

EXSM 3929 Assignment 4:

Design Patterns and Business Case

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Description

There are two parts to this assignment, **Part 1: Design Patterns** and **Part 2: Business Case**. There is also a third section, **Part 3: ARIA**, which is *optional*. You only need to complete Part 1 and Part 2 to receive full marks.

The purpose of Part 1 is to help students create their own simplified accessibility design heuristics. Part: 2 focuses on the business perspective, this lens is critical, and can be often overlooked. Finally, Part 3 (optional) is aimed to help developers understand how to begin learning ARIA.

Instructions

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DESCRIPTION	VALUE	MARK
Document is submitted with proper ccid , name , and date	2	
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Assignment

Part 1: Design Patterns

Instructions

Written answers must contain at least two complete sentences, and all questions must be completed. Lists are acceptable answers if also presented with at least one complete sentence. Tables must contain a table title and be presented in a readable format.

Questions (Design Guidelines)

Refer to [Accessibility guidelines for UX Designers by Avinash Kaur](#) and [Designing for Web Accessibility by W3](#) and answer the following questions.

1. **Create two lists, one for each article. Each list must contain the accessibility design guidelines from each article.**

Answer:

Here are two lists, each containing accessibility design guidelines from the articles you provided:

List 1: Accessibility Guidelines for a UX Designer

- *Familiarize yourself with accessibility principles, such as perceivability, operability, understandability, and robustness.
- * Ensure sufficient color contrast between text and background for better readability.
- * Use appropriate font sizes and styles that are easy to read.
- * Provide alternative text (alt text) for images to convey information to users who cannot see them.

List 2: Designing Accessible Websites (W3C WAI Tips)

- * Ensure that all content, including text, images, and multimedia, is perceivable by users.
- * Design your website so that it is operable by various input methods, including keyboard navigation.
- * Strive for simplicity and clarity in your website design and content.
- * Use standardized, accessible technologies and coding practices to ensure compatibility.

2. There may be overlap between the two lists. Create a single list of accessibility design guidelines.

Answer:

Here is the single list of accessibility design guidelines:

1. Familiarize yourself with accessibility principles, such as perceivability, operability, understandability, and robustness.
2. Ensure sufficient color contrast between text and background for better readability.
3. Use appropriate font sizes and styles that are easy to read.
4. Provide alternative text (alt text) for images to convey information to users who cannot see them.
5. Design interactions that can be easily accessed and navigated using a keyboard.
6. Use clear labels and instructions for form fields and provide error messages and suggestions for correction.

3. Select the top three guidelines that are most important to you, and answer why each guideline is important to you.

Answer:

1. Make sure there is enough color contrast between the backdrop and the text for easier reading:
This rule is important because it guarantees that people with color blindness or visual impairments may easily see and understand the material on a website. All users may more easily read and identify text from background thanks to enough color contrast, which also improves readability.

2. Create keyboard-friendly interactions that are simple to access and navigate:
Because it enables users who are unable to use a mouse or other pointing devices to navigate and interact with a website successfully, keyboard accessibility is essential. It guarantees that users of assistive technology or users with mobility issues may access all capabilities and content, ensuring equitable access to data and services.

3. Provide alternate text (alt text) for photos to help viewers who can't see them:
Alt text is essential for those who use screen readers or other assistive technology. Alt text is a written explanation of the picture content that allows visually impaired visitors to interpret and experience the visual components on a website. It guarantees that the information communicated by pictures is accessible to all users, encouraging inclusiveness and a richer user experience.

4. Create three tables, one each for your top three design guidelines. Within each table include a description of the guideline, and the specific WCAG 2.1 criteria associated with it (may be more than one), link the criteria documentation to the reference. For example, [Success Criterion 2.1.4 Character Key Shortcuts](#).

