

MOBA1

DESIGN AND DEVELOPMENT OF MOBILE APPS (2)

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OVERVIEW

- First Steps (recap)
- Wireframe, prototype, mockup
- Wireframe – a blueprint of the app
- Visual Concept and Mockup
- Prototype and Test

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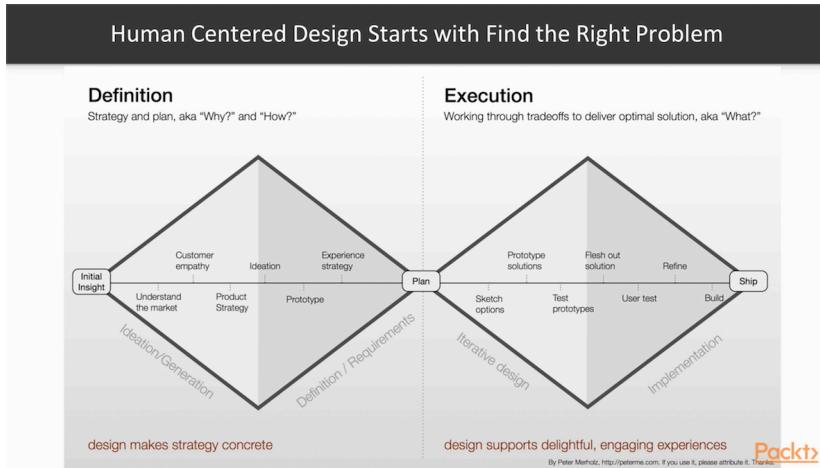
Human Centered Design

- UX is human first
- UX uses observations as starting place
- UX tracks experiences through qualitative and quantitative methods
- UX relies on the feed back for real users through conversations and interviews
- Users communicate through their actions. Verbal and non verbal.

Packt

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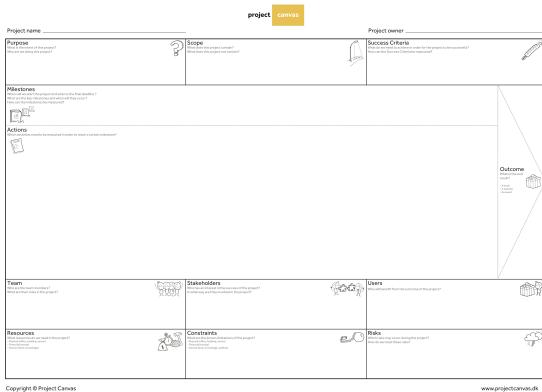
FIRST STEPS (RECAP)

- Describe the problem you're going to solve
- First, we need to make sure who the users are
- Concretize them by creating personas
- Focus on users' problems, not features
- Again: describe the problem you're going to solve
- Find possible solutions, focus on quantity
- Prioritize your ideas
- Write user narratives (storytelling design)

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TOOLS: PROJECT CANVAS



<http://www.projectcanvas.dk>

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TOOLS: HYPOTHESIS CHART

1. Set Hypothesis

Problem hypothesis	Sharing pictures taken with your phone on social networks is complicated
Customer hypothesis	College students

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TOOLS: PERSONA CANVAS

Facts <i>Factual information about your target customer.</i> 	Pain <i>State the problem you believe your target customers have, that your solution solves for.</i>
Behavior <i>Existing behavior they exhibit now, because they don't have your solution.</i>	Goals <i>What goals are they trying to accomplish through the behavior, that your solution will do better?</i>

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TOOLS: GOAL STORY TEMPLATE

Goal story template

As [user personal]

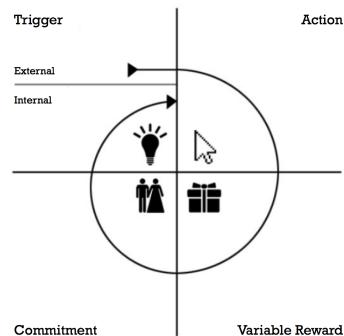
I want to [accomplish something]

So that [some benefit happens]

