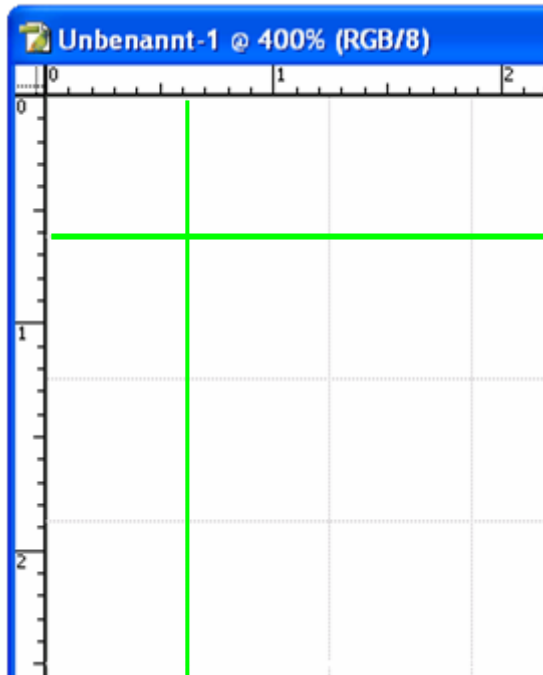



Principles of Visual Design

Lucia Terrenghi

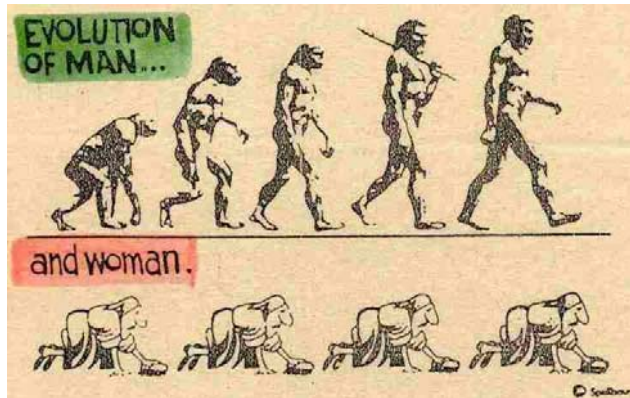


Talk about rules in design



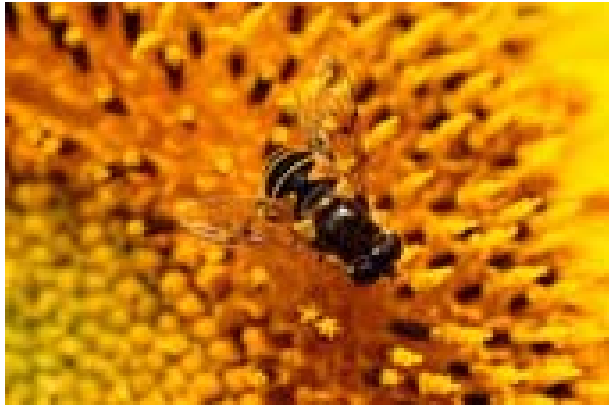
- No fixed rules
- Just guidelines, principles
- Where do they come from?

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“

Cavallucci o peperoncini?



Polpo o cipolla?



Riccio o castagna?



„dall' orto all' arte“, advertising campaign by Armando Testa 1995

Visual Communication



- 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 *informavores*: 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“



