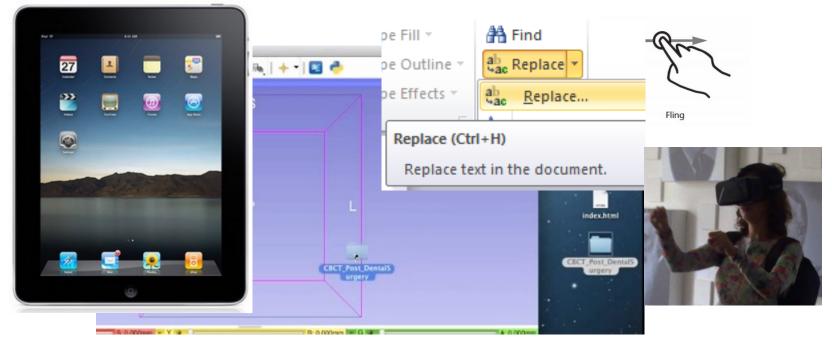
Universidade de Aveiro Departamento de Electrónica, Telecomunicações e Informática

Interaction/Dialog styles



Beatriz Sousa Santos, 2021

Interaction Styles

"The concept of Interaction Styles refers to all the ways the user can communicate or otherwise interact with the computer system."

Soegaard, Mads. Interaction Styles, 2010 (Retrieved March 2020) http://www.interactiondesign.org/encyclopedia/interaction_styles.html

There are a lot of studies and design guidelines

Shneiderman's Eight Golden Rules of Dialogue Design

- 1. Strive for consistency
- 2. Enable frequent users to use shortcuts
- 3. Offer informative feedback
- 4. Design dialogues to yield closure
- 5. Offer simple error handling
- 6. Permit easy reversal of actions
- 7. Support internal locus of control
- 8. Reduce short-term memory load

These golden rules are paramount in the design process

https://www.interaction-design.org/literature/article/shneiderman-seight-golden-rules-will-help-you-design-better-interfaces

Support internal locus of control

- Allow users to be the initiators of actions
- Give users the sense that they are in control of events

Design dialogue to yield closure

• Don't keep users guessing.

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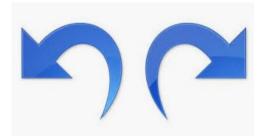
• Tell them what their action has led them to

Allow easy reversal of actions

encouraging exploration of unfamiliar options

undo – CTRL z

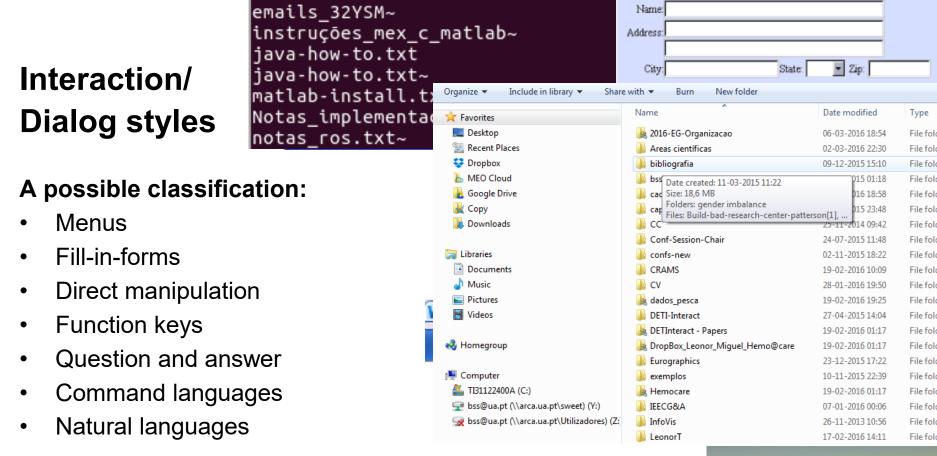
UNDO



Allow frequent users to use shortcuts

Common examples: save – CTRL s copy – CTRL c





Often two or more styles are used simultaneously

Less traditional interfaces:

- 3D interfaces
- Tangible interfaces
- etc....