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TOOLS: DESIRE ENGINE



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USER NARRATIVES

Key feature	User feed	Explore section	Notifications	Profile
<ul style="list-style-type: none"> As Kevin I want to take a nice picture of what I'm doing so that people can see that I'm doing something cool. 	<ul style="list-style-type: none"> As Kevin I want to see my friends' pictures and give them feedback so they know I'm giving them validation. 	<ul style="list-style-type: none"> As Kevin I want to be able to see other people's pictures and give them validation. 	<ul style="list-style-type: none"> As Kevin I want to know when people interact with my pictures. 	<ul style="list-style-type: none"> As Kevin I want to access my infos and my pictures
<ul style="list-style-type: none"> I open the app I take a picture I apply a filter to make it look good I can add a description I can scroll on what networks I want to share my picture on My picture is shared on my followers' feed It is published to the explore section if I get enough likes 	<ul style="list-style-type: none"> I open the app and access a feed of my friends' pictures I can like my friends' pictures I can comment on them As I scrolled down my feed I'm invited to follow more people or to invite friends 	<ul style="list-style-type: none"> I can access interesting pictures from people who are not my friends I can like pictures I can comment on them 	<ul style="list-style-type: none"> I open the app I go to the notifications section I'm able to see who has interacted with my pictures I can comment on them 	<ul style="list-style-type: none"> I open the app I can go to my profile I can see how many people I follow and how many people follow me I can see my pictures I can find more people to follow I can invite friends I can change my profile picture

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WIREFRAMES, PROTOTYPES AND MOCKUPS

- All are forms of representation of the final product
- But what is the difference?

The following slides are based on the article *Wireframing, Prototyping, Mockuping – What's the Difference?*
<http://designmodo.com/wireframing-prototyping-mockuping/>

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WHAT IS A WIREFRAME?

- A low fidelity representation of a design
- It should show
 - the main groups of content (*what?*)
 - the structure of information (*where?*)
 - a description and basic visualisation of the UI interaction (*how?*)
- The backbone of your design

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WHEN TO USE WIREFRAMES

- Typically used as the documentation of the project
- Should be accompanied by the written word
- Serve as sketches for communication in the team
- Eliminates misunderstandings and is cheap

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WHAT IS A PROTOTYPE?

- Middle to high fidelity representation of the final product
- Allows to
 - experience content and interactions with the interface
 - test the main interactions in a way similar to the final product
- Might not look exactly like the final product, but should be similar
- Interdependence between the interface and backend is often omitted

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WHEN TO USE A PROTOTYPE

- Used in user testing
- Check the usability of the interface
- Rather expensive and time-consuming

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WHAT IS A MOCKUP?

- Middle to high fidelity, *static*, design representation
- Visual design draft, or even the actual visual design
- Demonstrates the basic functionalities in a static way
- Encourages to review the visual side of the project
- Much quicker to create than prototypes

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WHEN TO USE A MOCKUP

- Useful if you want to get early buy-in from a stakeholder
- Good feedback-gatherer
- Can form a great chapter of documentation

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SUMMARY

	Fidelity	Cost	Use	General traits
Wireframe	low fidelity	\$	documentation, quick communication	Sketchy, black, white & grey representation of the interface
Prototype	middle to high fidelity	\$\$\$	User testing, reusable backbone of the interface	Interactive
Mockup	middle to high fidelity	\$\$	Gathering feedback and getting buy-in from stakeholders	Static visualization

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PROTOTYPING IN GENERAL

- Should be easy and fast to build
- Should represent the essential parts of your idea

Start small, fail early, and learn fast

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PROOF-OF-CONCEPT IMPLEMENTATION

- Another prototyping artifact
- Focus on the risks in the project
- Elaborate technical possibilities and boundaries

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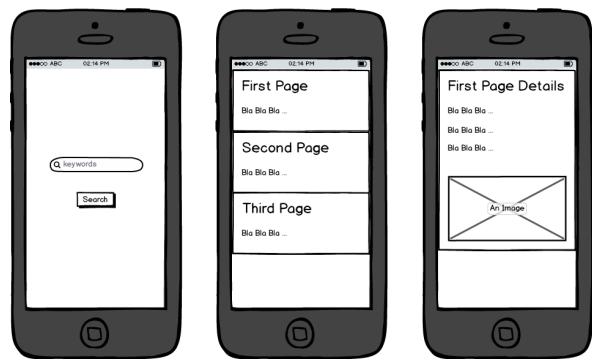
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WIREFRAMES



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WIREFRAMES

- Plan the flow according to your user stories
- Sketched layouts of your application screens
- Show where each element will be placed
- Understand of content and interactions
- Can be as simple as sketches on paper

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TOUCH CONTROL

- Bigger control elements required
- "44 x 44 points is the comfortable minimum size of a tappable UI element" (iOS Human Interface Guidelines)

Point: "On a standard-resolution device screen, one point equals one pixel, but other resolutions might dictate a different relationship. On a Retina display, for example, one point equals two pixels." (iOS Human Interface Guidelines)

This is different to the CSS unit pt (also: Point).

