LPSMT - Wireframing

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WIREFRAME

A wireframe is a two-dimensional illustration of a page's interface that specifically focuses on space allocation and prioritization of content, functionalities available, and intended behaviors. For these reasons, wireframes typically do not include any styling, color, or graphics. Wireframes also help establish relationships between a website's various templates.

https://www.usability.gov/how-to-and-tools/methods/wireframing.html

MOCKUP

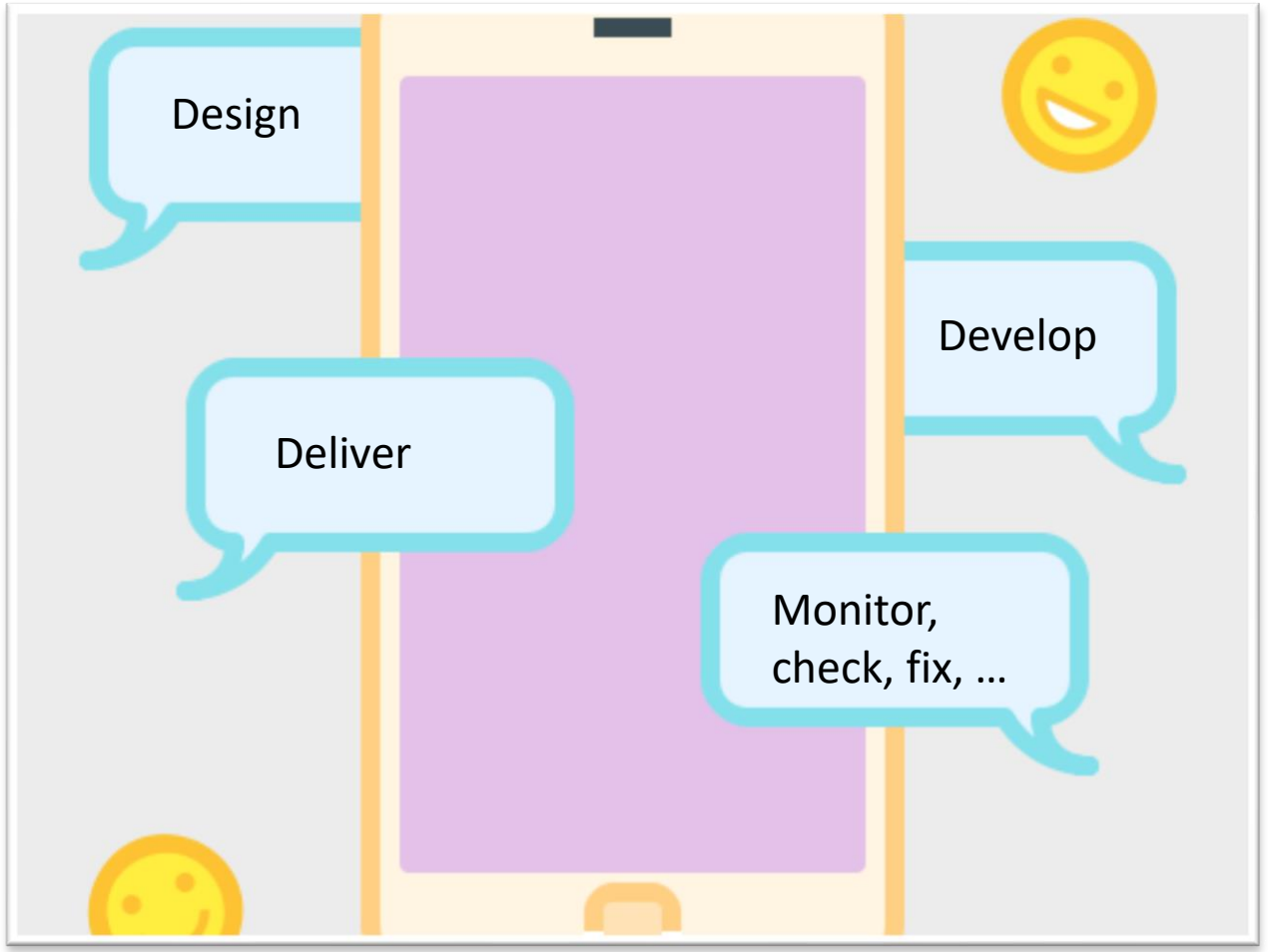
A mockup is a static high-profile visual design draft of a design or device, used to represent the structure of information, visualize the content and demonstrate the basic functionalities in a static way.
Unlike wireframe, mockups provide visual details, such as colors and typography. While wireframes are design placeholders, mockups are built to give the viewer a more realistic impression of how the end product will look.

https://www.justinmind.com/blog/wireframes-and-mockups-whats-the-best-option/

PROTOTYPE

The first example of a machine or other industrial product, from which all later forms are developed

https://dictionary.cambridge.org/dictionary/english/prototype



D-D-D

All the 3 D are essential.

Design is important to create a usable solution. Apple, Microsoft and Google all provide Human Interface Guidelines to be able to create “wow” applications.

Develop should consider all possible aspects (device, expectations, UI, etc..) and manage correctly exceptions.

Delivery must be correctly planned starting from small groups and considering marketing strategies.

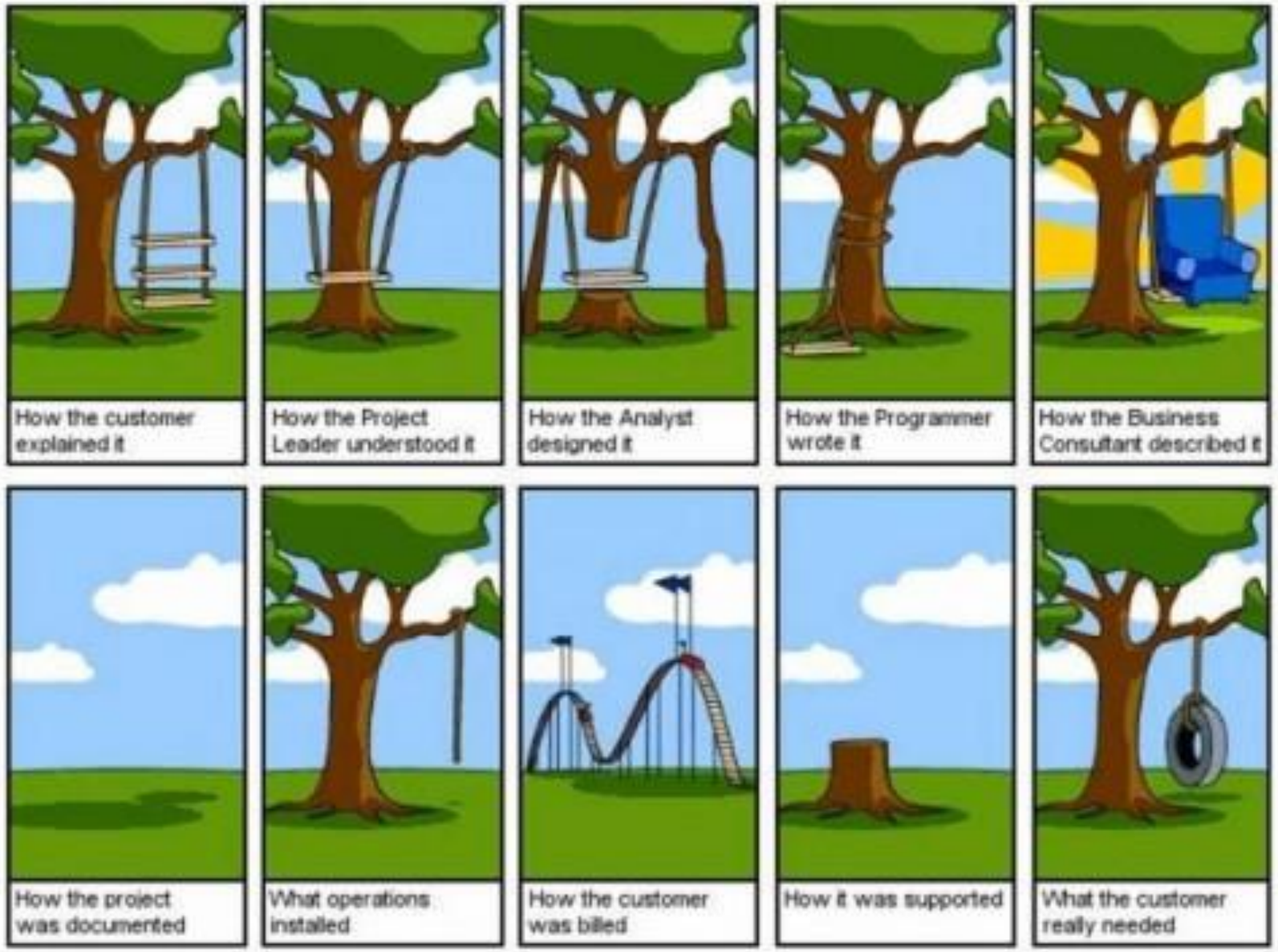
PRACTICAL EXAMPLE

U.S. Department of Health and Human Services

Centers for Diisease Control and Prevention

https://www.cdc.gov/physicalactivity/inactivity-among-adults-50plus/infographic.pdf

