

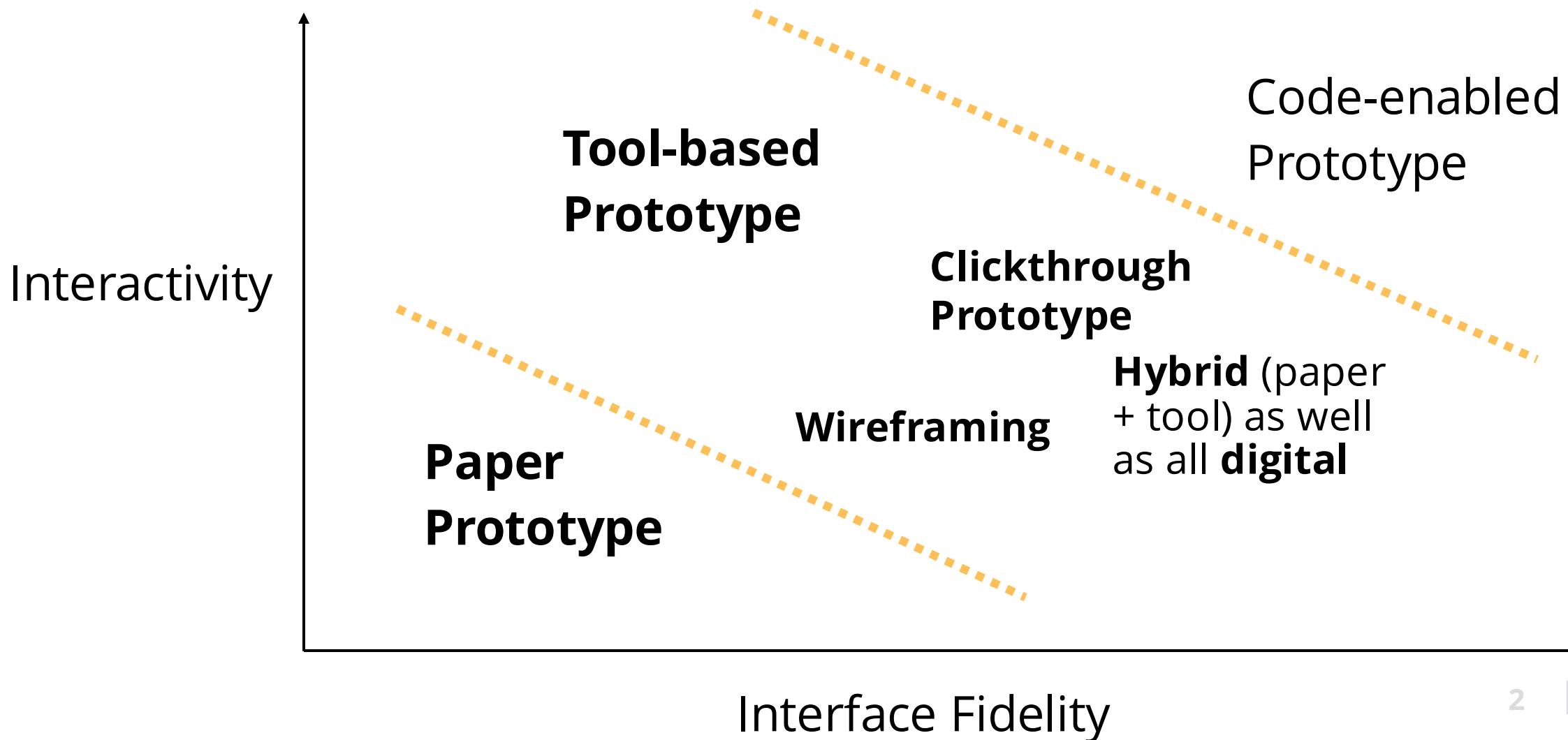
Week 10-3

Interface Design Patterns

SFWRENG 4HC3/6HC3 Human Computer Interfaces

** Slides adapted from previous instructors of COMPSCI/SFWRENG 4HC3/6HC3
and the COMPSCI 5115 course from University of Minnesota*

