KARAKTERISTIK SOFTWARE PEMBELAJARAN


Karacteristik Umum

- Karakteristik yang mempengaruhi tampilan, kegunaan dan efektivitas software adalah sbb (dirancang oleh pengembang):
  - Pendahuluan program
  - Kontrol siswa
  - Presentasi informasi
  - Pemberian bantuan (help)
  - Penutup program

Sumber: Multimedia for Learning: Methods and Development
Pendahuluan Program
Title Page

☐ Tujuan
- To tell you what program you are about to use
- To tell you in a general way what the program is about
- To attract your attention and create a receptive attitude
- To inform you of the author’s or publisher’s name and contact information
- To provide copyright information
- To provide an escape if you realize you have come to the wrong place

Sumber: Multimedia for Learning: Methods and Development

Pendahuluan Program
Title Page

☐ Design rules
- Always provide a title page or splash screen.
- Make the page clever and interesting but short.
- Allow users to skip the page by clicking the mouse or keyboard.
- A title page should not disappear after a fixed number of seconds. The user should decide when to continue by mouse or keyboard.

Sumber: Multimedia for Learning: Methods and Development
Pendahuluan Program

Title Page

- Design rules
  - Make it absolutely clear how to continue the program.
  - Always include a title, author or owner name, copyright date, and a button to exit.
  - Provide credits if they are short; longer credits should be on a separate page.
  - Do not put menus, directions, or content to be learned on a title page.

Sumber: Multimedia for Learning: Methods and Development

Directions

- Design rules
  - Do not include basic directions for computer operation.
  - Include information that is specific to the program.
  - Do not include at the beginning of a program for procedures that are used only much later in the program.

Sumber: Multimedia for Learning: Methods and Development
Pendahuluan Program

Directions

- Design rules
  - Keep directions simple and self-evident; Users should not need directions on how to operate the direction page.
  - Consider providing both demonstration and practice of the activities.
  - If directions include movies, audio, or animation, they should be short and include options to pause, to continue, to repeat, and to skip that information.
  - It should be easy to skip or exit the directions and obvious how to do so.

Sumber: Multimedia for Learning: Methods and Development

- Design rules
  - The user should be able to return to directions easily and quickly from anywhere in the program.
  - Including context-sensitive help, such as rollovers, throughout the program.
  - Emphasize operation of the program, do not put instructional objectives or subject-matter content in the directions.

Sumber: Multimedia for Learning: Methods and Development
Pendahuluan Program

User Identification

- Design rules
  - Only include an identification page if you are going to use the identification.
  - Keep the amount of typing to a minimum.
  - Make the entry procedure self-evident and avoid lengthy directions.
  - Allow the user to correct their identification in the event of typographical errors.

Sumber: Multimedia for Learning: Methods and Development

- Design rules
  - If password is entered, it should not appear on the screen.
  - If you wish to encourage collaborative learning, allow for multiple names or Ids to be entered.

Sumber: Multimedia for Learning: Methods and Development
Kontrol Siswa

- Refer to whether control of a program is given to the user or resides in the program.
- Three Considerations
  - What and how much the learner can control.
  - The method of control.
  - The mode of control.

Sumber: Multimedia for Learning: Methods and Development

Kontrol Siswa

What and How Much Control to Provide

- Always allow to move forward, move backward, and select what to do next.
- Allow to control how fast process occur.
- Have optional controls which tend to vary for different methodologies.
- Do not use timed pauses which are progression to the next step after a fixed number of seconds.

Sumber: Multimedia for Learning: Methods and Development
Kontrol Siswa
What and How Much Control to Provide

- Allow the learner to review whenever possible.
- Always allow the learner temporary termination of a program.
- For general capabilities, provide the learner with consistent global control available everywhere in the program.
- Whenever there are movies, audio, or animations, allow the learner to pause, continue, repeat, or skip them.

Sumber: Multimedia for Learning: Methods and Development

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Kontrol Siswa
What and How Much Control to Provide

- Give learners with more content experience greater control than those with little content experience.
- Know your users and provide controls appropriate for their needs.
- Provide more learner control for problem-solving and higher-order thinking skills and more program control for procedural learning and simpler skills.
- If mastery of content is critical, use more program control.

Sumber: Multimedia for Learning: Methods and Development
### Cara Kontrol

- **Buttons**
- **Menus**: full-screen menus, pull-down menus, pop-up menus.
- **Commands**: typed commands, keypress commands.
- **Hot links**: hot word, hot icons and pictures.
- **Control bars**: scroll bars, toolbars.