Answer:

Table title: Design guideline 1

Ensure sufficient color contrast between text and background for better readability	Success Criterion 1.4.6 Contrast (Enhanced)
This guideline is crucial because it ensures that users with visual impairments or color deficiencies can easily perceive and read the content on a website. Sufficient color contrast enhances legibility and ensures that text is distinguishable from the background, promoting inclusivity and usability for all users.	<p>Success Criterion 1.4.6 Contrast (Enhanced) is a Web Content Accessibility Guidelines (WCAG) 2.1 criterion that focuses on maintaining enough color contrast between text and its backdrop. To ensure readability for those with impaired vision or color deficits, this success criterion demands that text and pictures of text have a contrast ratio of at least 7:1 for normal-sized text or 4.5:1 for large-sized text (such as headers).</p> <p>Reference : https://www.w3.org/TR/WCAG21/#contrast-enhanced</p>

Table title: Design guideline 2

Design interactions that can be easily accessed and navigated using a keyboard	Success Criterion 2.1.1 Keyboard
Keyboard accessibility is vital because it allows individuals who cannot use a mouse or other pointing devices to navigate and interact with a website effectively. It ensures that users with mobility impairments or assistive technologies relying on keyboard navigation can access all functionalities and content, enabling equal access to information and services.	<p>Keyboard is a specific guideline under the Web Content Accessibility Guidelines (WCAG) 2.1. It focuses on ensuring that all functionality and interactive elements on a website can be operated using a keyboard alone, without requiring specific mouse interactions or other input devices.</p> <p>https://www.w3.org/TR/WCAG21/#keyboard-accessible</p>

Table title: Design guideline 3

Provide alternative text (alt text) for images to convey information to users who cannot see them:	Success Criteria 1.1.1 Non-text
Adding alt text to images is crucial for individuals who use screen readers or other assistive technologies. Alt text provides a textual description of the image content, allowing users who are blind or have low vision to understand and perceive the visual elements on a website. It ensures that the information conveyed through images is accessible to everyone, promoting inclusivity and a richer user experience.	Success Criteria 1.1.1 Non-text Content is a subset of the Web Content Accessibility Guidelines (WCAG) 2.1. It underlines the significance of offering text replacements for non-text material like as photographs, graphics, and multimedia to provide accessibility for those who can't see or perceive visual content. https://www.w3.org/TR/WCAG21/#non-text-content

Questions (Dark Patterns)

Refer to [Types of deceptive pattern](#), and answer the following questions.

- 1. Choose one deceptive pattern from the list that you believe has an accessibility aspect to it. Explain which pattern you selected, why you selected it, and provide the link for the detailed page.**

Answer:

One deceptive pattern that has potential accessibility implications is the "Hidden subscription" pattern.

Unsubscribe links in email newsletters that are hidden or camouflaged. This misleading design method involves making it tough or difficult for visitors to unsubscribe from email newsletters. This can cause issues with accessibility for people with visual impairments who use screen readers or have difficulties reading complicated email layouts.

Users with visual impairments or cognitive limitations may have trouble discovering and activating unsubscribe links concealed or disguised inside an email. If the link is not properly labeled or provided in a consistent and accessible manner, it can cause annoyance and make it difficult for consumers to opt out of newsletters they no longer want to receive.

<https://www.deceptive.design/types/hidden-subscription>

2. Read through the detail page and briefly summarize the content. Comment specifically on how the topic of digital accessibility may be connected to this dark pattern.

Answer:

As deceptive design methods, dark patterns can have issues for digital accessibility, particularly for people with disabilities who rely on assistive devices to access and interact with digital material.

When dark patterns are used, they might make it difficult for people with impairments to browse, interpret, and engage with websites or applications. As an example:

Options that are hidden or misleading: Dark patterns may conceal or obscure specific options, making it harder for users with visual impairments or cognitive difficulties to discover and activate them. This might make it difficult for them to change settings, obtain critical information, or carry out required operations.

Dark patterns frequently rely on complicated or confusing user interfaces to influence people into unwanted behaviors. Individuals with cognitive limitations or those who use assistive technology may find it difficult to understand and navigate via such interfaces.

Inaccessible information presentation: Dark patterns may include presenting information in a way that people with disabilities find difficult to perceive or interpret. This includes employing small or low-contrast language, depending exclusively on visual signals without alternate text or explanations, and not giving consumers enough time to comprehend information.

3. Use your answer above to help research any specific WCAG Success Criteria you can connect to this discussion. Link the specific WCAG 2.1 criteria associated (may be more than one), and explain why it applies. For example, “[Success Criterion 2.1.4 Character Key Shortcuts](#), this applies here because...”