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Menus

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- The concept existed long before computers
- Selection of options

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2. Accounts Payable
3. Accounts Receivable
4. General Ledger
5. Reports
6. Write Checks

Enter Selection: _

Iconic and textual



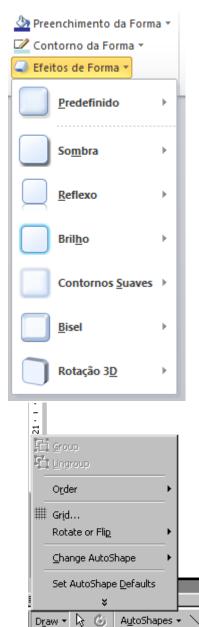








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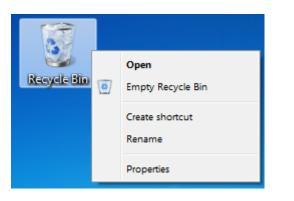
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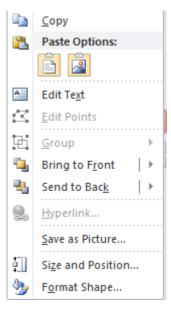
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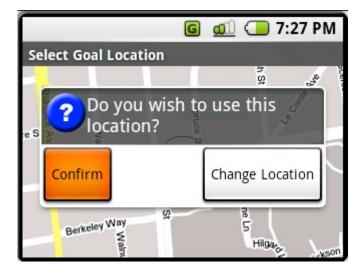
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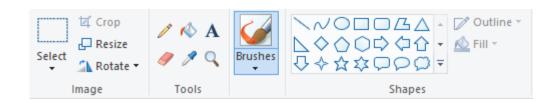
Always visible / Pop-ups

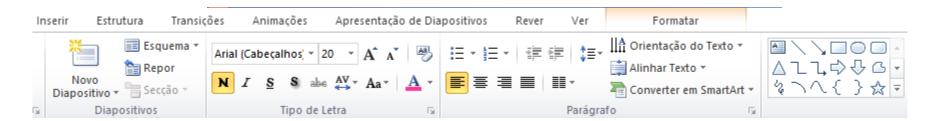


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Menus: main advantages and disadvantages

Advantages (potential, i.e. if properly designed)

- Auto-explanatory
- Do not load memory (recognition rather than recall)
- Prevent syntactic errors
- Visible improvements

Disadvantages

- Not efficient
- Not flexible
- Not practical for many options

User profile to whom menus are adequate:

Knowledge and experience:

- Low system and task experience
- Frequent usage of other systems
- Low computational literacy

Work and task:

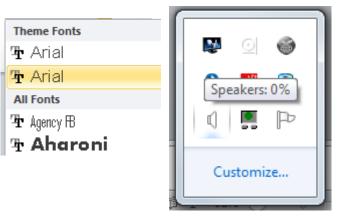
- Low frequency of use
- No training
- Optional usage
- Highly structured tasks

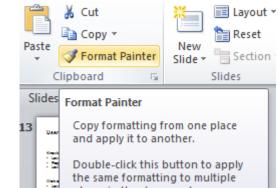
Menu design: relevant aspects

- Menu structure
- Option ordering
- Option selection
- Menu invocation
- Navigation

Menu design: guidelines

- Adequate the menu structure to the task structure
- Minimize depth increasing breadth (within reasonable limits)
- Use an adequate ordering method
- Be coherent (design, option names, etc.)
- Give selection feedback to the user
- Include tooltips if names or icons are not auto-explanatory
- Indicate currently unavailable options





Menu design: guidelines

• Find the adequate structure using card sorting:

a low-cost method that helps understanding how users expect to find content or functionality

