Week 10-3
Interface Design Patterns

SFWRENG 4HC3/6HC3 Human Computer Interfaces

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Low-High Fidelity Prototypes

Interactivity

Code-enabled Prototype

Tool-based Prototype

Clickthrough Prototype

Hybrid (paper + tool) as well as all **digital**

Wireframing

Paper Prototype

Interface Fidelity

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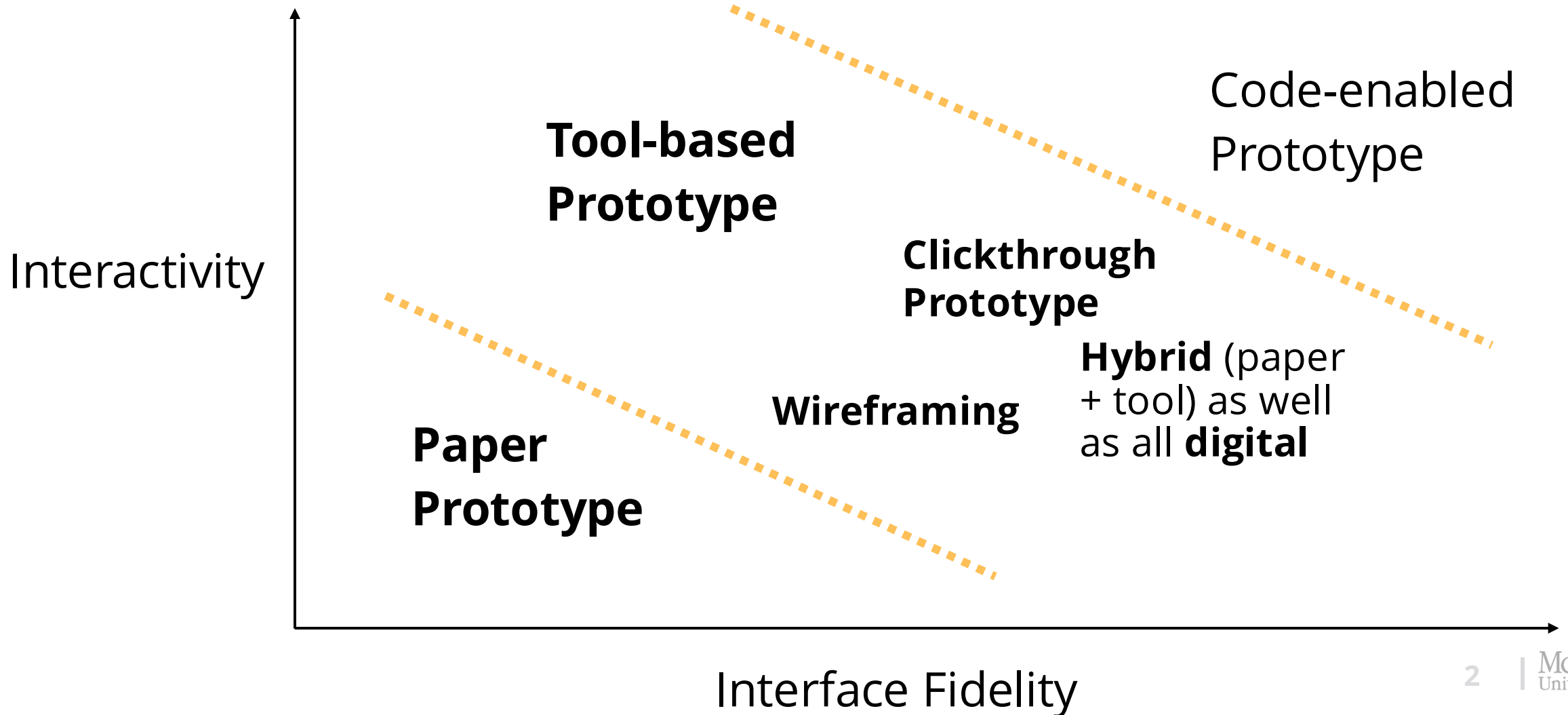
Resources Shared for A2 and M3

- Interactive prototypes on Figma
- Interactive prototypes on Axure

Look ahead…

- In-tutorial prototype evaluation (with peers)

Which of the following questions you CANNOT ask when testing a paper prototype?

Which of the following are DRAWBACKS of goring into too much detail when prototyping using design tools (select all that apply)?