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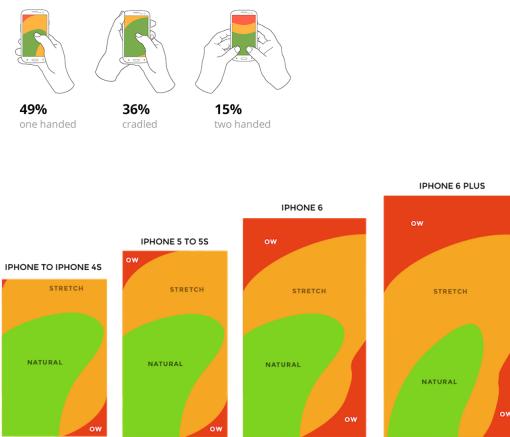
TOUCH CONTROL: DISTANCE



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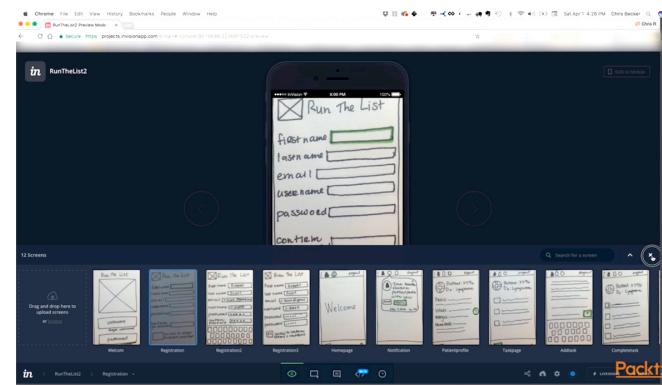
TOUCH CONTROL: REACH



<https://theblog.adobe.com/mobile-design-best-practices/>

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WIREFRAMES



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FLOW DIAGRAM

- Based on steps in user stories
- Major decisions points while navigating inside the app
- Allows to think through the possible routes in a visual way
- Chart for the whole application or focus on a particular journey
- On a higher level it outlines the app structure:
How many different screens you will need to design
- Helps capturing all cases that you need to design for

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WIREFRAMES: TOOLS

- Many digital tools available
- Libraries of ready-made widgets
- Some tools can create clickable prototypes
- Digital design is easier to update and maintain

<https://balsamiq.com>

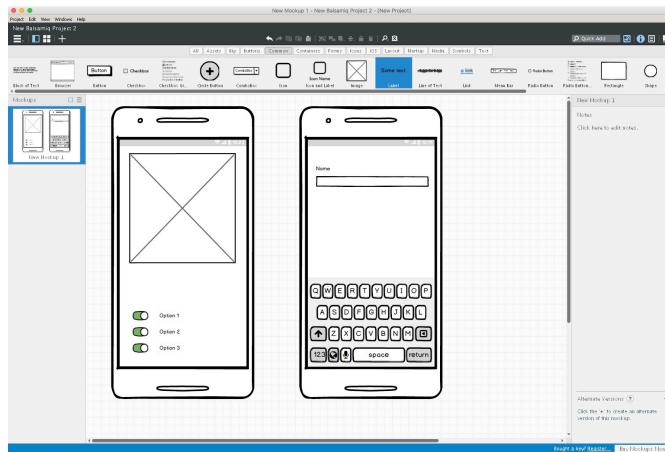
<https://gomockingbird.com/home>

<http://iphonemockup.lkmc.ch>

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WIREFRAMES: BALSAMIQ



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WIREFRAMES: SKETCH



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WIREFRAMES: TIPS

- Eliminate all the distractors
- Use colors carefully
- Don't over-design it
- Use real sizes (approximately)
- Affordances matter

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ELIMINATE ALL THE DISTRACTORS

- Inappropriate color use
- Wrongly applied level of fidelity
- Ugly images and icons
- Comic Sans and any strange font
- Any signs and codes that only you can understand

In short: No ornaments allowed, keep only the essentials

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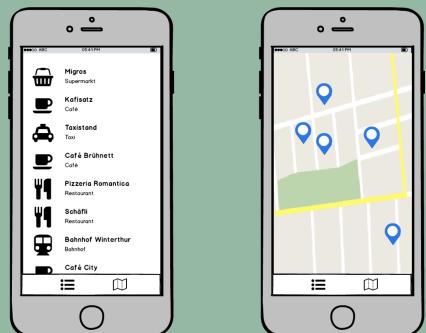
USE COLORS CAREFULLY

- Use shades of grey for structure and content
- Set any images and icons to grey
- Use an appropriate contrast between elements
- You may use blue for links, red boxes for alerts, etc.