The expectation problem



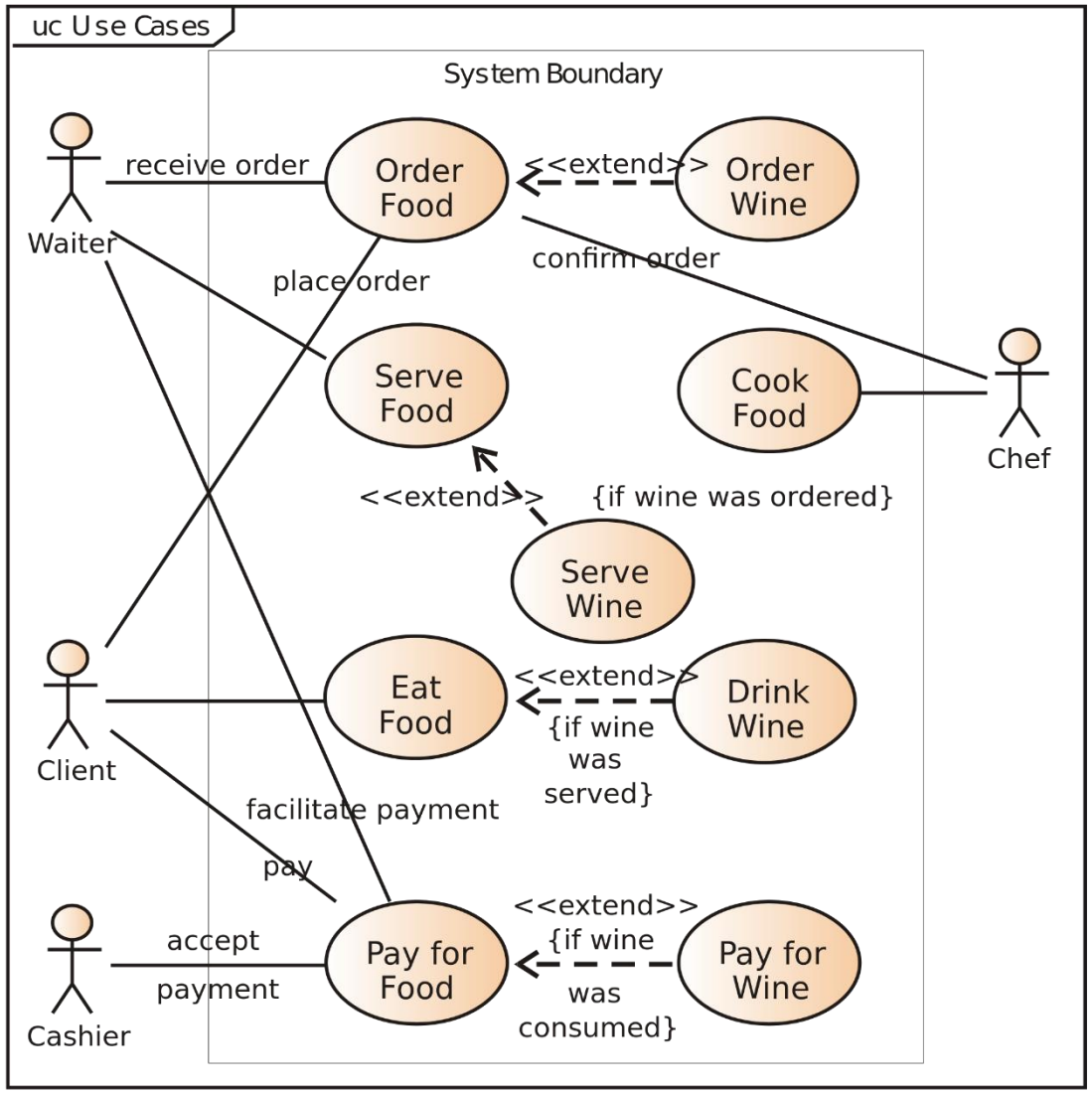
All stakeholders of a project have expectations about the final product.
The problem is that often the expectations are different.
It is often due to communication difficulties but also to different backgrounds and technical competences

LOST
CONFUSED
UNSURE
UNCLEAR
PERPLEXED
DISORIENTED
BEWILDERED

Best Practice: the Scenario

1. Create a scenario

It must include the flow and interaction of all the stakeholders of the app



https://www.interaction-design.org/literature/article/design-scenarios-communicating-the-small-steps-in-the-user-experience

Best Practice: the Requirements

2. List requirements

They have to be shared and approved by all the members of the staff and the client

#	Functionality	Host	Guest	To be completed by	Completed
1	Login	✓		17 March 2011	✓
2	Register	✓		17 March 2011	✓
3	Retrieve guest list	✓		24 March 2011	✓
4	Add guest	✓		24 March 2011	✓
5	Remove guest	✓		24 March 2011	✓
6	Update guest	✓		24 March 2011	✓
7	Create questionnaire	✓		24 March 2011	*
8	Retrieve questionnaire	✓		2 April 2011	*
9	Remove questionnaire	✓		2 April 2011	*
10	Send questionnaire	✓		2 April 2011	*
11	Answer questionnaire		✓	2 April 2011	*
12	Create HTML	✓		2 April 2011	✓

* Down scoped

Best Practice: does solution fit all devices?

NEWS

Android M's getting the equivalent of Apple's Touch ID

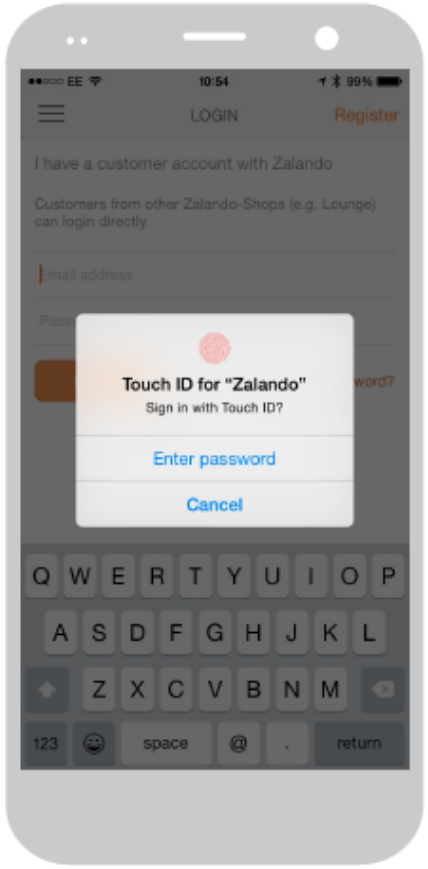
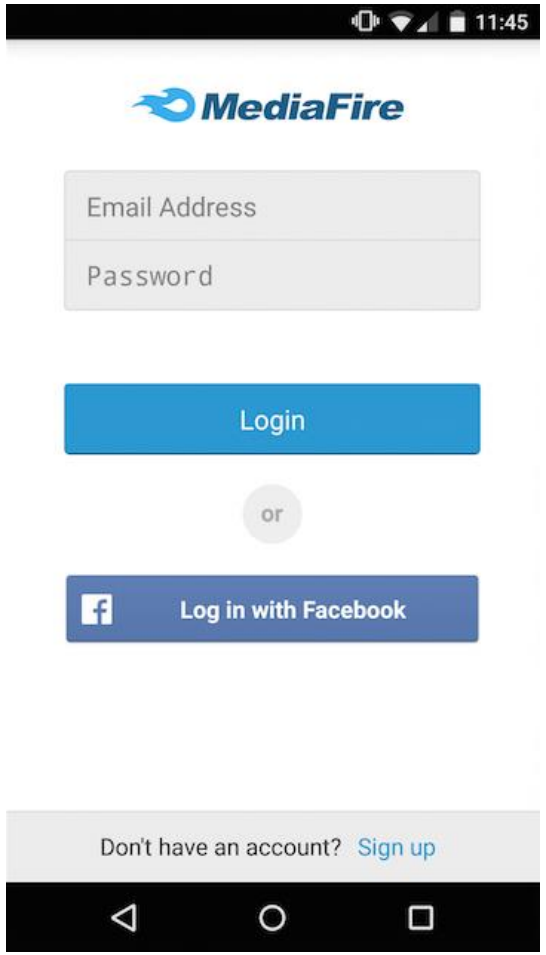


image 10

3. Consider the target

Evaluate the target which your app is intended for.
Which kind of device do they use?
What functionalities the devices have? Are them commonly used and installed on the devices?