Low-High Fidelity Prototypes



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?**

- ⓘ The Slido app must be installed on every computer you're presenting from



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

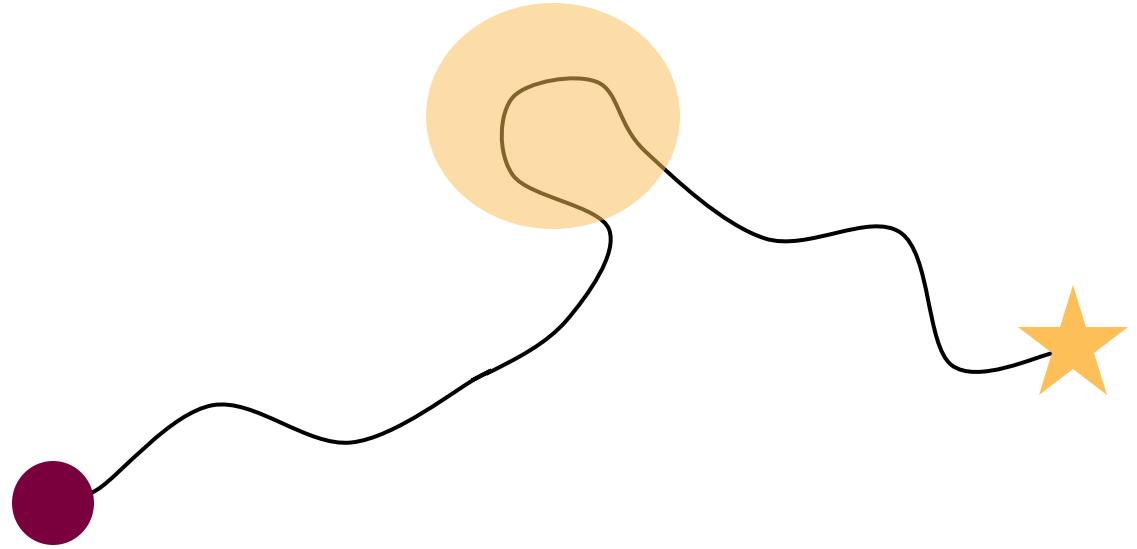
- ① The Slido app must be installed on every computer you're presenting from

