Interaction Design

Chapter 9 (June 17, 2015, 9am-12pm):
Simplicity and Graphical User Interface Design
Graphical User Interface Design

• Principles

• Layout, Typography, Color & Contrast
• Controls and Widgets
• Simplicity
INTERACTION DESIGN

KNOW?

FEEL?

...DO?
Like all forms of design, visual design is about problem solving, not about personal preference or unsupported opinion.

Bob Baxley
Interface design is only the experienced **representation** of the interaction, not the interaction design itself.

source: [4]
User Interface

Visible

Behind the Scenes

Capturing

Connecting

Combining

Contextualizing

Transferring

Coordinating

Storing

source: [4]
Tools

source: [4]
UI Elements

source: [4]
Graphical User Interface Design

• Principles

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• Simplicity
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 50| 100| 150| 200| 250| 300| 350| 400| 450| 500| 550| 600| 650| 700| 750| 800| 850| 900| 950|1000|1050| 50| 100| 150| 200| 250| 300| 350| 400| 450| 500| 550| 600| 650| 700| 750| 800| 850| 900| 950|1000|1050|
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Layout |

Grids
Grids
Visual Clutter
Clutter creates visual noise and makes an application hard to use

source: [4]
source: [4]
Proximity & Grouping
By grouping similar elements together, the designer helps the user deal with a complex information display by reducing it to a manageable number of units.

source: [2]
Primary Action / Secondary Action

source: [2]
All form actions are not equal, and therefore the visual presentation of actions should match their importance to make it easier to complete a form. Visual distinction helps users make “good” choices.

source: [2]
Example: “Web Design, Filling the Blanks”

Yammer
Constraint

source: [2]
Constraints are closely related to real affordances: For example, it is not possible to move the cursor outside the screen: this is a physical constraint.

Locking the mouse button when clicking is not desired would be a physical constraint. Restricting the cursor to exist only in screen locations where its position is meaningful is a physical constraint.

source: [2]
Flip Horizontally
Flip Vertically

Lock
Unlock

Visual Constraint

source: [2]
Scalability of Interfaces / Flexibility
80/20 rule

source: [1]
A principle for setting priorities: users will use 20% of the features of your product 80% of the time. Focus the majority of your design and development effort (80%) on the most important 20% of the product.

source: [1]
Overcrowded Widget
Users are overwhelmed by options, limitless flexibility

Only show me what I need to see

Implement one easy to discover and easy to learn core pattern for common actions across the platform.
Adjust to users’ preferences.
Make less common actions harder to reach.

source: [5]
Aesthetic-Usability Effect

source: [1]
Aesthetic-Usability Effect
Aesthetic designs are perceived as easier to use than less-aesthetic designs. Aesthetic designs look easier to use and have a higher probability of being used, whether or not they actually are easier to use.

source: [1]
The flexibility-usability tradeoff is exemplified in the well known maxim “jack of all trades, master of none”.

Flexible designs can perform more functions than specialised designs, but they perform the functions less efficiently.
source: [1]
Fonts
-two general groups: serif & sans serif
-sans serif can be scanned quickly
-avoid very heavy or light typefaces for UIs
-avoid combining too similar typefaces
-stick with standards first

source: [4]
Roboto

SUNGLASSES
Self-driving robot ice cream truck
Fudgesicles only 25¢

ICE CREAM
Marshmallows & almonds
#9876543210

Music around the block
Summer heat rising up from the sidewalk

source: [5]
Color
HSV Color Space
- three main properties: hue, saturation (or intensity) and value (or brightness)
- hue refers to the color itself (the particular color within the optical (visible) spectrum of light), saturation refers to the brightness, value refers to the amount of black in a color

- color can provide cues for use
- color can establish a relationship
- color can indicate importance
- consider human factors such as color blindness and cultural differences

source: [4]
Colors

source: [5]
Questionable Website
Contrast

Region: Custom

Dates

Saturday, 5 January 2008

5 January 2008

source: [2]
Effective design creates no more contrast than necessary.

This allows the viewer to easily identify the elements in question as a strongly defined subset of the available information.
Effective design creates more contrast than necessary. This allows the viewer to easily identify the elements in question as a strongly defined subset of the available information.

Source: [2]
Symmetry

source: [2]
Symmetry ensures balance and clear organisation, if sometimes at the expense of visual interest. While this may be a drawback for a poster or retail packaging, it is perfectly appropriate for a user interface.
UI Kits
Graphical User Interface Design

• Principles

• Layout, Typography, Color & Contrast

• Controls and Widgets

• Simplicity
Checkbox

Radio Button

Twist

Scroll Bar
Drop-down menu  Multiple Selection List  Text Box  Spin Box
Controls
Controls
Mapping of Representation and Control
Graphical User Interface Design

• Principles

• Layout, Typography, Color & Contrast

• Controls and Widgets

• Simplicity
Simplicity

Approachability
Simple designs can be rapidly apprehended and understood well enough to support immediate use or invite further exploration.


source: [2]
Recognisability
Simple designs can be recognised more easily than their more elaborate counterparts. Because they present less visual information to the viewer, they are more easily assimilated, understood and remembered.

source: [2]
**Immediacy**

Simple designs have a greater impact than complex designs, precisely because they can be immediately recognised and understood with a minimum of conscious effort.

[source: 2]
Usability
Improving the approachability and memorability of a product necessarily enhances usability as well. Simple designs that eliminate unnecessary variation or detail make the variation that remains more prominent and informative.

source: [2]
Reduction through successive refinement is the only path to simplicity
References (Books):