Font Selection in Keynote '08

Font Selection in PowerPoint 2008

Review

Course overview

Project theme

Course mechanics
Due Last Friday

Wiki account
Course petition

Due Today (before class)

Reading comment
1 per lecture;
cs160/cs160Readings

Due Wednesday

Individual Project Proposal
Bring pen and paper to class

Due Monday Feb 1

Individual Programming Assignment
Orchard Lab: 9am-4pm Mon
Topics for Today

1. The Design Cycle
2. Brainstorming

The Design Cycle

The Art of UI Design

A soufflé is eggs, butter, milk & flour, but the difference between soaring and sinking is in the execution.
The Design Process [Koberg & Bagnall]

1. Acceptance
2. Analysis
3. Definition
4. Ideation
5. Idea selection
6. Implementation
7. Evaluation

Acceptance

Getting started
Because of a deadline
Because of possible reward
Because you are forced to

Commitment
Time
Resources
Responsibility

Key is to set motivation

Analysis

Understand Users and Tasks
Who are the users?
What are their tasks?
Observe and test, don’t guess

Tools
Notebook
Tape recorder
Camera
Video camera
Definition

Focus on the problem
Choose appropriate level of detail

Not "bicycle cup-holders" but "helping cyclists to drink coffee without accidents"

Ideation

Brainstorming
Stretch mental muscles
Loosen up with simple games
Do homework
Seed with related ideas/objects
Get physical
Sketch
Make models
Act out
IDEO rules
One conversation at a time
Stay focused
Encourage wild ideas
Deliberate judgment
Build upon idea from others

Aim for quantity

Idea Selection

Define importance of each idea
Does it address problem
Will target users like it
Is hardware available
Is software available
What is the cost
Market window...

Rank ideas according the your criteria

Pick top N
Choices depend on resources and stage of the project

Implementation

Scale up low \rightarrow high fidelity
Implementation

Scale up low → high fidelity

Low-fidelity (quick, cheap, dirty)
Sketches, paper models, foam core, …

Medium fidelity
(Slower, more expensive)
Flash, JavaScript, AJAX, …

High fidelity
(Slowest, most expensive)
The full interface

Implementation Example: Web Design

Sites created at multiple levels of detail
Sites iteratively refined at all levels of detail
Iterate quickly to see what works

Site Maps → Storyboards → Schematics → Mock-ups
Evaluation

Many types of evaluation:
- Prototype walkthroughs
- Think-aloud studies
- Wizard-of-Oz
- Performance comparisons

Type of evaluation chosen depends on the level of implementation, etc.

Evaluation Example:
Paper Prototype Walkthrough

Design Cycle Over Project Lifespan

Evaluation reveals problems with design. Re-design requires cycling the process.
Prototype implementations eventually increase in fidelity to reach final product.

**Comparison**

[Lewis & Rieman]

Who will use? [2]

What are their tasks? [2]

Plagiarize [4]

Rough out a design [4,6]

Think about design [6]

Create a prototype [6]

Test it with users [7]

Iterate [7->1]

Build a prod. version [6]

Track use [7]

Evolve the design [7->1]

[Koberg & Bagnall]

Who will use?

What are their tasks?

Plagiarize

Rough out a design

Think about design

Create a prototype

Test it with users

Iterate

Build a production version

Track use

Evolve the design
**Waterfall Model (Soft. Eng.)**

- **Initiation**
  - Application Description
- **Analysis**
  - Requirements Specification
- **Design**
  - System Design
  - Implementation
- **Product**

**Comparison**

**Focus differs**
- WF has no feedback
- High cost of fixing errors increases by 10x at each stage
- Iterative design finds problems earlier

**Video: The Deep Dive**

- How well do they follow the cycle?
- What do they do for each step of the cycle?
- How many cycles do you think they went through?

**Brainstorming**
The Psychology of Creativity

Conformity: the enemy of creativity
Groups and organizations encourage conformity
Part of “brand” or “corporate identity”

Pressure to conform affects judgment and perception:
The emperor’s new clothes
McCarthyism: if you’re not one of us, you’re one of them…
People in minority will adopt majority opinion and even manufacture their own explanation of it.

Enhancing Creativity

Thinking outside the box:
Draw a series of 4 straight lines through all the points below, without lifting pen from paper:

Why Is This Hard?

We adopt expectations about the solution
Based on conventions
Based on what we believe the questioner expects
Creativity and Dissent

Authentic dissenters – people who really disagree with group – can enhance group creativity.

Their opinion needn’t be right – but they can free the group from stagnant thinking.

The originality of the minority stimulates the majority.

Dissent and Authenticity

The benefits of dissent are weakened if Dissent is not real: A deliberate “devil’s advocate” in the group can actually stifle dissent, because the majority know the opinion is manufactured.

Dissent is not encouraged: Polite or pro-forma acceptance is not enough.

IDEO’s Brainstorming Rules

1. Sharpen the Focus
2. Playful Rules
3. Number your Ideas
4. Build and Jump
5. The Space Remembers
6. Stretch Your Mental Muscles
7. Get Physical

Aim for quantity
Hope for quality

Sharpen the Focus

Posing the right problem is critical neither too narrow, nor too fuzzy

Not “bicycle cup-holders” but “helping cyclists to drink coffee without accidents”
Number Your Ideas

Obvious but very useful

Helps keep track of them when the brainstorm is successful (and 100 or more ideas are in play)

Allows ideas to take on an identity of their own

Build and Jump

Build to keep momentum on an idea:
“shock absorbers are a great idea; what are other ways to reduce coffee spillage on bumps?”

Jump to regain momentum when theme tapers out:
“OK, but what about hands-free solutions?”

Concept Refinement

Premature idea rejection is a serious barrier to good design.

A big differentiator between good designers and great ones is the latter’s ability to successfully develop unusual ideas

This requires a strong instinct to be able to distinguish fatal vs. minor flaws in an idea

The Space Remembers

Covering whiteboards or papering walls with text is extremely useful in group work.

It’s a very effective form of external (RAM) memory for group

Even better, its shared RAM. Helps group share understanding
**Stretch your Mental Muscles**

- Warmups: word games, puzzles
- Get immersed in the domain: go visit the toy shop, or the bicycle shop, phone shop etc…
- Bring some examples of the technology to the brainstorm

**Get Physical**

- Sketch
- Make models
- Act out

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**Next Time**

**Lecture Topic:** Sketching, Storyboarding & Critique

Bring pen and paper to lecture

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**Don’t forget!**

Read, then write a comment on the wiki

- Individual Project Proposal, Due Jan 27
- Programming Assignment I, Due Feb 1