Week 10 Overview

- ~~Monday~~
    - ~~Prototyping Overview~~
    - ~~LoFi Prototyping~~
- ~~Wednesday~~
    - ~~Paper Prototype Exercise~~
    - ~~Interactive Prototyping~~
- **Friday**
    - **Interface Design Patterns: Navigation**

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Navigation: Goal Seeking Process

- People have to **navigate from a system state toward their goal**

- Usually when exploring, at each point in the interaction, a user progresses with **local knowledge only**

- But can (hopefully) get to (navigate to) the goal
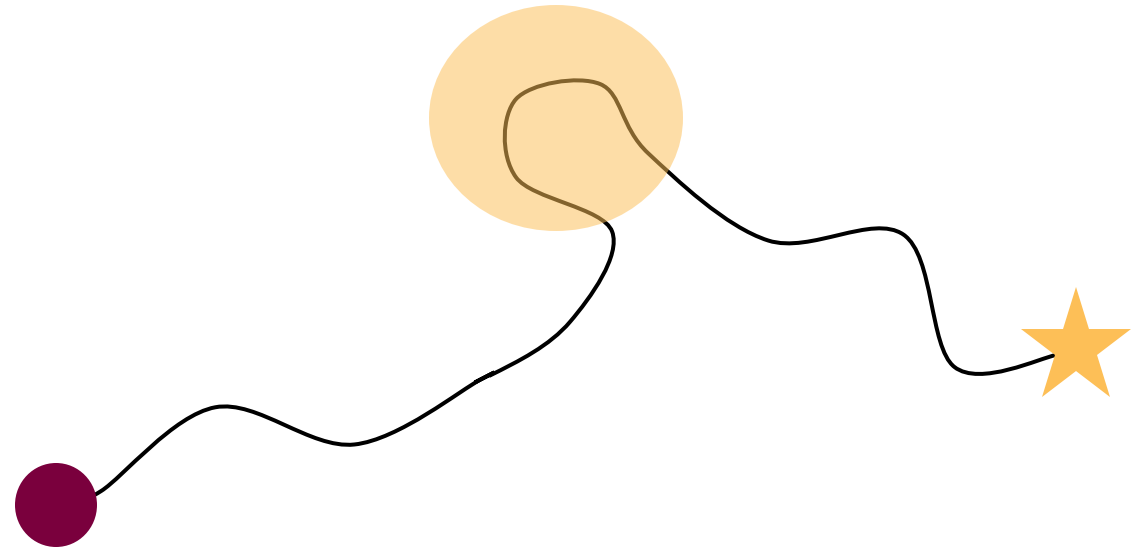
Navigation: Goal Seeking Process

- Users are **not** going to progress in a straight line (will not take the optimum path)

- Designers should try to **avoid/minimize chances of big detours**
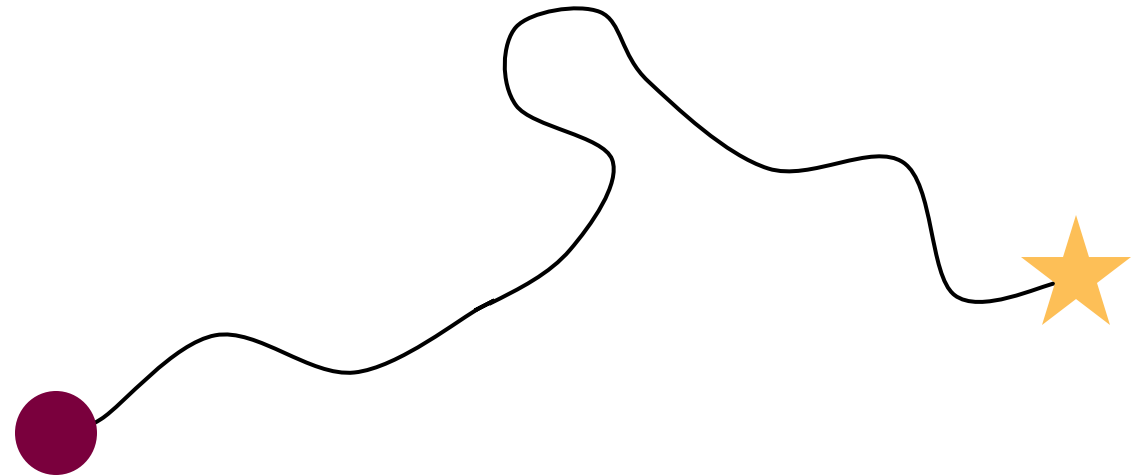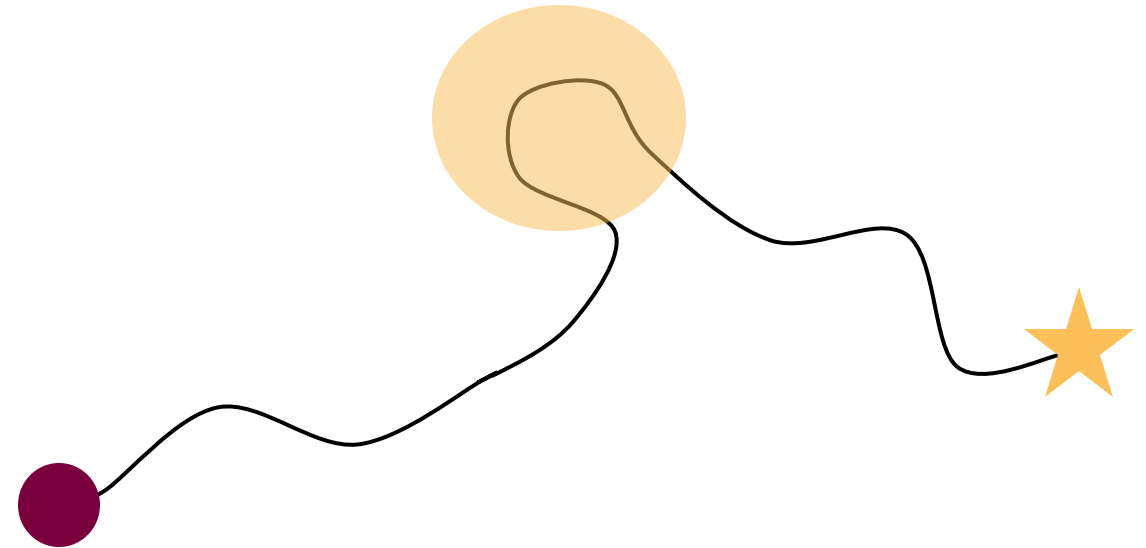
Navigation: Rules