Best Practice: the Design
e.g. Sign up screen – social or not?



4. Design all parts of the final product

Design should consider all alternatives. Alternatives should then be accepted or rejected on the basis of acceptable reasons (not needed, minimize the risk, etc…)

The importance of the best practice

Must consider the requests, expectations and future use.
Then it needs to be properly planned and designed

How many bedrooms do you need?
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5+

How about bathrooms?
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5+

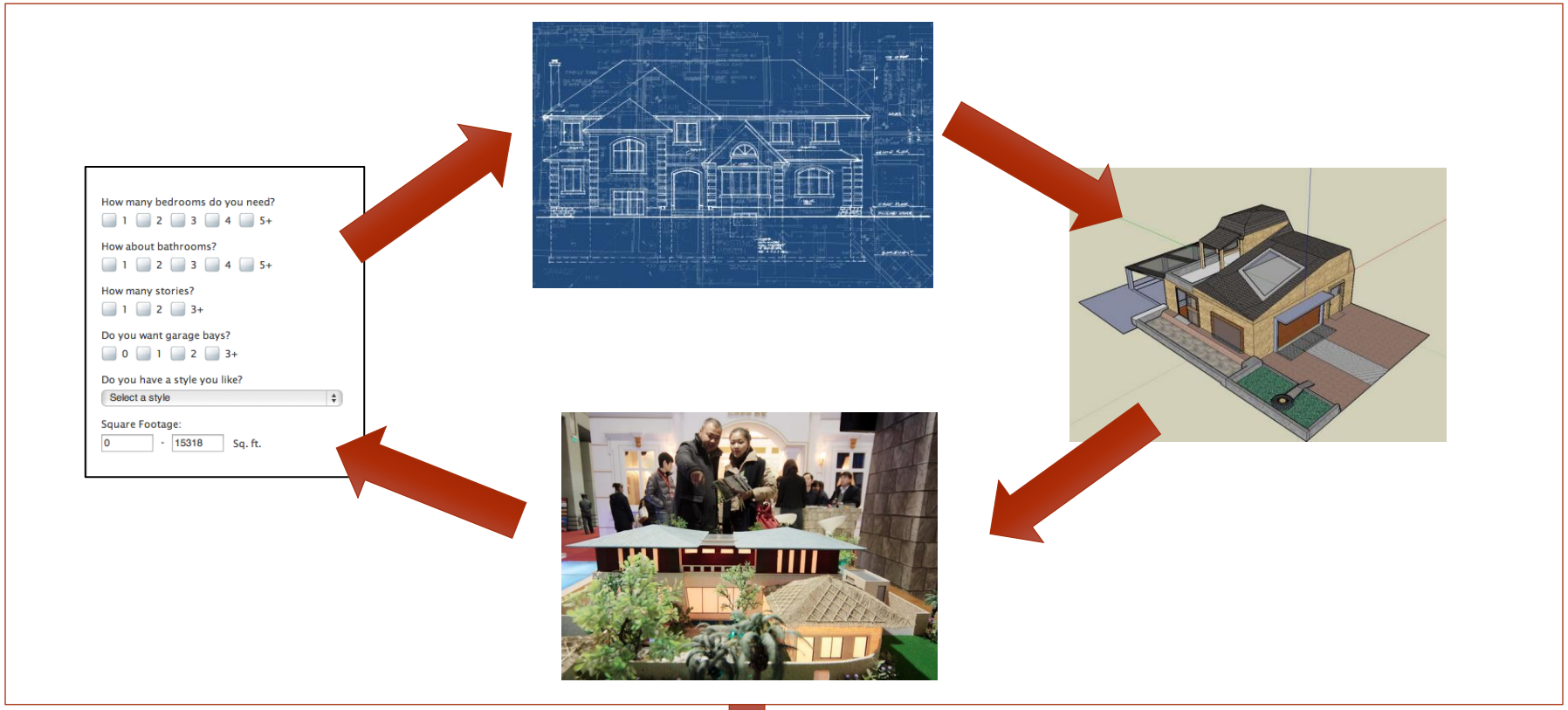
How many stories?
☐ 1 ☐ 2 ☐ 3+

Do you want garage bays?
☐ 0 ☐ 1 ☐ 2 ☐ 3+

Do you have a style you like?
Select a style

Square Footage:
0 - 15318 Sq. ft.

You cannot build a house just from the requirements!



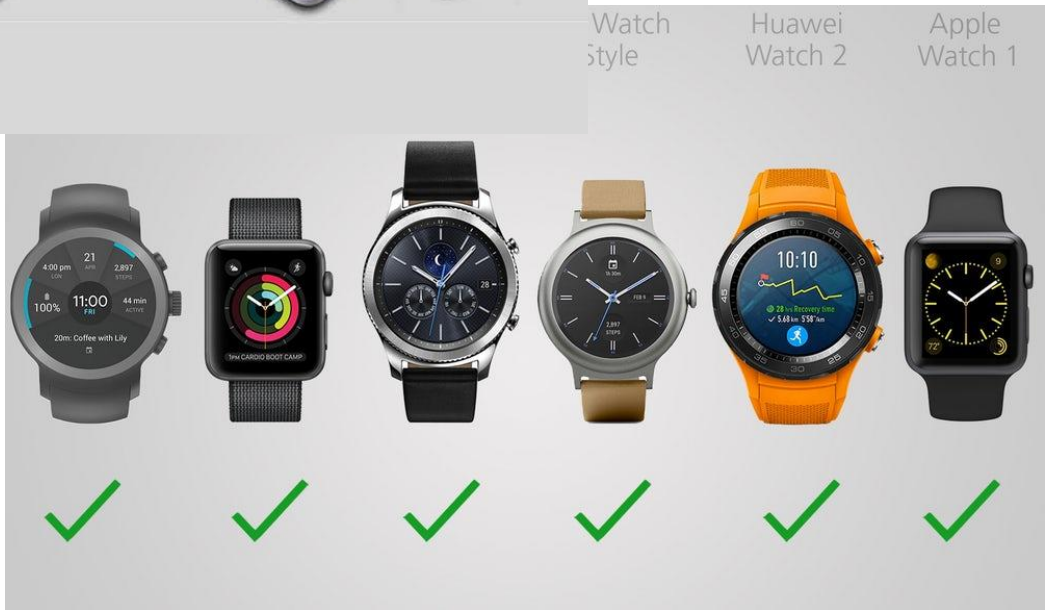
The requirements must be used to prepare a project, then a set of images and a 3D layout.
Many tries could be needed before having the desired result.
Only after them you can start building the house.

Best Practice: Example of design choices

Stylus or Touch Screen ?

