

Lecture 2: Visual representation

Overview of the course

- Theory driven approaches to HCI
- **Design of visual displays**
- Goal-oriented interaction
- Designing smart systems (guest lecturer)
- Designing efficient systems
- Designing meaningful systems (guest lecturer)
- Evaluating interactive system designs
- Designing complex systems

Why talk about visual design?

Visual design questions are often where discussions about HCI start

“What colour should this be?”

“Should it be 5 pixels or 7?”

“Will this work for colour blind people?”

These conversations are a lot more complicated than they seem...

The range of visual representations

(See: “Visual representation” in “The Encyclopedia of Human Computer Interaction, 2nd Ed for a detailed narrative)

TYPOGRAPHY AND TEXT

The Grid System - Mozilla Firefox
 File Edit View History Bookmarks Tools Help
 http://www.thegridsystem.org/ typographic grid

egyptian statue, egyptian god, egyp... x The Grid System

The Grid System

The ultimate resource in grid systems.

"The grid system is an aid, not a guarantee. It permits a number of possible uses and each designer can look for a solution appropriate to his personal style. But one must learn how to use the grid; it is an art that requires practice."
 Josef Müller-Brockmann

Show Grid
 Join The Forum

Search

Articles

30 Grid-Based WordPress Themes

In this article we have 30 WordPress themes have been developed using a popular CSS Grid Frameworks such as the 960.gs, Blueprint, YUI2 and The Golden Grid.
 23.Aug.2010

Design & Build a Grid Based Web Design with CSS

Step by step walkthrough of the design and build process of a grid based WordPress theme. From the initial Photoshop concept, through development.
 23.Aug.2010

Long Live the 12-Column Grid

When I first crossed the great divide from print to web, one of the earliest things I tried to do was introduce a flexible multi-column grid (you know, like a magazine).
 07.May.2010

[View All Articles](#)

Tools

960 Grid System Photoshop Action

These actions will create a Photoshop document ideal for laying websites out in 12, 10, 8, 6 and 4 columns.
 23.Aug.2010

iPhone Grid System

A 12:8 (480:320) modular grid system for the iPhone, with the unit of 40px and the gutter of 5px.
 23.Aug.2010

Fluid Grid

A web grid system that allows designers to use the screen real estate on large monitors and retain great design on smaller ones.
 07.May.2010

[View All Tools](#)

Books

Universal Principles of Design

Universal Principles of Design is the first comprehensive, cross-disciplinary encyclopedia of design.
 04.Nov.2009

Designing for the Web

A Practical Guide to Designing for the Web has written explanations of the core principles of graphic design in relation to the web.
 08.Oct.2009

The Way of Typography

The book also goes into depth on how to create grid systems by hand with only pencil, straightedge and compass.
 18.Sep.2009

[View All Books](#)

Templates

The Golden Grid Template

A PSD template based on the CSS framework The Golden Grid by Vladimir Carrer.
 02.Mar.2010

Photoshop 4 Column Grid

A free 4 Column Photoshop grid template for a 1024x768 screen resolution by Ray Gulick.
 08.Jun.2009

InDesign 568x792 Grid System (12)

By Dario Galvagno. Adobe InDesign file with a grid system for a 568pts x 792pts page that is divided into 12 columns and rows using the Golden Ratio. Includes a 12pt baseline grid.
 16.Apr.2009

[View All Templates](#)

Blog

Forum is back up!

Sorry for the downtime on the forums. They're back up now.
 07.May.2010

Sushi & Robots

Beautifully personal portfolio by Jina Bolton that reveals the site grid and baseline grid.
 07.May.2010

Bisgrafic

Lovely grid site design by Barcelona based Bisgrafic.
 07.May.2010

[View All Blog Posts](#)