1. Knowing **where you are**
2. Knowing **where you are going**
   Or **what will happen**
3. Knowing **where you've been**
   Or **what you've done**

These generally have to be part of **conscious cognition**

Interfaces should support these to minimize **cognitive load!**

Rules: Knowing where you are

Important to have clear identification since users can enter from anywhere

Knowing where you are: Current

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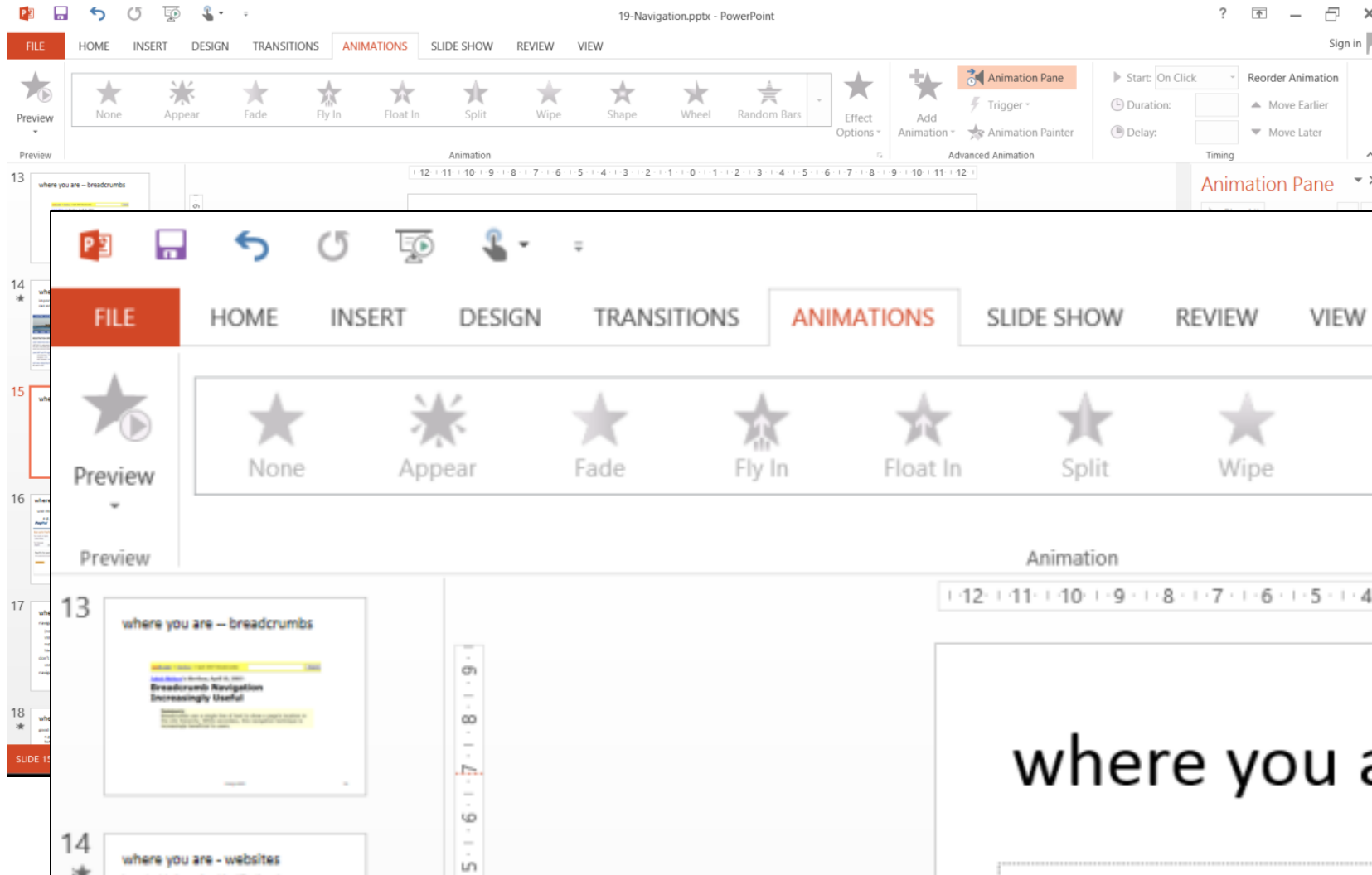
Knowing where you are: Journey

