Requirements

Statement about a product
Specific, clear, measurable

3-Step Process

1. Gather data (user research)
2. Analyse data (personas & scenarios)
3. Convert needs into requirements
You Now Know

Volere Model

Types of requirements
- Functional
- Data
- Environment
- User
- Usability
TODAY

Designing (Sketching) the User Experience

Why should you sketch

From sketches to prototypes

Descending the design funnel

10+10 Method
SKETCHING THE UX: THE WORKBOOK

Sketching
USER EXPERIENCES

The Workbook

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WHY SKETCH?
Why Should You Sketch?

Sketching is about **Design** (not drawing)

**Fundamental tool**
Express, develop, and communicate ideas

**Part of a process**
Idea generation, design elaboration, design choices, engineering
Create

Early ideation
Think about ideas
Think through ideas
Visualize how things come together
Brainstorm (don’t worry about quality)
Invent and explore concepts
Why Sketch?

Record

Ideas you develop
Ideas you come across
Archive for later reflection
Why Sketch?

Reflect, share, critique, decide

Communicate ideas to others
Invite responses
Invite criticisms and alternatives
Choose ideas worth pursuing
ADVANTAGES OF SKETCHES

Quick to make
ADVANTAGES OF SKETCHES

Quick to make

Timely

Provided when needed
ADVANTAGES OF SKETCHES

Quick to make

Timely
  Provided when needed

Disposable
  Investment in the concept
  If you can’t afford it to throw it away, it is not a sketch
E V O L U T I O N  O F  S K E T C H E S

Vocabulary
Resolution
Rendering state
THE DESIGN FUNNEL
GETTING THE DESIGN RIGHT

Generate idea

Iterate and develop it
Getting the Design Right

Generate idea

Iterate and develop it

but is it the best idea?
Fixate on the first idea
Local hill climb issue
local vs. global maxima
Getting the Design Right

vs.

Getting the Right Design
EXAMPLE: CELL PHONE DESIGN

Iterative design
EXAMPLE: CELL PHONE DESIGN

How do we get here with only iterative improvements?
GETTING THE RIGHT DESIGN

5 is the minimum to present
**Elaboration and Reduction**

Elaboration

Reduction

Repeat

Design process

Elaboration opportunity seeking

Reduction decision-making
THE DESIGN FUNNEL

Concept generation

Concept selected
THE DESIGN FUNNEL
FROM
SKETCHES TO
PROTOTYPES
Sketch is NOT a Prototype

Difference is
  Purpose
  Form

But it is a continuum

sketch                             prototype
FROM SKETCHES TO PROTOTYPES

Sketches: early ideation stages of design

Prototypes: detailing the design
From Sketches to Prototypes

Early design
- Brainstorm different ideas
- Rough out interface style
- Task centered walkthrough or WoZ
- Fine tune interface, screen design
- Heuristic evaluation and redesign
- Usability testing and redesign
- Limited field testing
- Multitude of sketches
- Sketch variations and details
- Sketch or low fidelity prototypes
- Low to medium fidelity prototypes
- High fidelity prototypes
- Working systems
- Alpha/Beta tests

Late design
A Sketch Suggests ...

... but does not limit design
Openness and Freedom

Openness and freedom
incomplete, room to create

Tight and precise
complete, nothing left to do
**Minimal Detail**

Include *only* what is required to understand concept
Degree of Refinement

Sketch as refined as the idea

Solid idea $\rightarrow$ sketch more defined
Hazy idea $\rightarrow$ rougher and less defined

Ambient light sensor
Touch surfaces together in a pattern;
Both detect same light/dark pattern
04
10+10: DESCENDING THE DESIGN FUNNEL
The Design Funnel

Cycles through elaboration and reduction
1. **State your design challenge**
   Problem to solve, client need, novel system that leverages a technology

2. **Generate 10+ different design concepts that address that challenge**
   Brainstorm, be as creative and diverse as possible, don’t judge, capture essence of idea (not details)
The 10 + 10 Method

3. Reduce the number of design concepts
   Review all designs
   Discard ones that don’t have merit
   Explain and get feedback from others
   (or based on reflection, repeat step 2)

4. Choose the most promising concepts
   Starting point for next steps (refine)
The 10 + 10 Method

5. Produce 10 details / variations of concept
   Generate different ways of realizing the concept
   Dig deeper (flesh out details)

6. Present ideas to group
   Solicit feedback (what could be improved?)

7. As your ideas change, sketch them out
   Go back to step 1, but deeper in the design funnel
How can two people connect their mobile devices for information exchange?

Assumptions:
They can do some limited communication
1. Enter an agreed upon password

Both people type a word chosen by them.
2. Mimic rotation pattern

Rotate in a pattern, where other person has to mimic it (accelerometer) (within 5 seconds)
3. Tracing across displays

Synchronous gesture:
Trace a line across both side by side devices as a single stroke.
4. Speak a command
5. Recognize phone’s flash strobe pattern
6. Bump 2 phones together
7. Musical sequence

Faint musical sound played on one device picked up by the other device
8. Light / Dark patterns

Ambient
light
sensor
Touch
surfaces
together
in a pattern;
Both detect
same light/
dark pattern
9. Three simultaneous taps
10. Take picture of an identifiable feature on the other’s phone
Theme:
You and the other person perform some action that both phones recognize as a ‘handshake’. It exploits a social convention where you both agree to do something.

Repeat?
Other variations or other themes?
Example: Reduce

Choice

Cameras are the lowest denominator

- Mutual video/photos captures identify images such as tags via camera.
1. Detail scenario; action a)

Both start Connect! App

SALLY
Connect!
One of you take a picture of the other's screen

FRED
Connect!
One of you take a picture of the other's screen

Start up dialog
1. Action b)
ELABORATION ON REFINEMENT

1. Detail c)

Connected with George
Exchange: Photos
Contacts

Connected with Sally
Exchange: Photos
Contacts

Once connected, people can then exchange various things on their phone.
2. Variation: flashing patterns

Both screens flash patterns, both cameras recognize patterns.

Alternate:
Use strobe light
3. Variation: fiduciary tags
4. Variation: cooperative panorama

Mutual panorama, Person 1 starts a panorama, Person 2 continues it, Person 3 completes it.
5. Variation: same picture

Take picture of the same thing at the same time.
EXERCISE: 10 + 10

JOIN YOUR LAB GROUP

30 SECONDS
EXERCISE: 10 + 10
JOIN YOUR LAB GROUP
00:30
**EXERCISE: 10 + 10**

What’s your lab design challenge?

**Sketch 10 concepts**

First part of the 10 + 10 method

30 minutes
Exercice: 10 + 10

Present your ideas to other group(s)

10 minutes
You Know Now

Attributes of sketch
es
Quick, timely, disposable

A sketch is not a prototype

The design process
Get the right design
Then get that design right
The design funnel
Interplay between elaboration and reduction

10 + 10 method
Method to descend the design funnel
First 10: elaboration
Choosing: reducing
Second 10: elaboration on refinement
The only **Stupid** Questions are those that **Stay with You**

What wasn’t clear enough?

What should be **improved**?
Sketching the UX

Kahoot!