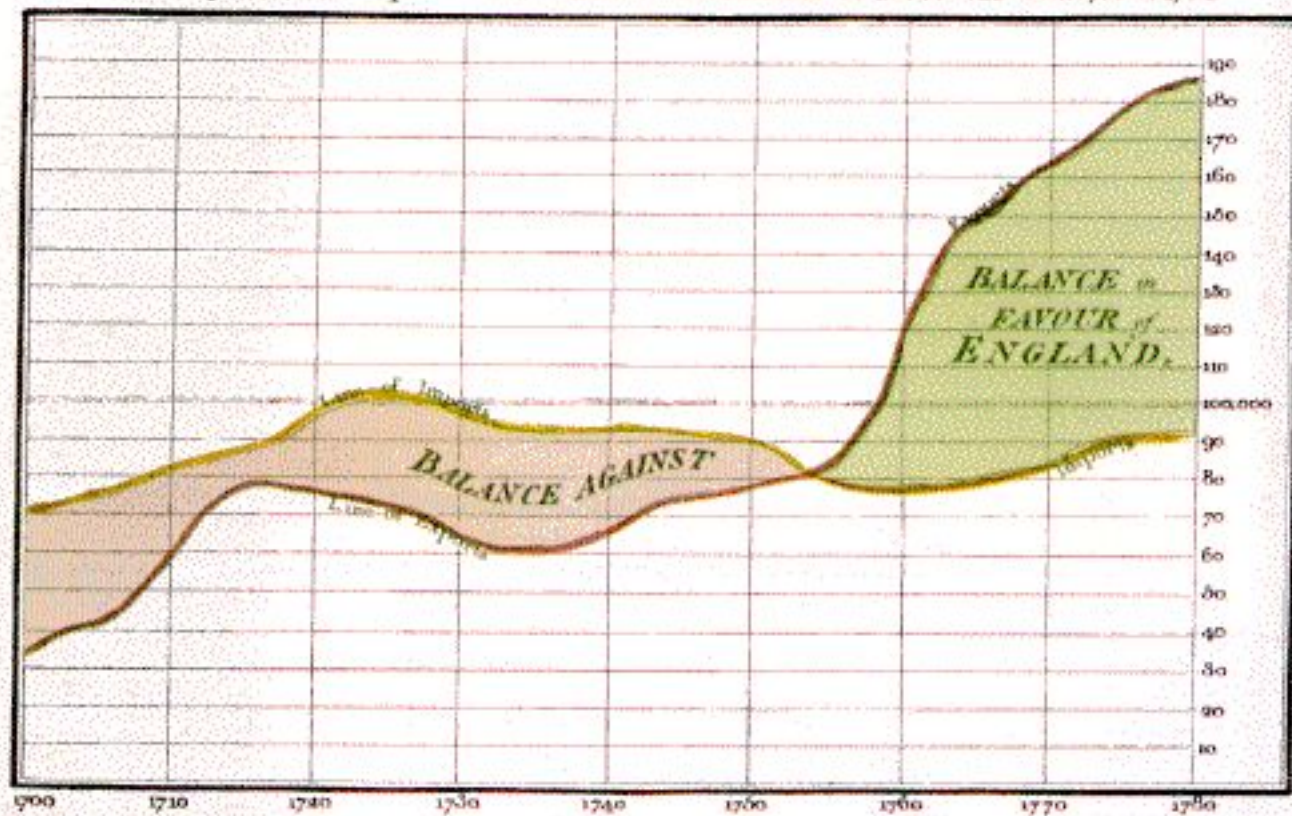
Inspiration

- Ace Jet 170
- AisleOne
- Athletics
- BBDK
- Blanka
- Build
- Corporate Risk Watch
- Counter Print
- David Airey
- Design Assembly
- Dirty Mouse
- Experimental Jetset
- Form Fifty Five
- Grafik Magazine
- Grain Edit
- Graphic Hug
- I Love Typography
- Lamosca
- Mark Boulton
- Minimal Sites
- Monocle
- Neubau
- NewWork
- OK-RM