Week 10 Overview

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

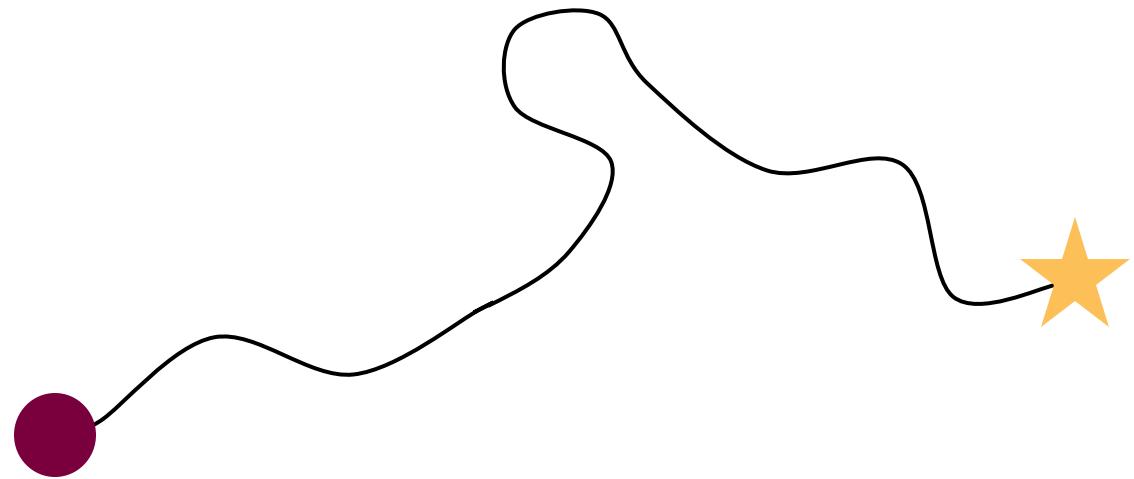
■ Navigation: Goal Seeking Process

- 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**

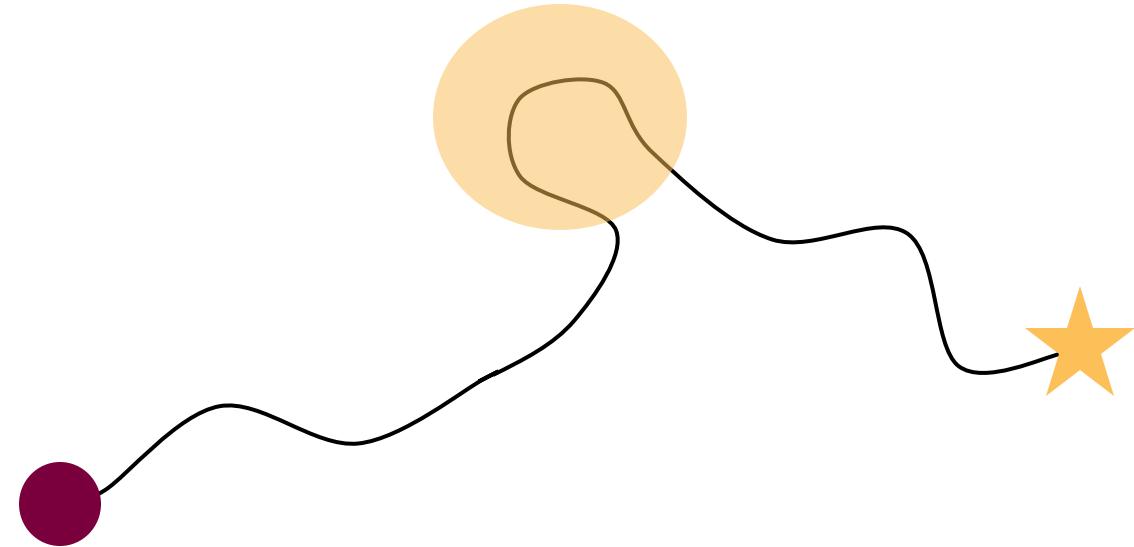


■ Navigation: Rules

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

The screenshot shows the homepage of the 26th ACM UIST Symposium website. At the top, a banner reads "26TH ACM UIST SYMPOSIUM - ST ANDREWS, UK, OCT. 8-11, 2013". Below the banner is a scenic photograph of the St Andrews coastline. A navigation bar below the photo includes links for HOME, VENUE, PROGRAM, REGISTRATION, ATTENDING, CALLS, IMPORTANT DATES, ORGANIZERS, STUDENT CONTEST, and ARCHIVE. Social media icons for Facebook, Twitter, and Google+ are also present. A prominent call-to-action says "REGISTRATION OPENS JULY 19TH!". Below this, a section about joint registration with ITS 2013 is detailed, mentioning discount rates for early bird registration. A "Joint UIST and ITS registration" table provides fees for ACM Member (\$895), Student (\$525), and Non-member (\$995). A "UIST-ONLY REGISTRATION RATES" table is also shown. On the right side, there's a "LATEST UPDATES" section featuring links to proceedings and adjunct proceedings, along with an "acm" logo. It also mentions mobile apps available, with links to the App Store and Google Play.

26TH ACM UIST SYMPOSIUM - ST ANDREWS, UK, OCT. 8-11, 2013

HOME VENUE PROGRAM **REGISTRATION** ATTENDING CALLS IMPORTANT DATES ORGANIZERS STUDENT CONTEST ARCHIVE

REGISTRATION OPENS JULY 19TH!

JOINT REGISTRATION WITH ITS 2013

UIST 2013 is collocated with the [ACM Interactive Tabletops and Surfaces 2013 \(ITS 2013\)](#) conference; ITS (Oct. 6-9) ends just before UIST starts. For **early bird registration only** (July 19-September 6) there are discount joint registration rates available:

Joint UIST and ITS registration:

ACM Member:	\$895 (USD)
Student:	\$525
Non-member:	\$995

UIST-ONLY REGISTRATION RATES

All rates in USD

LATEST UPDATES:

[proceedings](#)
[adjunct proceedings](#)

mobile apps available.

