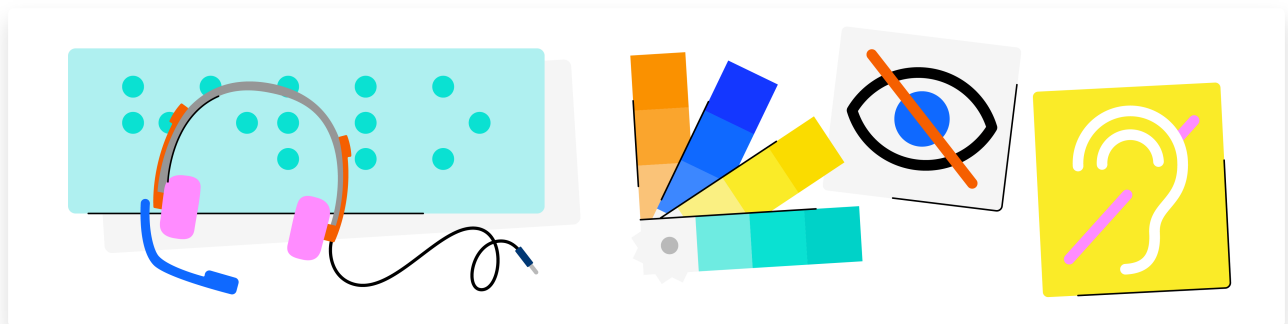


Accessibility and Improving Artifacts

Textbook

Accessibility and Improving Artifacts



Imagine if you went to a park, but some of the paths were too narrow for a wheelchair, or the swings were too high for kids to reach. That wouldn't be very good, right? The same idea is true for computers and websites. We need to make sure they work for everyone. This is called accessibility.

What is Accessibility?

Accessibility means that all people, no matter their abilities, can use technology like computers and apps. Let's see how we can make technology work better for everyone.

Improving Computational Artifacts

Here are some ways we can make technology more accessible:

1. User Interface (UI) Design:

- Problem: Small fonts and low-contrast color schemes can reduce the legibility of text.
- Solution: Implement scalable text sizes and use high-contrast color palettes to improve visual clarity.

2. Audio/Visual Media:

- Problem: Digital media may be inaccessible to users with auditory or visual impairments.
- Solution: Incorporate text-to-speech functionality for on-screen content and provide captions and transcripts for all audio and video files.

3. Input and Navigation:

- Problem: Not all users can operate a mouse or touch-based interface.

- Solution: Ensure that a system's full functionality can be accessed via a keyboard, creating a keyboard-accessible interface.

4. Captioning and Transcripts

- Problem: Videos and audio can be inaccessible to people who are deaf or hard of hearing.
- Solution: Add captions and transcripts to ensure everyone can understand the content.

By addressing these challenges, we create technology that works better for everyone—not just people with disabilities!

Your Turn: Create Accessible Media!

Now it's your turn to be a designer and **create and edit multimedia artifacts using digital tools!** When you make your own digital projects, you can use these accessibility ideas to make sure everyone can enjoy them.

Challenge: Create a short digital story or presentation slide about your favorite animal or a cool invention.

1. **Create & Edit:** Use a digital tool (like Google Slides, a drawing app, or a simple video creator) to put together your story.
 - Add pictures, draw your own, or even record your voice talking about your topic.
 - Use the editing features to arrange your pictures, trim your audio, and choose clear, large text.
2. **Get Feedback:** Once you have a draft, share it with your teacher or a classmate to receive feedback. Ask them: "Is the text big enough to read easily?" "Can you understand what I'm saying in the audio?" "Is anything distracting?"
3. **Refine & Publish:** Use the feedback to edit your multimedia artifact and make any improvements. Once it's ready, publish it! This could mean saving it to a shared class folder, presenting it to the class, or sharing it on a safe online platform your teacher approves. You're making your work available for others to enjoy!

Adaptive Technologies Through Time

Adaptive technologies are specialized tools that enhance a user's ability to interact with a system. Historically, these were external devices, but today, they are often built directly into operating systems.

- **Screen Readers:** These programs use **text-to-speech algorithms** to vocalize on-screen content for users with visual impairments.
- **Voice Recognition:** This functionality translates spoken commands into system instructions, enabling hands-free input.
- **Closed Captions:** This technology synchronizes spoken words with on-screen text, making audio content accessible to users who are deaf or hard of hearing.

Critical Thinking Questions

1. Why is it a good idea to build technology so that it's easy for everyone to use?
2. Think about an app or website you use. What is one thing about it that helps people use it more easily? How does that thing work?