- Original Linkage
- Robin Uleman
- SampsonMay
- Schmid Today
- September Industry
- Soulellis
- Subtraction
- Swiss Legacy
- The International Office
- Thinking for a Living
- This Studio
- Toko
- Typographic Posters
- Visuelle
- Xavier Encinas
- Year of the Sheep

Done zotero

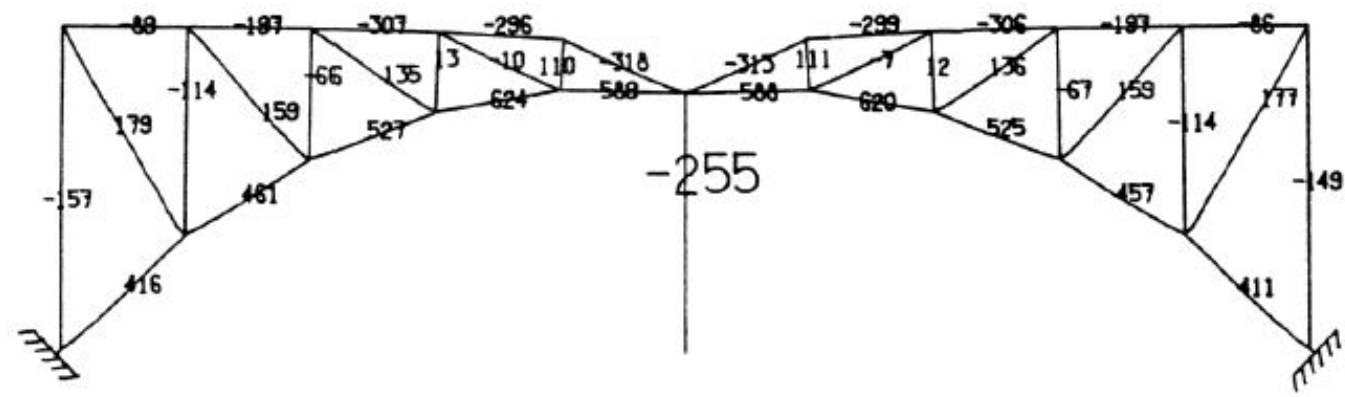
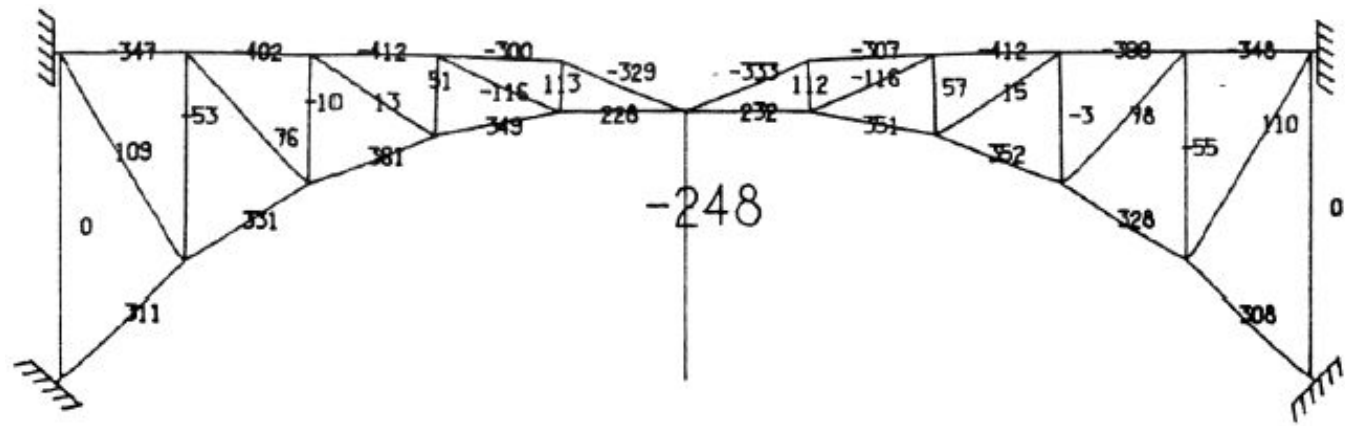
MAPS AND GRAPHS