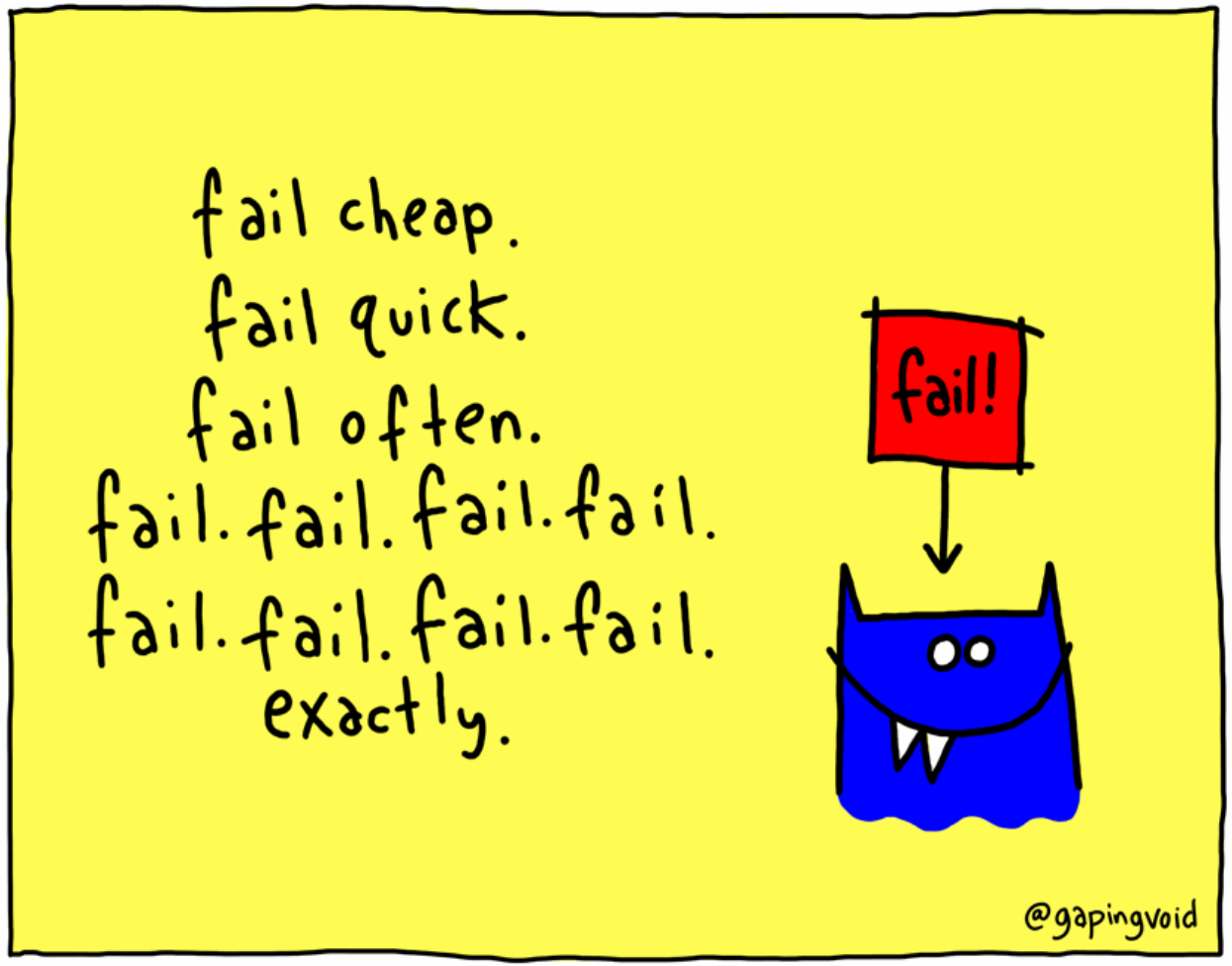
Alarm app – cool or simple?

Best Practice: Example of design choices Wearable or IOT?



Example (failed or successfull?)

THE IMPORTANTANCE TO FAIL!



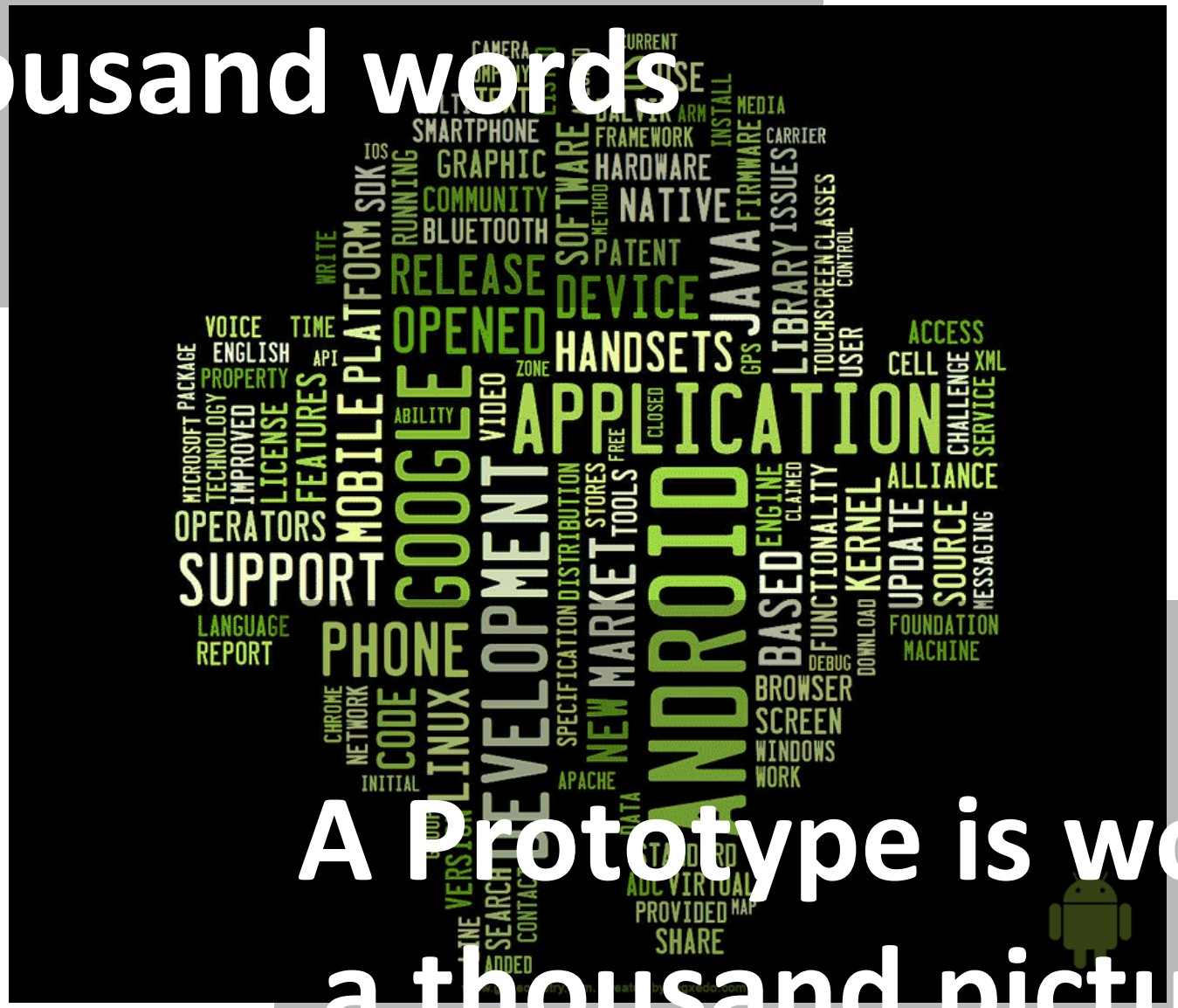
Failing is much more important than having success, because permits you to fix the product.
Failing soon permits you to develop a better application before investing too much money on it.
The important thing is to solve your errors as soon a you find them!

Prototype before you Build

Prototype example

http://www.businessinsider.com/photos-early-apple-prototypes-2014-6?op=1&IR=T

A Picture is worth a thousand words



A Prototype is worth a thousand pictures

Example: 3D printed future car prototype

What is a Prototype?