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### Cara Kontrol

#### Buttons

- Are labeled with words or pictures with **clearly**.
- Are best for a limited number of **local** controls.
- Are **visible** and take up screen space.
- **Cursor change** and rollover when mouse is over it.
- Provide **confirmation**.
Cara Kontrol

Menus

- Full-screen menu
  - Serve as an anchor point that gives learners a sense of orientation.
  - Provide progress information by indicating sections completed.
  - Provide achievement information which is the percentage of questions answered correctly in each section.
  - Take up display space.
  - Providing more than one full-screen can be disorienting.

Sumber: Multimedia for Learning: Methods and Development

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Cara Kontrol

Menus

- Hidden-screen menu (pull-down, pop-up)
  - Hierarchical
  - Difficult to operate
  - Unattractive
  - Global control
  - Learners ignore or forget to use.

Sumber: Multimedia for Learning: Methods and Development
Frame menu
   - A split-screen method
   - Visible
   - Good orientation
   - Take up display space.

Design rules
   - Provide menus for program sequence control if section sequence is not critical.
   - Provide menus more for adults than for children.
   - Make menus always be accessible.
   - Use a progressive menu to provide reviewing but not skipping.
   - Give full-screen menus a good header name.
Cara Kontrol

Menus

- **Design rules**
  - Give advice and *progress information* on a menu depicting the sections of a program.
  - Keep the choices in a menu *simple* and *few* in number.
  - For hierarchical menus, keep the levels *few* in number.
  - Use menus for *global* controls.

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Cara Kontrol

Menus

- **Design rules**
  - *Complex* program structures may be more readily depicted with *pictures*.
  - Include options to *return* to directions and to exit the program.
  - Do not use menus for very *frequent* actions.
  - Use full-screen or frame menus for programs with simple structure.
  - Use pull-down or pop-up menus for programs with *hierarchical* or other more complex structure.

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*Sumber: Multimedia for Learning: Methods and Development*
Cara Kontrol
Hyperlinks

- **Design rules**
  - Avoid invisible hyperlinks except for expert users.
  - Balance text hyperlinks with readability of the text.
  - Make sure text highlighting techniques are not confused with hyperlinks.
  - Use cursor change, rollovers, and confirmation with hyperlinks.

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Cara Kontrol
Hyperlinks

- **Design rules**
  - Make it extra clear that picture or icons include hyperlinks.
  - Avoid use of hyperlinks for global controls.
Mode Kontrol

- Mouse control
- Keyboard control
- Speech control

Sumber: Multimedia for Learning: Methods and Development

Mode Kontrol

- Design rules
  - Use the mouse whenever possible as the primary mode of control.
  - Use the keyboard as a secondary mode of control.
  - Use buttons for local controls and very frequent actions.

Sumber: Multimedia for Learning: Methods and Development
Mode Kontrol

- Design rules
  - Use menus for global controls and selection of program sections.
  - Use hyperlinks primarily in hypertext and Web-based programs.
  - Strive for control methods that are obvious and easy to use.

Mode Kontrol

- Design rules
  - Use cursor change, rollovers, and confirmation whenever possible.
  - Make the position, appearance, and function of controls as consistent as possible.
  - Design amount, method, and mode of control in accordance with your users and content.
  - Make controls and directions visible only when activated.
  - Collect data on how frequently learners use the control features of a program.
Presentasi Informasi

Consistency

- Put control options on the bottom of the display.
- Use a consistent prompt for responses.
- Start a new display for a change in topic and label it accordingly.
- Make it clear when a learner keypress can add to a display.
- Use consistent keypresses or buttons for frequent actions.
- Use consistent margin and paragraph.
- Use of functional area in display.

Sumber: Multimedia for Learning: Methods and Development

Presentasi Informasi

Modes of Presentation

- Text: a common way to present information.
- Animation: for depicting process in a simplified or abstract way.
- Sound: speech, music, sound effect.
- Video: combine visual and auditory information.

Sumber: Multimedia for Learning: Methods and Development
Presentasi Informasi

Text Information

- Text Layout and Format
  - Lines should not end in the middle of words.
  - Paragraphs should not begin on the last line of the display or end on the first line of the next display.
  - Spacing between lines effects text readability.
  - It is useful to enclose the text in a box.