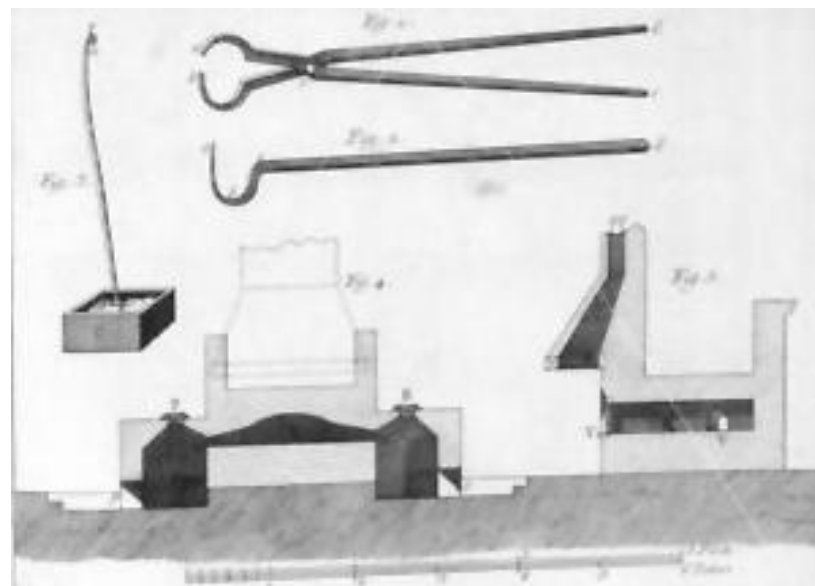
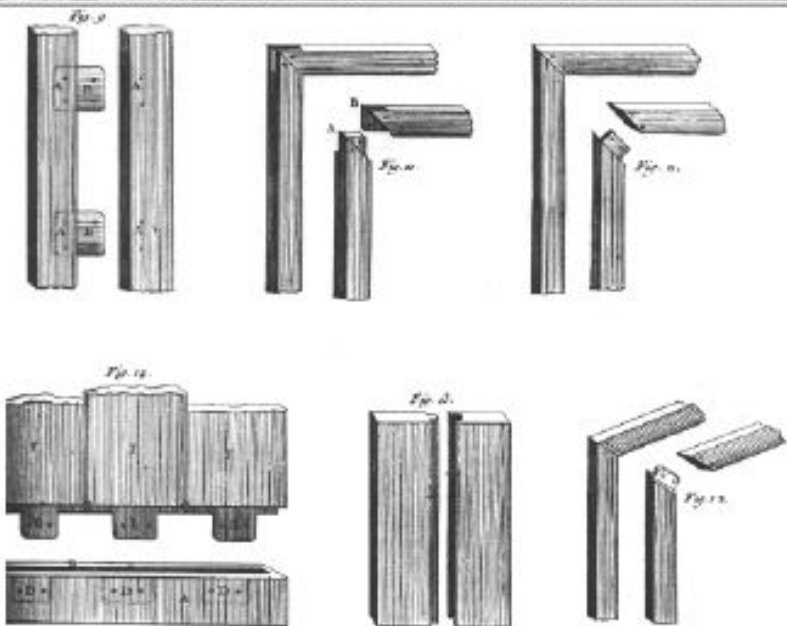
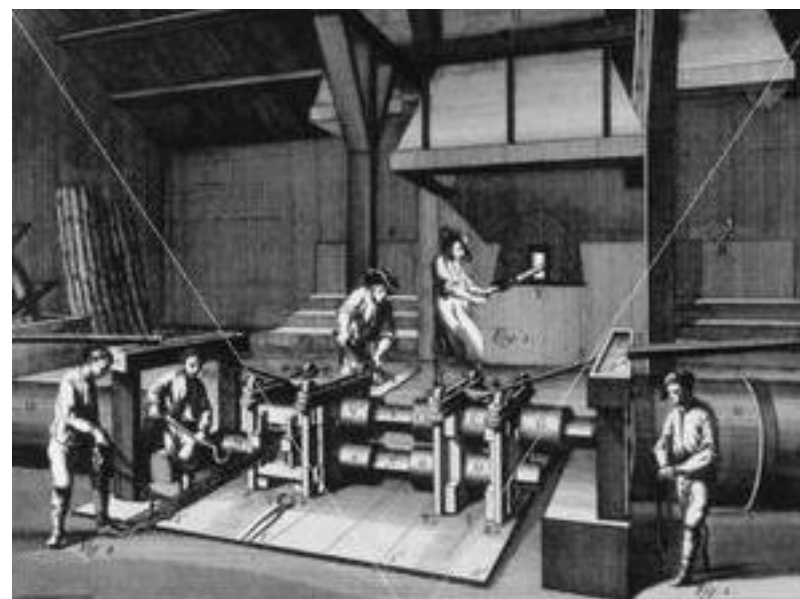
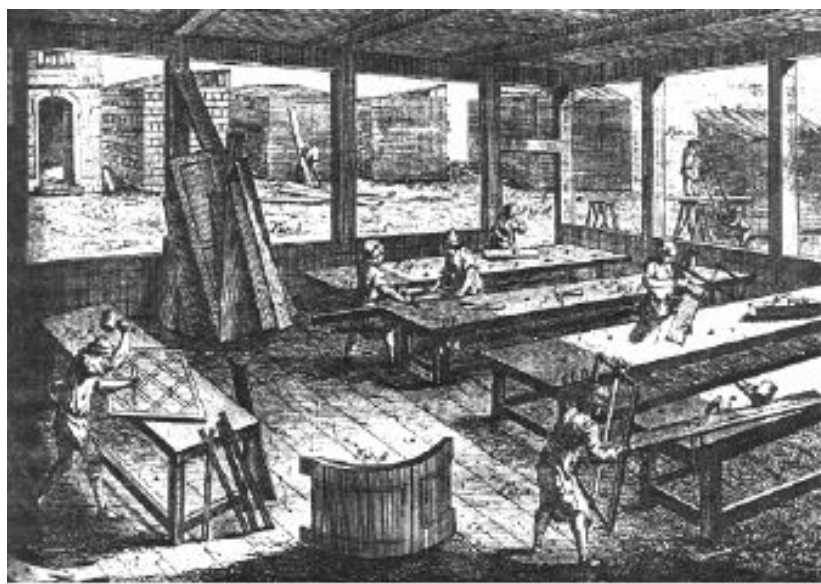
Exports and Imports to and from DENMARK & NORWAY from 1700 to 1780



