

# KARAKTERISTIK SOFTWARE PEMBELAJARAN

Sumber:

Alessi and Trolip. (2001). Multimedia for learning: Methods and development. 3<sup>rd</sup> ed. Boston: Allyn and Bacon

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## Karakteristik Umum

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- 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

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- 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

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## Pendahuluan Program

### Title Page

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- 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.

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## Pendahuluan Program

### Title Page

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- 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.

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## Pendahuluan Program

### Directions

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- 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.

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## Pendahuluan Program

### Directions

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- 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.

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## Pendahuluan Program

### Directions

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- 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.

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## Pendahuluan Program

### User Identification

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- 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.

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## Pendahuluan Program

### User Identification

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- 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.

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## Kontrol Siswa

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- 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.

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## Kontrol Siswa

### What and How Much Control to Provide

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- 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.

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## Kontrol Siswa

### What and How Much Control to Provide

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- 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.

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## Kontrol Siswa

### What and How Much Control to Provide

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- 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.

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## Cara Kontrol

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- **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

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- 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**.



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## Cara Kontrol

### Menus

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- 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**.



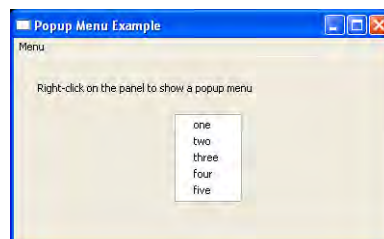
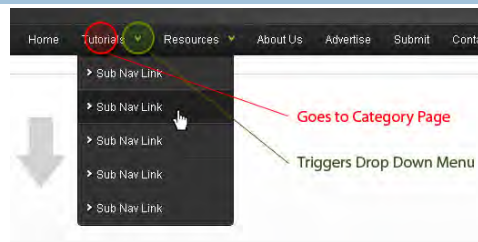
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## Cara Kontrol

### Menus

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



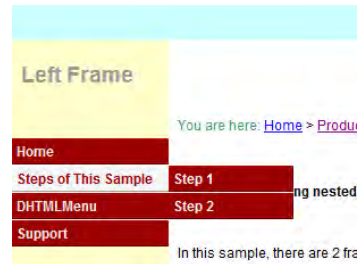
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## Cara Kontrol

### Menus

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- Frame menu
  - A **split-screen** method
  - Visible
  - Good **orientation**
  - Take up display space.



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## Cara Kontrol

### Menus

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- 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.

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## Cara Kontrol

### Menus

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- 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

22

- 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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## Cara Kontrol Hyperlinks

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- 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.

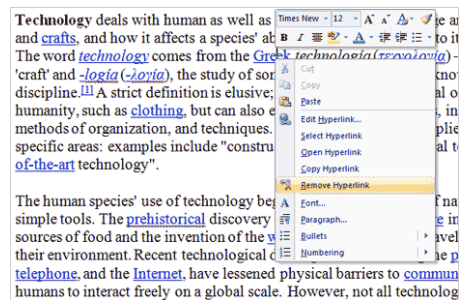


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## Cara Kontrol Hyperlinks

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



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## Mode Kontrol

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- Mouse control
- Keyboard control
- Speech control



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## Mode Kontrol

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- 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.

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## Mode Kontrol

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- 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.

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## Mode Kontrol

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- 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.

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## Presentasi Informasi

### Consistency

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- 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.

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## Presentasi Informasi

### Modes of Presentation

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

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## Presentasi Informasi

### Text Information

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- 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.

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## Presentasi Informasi

### Text Information

32

- 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.

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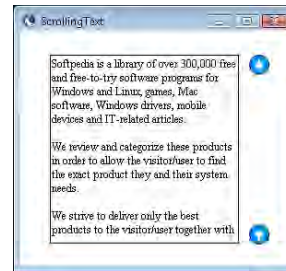
## Presentasi Informasi

### Text Information

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#### □ 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.



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## Presentasi Informasi

### Text Information

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#### □ 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.

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## Presentasi Informasi

# Graphics and Animation

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- Uses of graphics
  - As the primary information.
  - As analogies or mnemonics.
  - As organizers.
  - As cues.

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## Presentasi Informasi

# Graphics and Animation

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

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## Presentasi Informasi

### Graphics and Animation

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- 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-fell or motivation.
  - Consider **breaking complex** illustrations down into **simpler ones**.

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## Presentasi Informasi

### Graphics and Animation

38

- Design rules
  - 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.

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## Presentasi Informasi

### Video

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- 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.

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## Presentasi Informasi

### Sound

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- 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**.

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## Presentasi Informasi

### Color

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- 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.

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## Pemberian Bantuan (Help)

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- 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.



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## Penutup Program

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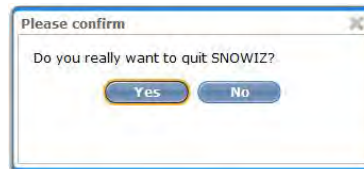
- Temporary endings and the option to leave temporarily apply to every type of program and should always be available.
- If you want learners to be able to restart where they left off, a program must either store data to do that automatically or given the learner directions including how to return to 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.

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## Penutup Program

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- 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.



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## Tindak Lanjut

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

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