Available on the App Store

ANDROID APP ON Google play

Knowing where you are: Current

The screenshot shows a Microsoft PowerPoint slide titled "19-Navigation.pptx - PowerPoint". The slide content includes a breadcrumb navigation bar at the top and a large text area below it. The navigation bar contains links like "where you are - breadcrumbs", "where you are - websites", and "where you are - search". The main text area says "where you a".

The PowerPoint ribbon is visible at the top, with the "ANIMATIONS" tab selected. The "Animations" ribbon group shows various animation effects: None, Appear, Fade, Fly In, Float In, Split, Wipe, Shape, Wheel, Random Bars, and Effect Options. The "Timing" section of the ribbon shows "Start: On Click", "Duration:", and "Delay:" options.

An "Animation Pane" is open on the right side of the slide, listing the applied animations for each slide element. The pane includes buttons for "Reorder Animation", "Trigger", "Add Animation", "Animation Painter", and "Timing".

The slide number 13 is visible at the bottom left, and the slide title "where you are - breadcrumbs" is at the top left of the slide content area.

Knowing where you are: Journey

SPEND \$50 AND SHIPPING IS FREE

Log in Wish List Français STORE LOCATIONS HELP

MEC LEARN COMMUNITY & EVENTS SERVICES ABOUT MEC SEARCH

MEN WOMEN KIDS CLIMB BIKE HIKE CAMP RUN & TRAIN TRAVEL SNOW WATER YOUTH

Your path: All Products / Cycling / Clothing / Men's / Gloves and Mitts

CYCLING : CLOTHING : MEN'S : GLOVES AND MITTS

products 1 - 37 of 37 Sort by: Best Match

CATEGORY

◀ All
◀ Clothing
Gloves and Mitts

GENDER

◀ All
Men's
Men's Specific (21)
Unisex (17)

ACTIVITY

◀ All
Cycling



DeFeet Wool Dura Gloves (Unisex) \$19.00 CAD ★ ★ ★ ★ ★ 10 reviews	MEC Inverno Gloves (Unisex) \$32.00 CAD ★ ★ ★ ★ ★ 18 reviews	MEC Coldspell Gloves (Unisex) \$49.00 CAD ★ ★ ★ ★ ★ 29 reviews
Product Number: 5017-985 Made in USA <input type="checkbox"/> COMPARE	Product Number: 5020-735 Made in China <input type="checkbox"/> COMPARE	Product Number: 5020-733 Made in Vietnam <input type="checkbox"/> COMPARE

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

The screenshot shows the CBC News Manitoba homepage. At the top, there's a weather widget for Winnipeg showing -1°C Mostly Cloudy with a sun and cloud icon. Below it is a navigation bar with links for News, Sports, Music, Radio, TV, My Region, More, Watch, Listen, and Search. The main header features the "CBCnews | Manitoba" logo with four smiling people. Below the header is a secondary navigation bar with links for Home, World, Canada, Politics, Business, Health, Arts & Entertainment, Technology & Science, and a partially visible link. A breadcrumb trail at the bottom left shows "Canada > Manitoba > Photo Galleries". The main content area has a large red "NEW" banner followed by the headline "3 people arrested after assault in Winnipeg". Below the headline is a sub-headline "One man was rushed to hospital in critical condition". The footer contains social media sharing buttons for Facebook, Twitter, and Google+, and links for "Stay Connected" to mobile and Facebook.

Rules: Knowing where you are going

- Use meaningful link / button descriptions
 - avoid “click here” to do X, instead have X

PayPal

The screenshot shows the PayPal sign-up page. At the top, there are fields for 'Your country or region' (set to 'United States') and 'Your language' (set to 'English'). To the right, there is a 'Secure' logo with a padlock icon. Below these, there are two main options:

- PayPal for personal use**: Described as "Get a personal account for personal use." It features an orange "Get Started" button.
- PayPal for business and nonprofits**: Described as "Get a business account for use by businesses and nonprofit organizations." It also features an orange "Get Started" button.

