CSC420

Actions and Commands

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Basics

- Make the right actions available
- Make them easy to find
- Support sequences of actions

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Ways to do it

- Buttons
- Menu bars
- Pop-up menus
- Dropdown menus
- Toolbars
- Links
- Action panels

- Double-clicking
- Keyboard shortcuts
- Drag-and-drop
- Typed commands

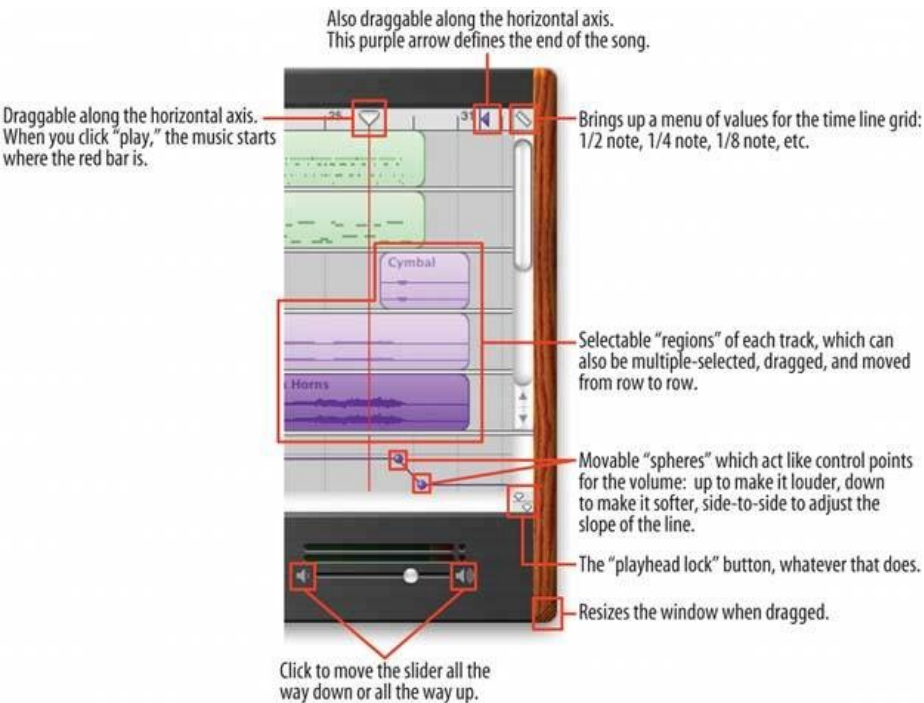Alex Pantaleev, SUNY Oswego Dept of Computer Science

Allowing for Creativity

- Clickable icons
- Clickable text that is not a button
- Something that reacts to a mouse roll-over
- Something that looks it might be a manipulable object
- Something visible (placed on the screen)

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Creative Interface

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Affordances

Also draggable along the horizontal axis.
This purple arrow defines the end of the song.

Draggable along the horizontal axis.
When you click "play," the music starts
where the red bar is.

Brings up a menu of values for the time line grid:
1/2 note, 1/4 note, 1/8 note, etc.

Selectable "regions" of each track, which can
also be multiple-selected, dragged, and moved
from row to row.

Movable "spheres" which act like control points
for the volume: up to make it louder, down
to make it softer, side-to-side to adjust the
slope of the line.

The "playhead lock" button, whatever that does.

Resizes the window when dragged.

Click to move the slider all the
way down or all the way up.

- Objects that look manipulable
- Sensory clues:
  - Visuals
  - Mouse rollovers
- Follow conventions (i.e., know your users)
- Make things look raised (2.5D buttons)
- Change mouse pointer
- Use tooltips

Patterns

- Button groups
- Action panel
- Prominent "Done" button
- Smart menu items
- Preview

- Progress indicator
- Cancelability
- Multi-level undo
- Command history
- Macros

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Button Groups

- Present related actions as clustered buttons
- 2 – 5 buttons
- Put them close to the object they manipulate
- Right of object is better than under (generally)
- If more than 5, use a toolbar
- If manipulate something global, follow sensible visual flow