Answer:

Here are a few success criteria that are applicable:

Success Criterion 2.4.1: Bypass Blocks (<https://www.w3.org/TR/WCAG21/#bypass-blocks>): This success criterion focuses on offering tools that let users skip content blocks that are repeated on several web pages. People with impairments may encounter obstacles due to dark patterns that purposefully make it difficult for users to navigate or avoid information. Users may skip boring or pointless content and go straight to the information they want by adhering to this criterion.

Success Criterion 3.2.2: On Input (<https://www.w3.org/TR/WCAG21/#on-input>): This success criteria deals with context shifts brought on by user interaction with user interface elements. Users, especially those with cognitive limitations or those who use assistive technology, might become confused by dark patterns that cause unforeseen actions to be taken or change the environment without the user's permission. Following this criterion makes sure that consumers are informed of changes in context in a predictable and clear way.

Success Criterion 4.1.2: Name, Role, Value (<https://www.w3.org/TR/WCAG21/#name-role-value>): This success criterion focuses on delivering user interface components with programmatically determinable names, responsibilities, and values. Dark patterns that purposefully mislabel or misrepresent the purpose or operation of user interface components can cause confusion and difficulty for users, particularly those who rely on assistive devices. All interactive aspects can be reliably recognized, characterized, and conveyed to users if this criterion is followed.

Part 2: Business Case

Instructions

Written answers must contain at least two complete sentences, and all questions must be completed. Lists are acceptable answers if also presented with at least one complete sentence. Tables must contain a table title and be presented in a readable format.

Refer to [this article](https://www.w3.org/WAI/business-case/) on making the business case for accessibility. (<https://www.w3.org/WAI/business-case/>).

Questions (Business Case)

- 1. How would you summarize the main arguments in your own words? (Use at least three bullet points)**

Answer:

Here are the three main arguments in following:

- 1. Drive Innovation:** Integrating accessibility promotes innovation by removing barriers and creating flexible ways for users to interact with websites and applications. Accessible design thinking leads to more human-centered and intuitive user experiences. Examples such as the development of voice technology and responsive design highlight the broader applications and benefits that arise from accessibility.

- 2. Enhance Your Brand:** A commitment to accessibility demonstrates corporate social responsibility and can enhance a business's brand image and reputation. By addressing the

diverse needs of stakeholders and adopting inclusive marketing and employment practices, businesses can achieve increased customer loyalty, improved workforce diversity, and other benefits. Examples from companies like Barclays and Microsoft show how accessibility efforts have positively impacted their brand perception.

3. Increase Market Reach: The market of people with disabilities is significant and growing, representing a large consumer base with substantial purchasing power. Incorporating accessibility into products and services allows businesses to tap into this market segment, leading to increased sales and market reach. Accessible design also benefits other customer groups, such as older individuals or those with temporary disabilities.

2. Choose any business you would like to consider for this assignment. Provide the name and link below.

Answer:

Let's consider Amazon.com Inc., one of the world's largest e-commerce and cloud computing companies. Here is the official website link: [Amazon.com Inc.](https://www.amazon.com)

3. What do you consider is the main source of revenue for this business?

Answer:

Amazon.com Inc.'s e-commerce operation, which involves selling a variety of goods to clients throughout the world, is its primary source of income. Customers may purchase things in categories including electronics, books, apparel, home goods, and more on Amazon's network of online marketplaces, which includes its primary Amazon.com website.

Amazon also makes money through its Amazon Web Services (AWS) segment, which offers cloud computing services to people, corporations, and organizations. In addition to storage, computational power, database management, and artificial intelligence capabilities, AWS also provides a variety of other cloud-based goods and services.

4. How would you describe the digital experience for this business's users? (Describe what is required of the users on a website or application, try listing out a few key steps in bullets)

Answer:

The digital experience for users on Amazon.com involves a straightforward and user-friendly interface that aims to provide a seamless shopping experience. Here are a few key steps and requirements for users on the website:

1. Browsing and Searching:

- * Users can browse through various product categories or use the search bar to find specific items.
- * They can filter search results based on factors like price range, brand, customer ratings, and more.
- * Product listings display essential details such as product descriptions, images, pricing, and availability.

