

User interface and user experience design

CS-370: Software Design and Development

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User Interface versus User Experience

- ***User Interface (UI)***: “comprises all of the things the user sees and does with the application.”
- ***User eXperience (UX)***: “includes the user’s whole perception of the application and its ‘brand’. It includes the UI but also includes surrounding interactions such as installation and upgrade procedures, reliability, the locations where data files are stored, the database, and connectivity to other applications.”

Design Guidelines (part 1 of 2)

- **Allow exploration:** “Make your application safely explorable.” Example: allow undo and redo functionality.
- **Make the interface immutable:** Keep the interface consistent and don’t hide commands.
- **Support commensurate difficulty:** “Make frequent, quick, safe, undoable tasks easy to start. Make rare, slow, dangerous, un-undoable tasks less accessible and make it clear what will happen before the task starts.”
- **Avoid state:** Don’t allow an application which currently has user-focus to be visually occluded by another application.
- **Make similar things similar:** “Don’t use buttons on one dialog and hypertext on another. Don’t use OK/Cancel on one dialog and Yes/No on another.”
- **Provide redundant commands:** “Allow the user to invoke commands by using different methods such as menus, buttons, tool buttons, and shortcuts.”
- **Do the right thing:** “Often this approach means filling in defaults when you create new records or begin new actions.”

Source: pages 225-231, *Beginning Software Engineering* (2nd edition) by Rod Stephens

Design Guidelines (part 2 of 2)

- **Show qualitative data, explain quantitative data:** “People generally understand pictures more quickly than words, at least for qualitative things....For very precise quantitative values, use text.”
- **Give forms purpose:** “A dialog should focus on a single task and not contain a mishmash of unrelated features.”
- **Gather all information at once:** “Display a single form that lets the user enter all of the necessary data in one shot.”
- **Provide reasonable performance:** “When a program starts a task, it should obey the five-second rule: all interactive tasks should complete within five seconds.”
- **Only allow what's right:** “As much as possible, use controls that help the user select values that are legal rather than allowing the user to enter values that may be incorrect.”
- **Flag mistakes:** “Whenever you can, set the user up for success by using controls that allow only valid selections.”