Interaction Design

Chapter 12 (July 17, 2013, 9am-12pm):
Simplicity and Graphical User Interface Design
Part One
"Great design is as much about prospecting in the past as it is about inventing the future."

Bill Buxton
Design and Simplicity

- Bauhaus: History and Directors
- Bauhaus: Structure and Products
- From Bauhaus to Braun
Bauhaus
Key Dates:

founded 1919 in Weimar
closed down 1933 in Berlin

Key People - 3 Directors:

[3] Ludwig Mies van der Rohe (1930-1933)
Art and technology - a new entity.

Walter Gropius

The investigation of human needs should be based on science - not formalism.

Hannes Meyer

God is in the details.

Ludwig Mies van der Rohe
Design and Simplicity

• Bauhaus: History and Directors

• Bauhaus: Structure and Products

• From Bauhaus to Braun
Pre-Course
Prototyping Design
Basic Shapes

source: [8]
Color Sphere

source: [7]
Marcel Breuer

http://www.boecker-buerogestaltung.de/images/designer/marcel_breuer.01.jpg

source: [8]
Chair B3 “Wassily”

http://upload.wikimedia.org/wikipedia/commons/1/19/Bauhaus_Chair_Breuer.png

source: [8]
Design and Simplicity

- Bauhaus: History and Directors
- Bauhaus: Structure and Products
- From Bauhaus to Braun
Requirements:

Type (variations of the original design)
Basic shape - few simple parts (industrial manufacturing)
Functionality (design for human needs)

source: [7]
Charles and Ray Eames
Ray & Charles Eames

[Images of Ray & Charles Eames' designs: a white rocking chair and a black chair with a distinctive shape.]
Braun SK6
Braun Radio

iPod

iPhone Calculator

Braun Calculator

Part Two
Graphical User Interface Design

• Principles
  • Layout, Typography, Color & Contrast
  • Controls and Widgets
  • Simplicity
Graphical User Interface Design
INTERACTION DESIGN

KNOW?

FEEL?

...DO?
User-experience design

Industrial design

Communication design

User Interface engineering

Information architecture

Usability engineering

Human factors

Human-computer interaction

Interaction design

source: [4]
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]

Graphical User Interface Design

- Principles
- Layout, Typography, Color & Contrast
- Controls and Widgets
- Simplicity
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**Layout**
Grids
Today’s featured article

The Cross of Gold speech was delivered by William Jennings Bryan, a former congressman from Nebraska, at the Democratic National Convention in Chicago on July 9, 1896. In the address, Bryan supported bimetallism or “free silver”, which he believed would bring the nation prosperity. He decreed the gold standard, concluding the speech, “you shall not crucify mankind upon a cross of gold”. Bryan’s address helped catapult him to the Democratic Party’s presidential nomination; it is considered one of the greatest political speeches in American history. For twenty years, Americans had been bitterly divided over the nation’s monetary standard. Many Americans believed bimetallism (making both gold and silver legal tender) was necessary to the nation’s economic health. Bryan’s speech, delivered at the close of the debate on the party platform, electrified the convention and is generally credited with getting him the nomination for president. However, he lost the general election to William McKinley and the United States formally adopted the gold standard in 1900.

Did you know...

From Wikipedia’s newest content:

- that during the Antinomian Controversy, Anne Hutchinson (pictured) withstood two separate trials without counsel before being banished from Massachusetts?
- that Argentine nationalism sees José de San Martín, Juan Manuel de Rosas and Juana Perón as a line of historical continuity?
- that one of the most popular Polish cabarets, Pod Eggid, performing since 1967, has faced persecution from the communist authorities in the People’s Republic of Poland?
- that 2012 College World Series Most Outstanding Player Robert Refsnyder was born in South Korea and adopted by a California couple when he was three months old?
- that the print identity of UK music newspaper The Stool Pigeon is modelled on Victorian tabloids?
- that 2012 Australian Olympic canoeist Hannah Davis won a bronze medal in the sport at the 2008 Summer Olympics?
- that the starfish Anasterias rugicola feeds on the limpet Nacella macquariensis, sometimes hunting it in groups?
Visual Clutter
Clutter creates visual noise and makes an application hard to use
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
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.
Visual Constraint

Flip Horizontally
Flip Vertically

Lock
Unlock

Group
Ungroup

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 specialized designs, but they perform the functions less efficiently.
Flexibility

Usability

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

THIN

SUNGLASSES

BLACK SMALL CAPS

Self-driving robot ice cream truck

ITALIC

Fudgesicles only 25¢

BOLD

ICE CREAM

BOLD CONDENSED

Marshmallows & almonds

MEDIUM

#9876543210

LIGHT

Music around the block

BOLD ITALIC

Summer heat rising up from the sidewalk

REGULAR

source: [5]
Colors
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
color can indicate importance
consider human factors such as color blindness and cultural differences
Colors

source: [5]
Questionable Website
Contrast

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.

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.

source: [2]
Symmetry
Symmetry ensures balance and clear organization, 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
Explore Over a Million Color Palettes

You'll find over 1,666,068 user-created color palettes to inspire your ideas. Get the latest palettes RSS feed or use our color palette maker to create and share your favorite color combinations.

Browse Palettes

Giant Goldfish  by manekineko
508 COMMENTS 3005 FAVORITES 232796 VIEWS 3510 LOVES

Thought Provoking  by Miss_Anthropy
285 COMMENTS 1938 FAVORITES 139170 VIEWS 2738 LOVES

Terra?  by GlueStudio
442 COMMENTS 1567 FAVORITES 89562 VIEWS 1463 LOVES

RECENT PALETTE COMMENTS

huege
POSTED 2 MINUTES AGO
Lovely pattern Dawn! After a few minutes of looking at it, I realized she had a cigarette :)  
American Women wrote:

Smoking Lady  by American Women
3 ❤️ 0  
Rank  #137256  

huege wrote:

I love it! I don’t know why, but to me this looks like the palette should on a package of cigarettes. I don’t even smoke, but I love the palette so much that I think it’s making me want to start smoking??!
Graphical User Interface Design

- Principles
- Layout, Typography, Color & Contrast
- Controls and Widgets
- Simplicity
Switch

Button

Dial

Slider


Checkbox  Radio Button  Twist  Scroll Bar
Drop-down menu  Multiple Selection List  Text Box  Spin Box
Controls

http://www.flickr.com/photos/merlijnhoek/2055606176/

source: [4]
Controls
Mapping of Representation and Control
Graphical User Interface Design

- Principles
- Layout, Typography, Color & Contrast
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Simplicity
Approachability
Simple designs can be rapidly apprehended and understood well enough to support immediate use or invite further exploration.
Recognizability
Simple designs can be recognized 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 recognized and understood with a minimum of conscious effort.

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):