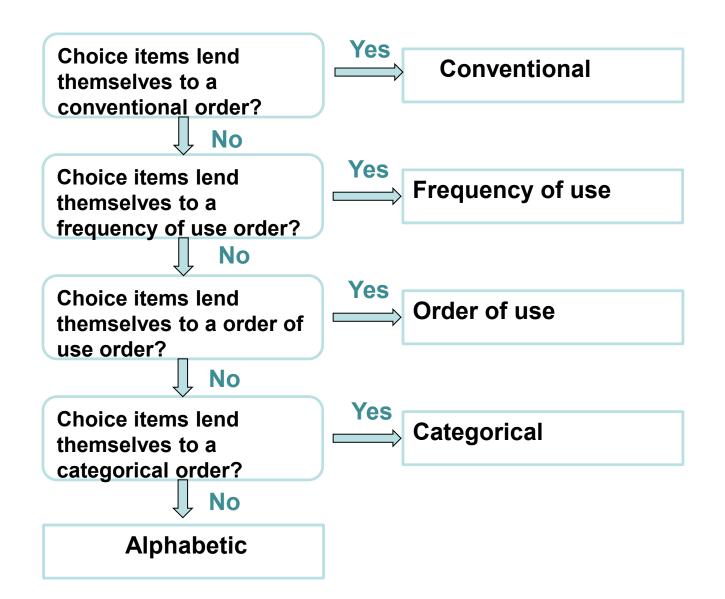


- Card sorting (usually performed by potential users of an interactive solution) provides information on:
 - Terminology (what people call things)
 - Relationships (proximity, similarity)
 - Categories (groups and their names)
- that can be used to decide upon:
 - which items should be grouped together in displays
 - how menu contents should be organized and labeled
 - what words should be employed to describe the objects of our users' attention

Card sorting example: think about how to sort the fruits and vegetables sold in a supermarket (may be it is not as easy as it seems...)



Select adequate option ordering



Which ordering scheme would you select?



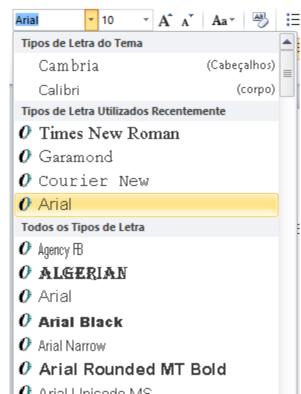
Why?

Option ordering

Conventional



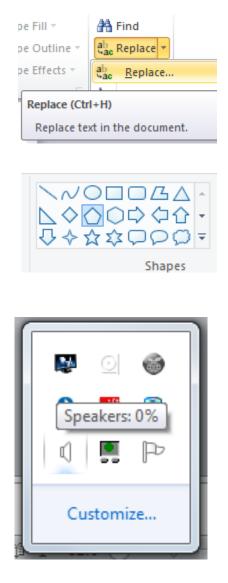
Alphabetic + frequency

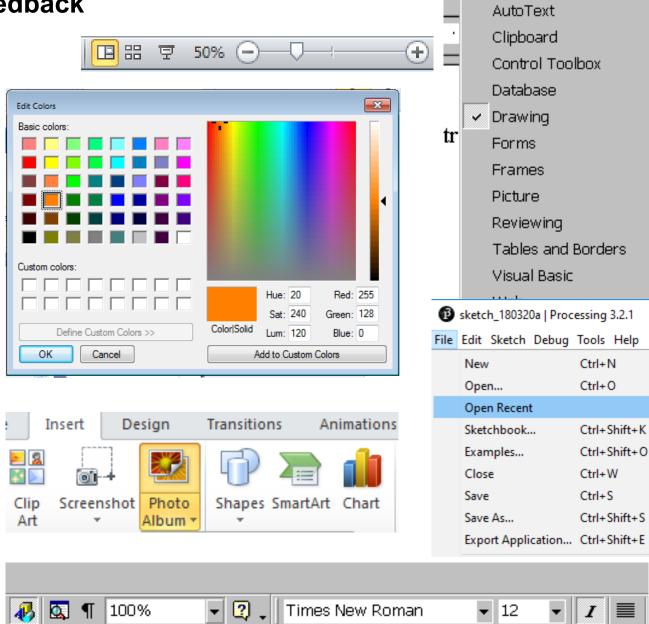


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Order of use

Give selection feedback





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Indicate currently unavailable options

In grey to let users know they exist, but are unavailable

- Preventing errors
- And showing existing options (functionality)