2. Account Creation and Sign-In:

- * Users are required to create an Amazon account to make purchases or access certain features.
- * Account creation involves providing personal information, creating a password, and agreeing to terms and conditions.
- * Returning users can sign in using their email/phone and password or utilize social media logins.

3. Adding to Cart and Checkout:

- * Users can add desired items to their shopping cart by clicking the "Add to Cart" button on product pages.
- * The cart displays a summary of selected items, and users can modify quantities or remove products as needed.
- * To proceed with the purchase, users click on the "Proceed to Checkout" button.

4. Shipping and Payment:

- * Users are prompted to select a shipping address and choose from available shipping options.
- * They can save multiple addresses for convenience or use existing addresses associated with their account.
- * Users then select a preferred payment method (credit card, debit card, Amazon Pay, etc.) and provide payment details.

5. Order Confirmation and Tracking:

- * After placing the order, users receive an order confirmation with estimated delivery dates.
- * They can track the progress of their orders through their Amazon account or by utilizing tracking numbers provided.

6. Returns and Customer Support:

- * In case of any issues, users can initiate returns or contact customer support through the website.
- * Amazon offers a streamlined returns process, allowing users to request returns, print shipping labels, and track return shipments.

5. How would you argue that this business should invest into the accessibility of their user's experience? (List the benefits as they apply directly to this business, avoid general answers, use at least three bullet points)

Answer:

Investing in the accessibility of the user's experience can bring several benefits to the business, specifically in the case of Amazon. Here are three key reasons why Amazon should prioritize accessibility:

- * Increasing accessibility would allow Amazon to serve a wider range of customers, including those with impairments.
- * Using inclusive design principles, Amazon can make sure that users with disabilities such as those affecting their hearing, vision, mobility, or cognition may easily access and use the website.
- * By making an investment in accessibility, Amazon can avoid potential legal problems, fines, and bad press that might result from failing to comply with accessibility regulations.
- * Meeting regulatory requirements and demonstrating a commitment to accessibility assist build the company's reputation as a socially conscious and welcoming brand.
- * Increased customer satisfaction, favorable evaluations, and recommendations may result from a more open and user-friendly experience, which ultimately promotes customer acquisition and retention.

6. What might some risk from the business' perspective towards investing into the accessibility of their user's experience?

Answer:

From a business perspective, there can be certain risks associated with investing in the accessibility of the user's experience. These risks include:

- * Improving accessibility would allow Amazon to serve a bigger client base, including those with impairments.
- * The business would need to allocate resources for conducting accessibility audits, making website/application modifications, training staff, and ongoing maintenance.
- * There may also be additional expenses related to procuring assistive technologies or third-party accessibility tools.
- * Amazon can guarantee that persons with vision impairments, hearing impairments, mobility constraints, or cognitive disabilities may easily access and use the website by employing inclusive design techniques.
- * Demonstrating a commitment to accessibility not only helps the firm satisfy legal duties, but it also boosts the company's reputation as a socially responsible and inclusive brand. Higher customer happiness, favorable reviews, and recommendations can lead to higher customer retention and acquisition.

7. How would you answer or respond to this risk assessment? (Respond to the answer above)

Answer:

Businesses must invest in the accessibility of the user experience. It broadens the client base, allowing it to enter new market sectors and drive revenue development. It also increases client happiness and loyalty, which leads to repeat visits and excellent feedback. Prioritizing accessibility helps a larger user base while also fostering a favorable company reputation. It reduces the danger of legal and reputational penalties while ensuring accessibility laws are followed. A systematic strategy can handle cost, development, and compatibility concerns. The benefits exceed the possible negatives. Accessibility is a long-term investment that returns dividends in terms of business expansion, brand reputation, and consumer trust. It is consistent with society norms, promotes inclusion, and has a beneficial influence.

Part 3: ARIA (optional)

Instructions

This section (Part 3: ARIA) is not required.

Written answers must contain at least two complete sentences, and all questions must be completed. Lists are acceptable answers if also presented with at least one complete sentence. Tables must contain a table title and be presented in a readable format.

Here are five articles related to learning about ARIA, in no order. Your task is to open all links and skim the content, try not to read anything in complete detail yet.