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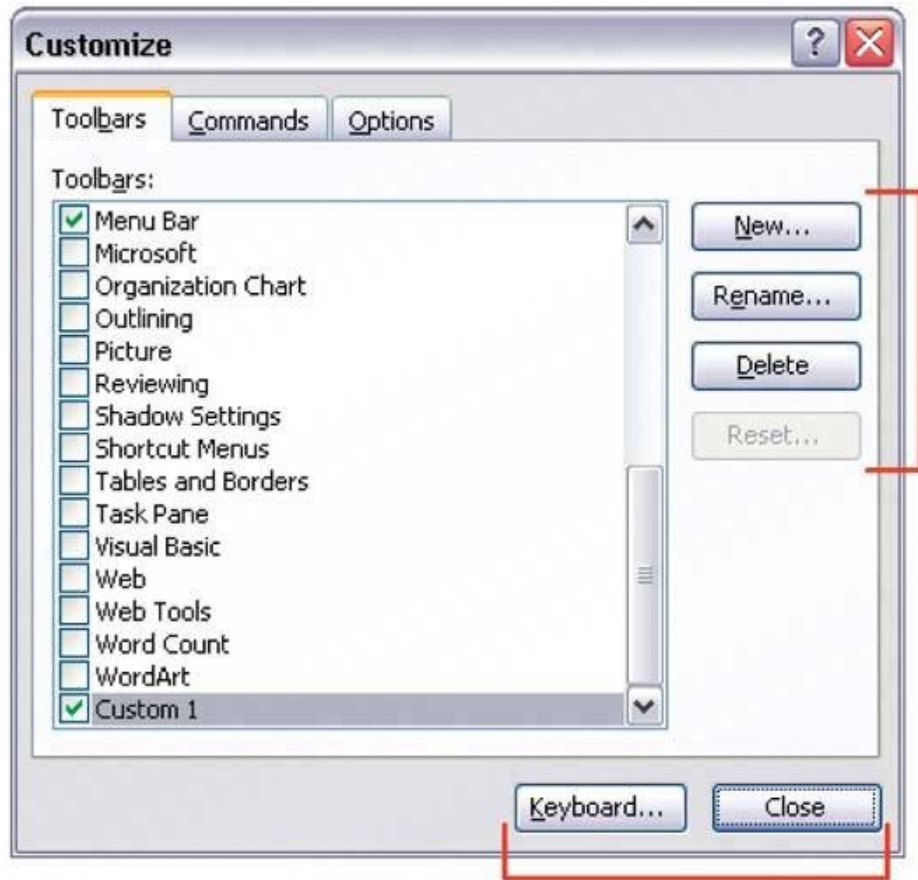
Action Panel

- Substitute menus with a richly organized and always visible panel of actions

- Use when the actions are too many and need to be obvious

- Visibility and freedom of presentation

- Structure: lists, tables, trees, closable panels...

- Place below/to the side of the target (which is typically center-stage)

