Chapter - 2

What is a WIMP Interface?

Explanation: WIMP stands for Windows, Icons, Menus, and Pointers. It is a type of user interface where users interact with the system by opening windows, clicking icons, selecting options from menus, and using a pointer. Example: Desktop operating systems like Windows or macOS use WIMP interfaces.

What are the General HCI Guidelines?

Table 2.2 Examples of Guidelines for Government Web Page Layout

GUIDELINES	EXPLANATION
Avoid cluttered displays	Create pages that are not considered cluttered by users
Place important items consistently	Put important, clickable items in the same locations and closer to the top of the page, where their location can be better estimated
Place important items at top center	Put the most important items at the top center of the web page to facilitate users finding the information
Structure for easy comparison	Structure pages so that items can be easily compared when users must analyze those items to discern similarities, differences, trends, and relationships
Establish level of importance	Establish a high-to-low level of importance for information and infuse this approach throughout each page on the website
Optimize display density	To facilitate finding target information on a page, create pages that are not too crowded with items of information
Align items on a page	Visually align page elements, either vertically or horizontally
Set appropriate page lengths	Make page-length decisions that support the primary use of the web page
Choose appropriate line lengths	If reading speed is most important, use longer line lengths (75–100 characters per line); if acceptance of the website is most important, use shorter line lengths (50 characters per line)
Use frames when functions must remain accessible	Use frames when certain functions must remain visible on the screen as the user accesses other information on the site

What is WCAG?

Web Content Accessibility Guidelines (WCAG) explains how to make web content more accessible to people with disabilities.

1. **Perceivable**

    A. Provide text alternatives for non text content.

    B. Provide captions and other alternatives for multimedia.

    C. Create content that can be presented in different ways, including by assistive technologies, without losing meaning.

    D. Make it easier for users to see and hear content.

2. **Operable**

    A. Make all functionality available from a keyboard.

    B. Give users enough time to read and use content.

    C. Do not use content that causes seizures.

    D. Help users navigate and find content.

3. **Understandable**

    A. Make text readable and understandable.

    B. Make content appear and operate in predictable ways.

    C. Help users avoid and correct mistakes.

4. **Robust**

    A. Maximize compatibility with current and future user tools.

You have been asked by a software company to provide a training session on User- centered Design. What problems do users with cognitive impairments and learning difficulties face and what could be taken into consideration to ensure that your design supports users with those impairments.

When designing for **users with cognitive impairments and learning difficulties**, it's essential to recognize the unique challenges they face when interacting with software and digital interfaces. **User-Centered Design (UCD)** principles can help ensure accessibility by prioritizing these users' needs and creating intuitive, supportive interfaces.

Challenges Faced by Users with Cognitive Impairments and Learning Difficulties

1. **Memory Limitations**:
    - Users may struggle to remember complex sequences of actions, instructions, or information presented to them. Tasks requiring multiple steps can become overwhelming if they have to remember each step without support.
2. **Difficulty Processing Complex Information**:
    - Users with cognitive impairments often find it challenging to process dense or complicated content, such as lengthy text, complicated language, or cluttered layouts.
3. **Attention and Focus Issues**:
    - Maintaining focus on a task can be challenging, especially if the interface is cluttered, confusing, or contains unnecessary distractions.

4. **Understanding Abstract Concepts and Symbols**:
    - Abstract icons, symbols, or language that assumes prior knowledge may confuse users. Interfaces that rely heavily on symbolic representation can be hard to interpret for these users.
5. **Reading and Comprehension Difficulties**:
    - For users with learning disabilities like dyslexia, text-heavy interfaces, complex vocabulary, or small fonts can make reading and understanding content harder.

Designing for Users with Cognitive Impairments and Learning Difficulties

1. **Simplify Layouts and Minimize Cognitive Load**:
    - Use clean, minimal layouts to help users focus on one action at a time. Break tasks into small, clear steps with visible navigation options and avoid unnecessary visual clutter.
    - **Example**: In an online form, show one question at a time to prevent overwhelming the user.
2. **Provide Clear and Consistent Navigation**:
    - Consistent navigation helps users understand where they are and what they can do next. Clear labels, predictable patterns, and familiar icons improve usability for those with cognitive challenges.
    - **Example**: Use standard navigation icons (like a house icon for "Home") and place them in the same spot across pages.
3. **Offer Visual and Verbal Cues**:

- Use icons along with text labels to reinforce understanding. Simple, clear icons alongside short text labels can help users interpret functionality more easily.
- **Example**: Labeling a "Save" button with both a floppy disk icon and the word "Save" makes the action more understandable.

4. **Use Plain Language and Avoid Jargon**:
   - Write in simple, clear language that's easy to understand. Avoid complex vocabulary, and break up text into short, manageable chunks.
   - **Example**: Instead of "Authenticate your credentials," use "Log in with your username and password."
5. **Provide Clear Feedback and Error Recovery**:
   - Offer immediate, simple feedback after user actions to confirm the result, and provide clear instructions to correct errors. Avoid technical language in error messages and guide users back to the correct path.
   - **Example**: If a form field is filled incorrectly, show a message like "Please enter a valid email address" instead of "Input error."
6. **Offer Alternative Text and Audio Options**:
   - Visual or auditory support, such as reading text aloud, can be helpful for users who struggle with text. Adding options for users to have text read aloud, or to convert text into simpler language, can make content more accessible.
   - **Example**: Provide an audio narration for content that a user can play if needed.
7. **Reduce Distractions and Animation Effects**:

- Avoid flashing elements, excessive animations, and pop-ups, as these can be distracting and make it harder for users to focus.
- **Example**: Limit animations to transitions that improve clarity (like expanding a menu), rather than distracting effects like continuous GIFs.

8. **Enable Customization**:
   - Allow users to adjust text size, color contrast, or other settings to fit their needs. A customization feature can make the interface more comfortable for users with varied cognitive abilities.
   - **Example**: An e-book app could let users change the font size and background color to improve readability.