A *Testable*, Early version of an idea

Prototype example

BBC News Sport Weather Earth Future Shop

NEWS TECHNOLOGY

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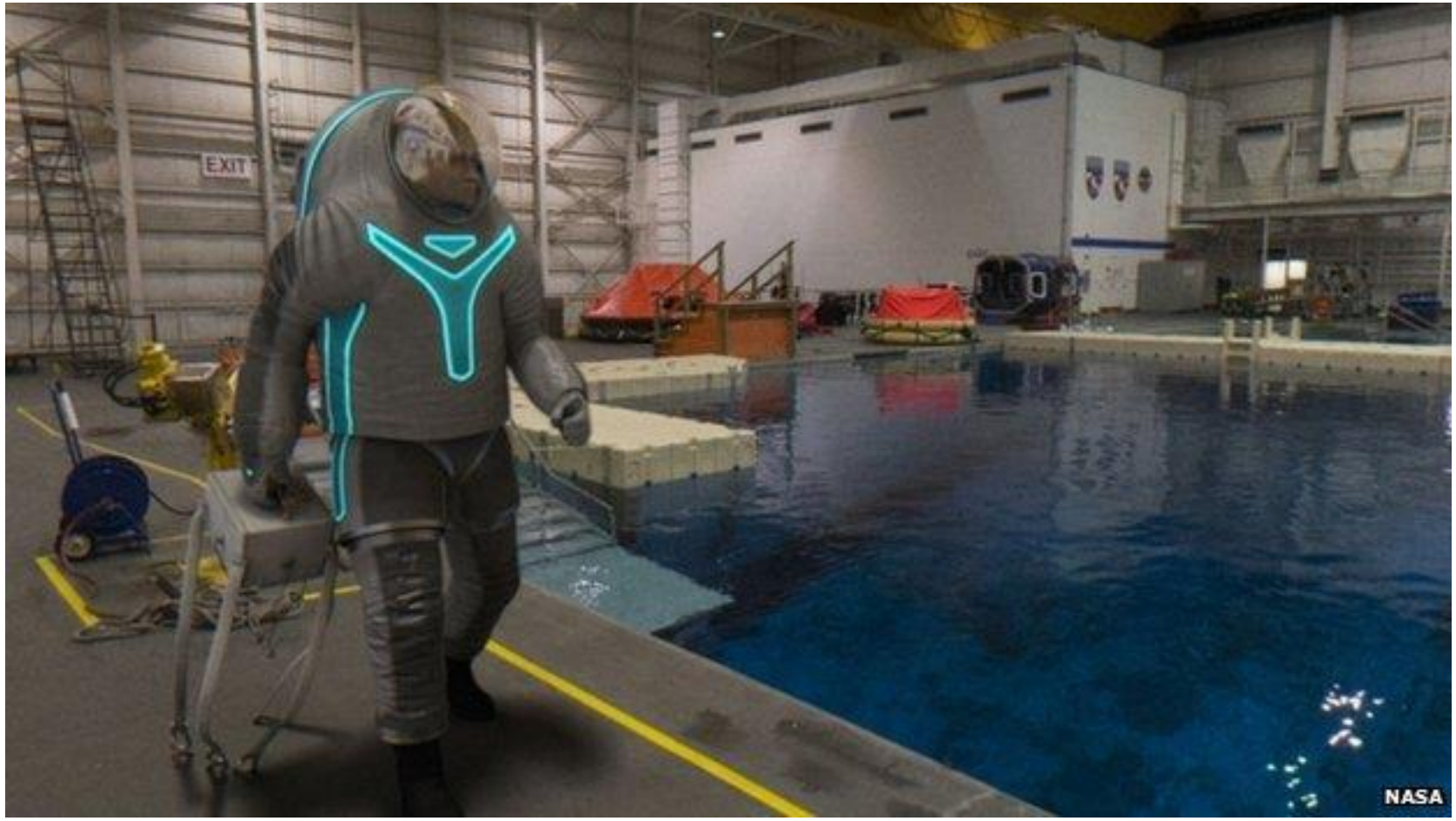
1 May 2014 Last updated at 12:36 GMT

Share

Nasa shows off prototype spacesuit for journey to Mars

Nasa said the Z-2 spacesuit was only a prototype, but elements of it would be incorporated into the suit worn by the first humans to reach the Red Planet.

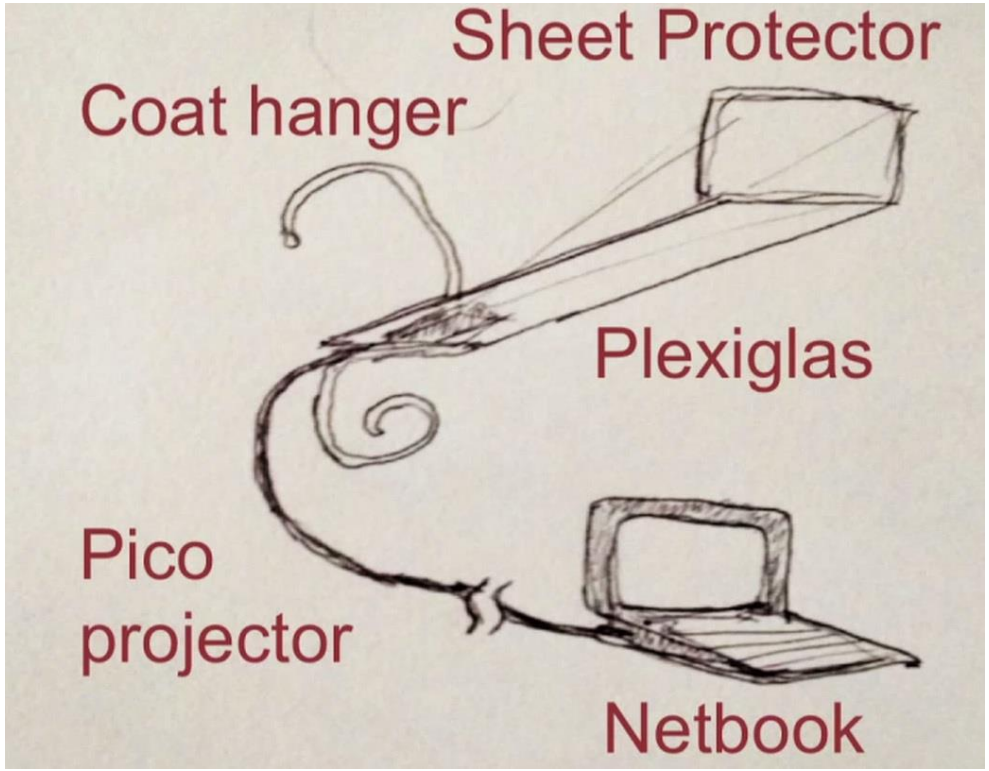
Prototype example



The suit is being tested in Nasa's pools used to teach astronauts to spacewalk

http://www.bbc.com/news/technology-27238452

The google glass example



http://youtu.be/d5_h1VuwD6g?t=34s

What about Prototypes for Software?

Before Building an app

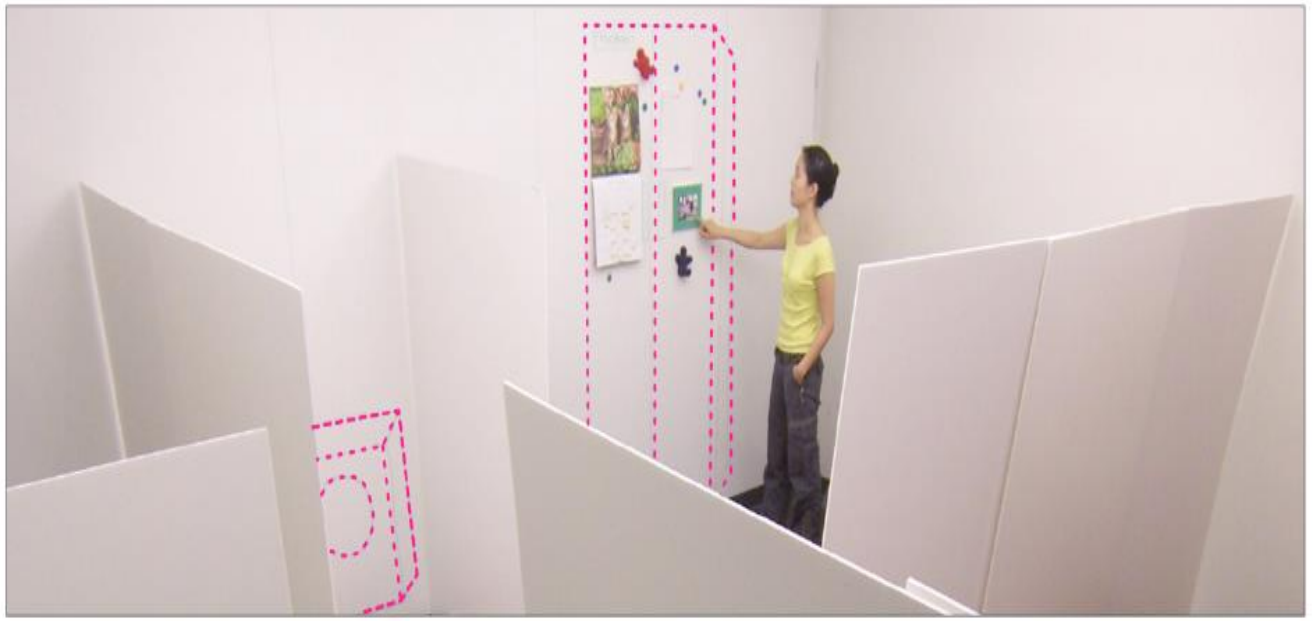
You can create wireframes using softwares to have interactive layouts