At the bottom right of the page, there is a link "Already have a PayPal account? [Upgrade now.](#)"

■ 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**

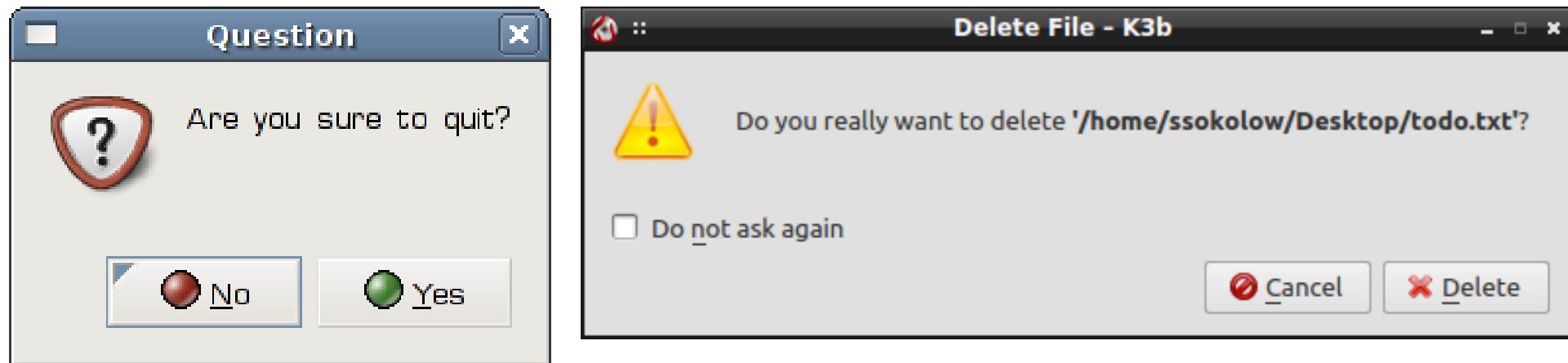
Rules: Knowing where you are going

The screenshot shows the Microsoft PowerPoint ribbon with the 'ANIMATIONS' tab selected. On the left, there's a preview pane for slide 13, which displays a slide titled 'where you are -- breadcrumbs' with a screenshot of a web page showing a breadcrumb navigation trail. Below it, slide 14 is previewed with the title 'where you are - websites'. The main area shows the animation tools. Under the 'Preview' section, the 'None' animation is selected for slide 13. In the 'Animation' section, a timeline shows keyframes numbered 1 through 12. The text 'where you a' is visible in the slide preview.

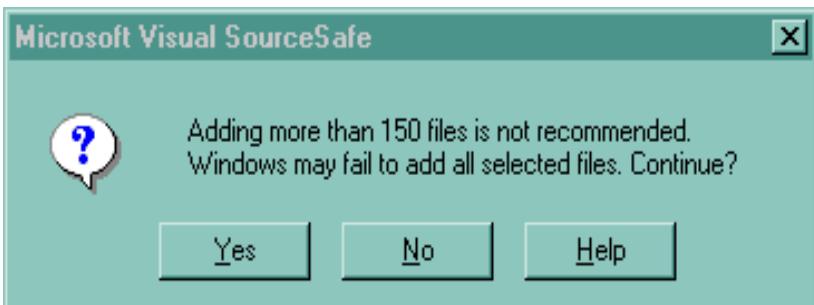
Knowing where you are going: Dialog

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



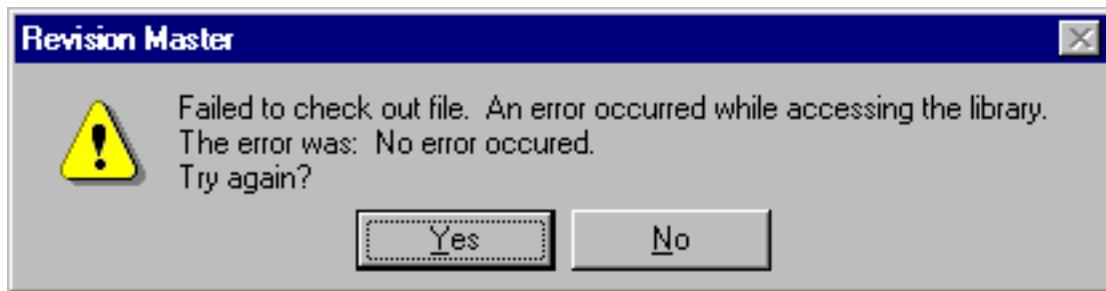
Dialog: Examples



What happens if I press yes?



