility guidelines (WCAG):

AA -Good contrast, generally enough for most of the people

AAA - Better contrast, helpful for people with severe visual problems.

Contrast ratio:

**Normal text (paragraph)**: **AA**: **4.5:1** (minimum contrast), **AAA**: **7:1** (stronger contrast)

**Large text (like big headers)** :**AA**: **3:1** , **AAA**: **4.5:1**