WHAT IS GOOD DESIGN?
DESIGN PRINCIPLES

Simplicity
Effectiveness
Usefulness
Transition
Contrast
Harmony
Minimalism
Interestingness
Eye pleasing
...

Line
Shape
Direction
Texture
Type
Size
DESIGN PRINCIPLES

Balance
Rhythm
Proportion
Emphasis
Continuance

Unity
Closure
Similarity
Proximity
Alignment

Derived from McClurg-Genevese’s the principles of design (http://www.digital-web.com/articles/principles_of_design/)
DESIGN PRINCIPLES

MILLER’S MAGIC NUMBER

7 ± 2 chunks

SIMILARITY & PROXIMITY
DESIGN PRINCIPLES

6472928371
(647) 292-8371

Community speaker at Wat Yang Kloi Kluea
Phichit, Thailand

SIMILARITY & PROXIMITY
What Makes Good Information Design?

- **Interestingness**
  - relevant
  - meaningful
  - new

- **Integrity**
  - proof of concept
  - consistency
  - honesty
  - accuracy

- **Function**
  - rubbish
  - usability
  - fit

- **Form**
  - beauty
  - structure
  - appearance

- **Design**
  - eye-candy
  - boring
  - sketch
DESIGN PRINCIPLES

Credit: Madelaine Gogol
http://research.stowers-institute.org/mcm/venny4.png
<table>
<thead>
<tr>
<th>Design Principles</th>
<th>Design Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poster Design</td>
<td>Presentation Design</td>
</tr>
</tbody>
</table>
DESIGN TIPS

Take notes
Design
≠
Decoration
DESIGN TIPS

Do not reinvent the wheel
DESIGN TIPS

Pay attention to details
DESIGN TECHNIQUES

TOOLS

LAYOUT

COLOR

TEXT

TABLE & CHART

IMAGE

TRANSPARENCY
<table>
<thead>
<tr>
<th>Presentation Design</th>
<th>Publication Design</th>
<th>Image Processing</th>
<th>Vector</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS PowerPoint</td>
<td>Adobe InDesign</td>
<td>Adobe Photoshop</td>
<td>Adobe Illustrator</td>
</tr>
<tr>
<td>LaTeX</td>
<td></td>
<td>photoshope.com</td>
<td>Inkscape</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GIMP</td>
<td></td>
</tr>
</tbody>
</table>
BREAKING POWERPOINT COGNITION TRAP
DESIGN TECHNIQUES

Ready-made templates
Low resolutions
Presenter-oriented

(not content-oriented, not audience-oriented)

(Tufte, 2006, p.157)

POWERPOINT LIMITATIONS
DESIGN TECHNIQUES

Separation
Reading orientation
Organization

LAYOUT
DESIGN TECHNIQUES

How many sections?
How big will they be?

Proportion
DESIGN TECHNIQUES

Paper folding
Drawing
(by hands or computer)
DESIGN TECHNIQUES

To label
(color as noun)

To measure
(color as quantity)

To represent or imitate reality
(color as representation)

To enliven or decorate
(color as beauty)

(Tufte, 1990)
DESIGN TECHNIQUES

Color Palette

Pantone™

Palette Generator
http://www.degraveve.com/color-palette/
DESIGN TECHNIQUES

(Macandless, 2009)
DESIGN TECHNIQUES

RGB
#FFFFFF

CMYK

Images from http://dba.med.sc.edu/price/irf/Adobe_tg/models/rgbcmy.html
DESIGN TECHNIQUES

Hue

Saturation

Lightness

Images from http://dba.med.sc.edu/price/irf/Adobe_tg/models/hsb.html
DESIGN TECHNIQUES

The power of gray

COLOR
Background
First or Last?
DESIGN TECHNIQUES

Data Reduction

Emphasis
Closure
Transition
Unity

Keyword
Highlight
Bullet
Word cloud

DESIGN TECHNIQUES

Typeface
Font size
Font color
UPPERCASE/lowercase
Bold, *italic*, underline

Unity
Consistency
Difference (two step)
Portability

TYPOGRAPHY

TEXT
DESIGN TECHNIQUES

North Carolina

North Carolina

North Carolina

TYPOGRAPHY / TYPEFACE

TEXT
DESIGN TECHNIQUES

What kind of chart should I use?
### DESIGN TECHNIQUES

<table>
<thead>
<tr>
<th></th>
<th>Text</th>
<th>Grid</th>
<th>Participant</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td>A</td>
<td>12</td>
<td>23</td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td>B</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
<td>C</td>
<td>12</td>
<td>34</td>
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<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>Total</strong></td>
<td>39</td>
<td>87</td>
</tr>
</tbody>
</table>
DESIGN TECHNIQUES