Breadcrumbs

- Use when program has a **strong hierarchical design with a lot of pages** (e.g., encyclopedia)

- Web: use when a user may **land on a deep page** from an external link, brings them up to speed

- **Does not replace main navigation**, but adds more detail as a secondary support

- Useful when tracing a journey (online shopping)

Breadcrumbs: Example

If used when unnecessary – can be cluttering or confusing

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Rules: Knowing where you are going

- Use meaningful link / button descriptions
  - avoid "<u>click here</u>" to do X, instead have <u>X</u>

Rules: Knowing where you are going

- **Navigation panels should be at the top and/or the left** (North America!)
  - Visible even with small devices
  - Support left to right reading order
  - Hierarchy of page is up front and center!
- **Don't rely on "search" boxes**
  - Users aren't great at formulating queries and give up
- **Navigation structures should not dominate content**
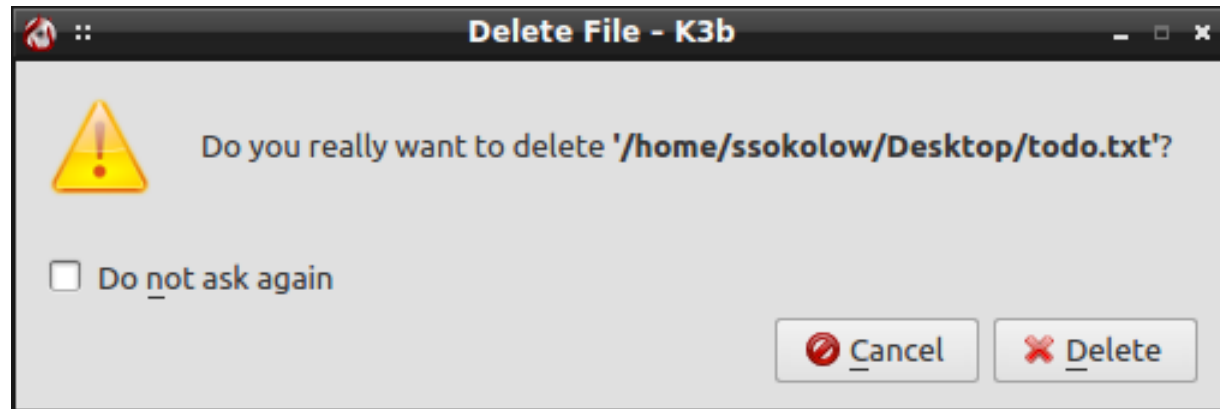
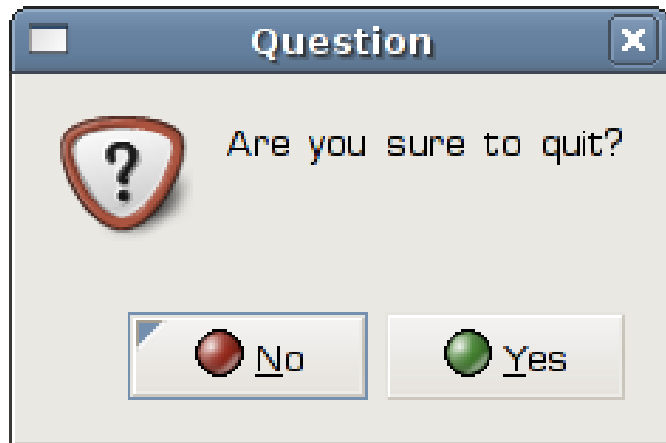McMaster
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Rules: Knowing where you are going
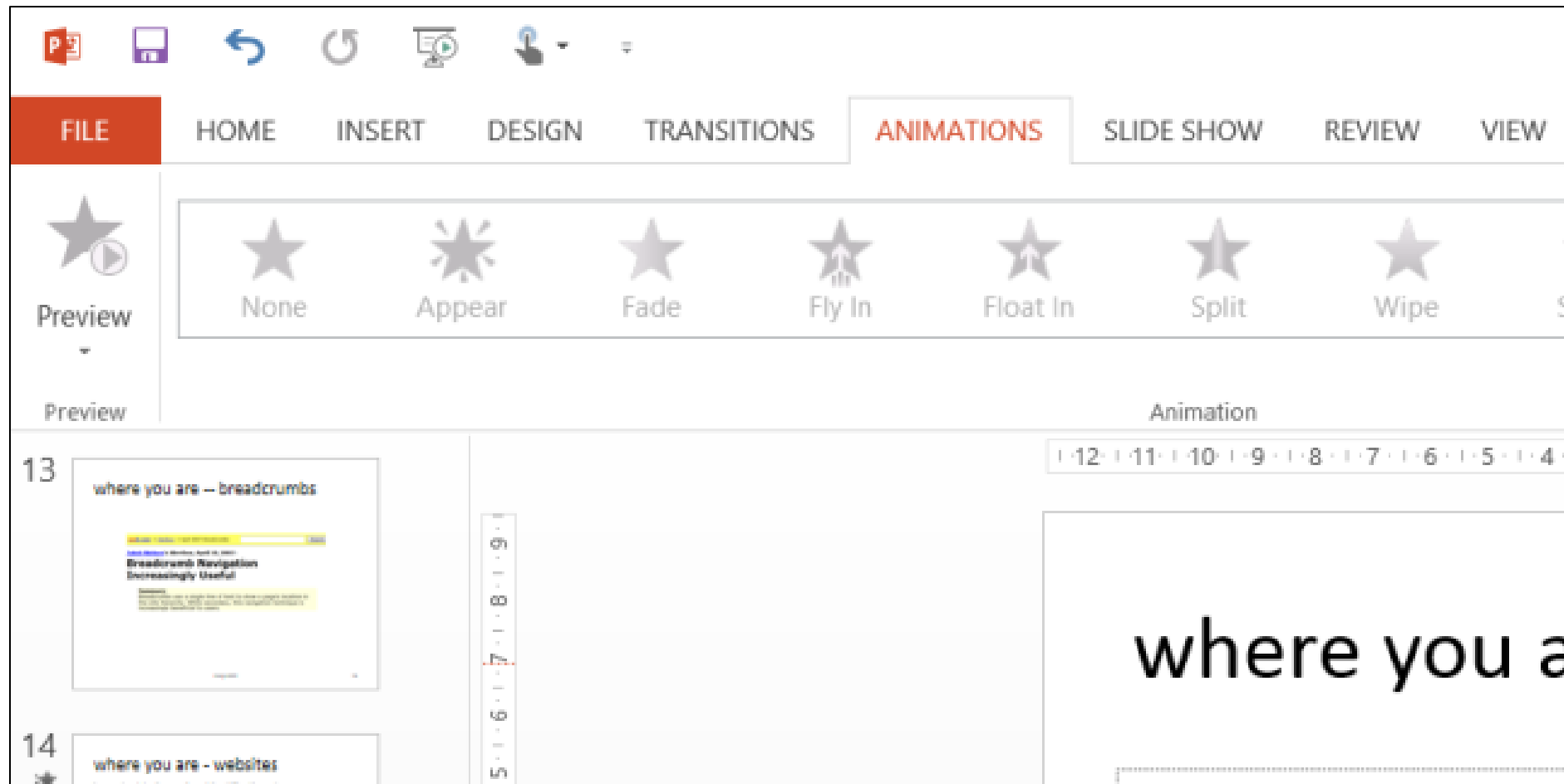
Knowing where you are going: Dialog

Be **VERY** clear about options

- Use simple, user-centered language IN the dialog

- Use action verbs in buttons instead of OK CANCEL or YES NO

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Dialog: Examples
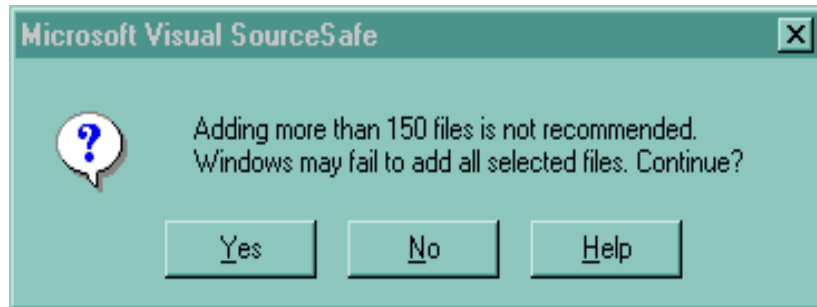
What happens if I press yes?

