Principles of Visual Design

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Talk about rules in design

- No fixed rules
- Just guidelines, principles
- Where do they come from?
Scientific basis for design guidelines

- Perception
- Evolution of perception system
- What is perception good for?
Ecological approach to visual perception

- Gibson, 1979
- Visual system has survival value
- Is a skill for navigation, food seeking and use of tools
- Surfaces and textures
Textures

- Shape
- Orientation
- Location
- Size
- Mechanical behavior and properties of materials
Affordances

- Aspects of an object which suggest how the object should be used; a visual clue to its function and use
- Essentials for understanding the potential for interaction and manipulation in the environment
World as information display

- An affordance is something of both **actual** and **perceived** properties (perception and action based on human attributes)
Design as a language

- Communication of a message
- Implies understanding the audience
- Implies confidence with grammar, logic, vocabulary, expressions
- Varies depending on the medium
Playing with the „World Display“

„dall’ orto all’arte“, advertising campaign by Armando Testa 1995
Support users to find your information
Support users to find their information
Strive for efficiency of perception
Foraging theory of perception

- Information seekers as food seekers *informa vores*: organisms that hunger for information about the world and themselves (George Miller, 1983)
  - humans seek, gather, share, and consume information in order to adapt

- Information scent
  - Proximal cues perceived by the user that indicate the value, cost of access, and location of distal information content
How to use visual design effectively?
Refer to human survival strategies

- Organize
- Economize
- Communicate
Graphic Design in the „World Display“

- Organize
- Economize
- Communicate
Organize

- Provide the user with a clear and consistent conceptual structure
Economize

- Maximize the effectiveness of a minimum set of cues
Communicate

- Match the presentation to the capabilities of the user
Entities of a visual language

- Layout
- Typography
- Color and texture
- Imagery
- Animation
- Sequencing
- Sound
- Visual identity
Organization

„To Design is to plan and organize, to order, to relate, and to control“
Joseph Albers, 1975

Sub-principles
- Consistency
- Screen layout
- Relationships
- Navigability
Tortellini con Prosciutto e Formaggio with porcini mushrooms

The world of Barilla
Barilla News
RecipeFinder
For the latest from Barilla your Recipe Book and much more, register at www.barilla.com

Italian cooking
Simple flavours and genuine products are the ingredients which make Tuscan cuisine one of the best loved in Italy, with its rich dishes with origins dating back to the times of Catherine de’ Medici.

Dinner in Tuscany
Olio d’oliva Toscana IGP. Produced since Etruscan times and guaranteed by IGP status since 1990. Tuscan olive oil is a healthy and light condiment, an invaluable ingredient in the Mediterranean diet.

The Country of Flavours
The beauty of the landscapes and the delights of the wine go hand in hand in this area that the English have named Chiantishire. An un hurried journey into the Tuscan pleasure of the senses.

In the hills of Chianti
Fine Italian restaurants in the Chianti region
Traditional food and evocative country landscapes and medieval walls make Chianti restaurants a must for both mind and appetite.

Pleasure & Well-being
The very latest discoveries in well-being are called wine therapy and exploits the beneficial properties of wine. Baths, massages and treatments with wine, rapeseed.

Wine therapy
Register >>
> **Penne alla Besciola**
The Porcini mushrooms are known in the Italian cuisine as one of the best types of mushrooms. The most famous are called "Porcini di Borge Val di Taro".

> **Fusilli with courtyard meat sauce, fried leek and poached quail eggs**
A flavourome recipe which combines pasta with produce that conjures up the countryside, creating a well-balanced, nourishing dish.

> **Tortiglioni with artichokes julienne**
Artichokes are appreciated, especially in the Lazio region: in fact, there are festivals and feasts that celebrate them.

> **Farfalla with salmon trout and cep mushrooms**
Salmon trout and cep mushrooms are exquisite ingredients that create a divine, sophisticated dish.