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DEMO: POIFINDER



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DON'T OVER-DESIGN IT

Is a certain element ready or not?

- Does it make sense in the context of user scenarios ?
- Does it clearly communicate its sense and value?
- Will your teammates understand it?

Do not ask yourself if it's pretty, ask if it's clear and reasonable

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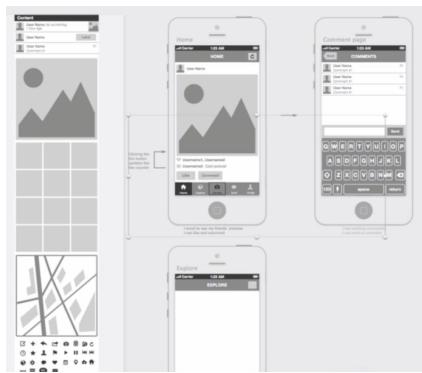
MORE

- Not more than 1 or 2 steps in a screen
- Below each screen write in 1 or 2 sentences what the user is supposed to do in the screen

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WIREFRAMES



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VISUAL CONCEPT

- Design Principles
- Inspiration
- Typography
- Color

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DESIGN PRINCIPLES

- Proximity
- Alignment
- Repetition
- Contrast

(→ WBE-Vorbereitungskurs)

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PROXIMITY

CD ROMs
CD ROMs
Children's CDs
Educational CDs
Entertainment CDs
Laser discs
Educational
Early learning
Language arts
Science
Math
Teacher Tools
Books
Teacher tools
Videos
Hardware & Accessories
Cables
Input devices
Mass storage
Memory
Modems
Printers & supplies
Video and sound

CD ROMs
CD ROMs
Children's CDs
Educational CDs
Entertainment CDs
Laser discs
Educational
Early learning
Language arts
Science
Math
Teacher Tools
Books
Teacher tools
Videos
Hardware & Accessories
Cables
Input devices
Mass storage
Memory
Modems
Printers & supplies
Video and sound

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ALIGNMENT

Honor Form

Hersey rheumatic stary
oiler former's dodder. Visdate
honor's holler. Visdate
dare honor form.
Visdate lift wester folder.
sader former's folder. Visdate
hatter repetition for hang.
furry retch-an furry starchy.
Infect, parrot, orphan set oldie
button folder. Visdate
button oiled mousier. Visdate
honor older hen, worsled
tarry, parrot, orphant, patty
patty ladle form gull, sample
mortified, an unaffected.

Tarred gull

Wan mousing former
Holding, mousing former's dodder
setting honor cheer, during
resosing.
"Visdate" voted sole
former. "Washer setting dain
fur?" Denure nor yore caned
gut! Denure nor yore caned
mosing? Germ pup otter debt
cheer!
"Aerm tared, Fodder!"
responsible Visdate warty.

Feeder pegs

"Are longer chas dis-
mash wolk disk meaning!"
Dacher curvy doze buckles
holler, parrot, orphant peg-pam
an feeder pegs?
"Tap, Fodder. Are letter
pegs?"



"Disher mail-car cows,
an swoop otter cage staple?"
"Off curse, Fodder. Are multk oder
cows an swapped otter staple."
"Aerm tared, Fodder!"
clammed upper larder more
checking-horse toe gadder

"Washer tared fur?" aster
starchy former, how dinl half
mush symphony further
gull, sample.

Honor Form

Hersey rheumatic stary oiler
former's dodder. Visdate
honor's holler. Visdate
dare honor form.
Visdate lift wester folder.
sader former's folder. Visdate
hatter repetition for hang.
furry retch-an furry starchy.
Infect, parrot, orphan set oldie
button folder. Visdate
button oiled mousier. Visdate
honor older hen, worsled
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starchy former, how dinl half
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gull, sample.