What happens when you cancel a cancelled operation?



So was there an error?

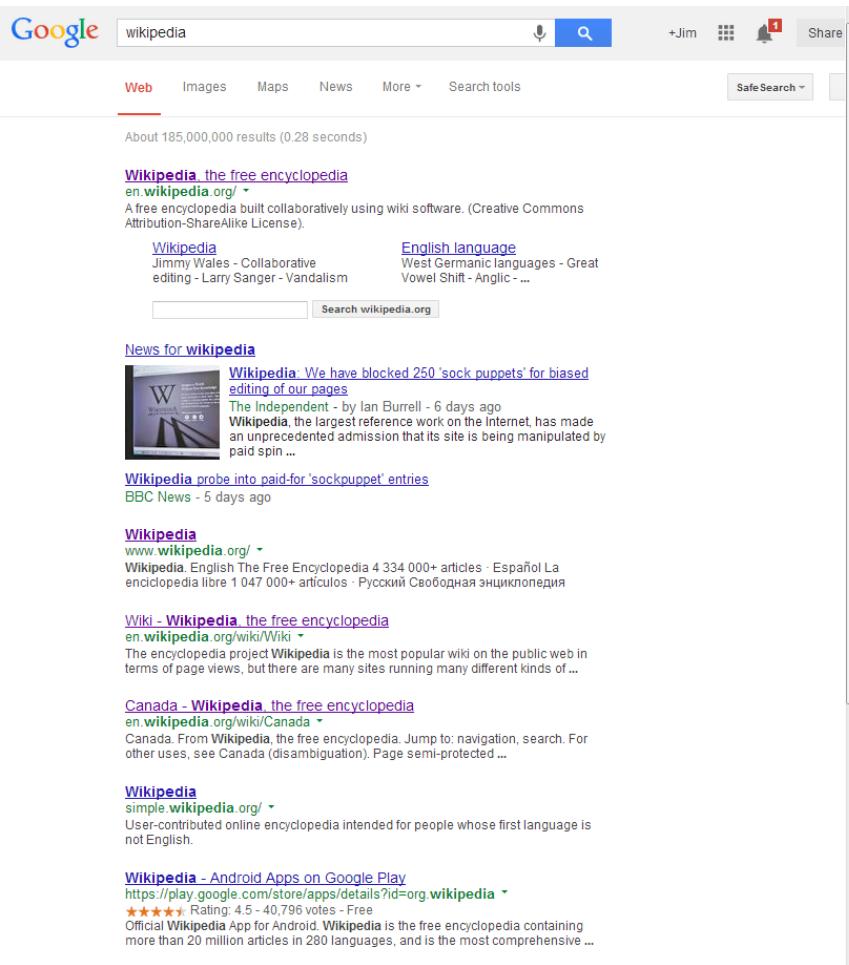


????

