# Multimedia

Learning Objective:

To understand the use of graphics, photos, videos, diagrams, animation in UI

# Multimedia

▶ Graphical flexibility of the Web permits inclusion of other media on a screen, including images, photographs, video, diagrams, drawings, and spoken audio. The availability of these additional interface elements has, however, been a double-edged sword.

▶ The various media can be powerful communication and attention-getting techniques

▶ Can hold the user's attention, add interest to a screen, entertain, and quickly convey information that is more difficult to present textually

▶ Effective use of multimedia in design has been hindered by a lack of knowledge

▶ Multimedia inclusion:

- Graphics
- Images
- Photographs
- Video
- Diagrams
- Drawings
- Animation
- Audition
- Combining Mediums

**SAKEC**

# Graphics

▶ Use graphics to:

- Supplement the textual content, not as a substitute for it.

-  Convey information that can't be effectively accomplished using text.

- Enhance navigation through:

  ❑ Presenting a site overview

  ❑ Identifying site pages.

  ❑ Identifying content areas.

▶ Limit the use of graphics that take a long time to load.

▶ Coordinate the graphics with all other page elements.

# Images

- General:
  - Use standard images.
  - Use images consistently.
  - Produce legible images.
  - Provide descriptive text or labels with all images.
  - Distinguish navigational images from decorative images.
  - Minimize:
    - ✓ The number of presented images.
    - ✓ The size of presented images.
- Color:
  - Minimize the number of colors in an image.
- Internationalization:
  - Produce images in the most appropriate format i.e. JPEG,GIF
- Screen design:
  - Reuse images on multiple pages.

# Image Maps

- Use:
  - To provide navigation links to other content.

- Advantages:
  - Can be arrayed in a meaningful and obvious structure.
  - Faster to load than separate images.

- Disadvantages:
  - Consume a significant amount of screen space.
  - "Hot spots" not always obvious.
  - One's location within image map is not always obvious.

- Guidelines:
  - Use with caution.
  - Provide effective visual cues and emphasis to make it easy to identify link boundaries.
  - Ensure image maps are accessible to the vision impaired.

# Photographs/Pictures

► Use:

- When every aspect of the image is relevant.

► Guidelines:

- Use JPEG format.

- On the initial page:

  --- Display a small version.

  - A thumbnail size image.

  - Zoom-in on most relevant detail.

  --- Link to larger photos showing as much detail as needed.

# Video

- Uses:
  - To show things that move or change over time.
  - To show the proper way to perform a task.
  - To provide a personal message.
  - To grab attention.

- Disadvantages:
  - Expensive to produce.
  - Slow to download.
  - Small and difficult to discern detail.

- Guidelines:
  - Never automatically download a video into a page.
  - Create short segments.
  - Provide controls, including those for playing, pausing, and stopping.
  - Consider using:
    - Existing video.
    - Audio only.
    - A slide show with audio.

**SAKEC**

# Diagrams

▶ Uses:

- To show the structure of objects.

- To show the relationship of objects.

- To show the flow of a process or task.

- To reveal a temporal or spatial order.

▶ Guidelines:

- Provide simple diagrams.

- Provide cutaway diagrams or exploded views to illustrate key points.

**SAKEC**

# Drawings

- **Use:**
  - When selective parts need to be emphasized or represented.

- **Guidelines:**
  - Provide simple drawings showing minimal detail.
  - Provide a link to a complete drawing.

SAKEC

# Animation

- Uses:
  - To explain ideas involving a change in:
  - To illustrate the location or state of a process.
  - To show continuity in transitions.
  - To enrich graphical representations.
  - To aid visualization of three-dimensional structures.
  - To attract attention.
- Disadvantages:
  - Very distracting.
  - Slow loading
- Guidelines:
  - Use only when an integral part of the content.
  - Create short segments.
  - Provide a freeze frame and stop mode.
  - Avoid distracting animation.

**SAKEC**

# Audition

- Uses:

    - As a supplement to text and graphics.

    - To establish atmosphere.

    - To create a sense of place.

    - To teach.

    - To sample.

- Advantages:

    - Does not obscure information on the screen.

    - Shorter downloading time than video.

- Disadvantages:

    - Is annoying to many people, including users and nonusers in the vicinity.

    - Can easily be overused, increasing the possibility that it will be ignored.

    - Is not reliable because:

        - Some people are hard of hearing.

        - If it is not heard, it may leave no permanent record of having occurred.

        - The user can turn it off.

        - Audio capability may not exist for the user.

**SAKEC**

# Audition(Conti..)

- Guidelines

  - When words are spoken:

    - ✓ The content should be simple.

    - ✓ The speed of narration should be about 160 words per minute.

  - When used to introduce new ideas or concepts the narration should be slowed.

  - Off-screen narration should be used rather than on-screen narration.

    - ✓ The content should be simple.

    - ✓ The speed of narration should be about 160 words per minute.

  - Create short segments.

  - Provide segments of high quality.

  - Provide audio controls.

  - Play background audio softly.

# Combining Mediums

► Combinations:

▪ Use sensory combinations that work best together:

  ✓ Auditory text with visual graphics.

  ✓ Screen text with visual graphics.

► Integration:

  ▪ Closely integrate screen text with graphics.

► Relevance:

  ▪ Both the visual and auditory information should be totally relevant to the task being performed

► Downloading times:

  ▪ Consider downloading times when choosing a media.

**SAKEC**

# Combining Mediums(Conti..)

- ► Presentation:

  - ▪ Visual and auditory textual narrative should be presented simultaneously, or the visuals should precede the narrative by no more than 7 seconds.

  - ▪ To control attention, reveal information systematically.

    - ✓ Limit elements revealed to one item at a time and use sequential revelations for related elements.

  - ▪ Animation must show action initiation as well as the action's result.

  - ▪ Avoid animation that distracts from other more important information.

- ► Testing:

  - ▪ Thoroughly test all graphics for:

    - ✓ Legibility.

    - ✓ Comprehensibility.

    - ✓ Acceptance.

# References:

- The Essential Guide to User Interface Design Second Edition, Wiley.

- An Introduction to GUI Design Principles and Techniques ,Wilbert O. Galitz

**SAKEC**