What happens when you cancel a cancelled operation?
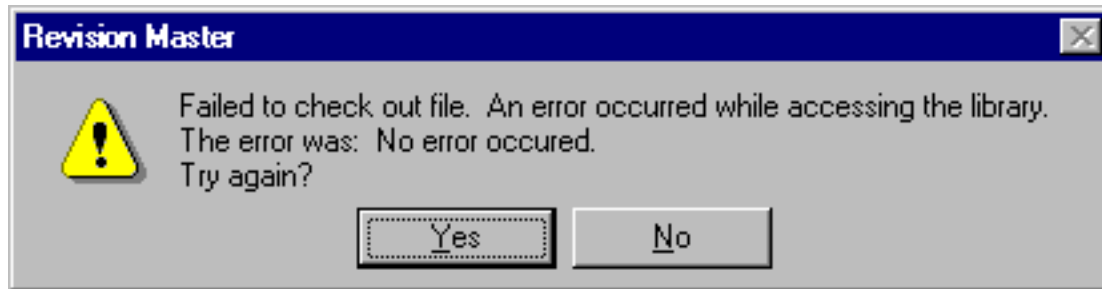
So was there an error?

????

Rules: Knowing where you have been

Good on the web!

- colouring previously visited links, history lists, back button

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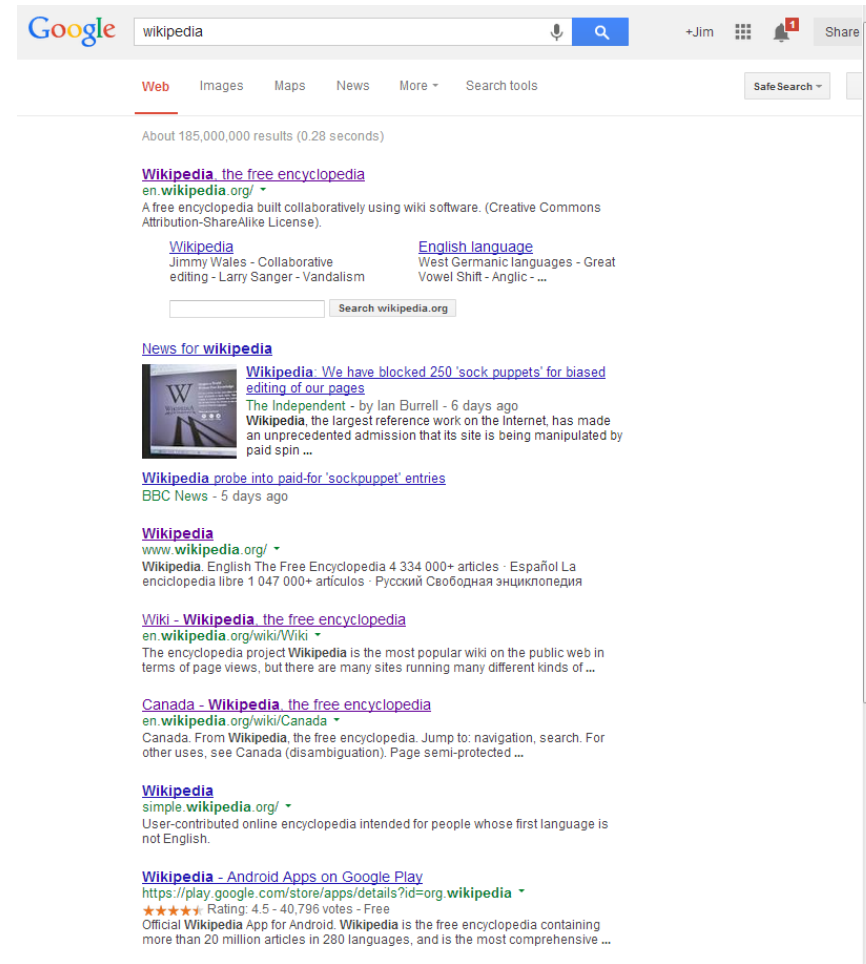
Rules: Knowing where you have been