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REPETITION

Mickey Mouse
■ Walt Disney Studios
Anaheim, California
58 years old, no children

Employment
■ Walt Disney Studios
■ Various television studios

Education
■ Walt Disney Studios

Favorite Activities
■ Driving steamboats
■ Roping cattle

Favorite Quote
■ Everybody can't be a duck.

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CONTRAST



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INSPIRATION

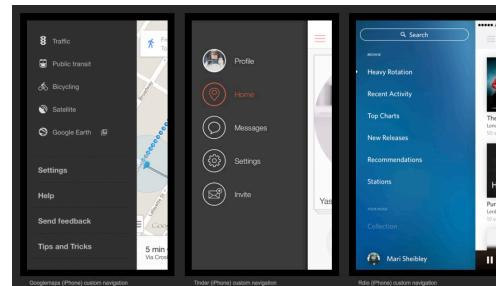
- Start collecting inspiring things
- “Good artists copy, great artists steal” (Picasso)

Going back to where the original idea stemmed from to get a better understanding of what made it work

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INSPIRATION: CUSTOM NAVIGATION

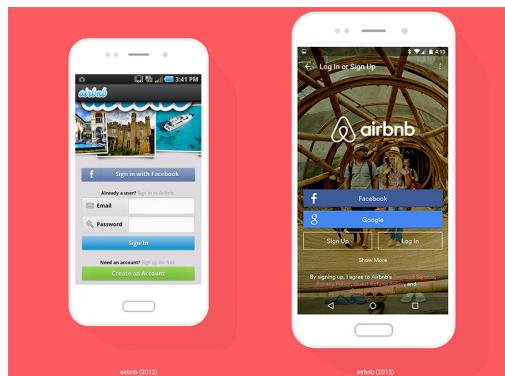


<http://www.mobile-patterns.com/custom-navigation>

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INSPIRATION: BEFORE/AFTER

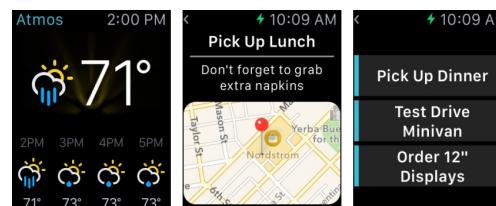


<http://androidux.com/Before-After>

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INSPIRATION: WATCH



<http://pttrns.com/apple-watch-patterns>

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Typography matters
<http://practicaltypography.com>

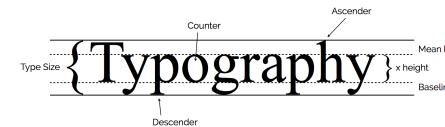
When Morris asked David Dunning, a psychology professor at Cornell who helped design the questions for this experiment as to why he thought Baskerville won, he said, "Fonts have different personalities. It seems to me that one thing you can say about Baskerville is that it feels more formal or looks more formal."

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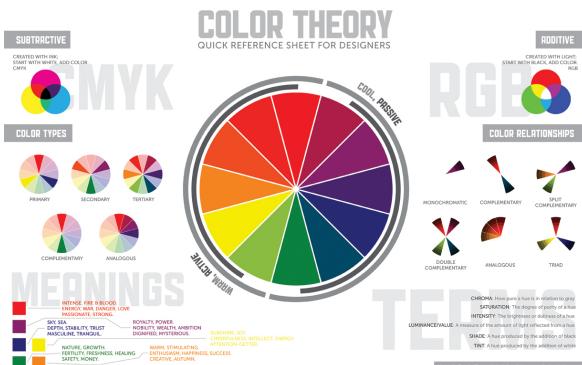
<http://type.method.ac/>
<http://www.myfonts.com/WhatTheFont/>

(→ WBE-Vorbereitungskurs)

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COLOR



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COLOR SCHEME

1. Select a base color
2. Select secondary colors using harmony principles
3. Adjust tints, shades and tones

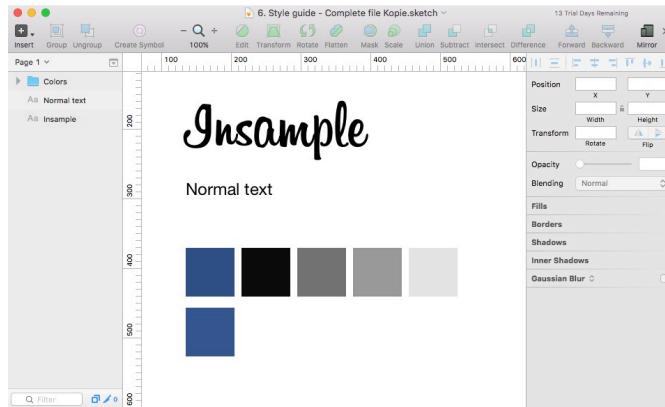
<https://kuler.adobe.com/>



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CREATE A STYLE GUIDE



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VISUAL DESIGN

- Graphic design principles already applied during wireframing
- Including: spacing, visual hierarchy
- Each platform has their own styling conventions and interaction methods – follow the recommended practices
- Use meaningful labels and titles rather than placeholder text