Rules: Knowing where you have been

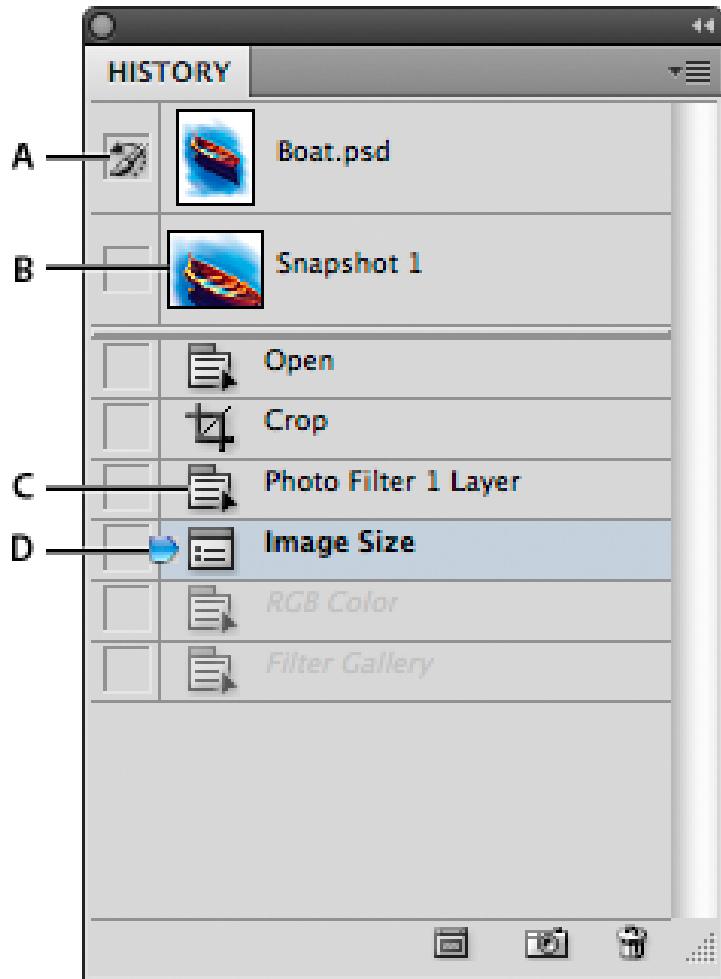
Good on the web!

