User Experience Design I
(Interaction Design)

July 11, 2019, 9am-12pm:
Simplicity and 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
Color Sphere

source: [7]
Marcel Breuer

http://www.boecker-bueroformatierung.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(s) (variations of the original design)
• Basic shape(s) - few simple parts (industrial manufacturing)
• Functionality (design for human needs)

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

http://3.bp.blogspot.com/-E_aiFu9Pakg/TdXT6TkzLI/AAAAAAAAA5i/dhm3kTe9VF4/s1600/Eames-Rocker-Chair-White.jpg

Ten Principles: Good design...

1. **is innovative** – The possibilities for progression are not, by any means, exhausted. Technological development is always offering new opportunities for original designs. But imaginative design always develops in tandem with improving technology, and can never be an end in itself.

2. **makes a product useful** – A product is bought to be used. It has to satisfy not only functional, but also psychological and aesthetic criteria. Good design emphasizes the usefulness of a product whilst disregarding anything that could detract from it.

3. **is aesthetic** – The aesthetic quality of a product is integral to its usefulness because products are used every day and have an effect on people and their well-being. Only well-executed objects can be beautiful.

4. **makes a product understandable** – It clarifies the product’s structure. Better still, it can make the product clearly express its function by making use of the user’s intuition. At best, it is self-explanatory.

5. **is unobtrusive** – Products fulfilling a purpose are like tools. They are neither decorative objects nor works of art. Their design should therefore be both neutral and restrained, to leave room for the user’s self-expression.

6. **is honest** – It does not make a product appear more innovative, powerful or valuable than it really is. It does not attempt to manipulate the consumer with promises that cannot be kept.

7. **is long-lasting** – It avoids being fashionable and therefore never appears antiquated. Unlike fashionable design, it lasts many years – even in today’s throwaway society.

8. **is thorough down to the last detail** – Nothing must be arbitrary or left to chance. Care and accuracy in the design process show respect towards the consumer.

9. **is environmentally friendly** – Design makes an important contribution to the preservation of the environment. It conserves resources and minimizes physical and visual pollution throughout the lifecycle of the product.

10. **is as little design as possible** – Less, but better – because it concentrates on the essential aspects, and the products are not burdened with non-essentials. Back to purity, back to simplicity.

Braun SK6
Braun Radio

iPod (1st gen)

iPhone Calculator

Braun Calculator

Braun Speaker

Braun Radio

iMac

Powermac G5

Part Two
Graphical User Interface Design

- **Principles**
  - Layout, Typography, Color & Contrast
  - Controls and Widgets
  - Simplicity
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 UX/interaction design itself.
User Interface (UI) Design focuses on anticipating what users might need to do and ensuring that the interface has elements that are easy to access, understand, and use to facilitate those actions. UI brings together concepts from interaction design, visual design, and information architecture.
Users have become familiar with interface elements acting in a certain way, so try to be consistent and predictable in your choices and their layout. Doing so will help with task completion, efficiency, and satisfaction.

source: [13, 14]
Visible

Behind the Scenes

User Interface

Capturing

Connecting

Combining

Transferring

Coordinating

Storing

Contextualizing

source: [4]
Forms

Text editors

Graphic editors

Spreadsheets

Browsers

Calendars

Media players

Information graphics

Immersive games

Web pages

Social spaces

E-commerce sites

source: [9]
• Desktop applications
• Websites
• Web applications or “rich internet applications” (RIAs)
  Professional products or embedded devices
• Software for mobile devices
• Turnkey systems like kiosks
• Operating systems

source : [9]
UI design communicates attributes such as reliability, excitement, playfulness, energy, calmness, strength, tension, and joy.
The Beauty of CSS Design

A demonstration of what can be accomplished visually through CSS-based design. Select any style sheet from the list to load it into this page.

Download the sample HTML file and CSS file.

The Road to Enlightenment

Littering a dark and dreary road lay the past relics of browser-specific tags, incompatible DOMs, and broken CSS support.