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MOCKUP

To consider:

- Platform conventions and style guides
- Skeuomorphism¹ vs. flat design
- Screen sizes and resolutions

¹Imitate real life objects

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FLAT DESIGN

iOS 6



iOS 7



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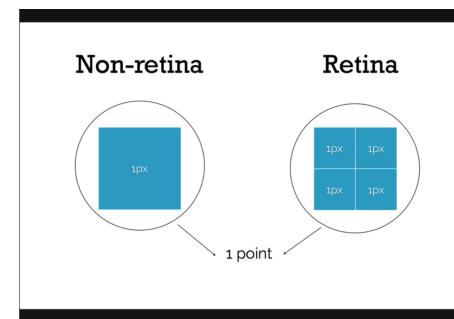
FLAT DESIGN



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B1

PIXEL AND POINT



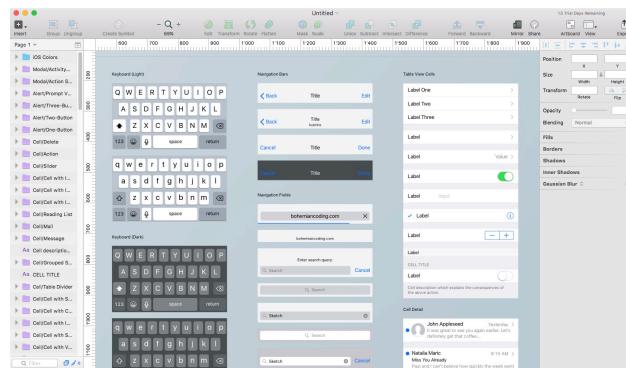
<http://screensiz.es/phone>

<http://angrytools.com/android/pixelcalc/>

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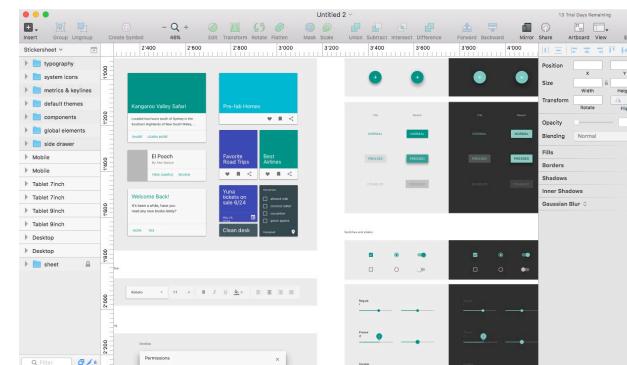
SKETCH: IOS UI DESIGN



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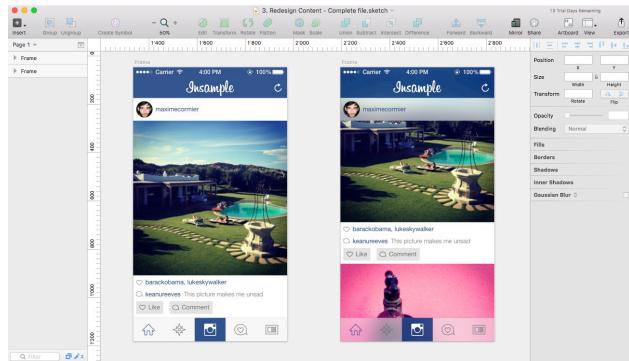
SKETCH: MATERIAL DESIGN