Questions (5)

1. What does accessibility mean when it comes to technology?

MULTIPLE CHOICE

Choose the correct answer:

- A. Making sure everyone can use technology easily.
- B. Making technology expensive and exclusive
- C. Creating complex designs that challenge users
- D. Limiting access to certain groups of people

2. How can text-to-speech technology help users?

MULTIPLE CHOICE

Choose the correct answer:

- A. By making text smaller and harder to read
- B. By allowing the computer to read text aloud
- C. By making images into text
- D. By removing text from the screen

3. Why is it important to use high-contrast colors on websites and apps?

MULTIPLE CHOICE

Choose the correct answer:

- A. To make them look more stylish
- B. To match the latest trends in design
- C. To help people see things more clearly
- D. To make them harder to navigate

4. True or False: Adding captions or transcripts to videos helps people who are deaf or hard of hearing understand the content.

MULTIPLE CHOICE

Choose the correct answer:

- A. True
- B. False

5. True or False: Simplifying layouts on websites and apps can make them easier for everyone to use.

MULTIPLE CHOICE

Choose the correct answer:

- A. True
- B. False

Games (2)

1. Accessibility Category Game

Full Screen

Audio

Instructions

Answer Key

Pause

Clear All

Check Order

Attempts: 0

Keyboard Navigation

Use text to speech

Adding captions to videos

Make text smaller

Only navigate with a mouse




Remove captions from videos

Remove text to speech

Make text bigger

Ways to Make Programs More Accessible

Ways to Make Programs Less Accessible



2. Accessibility Typing Game

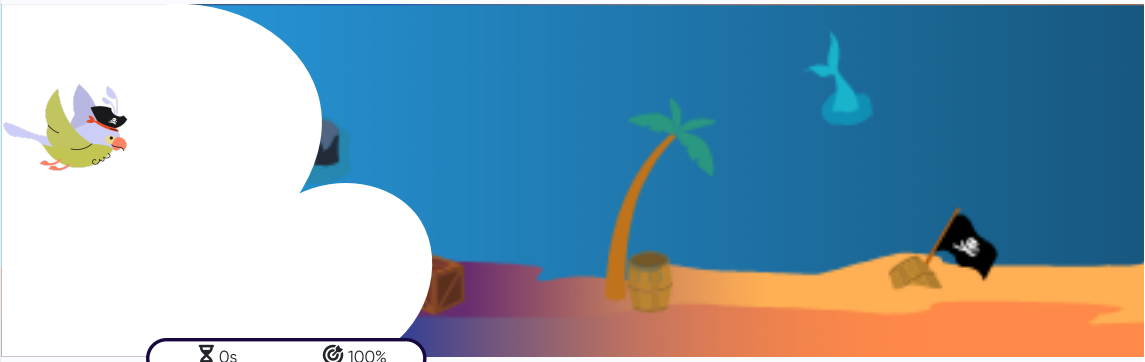
Full Screen

Audio

Instructions

Restart

Pause



0s 100%

Accessibility in technolog

Answer Keys & Solutions

Questions

1. What does accessibility mean when it comes to technology?

MULTIPLE CHOICE

Correct Answer:

- A. Making sure everyone can use technology easily. ✓ Correct
- B. Making technology expensive and exclusive ✗ Incorrect
- C. Creating complex designs that challenge users ✗ Incorrect
- D. Limiting access to certain groups of people ✗ Incorrect

Explanation:

Think about how accessibility aims to help everyone use technology comfortably.

2. How can text-to-speech technology help users?

MULTIPLE CHOICE

Correct Answer:

- A. By making text smaller and harder to read ✗ Incorrect
- B. By allowing the computer to read text aloud ✓ Correct
- C. By making images into text ✗ Incorrect
- D. By removing text from the screen ✗ Incorrect

Explanation:

Consider how this technology assists those who have difficulty reading.

3. Why is it important to use high-contrast colors on websites and apps?

MULTIPLE CHOICE

Correct Answer:

- A. To make them look more stylish ✗ Incorrect

B. To match the latest trends in design

✗ Incorrect

C. To help people see things more clearly

✓ Correct

D. To make them harder to navigate

✗ Incorrect

Explanation:

Think about who benefits from clearer visibility of text and graphics.

4. True or False: Adding captions or transcripts to videos helps people who are deaf or hard of hearing understand the content.

MULTIPLE CHOICE

Correct Answer:

A. True

✓ Correct

B. False

✗ Incorrect

Explanation:

Consider how these features assist in accessibility.

5. True or False: Simplifying layouts on websites and apps can make them easier for everyone to use.

MULTIPLE CHOICE

Correct Answer:

A. True

✓ Correct

B. False

✗ Incorrect

Explanation:

Think about why clutter-free designs are beneficial.

Games

1. Accessibility Category Game

Category Solutions:

Category 1: Ways to Make Programs More Accessible

- Make text bigger
- Use text to speech
- Keyboard Navigation
- Adding captions to videos

Category 2: Ways to Make Programs Less Accessible

- Make text smaller
- Remove text to speech
- Only navigate with a mouse
- Remove captions from videos

Students must sort items into their correct categories.

2. Accessibility Typing Game

Typing game - no answer key needed. Students practice typing the provided content.