> **Spaghetti with broad beans and pecorino cheese**
A tasty dish that’s easy to prepare, in which broad beans and pecorino cheese are blended with other classic flavours of Italian cuisine such as garlic and chili pepper.
Consistency

- Establish and observe conventions and rules for all the elements of the GUI
- Consider already existing conventions
- Consider consistency with the real world
- Break rules to direct attention (surprise, alert, novelty)
Screen layout

- Structure the display by clarifying the relation of windows, menus, dialogue boxes, control panels.
- Isolate control, data, status or feedback regions with the display.
- Ensure that frequent but transient objects appear in a predictable location.
Grids: purpose

- Unify design by imposing a structure
- Provide a basis for controlled variation in layout components
- Simplify development by reducing uncertainty about object location, extent, and orientation
Grid development

- Identify objects to be arranged
- Identify display constraints
- Determine measuring units (e.g., text size)
- Explore relation of objects
- Define semantic areas
- Draw guidelines
- Develop single basic layout scheme
- Align major object groups with major grid subdivisions
Grids

- Incorporate complex rhythms and indicate spaces between objects
- Define how objects are related
- Ensure that comparable objects are placed consistently across displays
Navigability

- Provide initial focus for viewer’s attention
- Direct attention to important or changing peripheral item
- Animation attracts attention
- Highlight keywords
- Use bullet lists
Relationships

- Define a hierarchy of information
- Design a visual hierarchy
  - Order
  - Proximity
  - Scale
  - Color code
Economize

- *People are information rate maximizers of benefits/costs*
  
  Pirolli, Card, Van der Wege 2001

- **Foraging theory of information**

  \[
  R = \frac{G}{T_B + T_W} = \frac{\text{Gain}}{T_{\text{Between-patch}} + T_{\text{Within-patch}}}
  \]

- **Sub-principles**
  - Simplicity
  - Distinctiveness
  - Clarity
University of Coffee

University of Coffee, in line with illycaffè’s mission "to be dedicated to continuously developing the perfect cup of coffee – one that can be savoured and enjoyed by both your senses and your spirit", is a training centre of excellence with the aim of spreading the culture of coffee and Italian espresso around the globe.

The University of Coffee is an illycaffè project, in collaboration with MIB School of Management in Trieste.

www.uncoffee.it
Simplicity

- Fewer controls/choices to be taken make the interface easier
- Minimize number of controls (Miller’s law ±7)
- Include only elements that are essential for communication
Distinctiveness

- Make most important elements easily perceivable
- Saliency
Clarity

- Avoid ambiguity
Communicate

- Communication is a social process within a specified context in which signs are produced, transmitted, perceived and treated as messages from which meaning can be inferred.

- Sub-principles
  - Legibility
  - Readability
  - Typography
  - Symbolism
  - Multiple views
  - Color/texture

Mexico City subway pictograms
Legibility

- Design characters, symbols, and graphic elements to be easily noticeable and distinguishable.
- Select visualization techniques that are appropriate for the output display technology.
- Use color with high contrast between the text and the background.
Readability

- Design a comprehensible display, i.e. easy to identify and interpret
- Use concise writing
- Use summaries

It is important to design a readable display. This improves the navigability of the page and increases perception efficiency.
Typography

- At most 3 fonts in a page
- choose suitable legibility, clarity and distinctiveness to differentiate classes of information

Consider the media

- in print: usually sans serif for titles and serif for body text
- on a monitor: sans serif is easier to read

Arial
Helvetica
Times New Roman
Courier

Arial
Helvetica
Times New Roman
Courier
Typography

- Select appropriate alphanumerics, punctuation, and symbols for each typeface

- Adjust character, word and line spacing and paragraphing, to enhance readability of critical information
Typography

- Use 1-3 sizes
- Set text flush left
- Set numbers flush right
- Avoid centered text
- Avoid short justified text
- User upper and lowercase characters
- Avoid all capitalized lines of text
Symbolism

- Use appropriate bullets, rules, charts, maps, diagrams, pictograms, and ideograms to communicate clearly the intended meaning.