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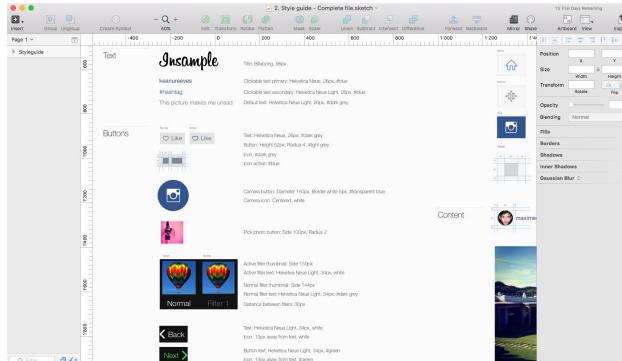
DESIGN CONTENT AND NAVIGATION



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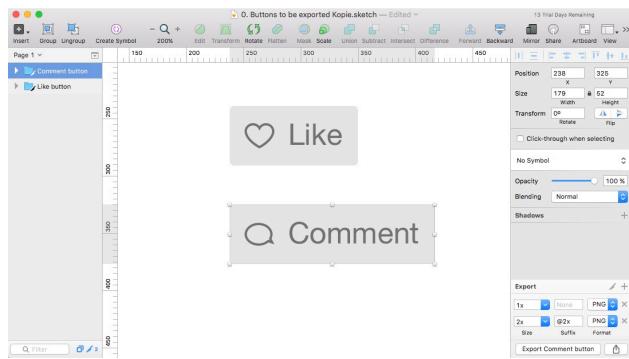
UPDATE STYLE GUIDE



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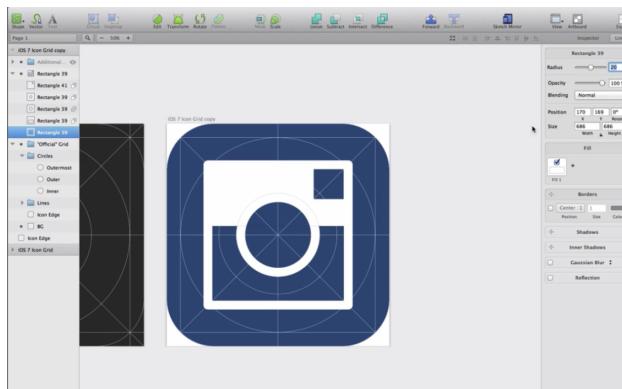
EXPORT ELEMENTS



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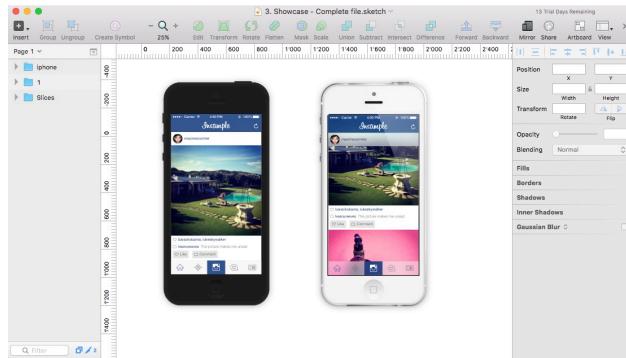
DESIGN AN APP ICON



<http://afterios7icon.tumblr.com>

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SHOWCASE YOUR APP



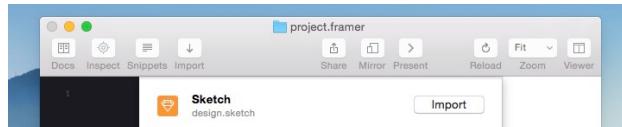
<https://bjango.com/mac/skalapreview/>
<https://placeit.net>

OVERVIEW

- First Steps (recap)
- Wireframe, prototype, mockup
- Wireframe – a blueprint of the app
- Visual Concept and Mockup
- Prototype and Test

INTERACTIVE PROTOTYPE

- Best way to visualize and evaluate interactions
- Various tools available
- For example: Framer
<http://framerjs.com>



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INTERACTIVE PROTOTYPE

- Best way to visualise and evaluate your app's interactions
- Usable enough to communicate the design
- Can have the final visual design applied
- Many prototyping tools allow testing on an actual device
- Useful to get external feedback