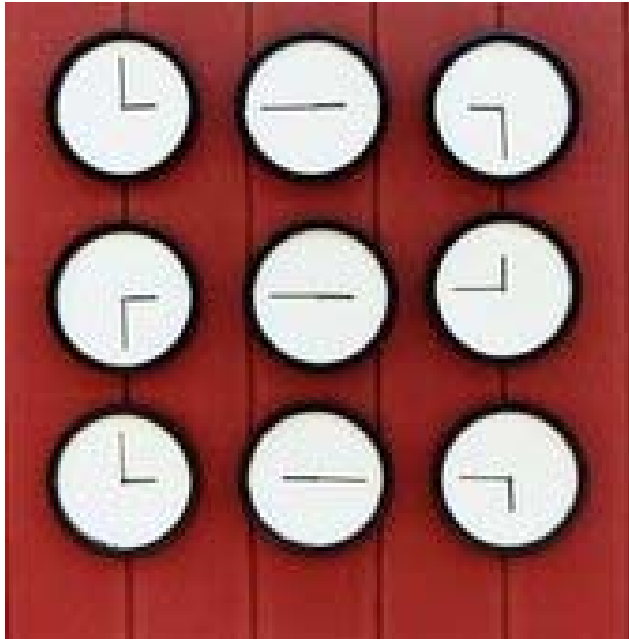
- Organize
- Economize
- Communicate

Organize



- Provide the user with a clear and consistent conceptual structure

Economize



- Maximize the effectiveness of a minimum set of cues

Communicate



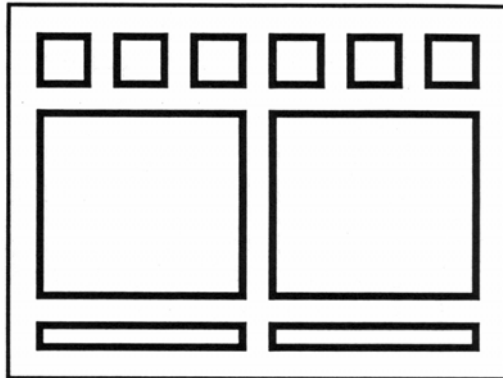
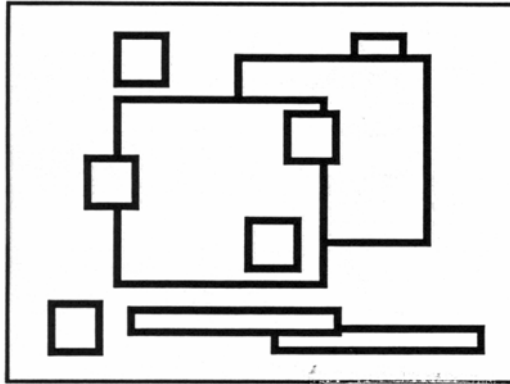
- Match the presentation to the capabilities of the user



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



28 October

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> Penne alla Boscaiola

The Porcini mushrooms are known in the Italian cuisine as one of the best kind of mushrooms. The most famous are called "Porcini di Borgo Val di Taro"



> Fusilli with courtyard meat sauce, fried leek and poached quail eggs

A flavoursome 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



> Farfalle with salmon trout and cep mushrooms

Salmon trout and cep mushrooms are exquisite ingredients that create a choice, 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 chilli pepper.

Consistency

Title 1

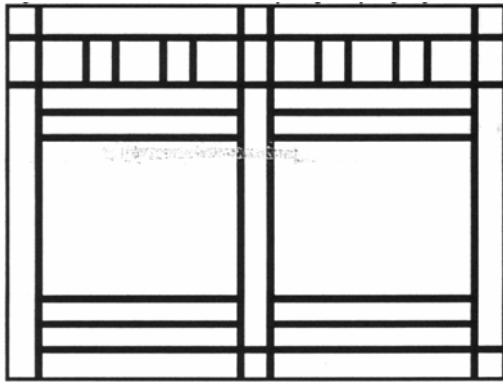
Text entry Text
 Text entry Text
 Text entry Text

Title 2

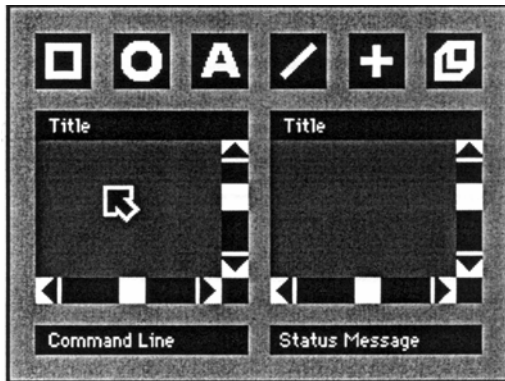
Item 1	Item 4
Item 2	Item 5
Item 3	Item 6

- 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)