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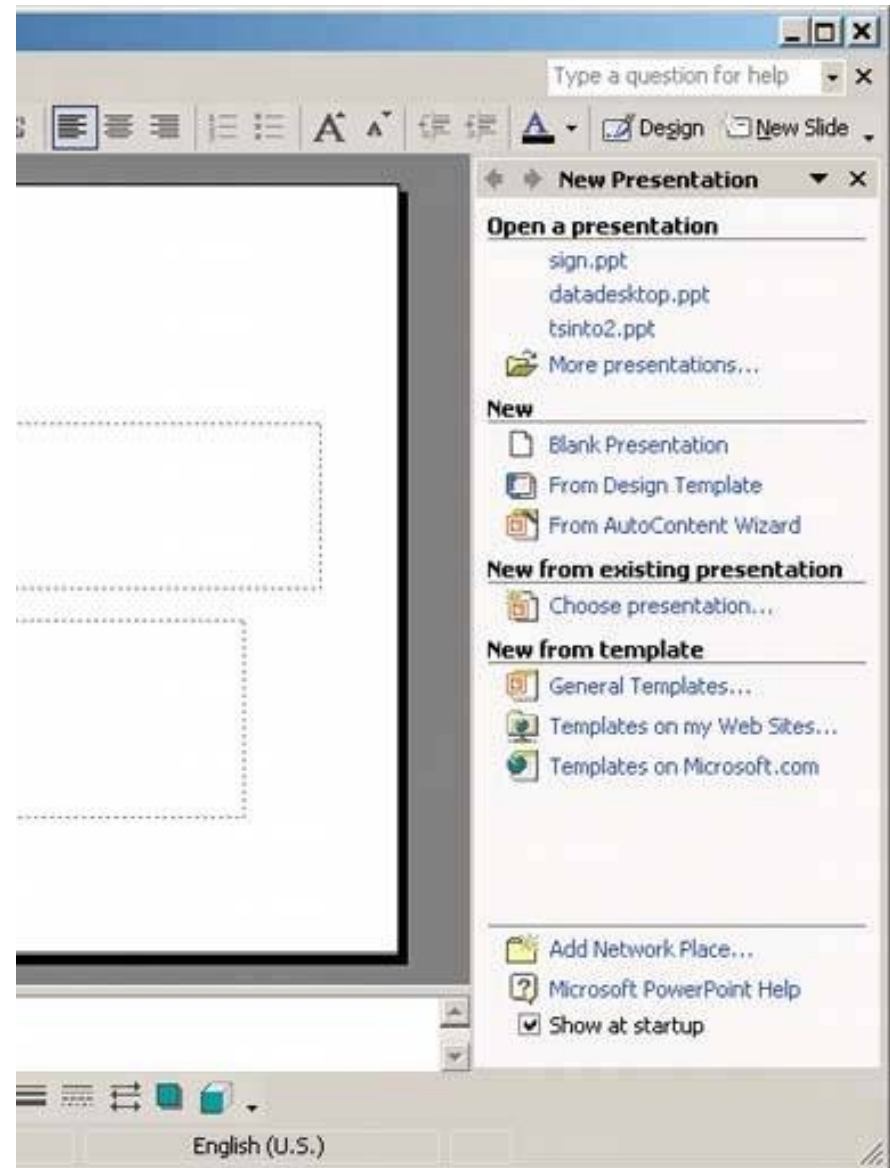
Prominent "Done" Button

- Place a big well-labeled button at the end of the visual flow

- Make the button finish the screen transaction

- Provides sense of closure

- Should look like a button! (not a link, etc.)

- Label with text, not icon

- Put it close to the last text/control/whatever

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Smart Menu Items

- Change menu labels dynamically depending on context (target)
- Makes the UI self-explanatory
- Encourages safe exploration
- Mostly applies to undo actions and documents
- What if there are multiple selected objects?

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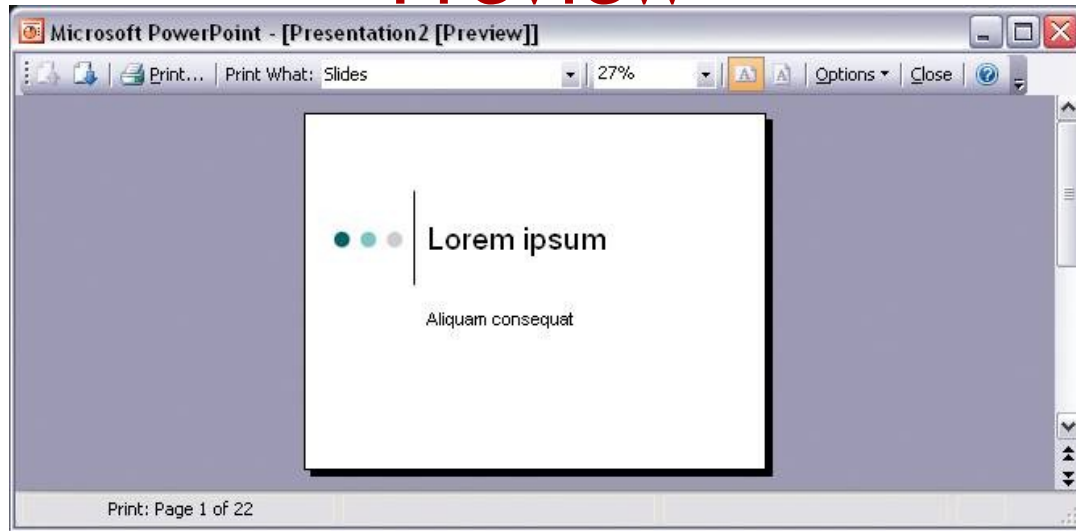
Preview

- Show a preview/summary of an action's consequences
- Use for all heavyweight actions that the user might need assurance about
- Helps prevent errors
- Makes an app more self-describing
- Allow committing the action from the preview screen
- Provide a way to back out

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Progress Indicator

Loading the window manager.