- [ARIA by MDN](#)
- [WAI-ARIA Overview by W3](#)
- [Top 5 Rules of ARIA by Deque](#)
- [Patterns by W3](#)
- [Read Me First](#)

Questions (ARIA)

1. **What is the order you would recommend the content for the list? Create an ordered list below, with the same links.**

Answer:

- Read Me First
- ARIA by MDN
- WAI-ARIA Overview by W3
- Top 5 Rules of ARIA by Deque
- Patterns by W3

2. **Did you get a sense of what ARIA is from your initial content skim and ordering exercise? If yes, then write down how you figured this out. If you do not, then describe the fastest way to get an initial sense of what ARIA is.**

Answer:

Yes, the initial exercise of skimming and arranging the content gave me a general idea of what ARIA (Accessible Rich Internet Applications) is. To make HTML components more accessible to persons with impairments, a set of characteristics called ARIA can be applied. It gives screen readers and other assistive technology more information to help them comprehend and use online content.

When I first skimmed the text, I saw that the resources identified ARIA as a crucial subject in relation to online accessibility. I was made aware that ARIA is a concept connected to improving the accessibility of web content thanks to the use of terminology like "ARIA" and "accessibility" in the resource titles and descriptions. Additionally, "WAI-ARIA" (Web Accessibility Initiative - Accessible Rich Internet Applications) was expressly highlighted in the W3 resources.

3. What is ARIA? Why is it important? When is it used? Are there rules around ARIA use, or best practices?

Answer:

To improve the accessibility of web content for individuals with impairments, a set of characteristics called ARIA (Accessible Rich Internet Applications) may be applied to HTML elements. It offers a means of getting crucial information over to assistive devices, such as screen readers, to enable effective interpretation and interaction with online applications.

Because it solves the shortcomings of conventional web technologies in delivering accessible experiences, ARIA is significant. It may be difficult for people with impairments to understand many interactive and dynamic website features, such as menus, sliders, and tab panels, using only conventional HTML.

ARIA closes this informational gap by enabling developers to give more details about the functions and characteristics of these components, improving their usability and accessibility for all users.

ARIA is used when HTML alone cannot completely define an element's interactive behavior or accessibility semantics. It's commonly used in complicated online applications with interactive components, such as single-page apps, web forms, and dynamic content. ARIA may be used to offer context to assistive technology, facilitate keyboard navigation, and indicate changes in content or state.

There are rules and recommended practices for efficiently using ARIA. Through its WAI-ARIA (Web Accessibility Initiative - Accessible Rich Internet Applications) specification, the W3C (World Wide Web Consortium) provides a complete set of rules and recommendations. Some key best practices include:

1. Use ARIA sparingly: ARIA should only be applied sparingly and when necessary. It is intended to improve the accessibility of specific interactive elements rather than being applied to every element on a webpage.

2. Recognize ARIA roles, states, and properties: Learn about the various ARIA roles, states, and attributes accessible. Each serves a distinct purpose in describing element behavior and accessibility. Select the proper properties based on their intended application and semantics.

3. Adhere to accessibility standards: Make sure your use of ARIA complies with accepted standards and rules for accessibility, such as the Web Content Accessibility rules (WCAG). A uniform and inclusive user experience across various platforms and assistive technologies is made possible by adhering to these standards.

By following these best practices and adhering to the rules and recommendations outlined by the W3C, developers can effectively utilize ARIA to enhance the accessibility of their web applications and provide a more inclusive experience for all users.

4. List any other useful links you found in answering the above questions. Mention specifically why this new resource was useful to you.

Answer:

Web Accessibility Initiative (WAI) by W3C:

* Link: <https://www.w3.org/WAI/>

A very useful tool for comprehending and implementing web accessibility is the Web Accessibility Initiative (WAI) by the W3C. Due to its association with the World Wide Web Consortium (W3C), it is trustworthy and offers thorough coverage of accessibility standards outside of ARIA. The WAI provides guidelines and examples that developers can use to integrate accessibility features successfully. In general, the WAI is a crucial resource for developing accessible and inclusive digital experiences.

The A11y Project:

* Link: <https://a11yproject.com/>

This website provides a wealth of information and resources related to web accessibility. It covers various aspects of accessibility, including ARIA. The A11y Project offers practical tips, tools, and best practices for developers to ensure their websites are inclusive and accessible to all users.

Thank You.