Prototyping UX
From Sketch to Prototype

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Double Diamond

DEFINE STAGE

- The generation of initial ideas and project development
- Ongoing project management
- Corporate objectives agreed and project sign-off

source: [8]
An original type, form, or instance that serves as a model on which later stages are based and judged.

American Heritage Dictionary
User Experience Design

Technology

Business

UX

Design

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http://semanticstudios.com
User Experience Design
User Centered Design Process
Some Examples of a school called Interaction Design Institute Ivrea ... (IDII)
Task: Design a new interface for one of the functions of a radio alarm clock or phone answering machine.
Three main goals

1.) Understanding a design context
2.) Exploring and evaluating ideas
3.) Communicating ideas
MINIMUM Viable Product

Crappy products

MINIMUM

Viable

Best products to startups

Better-financed products

For the Designer: Exploration, Visualisation, Feasibly, Inspiration, Collaboration

For the End User: Effectiveness / Usefulness, A change of viewpoint, Usability, Desirability

For the Producer: Conviction, Specification, Benchmarking
It’s really hard to design products by focus groups. A lot of times, people don’t know what they want until you show it to them.

Steve Jobs
Fidelity v. Resolution

low resolution  
low fidelity

high resolution  
low fidelity

high resolution  
high fidelity

source: [5]
Low Fidelity

- Open Discussion
- Prompting Required
- Quick and Dirty
- Early Validation

High Fidelity

- Sharp Opinions
- Self Explanatory
- Deliberate and Refined
- Concrete Ideas

source: [5]
Low Resolution  High Resolution

Less Details
Focus on core interactions
Quick and Dirty
Early Validation

More Details
Focus on the whole
Deliberate and Refined
Concrete Ideas

source: [5]
1st Iteration
low-res/low-fi
4th Iteration
high-res/high-fi
80/20 rule
A principle for setting priorities: users will use 20% of the features of your product 80% of the time. Focus the majority of your design and development effort (80%) on the most important 20% of the product.
Horizontal vs. Vertical Prototype

https://media.nngroup.com/media/editor/2012/12/10/guerrilla_scenario_fig.gif

source: [7]
Paper-prototyping
Main goal:

1.) Understanding a design context
2.) Exploring and evaluating ideas
3.) Communicating ideas
What is it?

Paper prototyping is a widely used method in the user-centered design process, a process that helps developers to create products/screen based applications that meets the user's expectations and needs.

It is throwaway prototyping and involves creating rough, even hand sketched, drawings of an interface to use as prototypes, or models, of a design.
History

Paper prototyping started in the mid 1980s and then became popular in the mid 1990s when companies such as IBM, Honeywell, Microsoft, and others started using the technique in developing their products.
Paper prototype of a typical form-filling screen

Paper prototype of a tabs-based design

User test of a low-fidelity paper prototype of a website

Typical set-up of the usability laboratory for a test session with a paper prototype
User test of a device-based interaction

User test of a high-fidelity paper prototype of a homepage.

Testing hardware user interfaces: mockup of a kiosk.
Video-Prototyping
Main goal:

1.) Understanding a design context
2.) Exploring and evaluating ideas
3.) Communicating ideas
Camera: For most prototypes a smartphone will do the job brilliantly.
Part III: Different Video-Prototyping Examples
low resolution
low fidelity
(a whole new world)
A whole new world
low resolution
high fidelity
(crossing on demand)
The Smoke & Mirror Approach
Sketching with Hardware
higher level

basic stamp

bx 24

basic atom

pic

lower level

higher level

ActionScript

Java

C++

Assembly
Atmel AT Mega 328

Raspberry PI
Thermistor

Bend Sensor

PIR Sensor
Force Sensor

Potentiometer

Magnet Switch
Distance IR Sensor

Touch QT Sensor

Ultrasound Sensor
MINIMUM Viable Product

Crappy products

MINIMUM

BEST PRODUCTS TO STARTUPS

Viable

Better-financed products
Quick video overview
Contact

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Tutorials

Physical Computing Intro
https://itp.nyu.edu/physcomp/

Arduino Tutorials

Physical Computing w. Raspberry PI

Adafruit Hacking Tutorials
https://learn.adafruit.com/

Keyboard Hacking Tutorials
References (books)

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   ISBN-10: 0262134748

[2] Bill buxton: sketching the user experience
   Publisher: Morgan Kaufmann (March 30, 2007)
   ISBN-10: 0123740371

[3] Don norman: the design of everyday things
   Publisher: Basic Books (September 17, 2002)
   ISBN-10: 0465067107

   Publisher: Prentice Hall PTR (December 15, 1994)
   ISBN-10: 0133033899

links: www.dkds.ciid.dk
       www.medien.ifi.lmu.de
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       http://www.useit.com/papers/guerrilla_hci.html