The Bottom line is divided into Years, the Right hand line into £10,000 each.
 Published as the Act above, 17th Decr 1786, by Wth Playfair
 Printers and Stationers, No. 132, Strand, London.

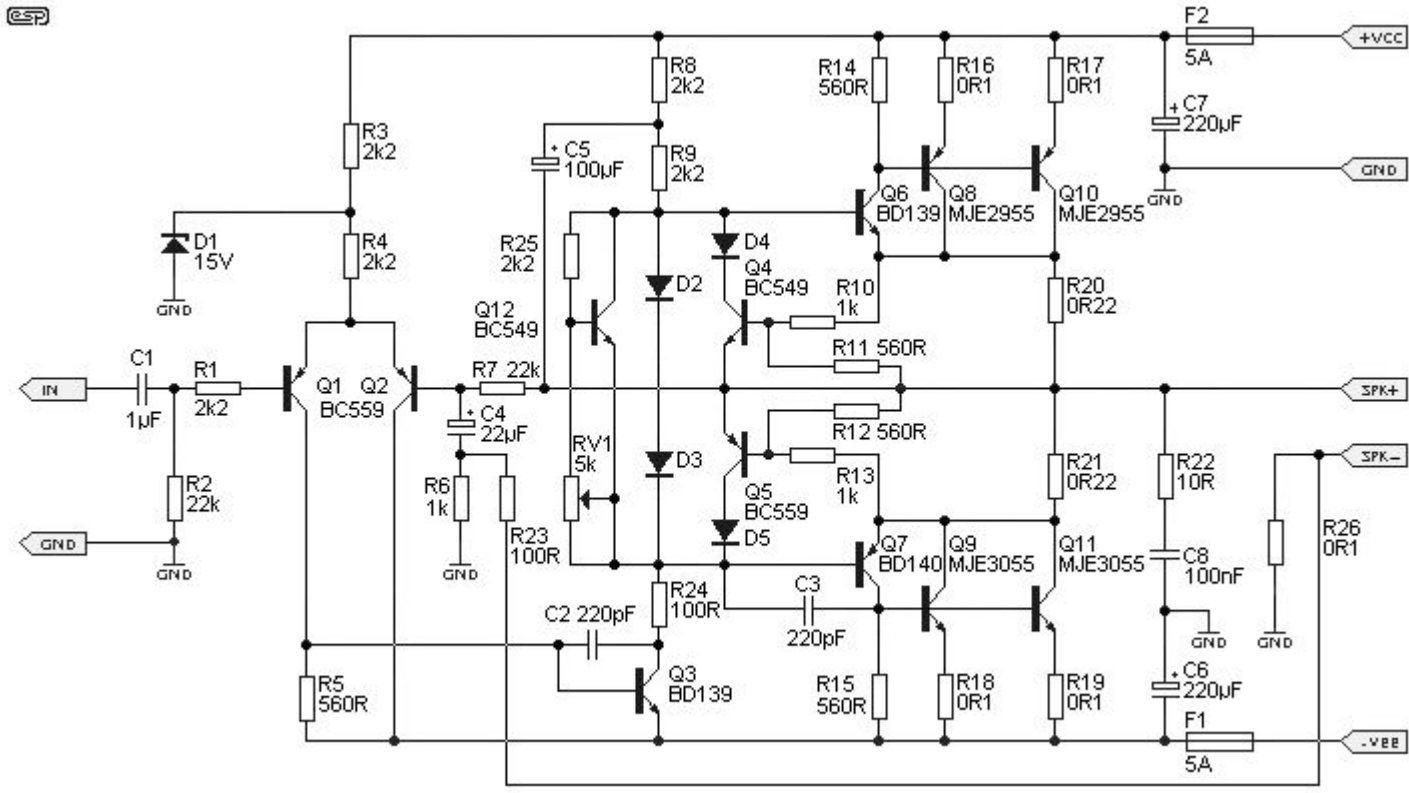
SCHEMATIC DRAWINGS

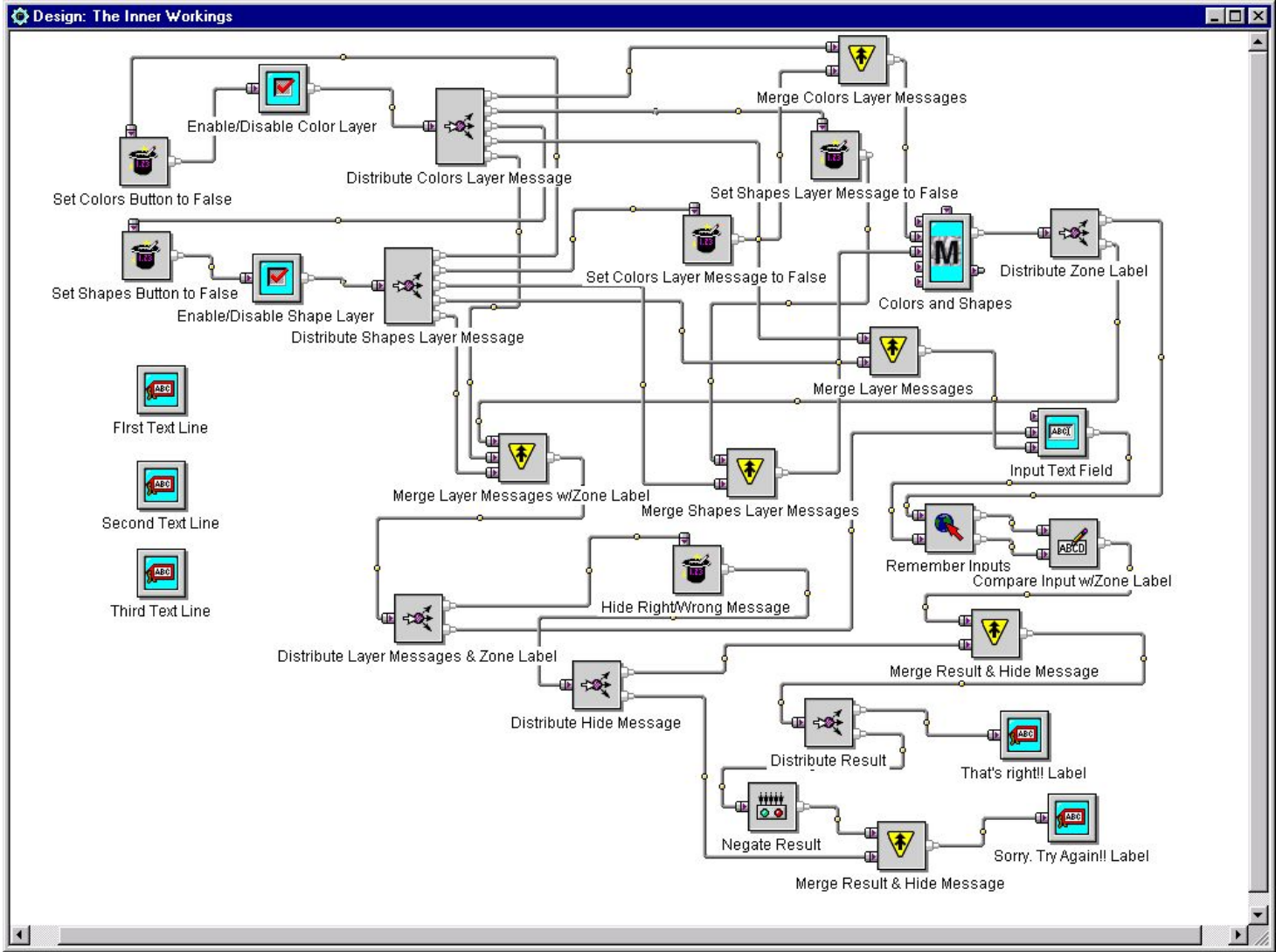




NODE-AND-LINK DIAGRAMS

ESP





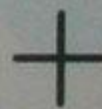
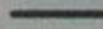
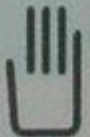
ICONS AND SYMBOLS