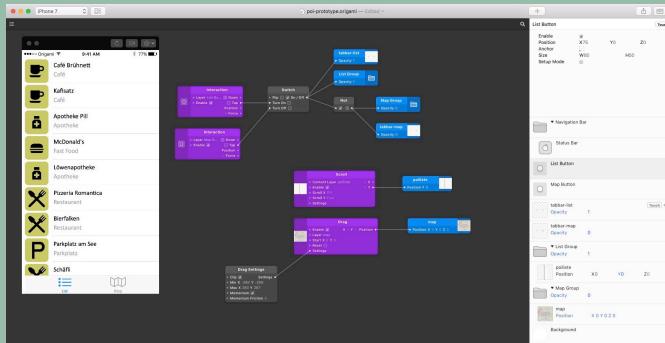
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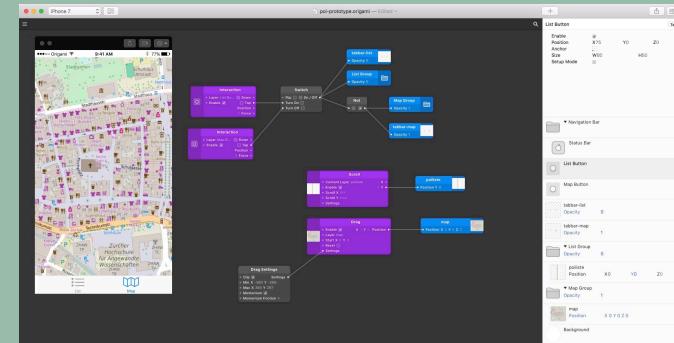
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DEMO: POIFINDER



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DEMO: POIFINDER



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USER TESTING

- Should start early in the process
- Testing early can save you a lot of time
- Will expose concepts that don't work

The more time you already invested in your designs, the harder it gets start over

A single non-biased opinion is better than no opinion at all

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USER TESTING

- Typically about an hour long session
- Users that are unfamiliar with the product
- They are asked to perform certain tasks
- Look for users that match your personas
- Do not help them out too much
- Word your questions in a non-interrupting way
- Either record user feedback or make sure you take enough notes

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USER TESTING

If they assume that the person that running the session is the author of the design they might feel cautious of giving critical feedback. Reassure them that they are free to express their honest opinions.

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SOURCES AND READING MATERIAL

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OPTIONAL READING

- Mobile Design Best Practices
<https://blogs.adobe.com/creativecloud/mobile-design-best-practices/>
- Sidebar – a list of the 5 best design links of the day
<http://sidebar.io>
- Butterick's Practical Typography
<http://practicaltypography.com>
- Gestaltung und Benutzbarkeit im Web
Fakultatives Skript im WBE-Vorbereitungskurs
<https://moodle.zhaw.ch/course/view.php?id=1007>

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NAVIGATION AND THE HAMBURGER MENU

- Optimising mobile web navigation (2 recent successes)
<https://uxdesign.cc/optimising-mobile-web-navigation-2-recent-successes-8132c715f516>
- Why the Hamburger Menu Is so Controversial
<https://www.westwerk.com/why-the-hamburger-menu-is-so-controversial/>
- Why and How to Avoid Hamburger Menus
<https://lmjabreu.com/post/why-and-how-to-avoid-hamburger-menus/>

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INSPIRATION

- <http://pttrns.com>
- <http://www.mobile-patterns.com>
- <http://uxarchive.com>
- <http://androidniceties.tumblr.com>
- <http://androidux.com>
- <https://www.behance.net>
- <https://dribbble.com>

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TOOLS: WIREFRAME, MOCKUP, PROTOTYPE

- <https://balsamiq.com>
- <http://pencil.evolus.vn>
- <http://www.sketchapp.com>
- <https://www.figma.com>
- <https://moqups.com/>
- <http://framerjs.com>
- <https://origami.design>

RESOURCES

- <https://thenounproject.com>
- <http://www.sketchappsources.com>
- <https://wireframestogo.com>

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USABILITY AND USER EXPERIENCE

- <http://uxarchive.com>
- <http://www.useronboard.com>
- <https://www.smashingmagazine.com/category/user-experience>
- <http://uxmag.com>
- <http://www.uxmatters.com>
- <https://www.nngroup.com>
- <https://www.interaction-design.org>

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SOURCES

- Mobile Developer's Guide To The Galaxy,
17th Edition, Open-Xchange,
<https://www.open-xchange.com/resources/mobile-developers-guide-to-the-galaxy/>
- Mobile App Design from Scratch: Design Principles,
and UX, Online Course (commercial),
<https://www.udemy.com/mobile-app-design-from-scratch/#/>
- Wireframing, Prototyping, Mockuping – What's the Difference?
<http://designmodo.com/wireframing-prototyping-mockuping/>
- Robin Williams: The Non-Designer's Design Book, Peachpit Press, 1994.

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