Build a Prototype

Or simply on paper sheets, making the result to be at its actual size or properly scaled in all its components

Smart Fridge

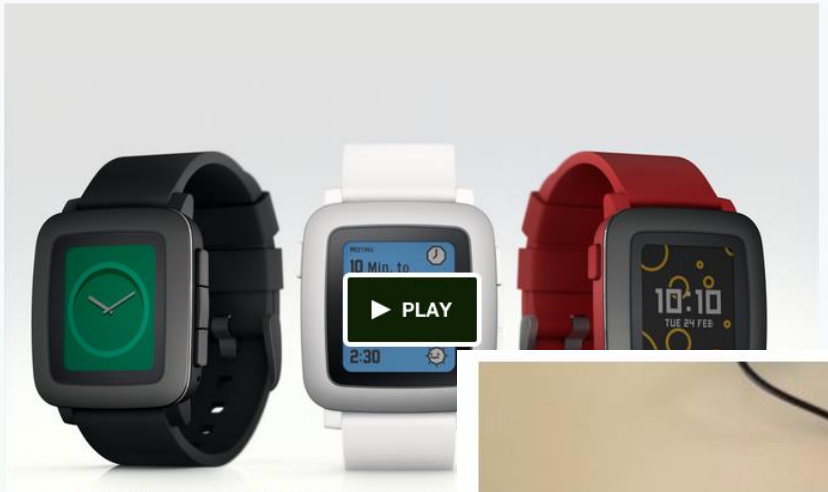
Or using other methodologies able to give you an idea of the dimensions, space and interaction with the user



Smart Watch Example

Pebble Time - Awesome Smartwatch, No Compromises

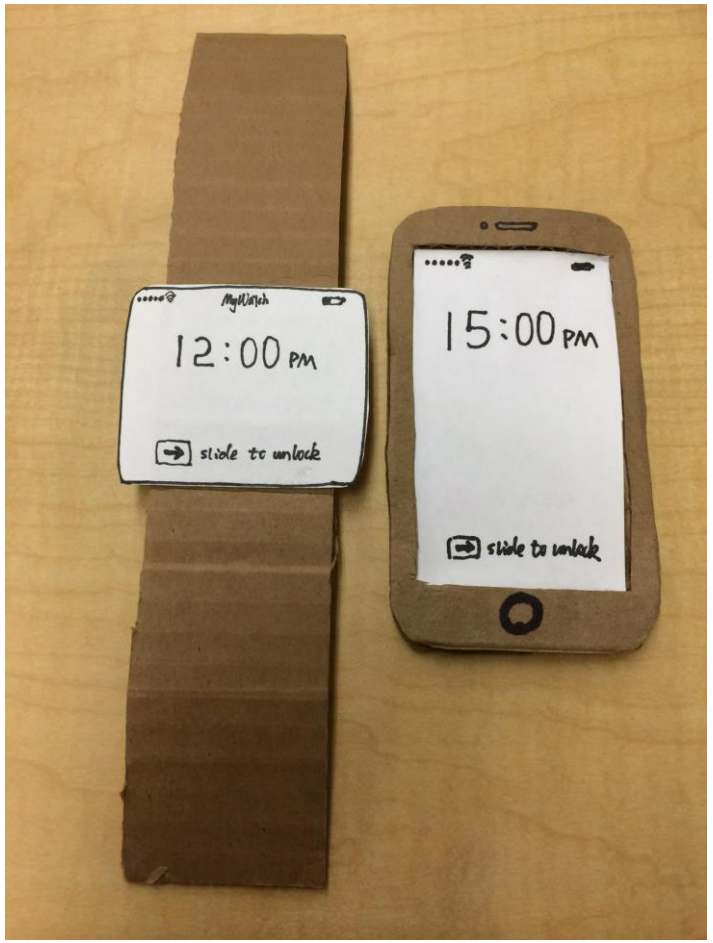
by **Pebble Technology**



37,866
backers

$8,035,231
pledged of $500,000 goal

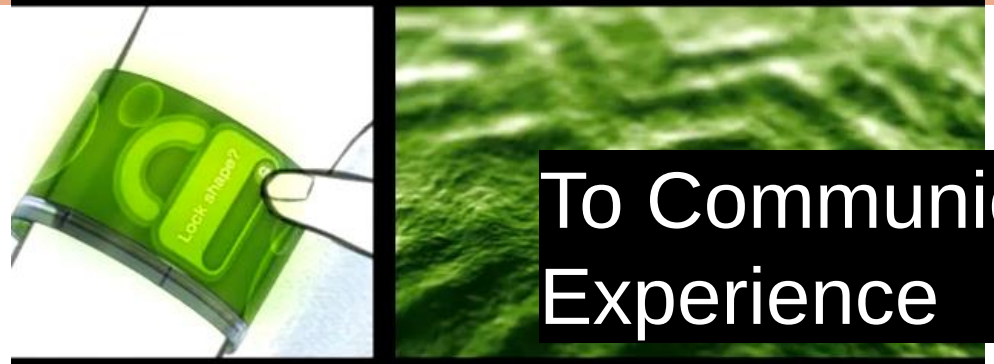
30
days to go

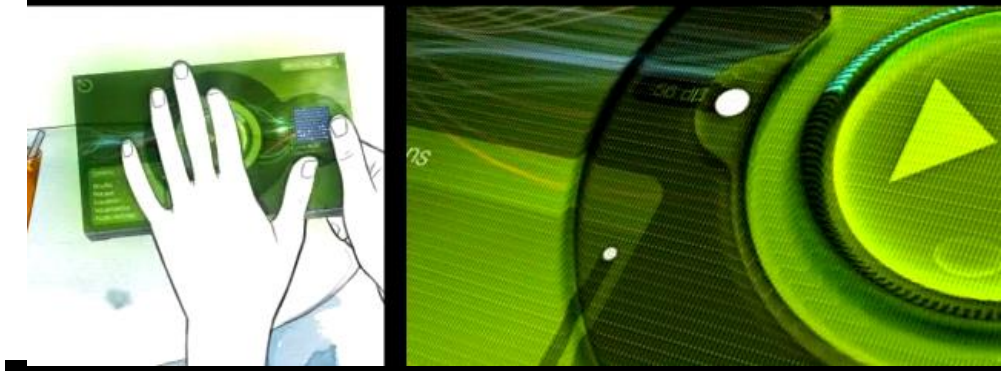


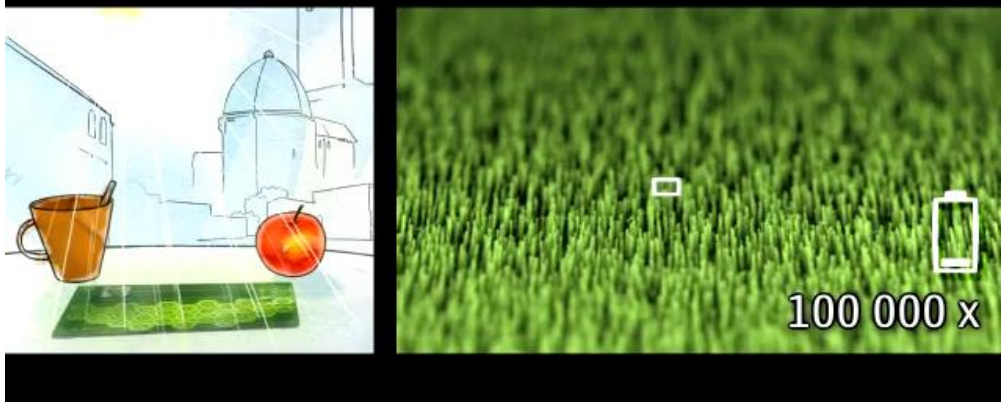
https://blog.getpebble.com/2012/08/10/user-interface-preview-updates/

Why `Prototype`?