Today, we must clear the mind of past practices. Web enlightenment has been achieved thanks to the tireless efforts of folk like the W3C, WaSP and the major browser creators.

The css Zen Garden invites you to relax and meditate on the important lessons of the masters. Begin to see with clarity. Learn to use the (yet to be) time-honored techniques in new and invigorating fashion. Become one with the web.

Select a design

- UNDER THE SEA!
  by Eric Stoltz

- MAKE 'EM PROUD
  by Michael McGough and Scotty Reifsnyder

- ORCHID BEAUTY
  by Kevin Addison

- OCEANSCAPE
  by Justin Gray

- CSS CO., LTD.
  by Benjamin Kemm

- SAKURA
  by Tatsuya Ichida

- KYOTO FOREST
  by John Robakowski

- A WALK IN THE GARDEN

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Graphical User Interface Design

- Principles

- Layout, Typography, Color & Contrast

- Controls and Widgets

- Simplicity
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Grids
Welcome to Wikipedia,
the free encyclopedia that anyone can edit.
3,981,662 articles in English

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 decried 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. (more...)

Recently featured: Dendrocoolyphla – Killer7 – Calgary Stampede

Did you know...

From Wikipedia's newest content:

- ...that during the Antinoman 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 Juan Perón as a line of historical continuity?
- ...that one of the most popular Polish cabaretos, Pod Egida, 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?
- ...the print identity of UK music newspaper The Stoof 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 Anastomia rupicola feeds on the limpet Nacella macquariensis, sometimes hunting it in groups?
Visual Clutter
Clutter creates visual noise and makes an application hard to use
Gestalt Psychology

• The Gestalt laws prescribe for us what we are to recognise as one thing’ (Köhler, 1920)

• How smaller objects are grouped to form larger ones

• Rules of the organisation of perceptual scenes (Heuristics)

source: [12]
Gestalt Laws

• Proximity
• Collinearity
• Co-circularity
• Continuity
• Parallelism
• Symmetry
• Closure
• Convexity
...

source: [12]
In summary the Gestalt Theory believes individuals use insight and their prior experiences to determine the response to stimuli...

....(uses) Gestalt Theory to try to make sense of, and provide order to, information in their perception.

source: [12]
Proximity & Grouping
Alignment
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.
Primary Action / Secondary Action
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.
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.
Flip Horizontally
Flip Vertically

Lock
Unlock

Group
Ungroup

Visual Constraint

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

https://typografie.de/produkt/detailtypografie/
Rule of thumb

- 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
• On computer displays, sans-serif fonts often work better at very small point sizes, unlike print, in which the serifed fonts tend to be more readable as body text.

• Avoid italicised, cursive, or otherwise ornamental fonts;

• Highly geometric fonts tend to be difficult to read at small point sizes, as the circular letters (e, c, d, o, etc.).
• All-caps is too hard to read for body text, though it works fine for headlines and short texts. Capital letters tend to look similar, and are hard for a reader to differentiate.

• Set large amounts of text in a medium-width column when possible—say, around 10 to 12 English words on average.
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]
Warm versus cool
Dark versus light background
High versus low contrast
Saturated versus unsaturated
Combinations of hues
Colors
Questionable Website

Googles Search Page

https://static.giga.de/wp-content/uploads/google-search-startseite-rom992x0.png
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.
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.

[source: [2]](http://www.jailbreakbox.de/ipod-nano-mit-kamera-und-spielen)
UI Kits
Developing Apps for iPhone
Explore Over a Million Color Palettes

You'll find over 1,666,088 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.

Giant Goldfish by manekineko

Thought Provoking by Miss_Anthropo

Terra? by GlueStudio

Recent Palette Comments

huego

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

huego 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]

LMU München – Medieninformatik – Alexander Wiethoff – UX1 – SS2019
Controls

source: [4]
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.
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
Reduction means that you eliminate whatever isn’t necessary. This technique has three steps: (1) decide what essentially needs to be conveyed by the design; (2) critically examine every element (feature, label, UI widget, etc.) to decide whether it serves an essential purpose; (3) remove it if it isn’t essential.
References (Books):