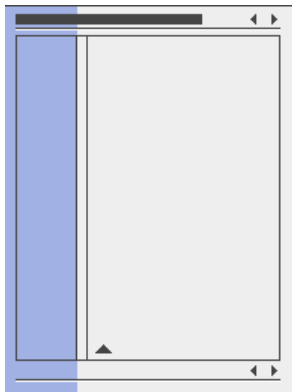
Screen layout



- 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

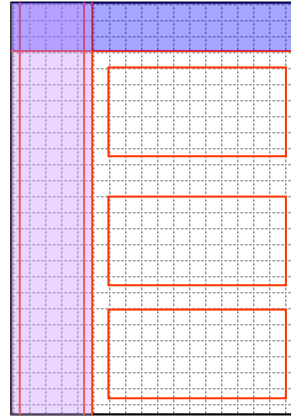


Grids: purpose

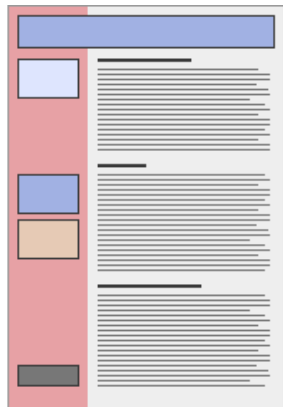


- Unify design by imposing a structure
- Provide a basis for controlled variation in layout components
- Simplify development by reducing uncertainty about object location, extent, and orientation

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

TITLE 1

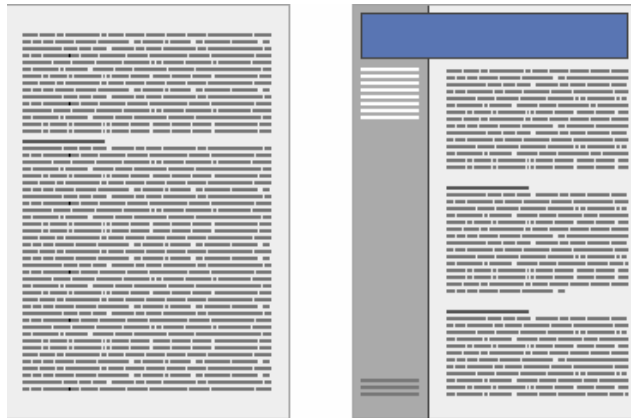
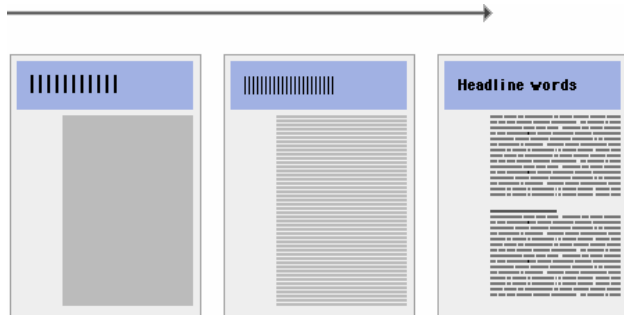
Item 1 Item 3
 Item 2 Item 4
 Item 5
 Item 6

Title 1

Item 1	Item 4
Item 2	Item 5
Item 3	Item 6

- 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 periphery item
- Animation attracts attention
- Highlight keywords
- Use bullet lists

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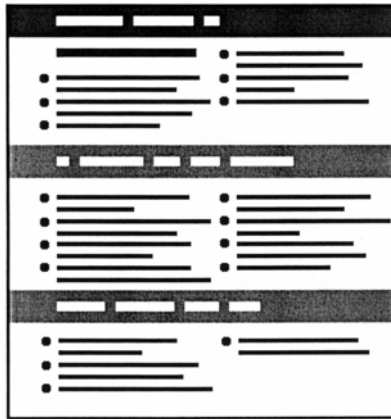
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Relationships



- 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



la cultura del caffè

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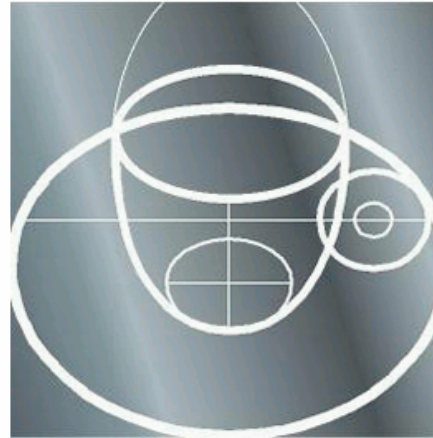
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University of Coffee, in line with illycaffè's mission "to be dedicated to continually developing the perfect cup of coffee – one that can be savoured and enjoyed by both your senses and your spirit", is a training centre of excellence with the aim 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.