To Communicate an Idea or Experience







To Validate Assumptions

We want to build the next cool gadget…

But …. What do people think about it?
Lets show them a video

Example: Spiral Staircase - Good Idea?

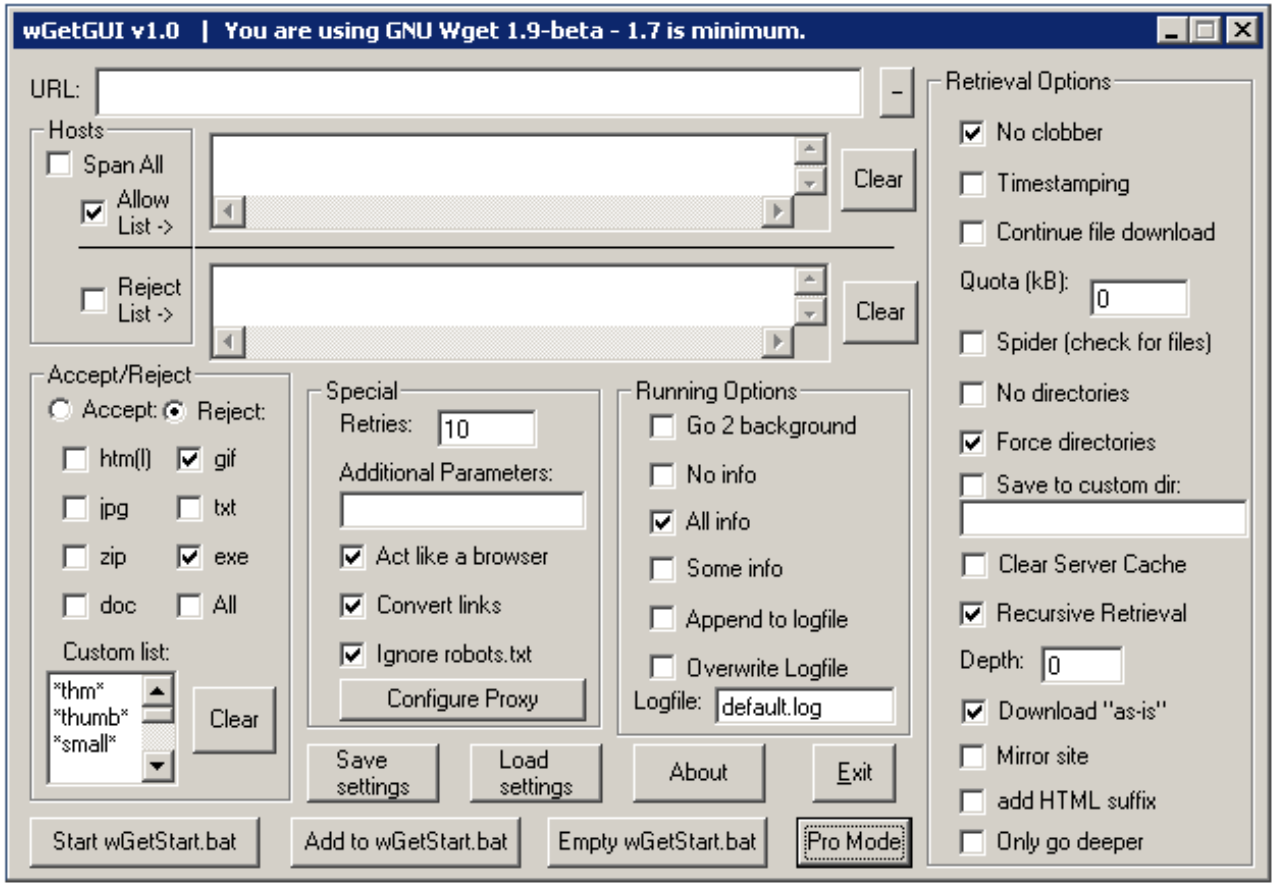
Still a good idea?

Facebook Sign-in Only?

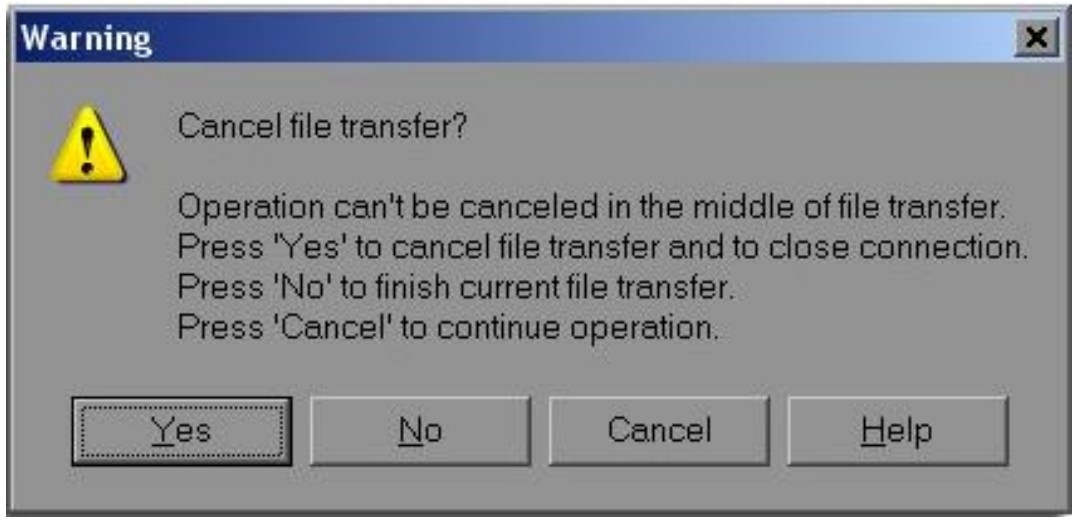
What if your users don't trust your app?

This Is What Happens When You Let Developers Create UI

Deep down inside every software developer, **there's a budding graphic designer waiting to get out.** And if you let that happen, you're in trouble. Or at least your users will be, anyway:



Are you sure your messages are understandable?



Press *Yes* to Cancel" – "Press *Cancel* to Continue ????

Are your assumptions innovative?

Check the market!

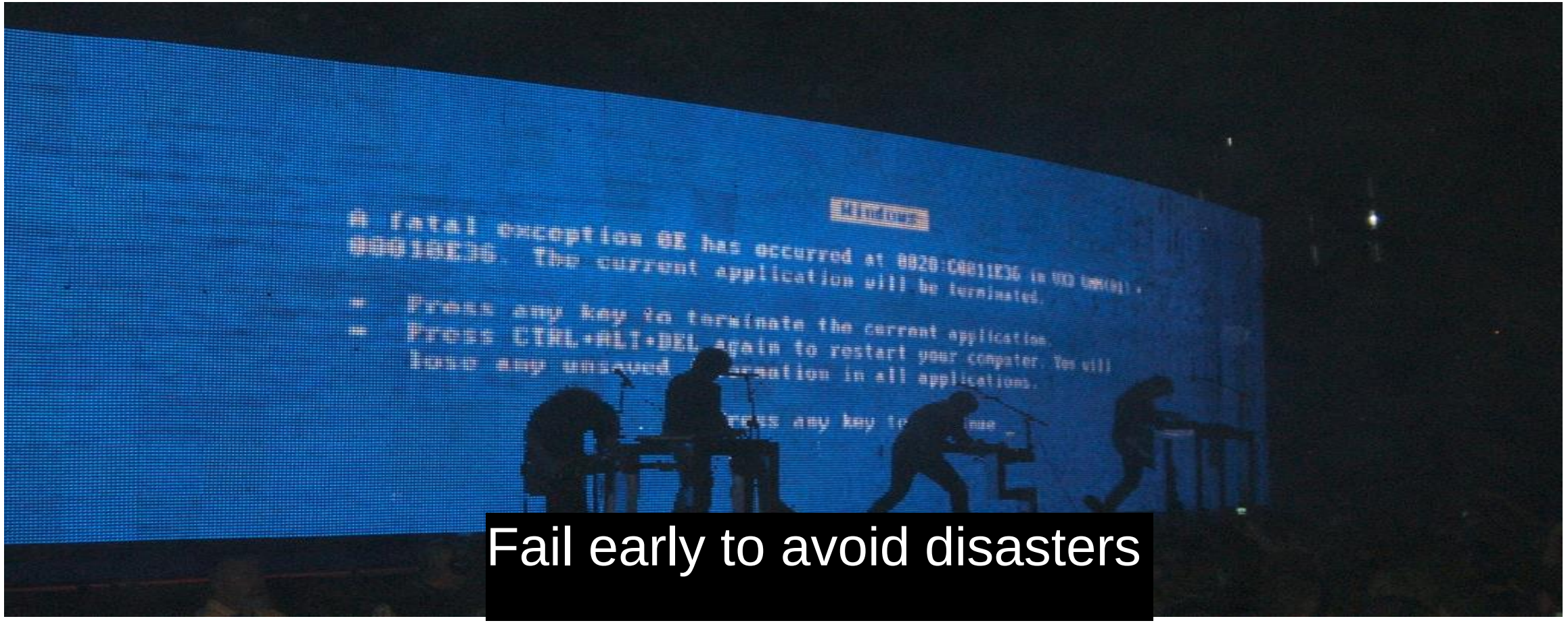
Does it exists already?