Tufte’s index
(Macandless, 2009)
### A Periodic Table of Visualization Methods

<table>
<thead>
<tr>
<th>Technique</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Visualization</td>
<td>Visual representations of numerical data in schematic form (with or without labels)</td>
</tr>
<tr>
<td>Strategy Visualization</td>
<td>The systematic use of complementary visual representations to aid evaluation, development, formulation, communication, and implementation of strategies in organizations</td>
</tr>
<tr>
<td>Information Visualization</td>
<td>The use of maps, databases, models, and other tools to represent information and allow users to explore and extract information from a database</td>
</tr>
<tr>
<td>Metaphor Visualization</td>
<td>Visualizations that appear visually similar to the target domain and structure information in ways that may not be immediately obvious</td>
</tr>
<tr>
<td>Concept Visualization</td>
<td>Visualizations that appear visually similar to the target domain and structure information in ways that may not be immediately obvious</td>
</tr>
<tr>
<td>Compound Visualization</td>
<td>Visualizations that appear visually similar to the target domain and structure information in ways that may not be immediately obvious</td>
</tr>
</tbody>
</table>

---

**Process Visualization**

- **Overview**
- **Detail**
- **Detail AND Overview**
- **Divergent thinking**
- **Convergent thinking**

---

Note: Depending on your location and connection speed, it can take some time to load a pop-up picture.

DESIGN TECHNIQUES

Info Design Pattern

(http://interface.fh-potsdam.de/infodesignpatterns/patterns.php)
## DESIGN TECHNIQUES

<table>
<thead>
<tr>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of variable</td>
</tr>
<tr>
<td>Type of variable</td>
</tr>
<tr>
<td>Type of value</td>
</tr>
<tr>
<td>Dimension of analysis</td>
</tr>
</tbody>
</table>
DESIGN TECHNIQUES

Sparkline
(Tufte, 2006, p.47)
DESIGN TECHNIQUES

Cluster

(Tufte, 2006, p.121)

CONTEXT CHART
<table>
<thead>
<tr>
<th>Topic</th>
<th>Advisor Responses</th>
<th>Advisee Responses</th>
<th>Absolute difference between Yes %</th>
</tr>
</thead>
<tbody>
<tr>
<td>The student’s research (n=97)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research in the field (n=96)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The student’s classwork (n=95)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The major people, schools, publications in the field</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upcoming conferences (n=96)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The student’s post-graduation job opportunities (n=97)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your research (n=97)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upcoming conferences</td>
<td>Advisor’s personal life</td>
<td>3 (4%)</td>
<td>78 (96%)</td>
</tr>
<tr>
<td>Advisee’s personal life</td>
<td>4 (5%)</td>
<td>78 (95%)</td>
<td>9</td>
</tr>
<tr>
<td>Your research</td>
<td>4 (5%)</td>
<td>78 (95%)</td>
<td>18</td>
</tr>
<tr>
<td>Upcoming conferences</td>
<td>Advisor’s research</td>
<td>5 (6%)</td>
<td>75 (94%)</td>
</tr>
<tr>
<td>How to prepare presentations and publications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How to be a successful teacher</td>
<td>Your research (n=69)</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>University resources</td>
<td>Research in the field (n=69)</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>Administrative tasks</td>
<td>The major people, schools, publications, etc. in the field (n=69)</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Your personal life</td>
<td>Your post graduation job opportunities (n=69)</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>Your advisor’s research</td>
<td>Your advisor’s research (n=68)</td>
<td>12</td>
<td>17</td>
</tr>
<tr>
<td>Your classwork</td>
<td>Your classwork (n=69)</td>
<td>10</td>
<td>19</td>
</tr>
<tr>
<td>Your personal life</td>
<td>Your personal life (n=67)</td>
<td>12</td>
<td>23</td>
</tr>
<tr>
<td>Upcoming conferences</td>
<td>Upcoming conferences (n=68)</td>
<td>13</td>
<td>23</td>
</tr>
<tr>
<td>Your advisor’s personal life</td>
<td>Your advisor’s personal life (n=68)</td>
<td>16</td>
<td>27</td>
</tr>
<tr>
<td>University resources available to you</td>
<td>University resources available to you (n=69)</td>
<td>20</td>
<td>27</td>
</tr>
<tr>
<td>Administrative tasks</td>
<td>Administrative tasks (n=69)</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>How to prepare presentations and publications</td>
<td>How to prepare presentations and publications (n=69)</td>
<td>23</td>
<td>17</td>
</tr>
<tr>
<td>How to be a successful teacher</td>
<td>How to be a successful teacher (n=69)</td>
<td>25</td>
<td>16</td>
</tr>
<tr>
<td>How to write a grant proposal</td>
<td>How to write a grant proposal (n=69)</td>
<td>39</td>
<td>14</td>
</tr>
</tbody>
</table>

Cassidy Sugimoto (2009)
Mentoring, collaboration, & interdisciplinarity: An evaluation of the scholarly development of Library and Information Science doctoral students
Results

Topics of conversation

Most frequent

Research in the field
Advissee’s research
Major people, schools, publications
Advissee’s job opportunities
Advisor’s research