Design

Photo

Album -

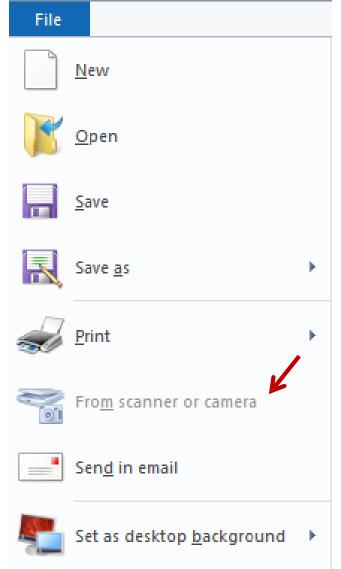
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Images

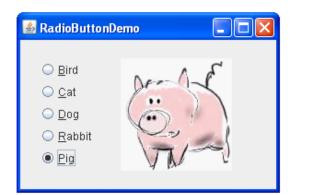
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Make clear the difference between choices of only one or several





"Radio button": Only a single option can be selected from several mutually exclusive options

https://en.wikipedia.org/wiki/Radio_button

No effect

Emboss

Engrave

Shadow or outline

Shadow

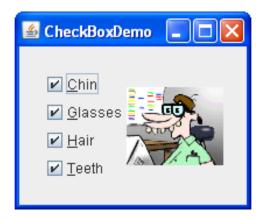
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Effects

- No strikethrough
- Strikethrough
- Double strikethrough
- No super or subscript
- Superscript
- Subscript

"Check box":

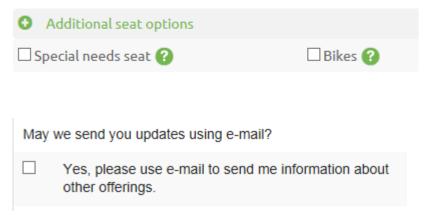
Permits to make a binary choice. A series of checkboxes may be presented The user may select several of the choices



Select only one alternative:

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۲	AP No. 130	07:21	09:22
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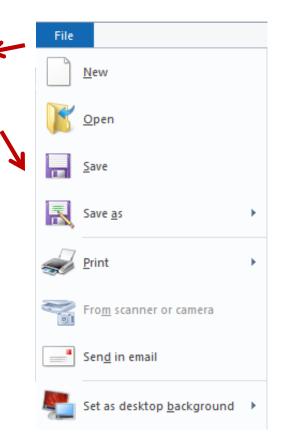
Possible to select more than one alternative:

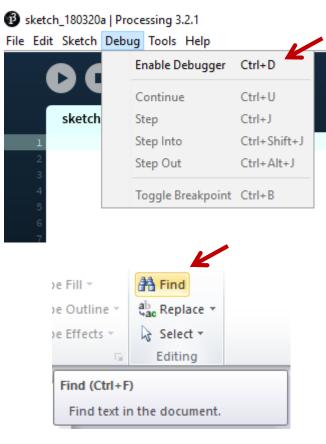


https://www.nngroup.com/articles/checkboxes-vs-radio-buttons/

Show alternative ways of accessing the same functionality

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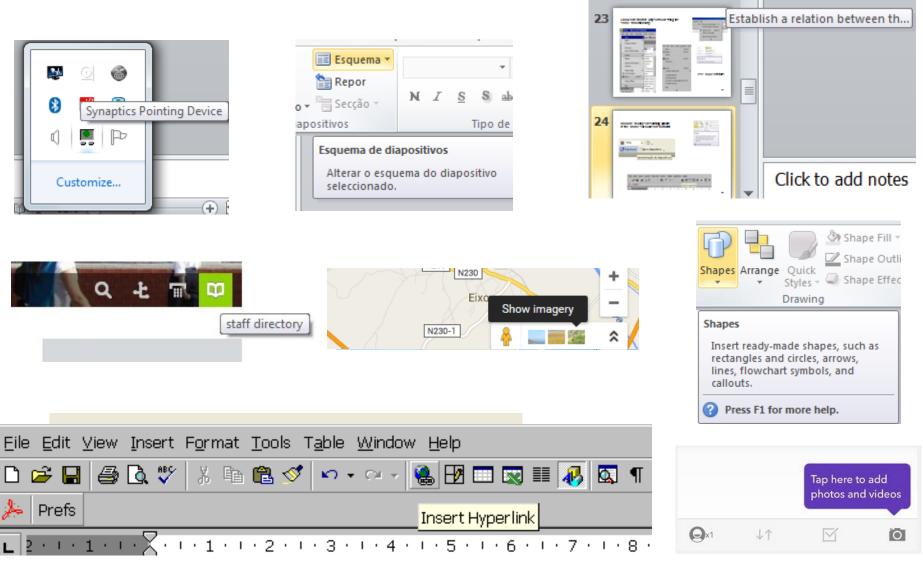