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since the
beginning of time...



Serving
the most revolutionary
form of coffee



Haim Steinbach
the latest illy collection
with a touch of infinity

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

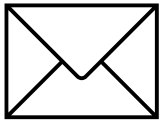


- Make most important elements easily perceivable
- Saliency

Clarity



- Avoid ambiguity



Communicate



Mexico City subway pictograms

- *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

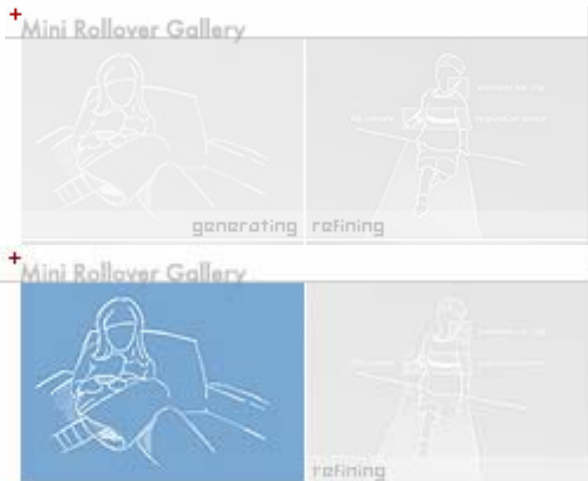
Legibility

www.font.it

www.font.it

www.font.it

www.font.it



- 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

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

It is important to design a readable display.

This improves the navigability of the page and increases perception efficiency.

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

Typography

Arial

Helvetica

Times New Roman

Courier

Arial

Helvetica

Times New Roman

Courier

Arial

Helvetica

Times New Roman

Courier

- 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

Typography

i. **Topic 1**

i. *Subtopic 1.1*

ii. **Topic 2**

i. *Subtopic 2.1.*

iii. **Topic 3**

i. *Subtopic 3.1.*

□ **Topic 1**

▪ *Subtopic 1.1*

□ **Topic 2**

▪ *Subtopic 2.1.*

□ **Topic 3**

▪ *Subtopic 3.1.*

- Select appropriate alphanumerics, punctuation, and symbols for each typeface
- Adjust character, word and line spacing and paragraphing, to enhance readability of critical information

Typography

Set
text
flush
left

Set
numbers
flush
right

Avoid
centered
text

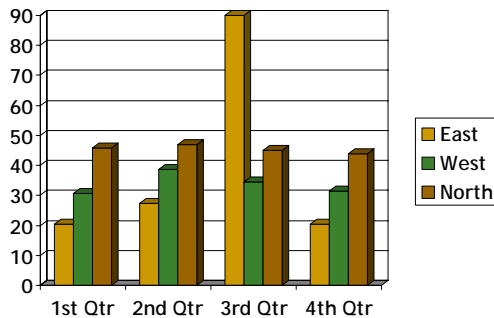
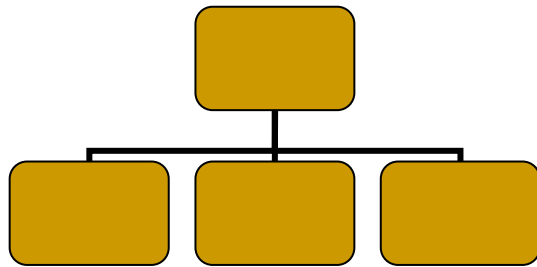
Avoid short
justified text

Avoid dangling words after line
breaks

AVOID CAPITALIZED LINES
OF TEXT

- Use 1-3 sizes
- Set text flush left
- Set numbers flush right
- Avoid centered text
- Avoid short justified text
- Use 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