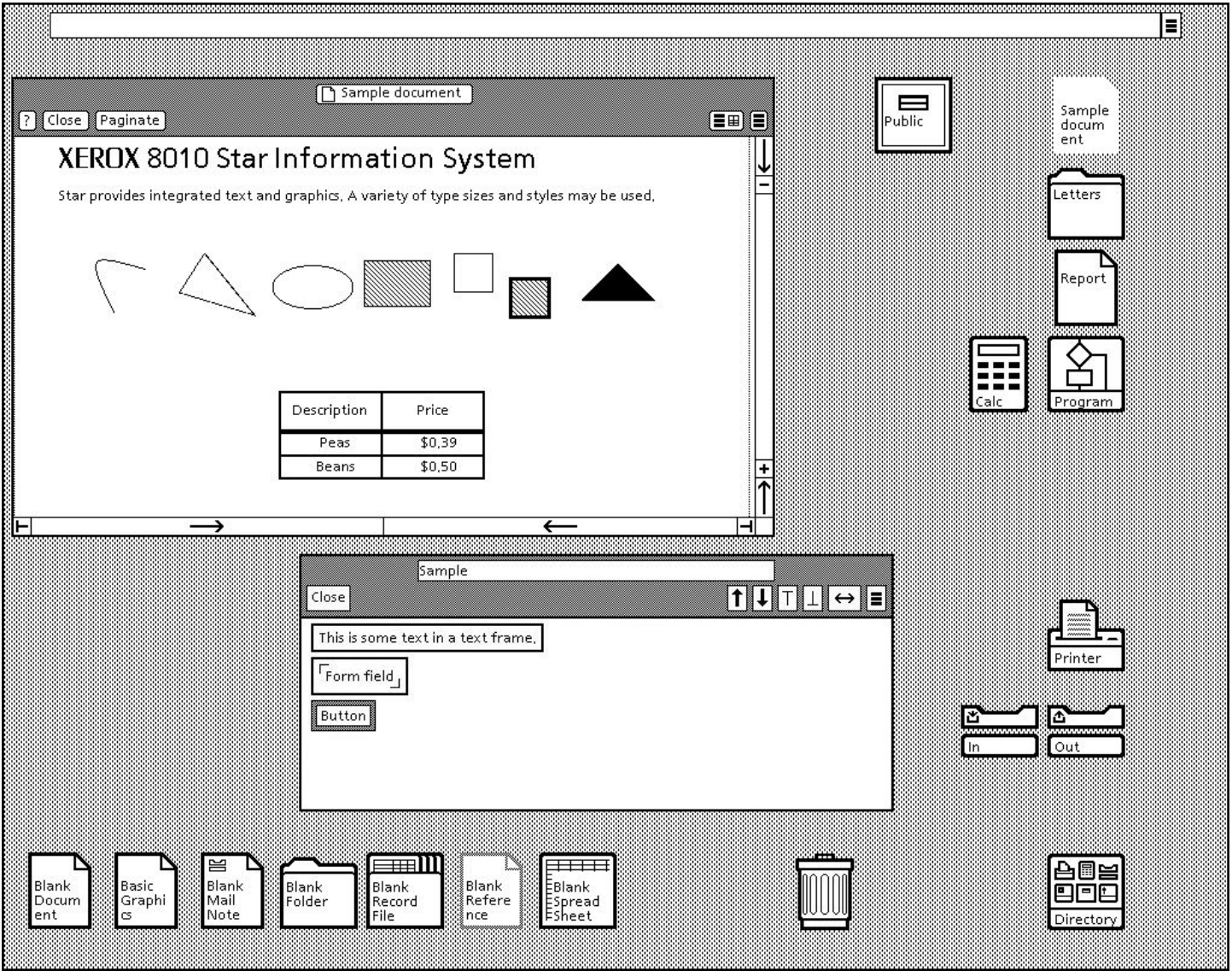
TIMER




STOP

VISUAL METAPHOR





PICTURES

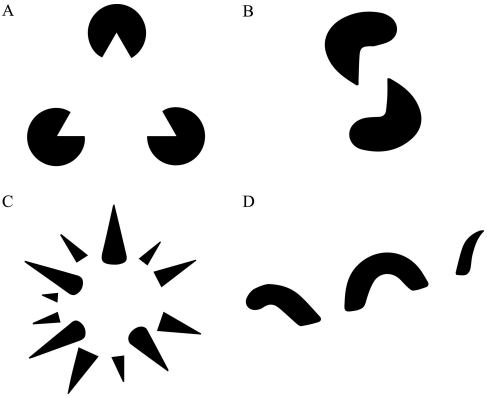




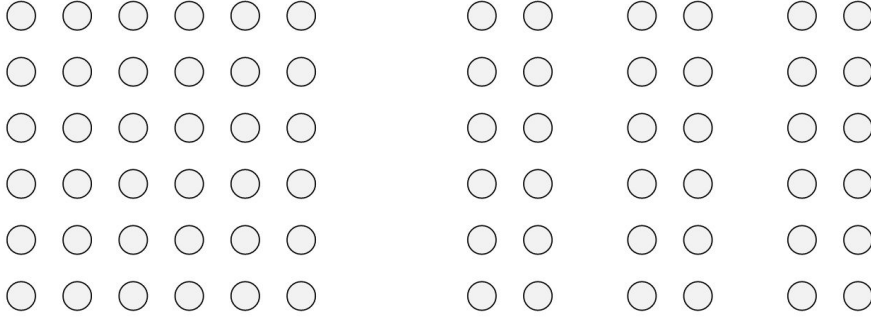


Theories of visual design

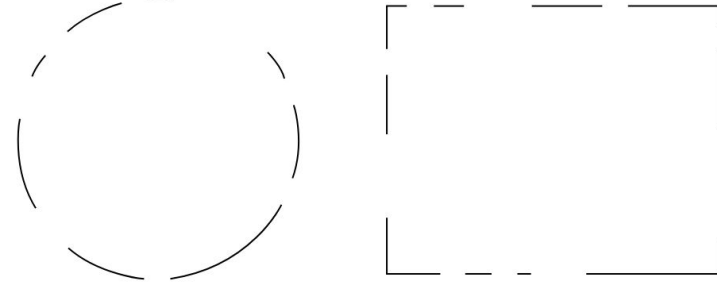
Theories of visual design



Continuity



Similarity



Closure

Whilst useful this is clearly insufficient given the range and complexity of visual interaction

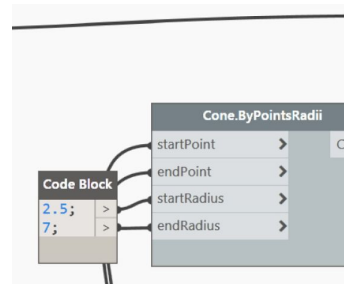
	Graphic Resources	Correspondence	Design Uses
Marks	<ul style="list-style-type: none"> Shape Orientation Size Texture Saturation Colour Line 	<ul style="list-style-type: none"> Literal (visual imitation of physical features) Mapping (quantity, relative scale) Conventional (arbitrary) 	<ul style="list-style-type: none"> Mark position, identify category (shape, texture colour) Indicate direction (orientation, line) Express magnitude (saturation, size, length) Simple symbols and colour codes
Symbols	<ul style="list-style-type: none"> Geometric elements Letter forms Logos and icons Picture elements Connective elements 	<ul style="list-style-type: none"> Topological (linking) Depictive (pictorial conventions) Figurative (metonym, visual puns) Connotative (professional and cultural association) Acquired (specialist literacies) 	<ul style="list-style-type: none"> Texts and symbolic calculi Diagram elements Branding Visual rhetoric Definition of regions
Regions	<ul style="list-style-type: none"> Alignment grids Borders and frames Area fills White space Gestalt integration 	<ul style="list-style-type: none"> Containment Separation Framing (composition, photography) Layering 	<ul style="list-style-type: none"> Identifying shared membership Segregating or nesting multiple surface conventions in panels Accommodating labels, captions or legends
Surfaces	<ul style="list-style-type: none"> The plane Material object on which the marks are imposed (paper, stone) Mounting, orientation and display context Display medium 	<ul style="list-style-type: none"> Literal (map) Euclidean (scale and angle) Metrical (quantitative axes) Juxtaposed or ordered (regions, catalogues) Image-schematic Embodied/situated 	<ul style="list-style-type: none"> Typographic layouts Graphs and charts Relational diagrams Visual interfaces Secondary notations Signs and displays

Use 1: Usability analysis

- Analyse a design using this taxonomy
(e.g. Uses connotative correspondence)
- Determine if the uses are appropriate
(e.g. do people think that blue is 'off' or 'cold'?)