- Use for longer (>2s) operations

- Tell the user: What is going on, Portion complete, Time remaining, How to stop it

- Careful: keep the rest of the UI responsive (threads)

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Cancelability

- Provide a way to instantly cancel a time-consuming operation
- Put a cancel button next to the progress indicator
- Label it clearly
- Give feedback when hit (halt the progress indicator)
- Multiple operations -> smart cancel button labels

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Multi-level Undo

- An entire subject of its own
- Use for highly interactive and complex Uis
- Lets experts explore work paths
- Use a stack (at least 10-12 ops)
- Ideally, show the entire stack on screen

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Command History
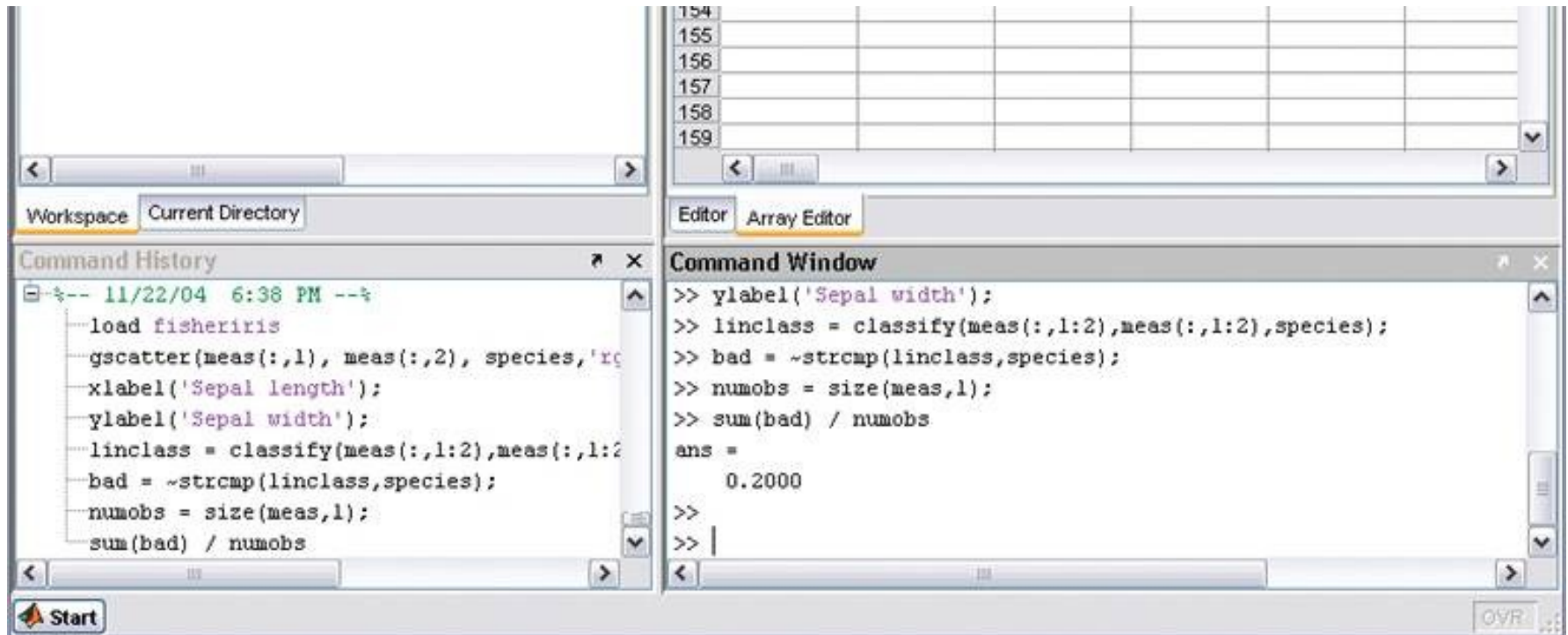
- Keep a visible record of what was done
- Expert users need support for long-term work (graphical, IDE)
- Computers good at records, humans not

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Macros

- Single actions composed of smaller actions

- Another subject of its own

- Essentially, programming (but don't call it programming: humans are stupid and will be scared)

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