Sumber: Multimedia for Learning: Methods and Development

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Presentasi Informasi

Text Information

- Text Layout and Format
  - Underlining and alternative typefaces are common methods, but not particularly effective.
  - Blinking or moving text should never be used.
  - Text that is all uppercase is difficult to read.
  - More effective methods of emphasis are boxes, arrows, larger letter, and isolation.

Sumber: Multimedia for Learning: Methods and Development
**Text Information**

**Scrolling**
- Scrolling text does not have a fixed position on a page.
- Users often ignore information that they must scroll to see.
- Scrolling encourages designers to use too much text because the length of a scrolling text field has no limit.
- Don’t put important information in a scrolling field.
- Don’t use scrolling for very short texts.
- Don’t scroll out of view for critical display elements.

Sumber: Multimedia for Learning: Methods and Development

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**Text Information**

**Text Quality**
- Leanness: a program should say just enough to explain what is desired, and no more.
- Transitions: maintaining a clear flow of ideas in a multimedia program is more difficult than in a textbook.
- Clarity: is facilitated by avoiding ambiguous language and by having consistent use of terminology.
- Reading level: must be suited to the learners who use it.
- Mechanics: the use of correct grammar, spelling, and punctuation.

Sumber: Multimedia for Learning: Methods and Development
Uses of graphics
- As the primary information.
- As analogies or mnemonics.
- As organizers.
- As cues.

Types of graphics
- Simple line drawings
- Schematics
- Artistic drawings
- Diagrams
- Photographs
- Three-dimensional images
- Animated images
Design rules

- Select and design graphic information consistent with and integrated into the rest of the instructional message.
- Avoid excessive detail or realism. Detail can overload memory and confuse the learner.
- Simple line drawings may demonstrate a point more clear than realistic pictures.
- Realistic images may improve a program in terms of overall look-and-feel or motivation.
- Consider breaking complex illustrations down into simpler ones.

Use animation when dynamic change is important and allow the learner to pause, continue, repeat, and in some cases control the speed of change.

Present picture, text, and speech simultaneously.
Presentasi Informasi

Video

- Use it for **important information** by engaging, entertaining, and though provoking.
- Use video for **demonstrating and modeling**, such as conversation in a foreign language.
- Keep video presentation **short**.
- Consider the great expense of video production.
- Provide user controls during video, including video controls and general program controls.

Sumber: Multimedia for Learning: Methods and Development

Presentasi Informasi

Sound

- Use speech for **getting attention**, for **directions**, and for **dual coding**.
- Provide speech for users who have **difficult** reading text.
- Provide both text and speech as options.
- Use audio for appropriate content areas, such as language learning.
- Allow **user control** of audio.
- Allow the usual program global controls even during audio segments.
- Do not use **token audio** even in just one or two places.
- All audio must be of **high quality**.

Sumber: Multimedia for Learning: Methods and Development
Presentasi Informasi

Color

- Use color for emphasis and for indicating differences.
- Ensure good contrast between foreground and background.
- Use only a few colors for color coding.
- Allow learner control of color coding.
- Use colors in accordance with social conventions.
- Be consistent in the use of color.
- Test programs on noncolor displays to assess their effect on persons with color vision deficiency or with older equipment.
- Balance learner affect and learning effectiveness when using color.

Sumber: Multimedia for Learning: Methods and Development

Pemberian Bantuan (Help)

- Always provide procedural help.
- Provide informational help depending on the program’s purpose and methodology.
- When providing informational help, try to make it specific to the content being dealt with.
- Allow return to directions at all times.
- Provide help via rollovers for functions available at any particular time.
- Always have a help button or menu visible, reminding learners that help is available.
- Provide help in a print manual for starting a program.

Sumber: Multimedia for Learning: Methods and Development
Penutup Program

- Temporary endings and the option to leave temporarily apply to every type of program and should always be available.
- If you want learners to be able to restart where they left off, a program must either store data to do that automatically or given the learner directions including how to return to the point he or she left off.
- Provide passive bookmarking or active bookmarking.
- When a program is about to end permanently, it may provide summary statements about the information in the program.

Penutup Program

- Providing the ability for the user to exit anywhere in a program.
- Ensure that a temporary exit is always available with user control.
- Provide a safety net to rescind a request to exit.
- Provide closing credits with user control.
- Provide a final message/confirmation making it clear the user is leaving the program.
- Return the user to an appropriate place after the program quits.

Sumber: Multimedia for Learning: Methods and Development
Tindak Lanjut

- Select any commercial product, and evaluate it based on the design rules.
- Design a prototype with factors mentioned in the chapter.

Sumber: Multimedia for Learning: Methods and Development