- Can provide a **"history"**

- Include a way **back to a place**
  that acts as a "vantage point"
  - from where users can reorient
    themselves if lost
  - "home" button
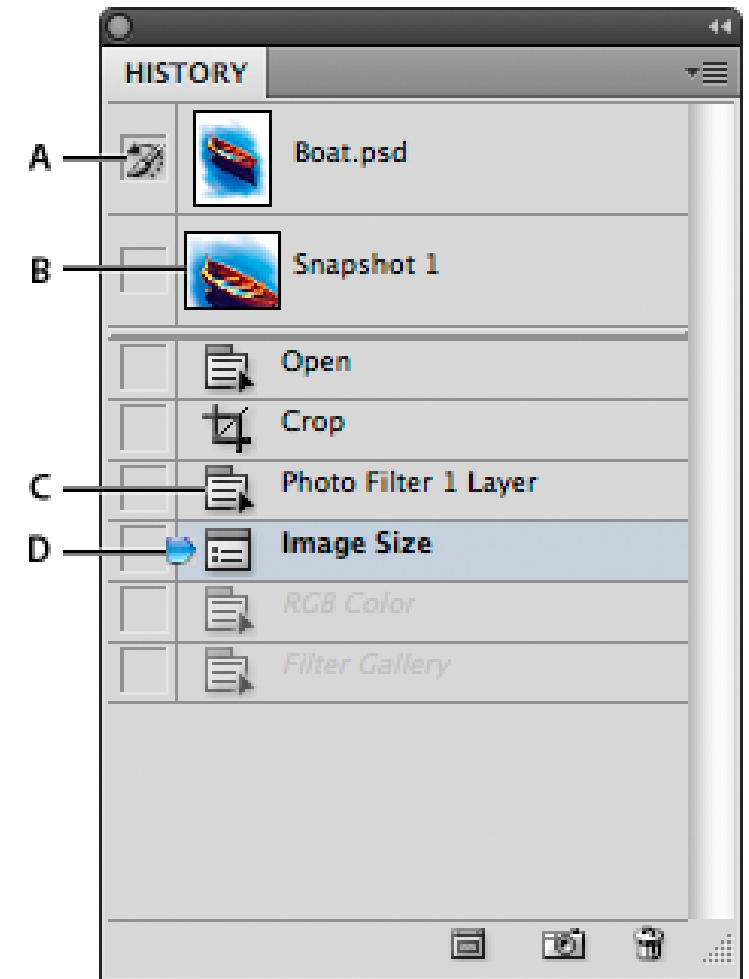
Navigation Hierarchy: Design

Explicitly plan out the navigation hierarchy for your system

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Navigation Hierarchy: Design