Use accelerators

(Flexibility and efficiency of use)

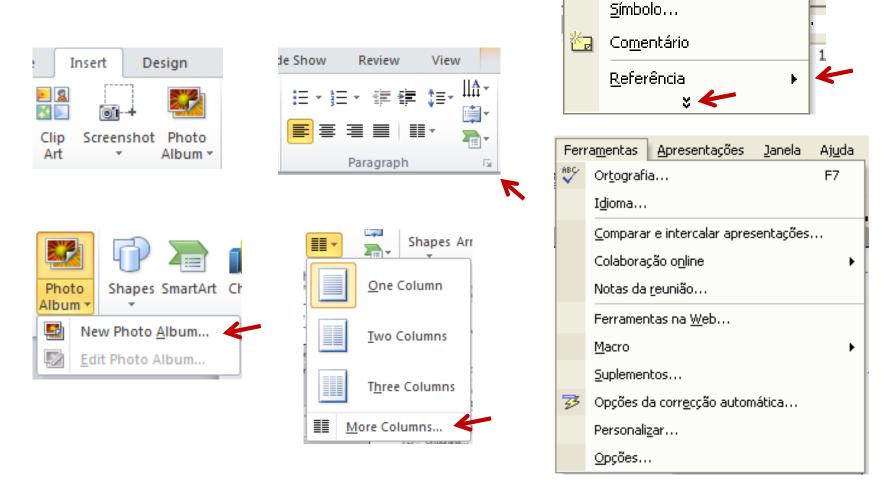
Include tooltips describing options if the names or icons are not clear



22

Participation for the second second

Make clear that there are more options





Ferramentas

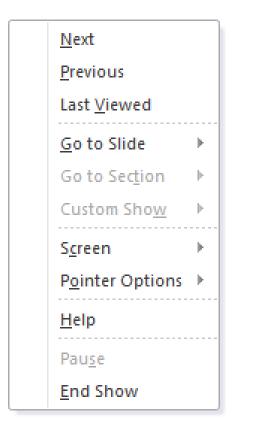
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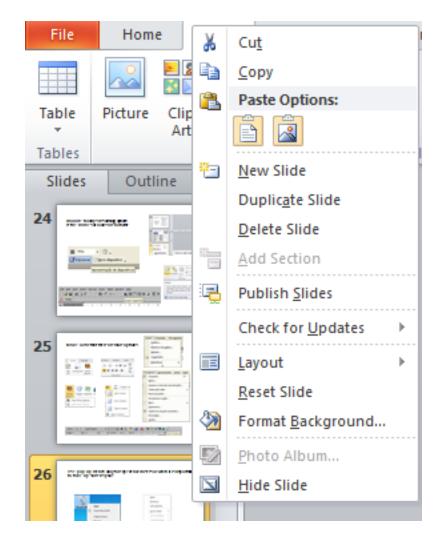
Números de página...

Quebra...

Use pop-up menus (context menus) only for experienced users or when it is very important not to take up screen space



(e.g.: during a Power Point presentation)



Main Bibliography

- Shneiderman, B., C. Plaisant, M. Cohen, S. Jacobs, *Designing the User Interface- Strategies for Effective Human–Computer Interaction*, 5th ed., Addison Wesley, 2010
- Soegaard, Mads. Interaction Styles (Retrieved March 2020)
 <u>http://www.interactiondesign.org/encyclopedia/interaction_styles.html</u>
- Hudson, W.,Card Sorting. In: Soegaard, Mads and Dam, Rikke Friis (eds.). "The Encyclopedia of Human-Computer Interaction, 2nd Ed.". Aarhus, Denmark: The Interaction Design Foundation (Retrieved March 2020)

http://www.interaction-design.org/encyclopedia/card_sorting.html