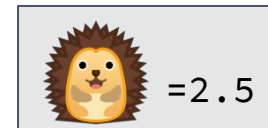
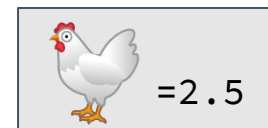
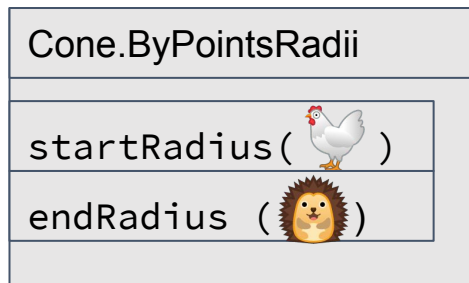
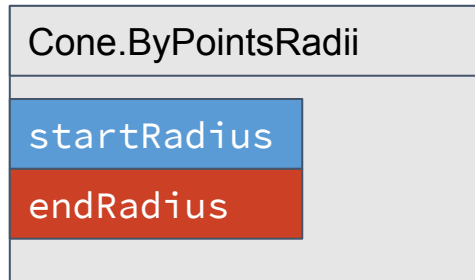
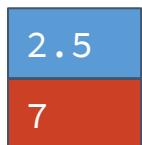
Cases where the visual analysis implies one connection but the operation implies another will create substantial usability problems

Use 2: Generating divergent designs



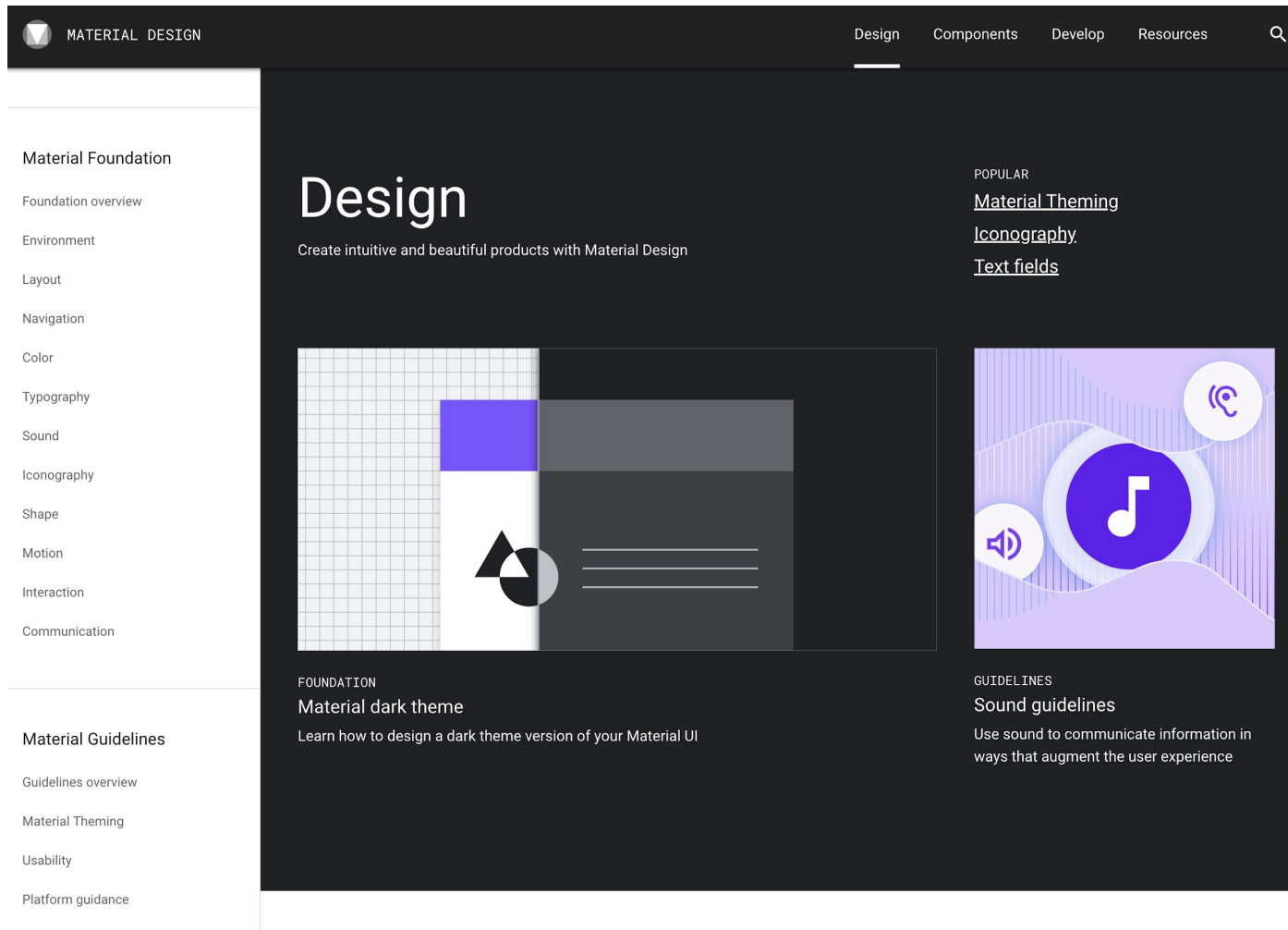
- Topological linking

=>



- Arbitrary conventional

Use 3: Design systems



Color usage

Color helps express hierarchy, establish brand presence, give meaning, and indicate element states.

- CONTENTS
- Hierarchy
 - Brand
 - Meaning
 - State

(<https://material.io>)

Research problem

“How might one design tool be used by a software engineer and a designer?”