- Is this hierarchy **"visible"** to the users?
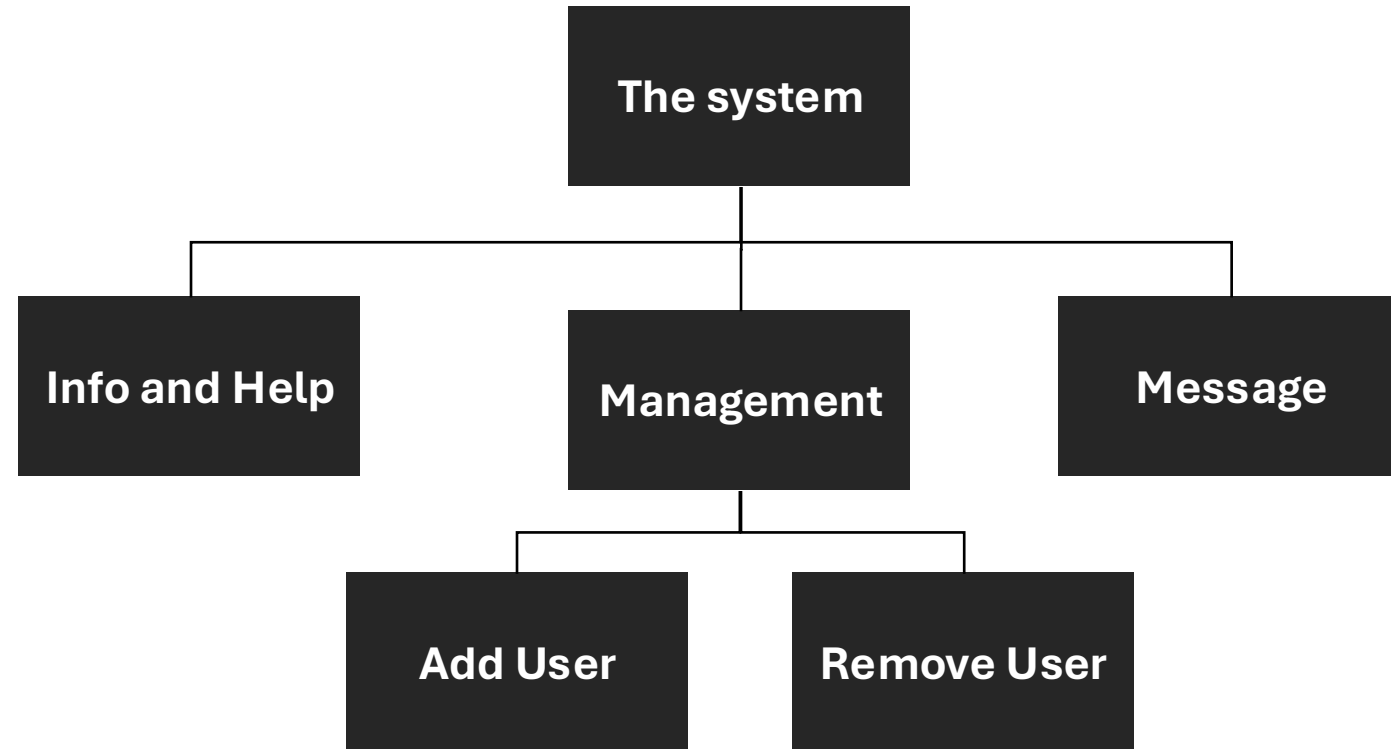 - Will assist with the 3 goals suggested earlier
- Typically **functional separation** but also
  - By roles
  - By user types
  - By modules in an educational system

```
                    The system
          ┌──────────────┼──────────────┐
   Info and Help     Management        Message
                  ┌──────┴──────┐
              Add User      Remove User
```
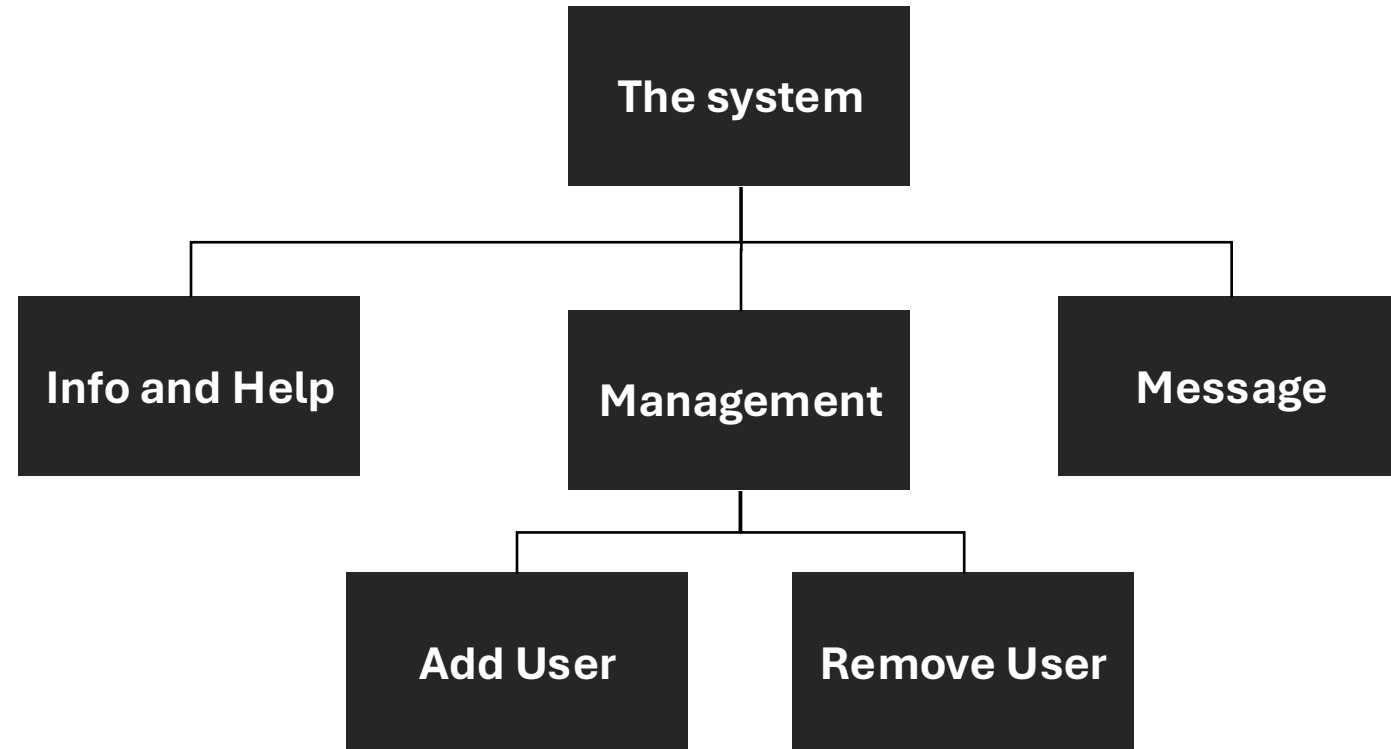
Navigation Hierarchy: Considerations

- Deep is difficult!
  - Users lose track of where they are, limited conscious cognition
  - There is evidence that **if it takes any more than 4-5 clicks, users will give up**
  - Implication: aim for a **flat** application

- Optimal?
  - Many items on each screen (logically related)
    - Leads to fewer screens
  - But **well structured** within screen

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Navigation Hierarchy: Considerations

Bigger Problems: Navigating between applications
and websites

- **Style issues**
  - Platform standards, consistency
- **Functional issues**
  - Cut and paste (now mostly central)

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Week 11 Overview

- **Monday**
  - Interface Implementation and Frontend Overview
  - Interaction Patterns
- **Wednesday**
  - Prototype for Multiple Platforms
- **Friday**
  - Physical Prototyping: Beyond Screen