Least frequent

How to prepare publications/presentations
How to write a grant proposal

Most sufficient

Research in the field
Advissee’s research
Major people, schools, publications
Advissee’s job opportunities
Advisor’s research

Least sufficient

How to prepare publications/presentations
How to write a grant proposal

Mentoring: Cultivation
DESIGN TECHNIQUES

DIGITAL CURATION
CHALLENGES, CURRICULA & COMPETENCIES
HELEN R. TEBB, CAROLYN HAML, & CHRISTOPHER A. LEE
UNIVERSITY OF NORTH CAROLINA, AT CHAPEL HILL,

ABSTRACT
The Digital Curation Curriculum (DigiCur) project (NSF RE-06-06-9344) is developing a graduate-level curriculum to prepare students for digital curation in various environments. This paper reports the findings from a survey of digital curation professionals, assessing their perspectives on barriers to digital curation, core curriculum competencies and functions, and professional competencies and hiring practices.

METHODS
Online Survey of DigiCur Project Participants (March 1 - April 2009)

CHALLENGES: PERCEPTIONS ON BARRIERS

RESPONDENTS' PROFILE

CURRICULUM: CORE FUNCTIONS
How much do you currently emphasize digital curation competencies? (Average rating on scale of 1-5: 1 = Not at all, 5 = Extremely)

CURRICULUM: OTHER DIMENSIONS OF DIGITAL CURATION

PROFESSIONAL ATTRIBUTES

DIMENSION

CHART
DESIGN TECHNIQUES

MS Office Online tools Manual

CHART
DESIGN TECHNIQUES

Demystify the illusion
DESIGN TECHNIQUES

COLOR PALETTE

COLOR
DESIGN TECHNIQUES

Resolution
Unity
Usefulness
Interestingness

Transition
Closure
Dominance
Color

IMAGE
DESIGN TECHNIQUES

CONTINUATION & CLOSURE

IMAGE
DESIGN TECHNIQUES

Macro

Tele

EMPHASIS

IMAGE
DESIGN TECHNIQUES
DESIGN TECHNIQUES

Working with

vector
Beware of mixing photo and vector!
DESIGN TECHNIQUES
<table>
<thead>
<tr>
<th>Design Principles</th>
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<tbody>
<tr>
<td>Poster Design</td>
<td>Presentation Design</td>
</tr>
</tbody>
</table>
POSTER DESIGN

1. Paper size
2. Layout
POSTER DESIGN

File format
Color calibration
Transparency
Photos

PRINTING ISSUES
AGENDA

Design Principles

Design Techniques

Poster Design

Presentation Design
How many slides?

Idea & Time
PRESENTATION DESIGN

Line-by-line
Idea-by-idea
Slide-by-slide

Context

CONTINUATION & TRANSITION
STUDY PROTOCOL

Data Analysis

- Participant recruitment & identification
- Introductory meeting
- Document Retrieval
- Semi-structured interviews
- Observations & informal interviews
- Follow-up interviews
- Data analysis & reporting

Dana Hanson-Baldauf (2009)
Exploration of the Everyday Life Information Practices, Needs, and Challenges of Young Adult with Intellectual Disabilities
**Participant recruitment & identification**

**Recruitment:**
- Seek participants from previous study
- Contact Chapel Hill-Carrboro Public Schools
- Other: Chapel Hill-Carrboro Special Olympics, ARC, Residential Services Inc., Orange-Person-Chatham Group Homes

**Identification:**
- Criterion based – age and communication ability

**Introductory meeting**

**Purpose:**
- Share study details, participant commitment, and compensation for time
- Obtain informed consent
- Obtain permission to access formal and informal documents
- Rapport building

**Document Retrieval**

**Type:**
- Formal documents (IEPs, habilitation plans, vocational plans, behavioral modification plans)
- Informal documents (journals/diaries, calendars, homework, computer transaction logs)
**STUDY PROTOCOL**

**Data Analysis**

**Semi-structured interviews**
- **Schedule:** Approximately one hour per participant
- **Interviewees:**
  - Primary research participant
  - Parent(s)/Care Provider
  - Other: Special education teacher, employer, case manager
- **Data collection method:** Digital recording device and hand notes

**Observations & informal interviews**
- **Schedule:** Two 4-5 hour weekday sessions
- **Interviewees:**
  - Primary research participant
  - Two 4-5 hour weekend sessions
  - Data collection method:
    - Field notes
    - Digital recording device

**Follow-up interviews**
- **Schedule:** Approximately one hour per participant
- **Interviewees:**
  - Parent(s)/Care Provider, special education teacher, employer, and/or case manager
- **Data collection method:**
  - Digital recording device and hand notes
Data analysis & reporting

**Process:**
- Transcription
- Content analysis
- Open/axial/selective coding
Interactive publication
Be well-prepared and professional
Test run