- colouring previously visited links, history lists, back button



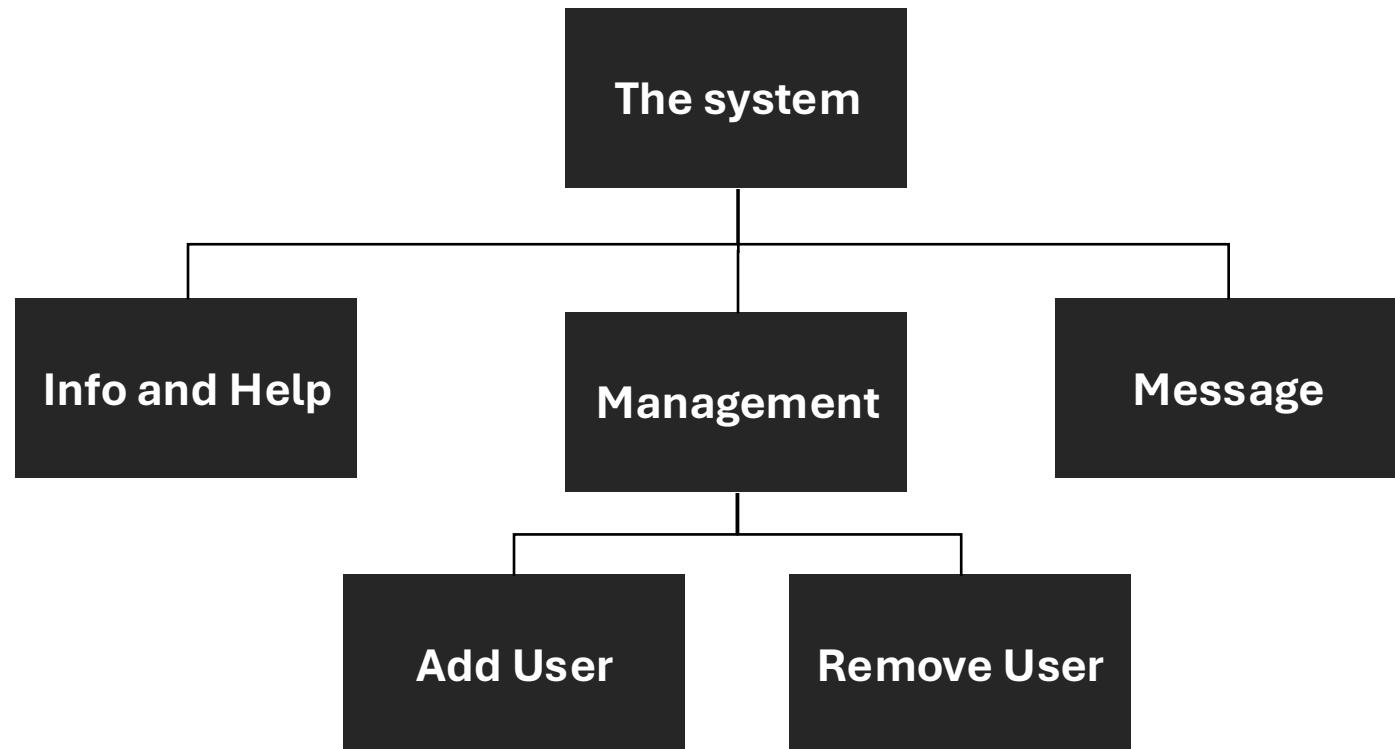
Rules: Knowing where you have been

- 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



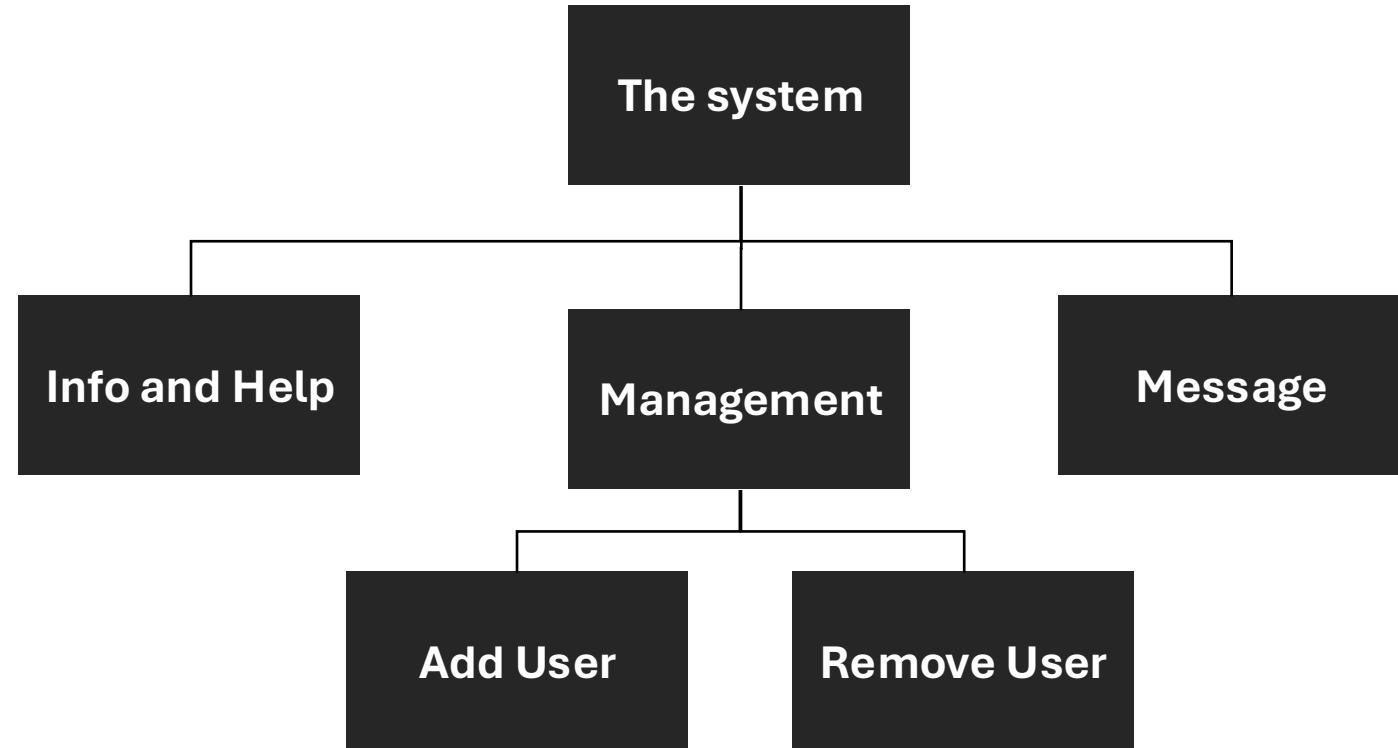
Navigation Hierarchy: Design

Explicitly plan out the navigation hierarchy for your system



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



■ 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

Navigation Hierarchy: Considerations

Bigger Problems: Navigating between applications and websites

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

Week 11 Overview

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