Sketching designs using the Five Design-Sheet Methodology

http://fds.design
Jonathan C. Roberts,  Christopher Headleand,  Panagiotis Ritsos
@jcrbrts  @ChrisHeadleand  @ritos_p
1. A teaching scenario

2. The FdS methodology

3. Experience with the FdS
Bob
Finished CS undergraduate major
Currently grad student in CS
Taking module on Information Visualization
Chosen some data
Wants to build an interactive visualization

Knows how to write code
Understands computer graphics
Done some Processing.js
Build

C, C++, Java etc.

Agile
UML
Prototyping
Divide & Conquer
Build ✔
Evaluate ✔

C, C++, Java etc.
Agile
UML
Prototyping
Divide & Conquer

Questionnaires
SUS
UEQ
Q&A
Walk through
Design

Build

Evaluate

Sketching?
Wireframes
Ad hoc sketch
Wireframe
SQVID

C, C++, Java etc.

Agile
UML
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Questionnaires

SUS
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Walk through

✔

✔
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Think

C, C++, Java etc.

Agile

UEQ

Q&A

SUS

Questionnaires

METHODOLOGIES

Just think

6 thinking hats

Webb’s method

Sketching?

Wireframes

Ad hoc sketch

Wireframe

SQVID

Prototyping

Divide & Conquer

Walk through
**Think**
- Just think
- 6 thinking hats
- Webb’s method

**Design**
- Sketching?
- Wireframes
- Ad hoc sketch
- Wireframe
- SQVID

**Build**
- C, C++, Java etc.
- Agile
- UML
- Prototyping
- Divide & Conquer

**Evaluate**
- Questionnaires
- SUS
- UEQ
- Q&A
- Walk through
We teach a lot about implementation.

We teach little about design thinking, sketching and planning.
DIVERGENT: What are the needs?

DESIGN PROCESS

CONVERGENT: Where to focus?

What possible solutions?

Which solution?
The Five Design-Sheet Methodology

Five sheets
Five parts per sheet
Five parts to the process

Sheet 1 = Ideas
Sheets 2, 3, 4 = Main designs
Sheet 5 = Realization
Dataset of degree entrants

Sheets 2, 3, 4
Realization sheet
Sketching

- Evolve
- Sharable
- Disposable
- Help you plan
- Unfinished ideas
- Communicates an idea
- Tangible (put on walls)
- Quick to change directions
- Helps you work through ideas
- Demonstrates work in progress
Prepare your kit  ~  prepare your thoughts

- Task
- Data analysis
- Components of the system
- Think about the user
Sheet 1

Ideas
Filter
Categorize
Combine & Refine
Question
Title: IbidVS Assignment

Author:

Date: 22/10/14

Sheet Number: Three

Operation:
- Selecting a region from the map brings up the report of data per
  subregion with options to compare
  - Age
  - A subject
  - A course
- Selecting comfort will allow the user to change which region is shown by the
  sheet.

Discussion:

Advantages:
- Quick comparison between regions and the
  ability to select the young
- Not only does the graph differentiate between
  age but the young
- Also specifies for each gender

Disadvantages:
- Bugs, there is a tab going on
- The controls could be more interactive
- Better labels
- The graph size might need to be quite
  small, better use of space

<table>
<thead>
<tr>
<th>Big Picture</th>
<th>Information Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part</td>
<td>Positive &amp; Negatives</td>
</tr>
</tbody>
</table>
Use & evaluation

• Conference publication 2011 Eurographics Education

• Used in courses
  – “Information Visualization” grad course
  – The design chapter of dissertations/project reports
  – 3rd year graphics module
  – 3rd year Technologies for internet systems (interactive interface)

• Company (designing websites)

• Evaluated
  – Modified System Usability Survey (Questionnaire)
  – Qualitative comments
The five design sheet methodology has contributed to my overall design in multiple positive ways. ... [the] clearly defined stages helped by challenging me to fulfil the requirements. ... Without the aid of the method, my ideas would not have been as organized or as well developed.

FdS is a great methodology to use for quick ideation that is also very practical.

I really liked the FdS model. It added a lot of structure to an otherwise unstructured section. Usually my designs lack detail and just end up as a big mess of thoughts.

Without the five design sheet methodology, I feel like my final...would not have been as fleshed out or quite as though-through as if it had become through the five design sheet methodology.
Summary

• Described the FdS
• Our experiences
• Discussed some of the issues

• More in paper…
  – Data analysis (pre-consideration)
  – How a student would implement their sketches
  – Implications of a design (e.g., legal/ethical/professional etc)
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