Visual design principles

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Outline

• Attention and scrolling
• Gestalt laws and interface design
• Introduction to information design
How to draw attention to a specific area?
Attention and scrolling

• The first Web systems (1994-1996)
  – Users did not scroll
  – Later users acclimated to scrolling

• Page fold
  – Viewable information without scrolling
  – The important information should be visible

http://www.useit.com/alertbox/scrolling-attention.html
Attention focuse at the top

- Eye tracking studies: number of gaze fixations
  - 80% above the fold
  - Max 300-400 pixel
  - Last element

http://www.useit.com/alertbox/scrolling-attention.html
Scrolling behaviors

- **Usually**
  - Intense viewing on the top
  - Moderate in the middle
  - Superficial on the bottom

- **Sometimes**
  - Many fixation below the screen (first left picture)

http://www.useit.com/alertbox/scrolling-attention.html
Scrolling or paging?
Horizontal scrolling

- Maksimal attention
  - 300-500 pixels
- Two column layout
  - Left part: 69%
  - Right: 30%
  - Behing: 1%
Drawing attention

Center vision
• Messages, colors

Side vision
• Changing big areas
Distractions

• Visual clutter

9 spalvos

5 spalvos
Visual clutter

http://www.disneylandparis.com/
Gestalt principles

PSYCHOLOGICAL PRINCIPLES AND INTERFACE DESIGN
Intuitive perception guidelines: Gestalt laws

- Proximity
- Continuity
- Part-whole
- Similarity
- Closure
- Simplicity
- Simmetry
- Parallel
Gestalt laws

• Proximity
Proximity to organize buttons

Equal distances in Windows Vista

Buttons in OS X and SpiderOak cloud
Similar type file as blocks

Unordered files – difficult to understand
Continuity

- Scrollbar refers to the invisible part
  - indicates that about 80% is visible
Closure

• we perceive as a connection
  – bit it is not continuous
Principles for memory and attention

• Short-term memory
  – George Miller lae (1956):
    • short-time memory is limited to 7 ± 2 small chunks=
  – Cowan (2002): 4 ± 1

• Chunked dialogs
Principles for memory and attention

• Time limitations
  – memories in short-term memory persist for only 30 sec.,
  – Important information should be more persistent
Principles for memory and attention

- **Recognition**
  - menu shows available options
  - images help selection
Principles for memory and attention

- **Recall**
  - autocomplete help to recall the names
    - airports
Principles for memory and attention

- colours
  - maximum 5 + 2
  - use central and peripheral colours
  - do not use simultaneous high-chroma, spectral colours
  - Use familiar consistent codings with appropriate references
Information design

• Goal – present large amount of data in easily understandable form

   – the proper representation helps to solve the problem
Harry Beck’s London underground rail network
Information design

• gestalt laws
Wurman, Understanding USA (2000)

http://designarchives.aiga.org/#/entries/%2Bid%3A83/_/detail/relevance.asc/0/7/83/understanding-usa-website/1
Interaktive visualizations

- **Ben Shneiderman**
  - overview first
  - zoom and filter
  - then details on demand
Film finder, Ahlberg, Shneiderman (1994)
Film finder, Ahlberg, Shneiderman (1994)
ConeTree

- 3D file system tree
smartMoney.com

- stock market
- colours – changes in values
- blocks – companies
- mousing over the block
  - shows name,
- clicking
  - details
Vizualus tezaurus

http://www.visualthesaurus.com/
Reading

- David Benyon. Designing Interaction Systems: A comprehensive guide to HCI and interaction design.