Why is it different?

Which is the additional value?

Why no-one did it before?

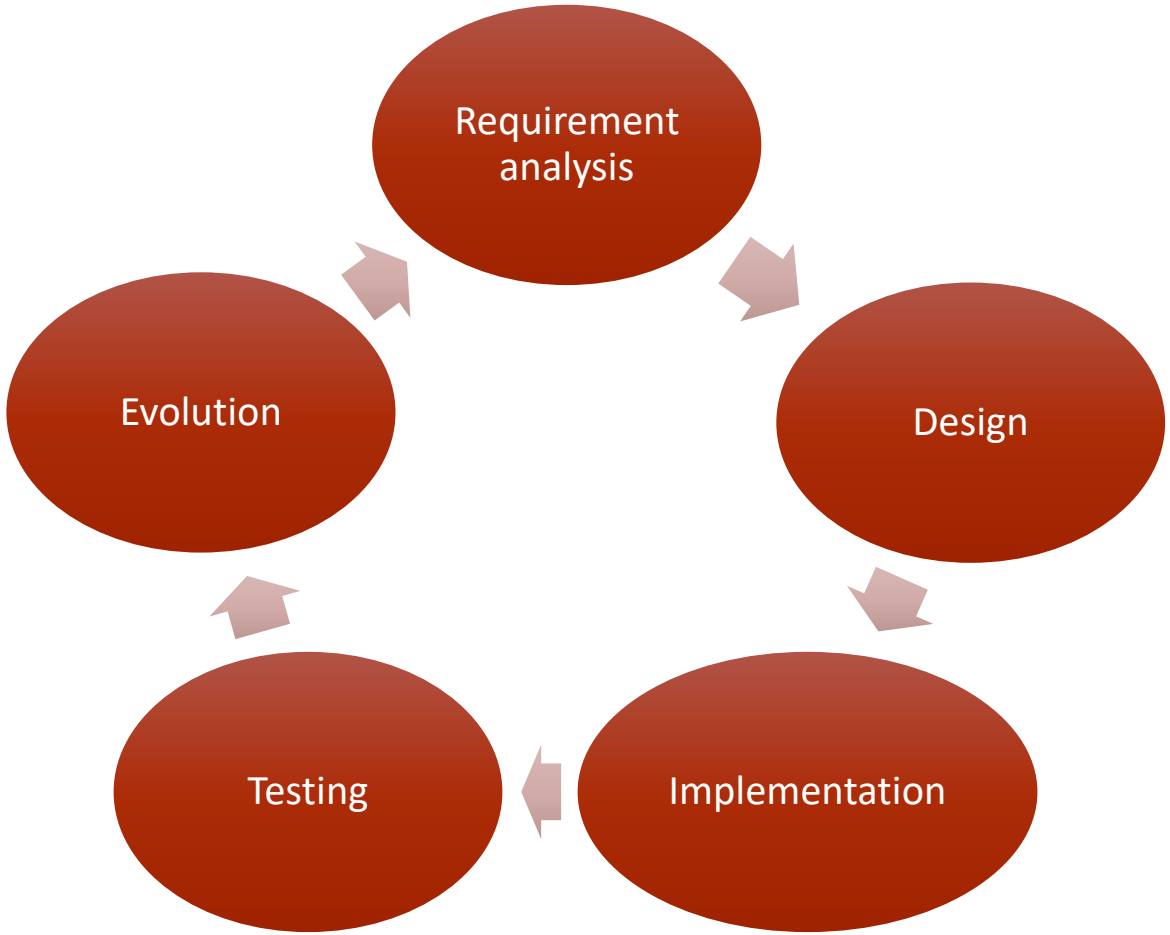
Don’t wait to fail!



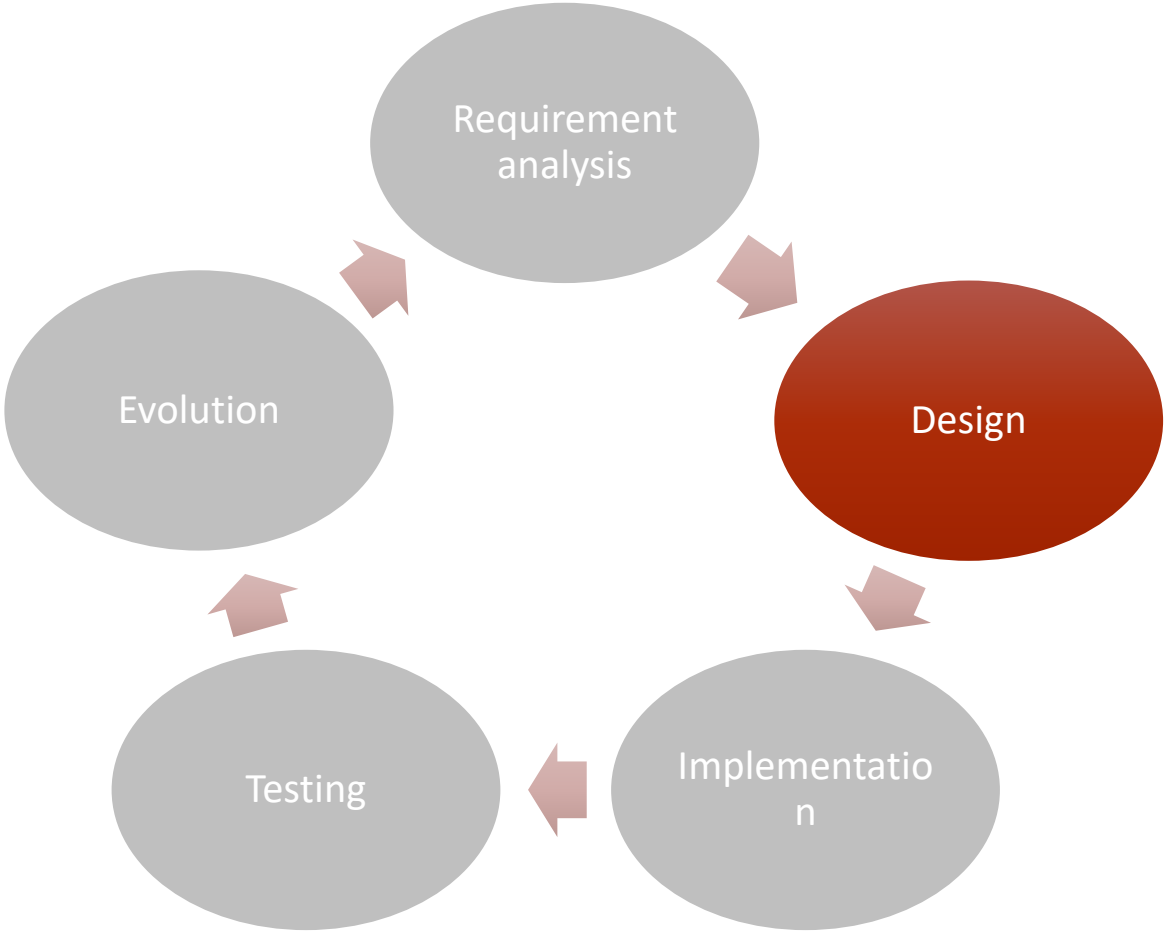
Get Feedback Early

- Design the concept before you build it.
- Get Feedback.
- Redesign.
- Keep it fast and simple.
- Review Early.

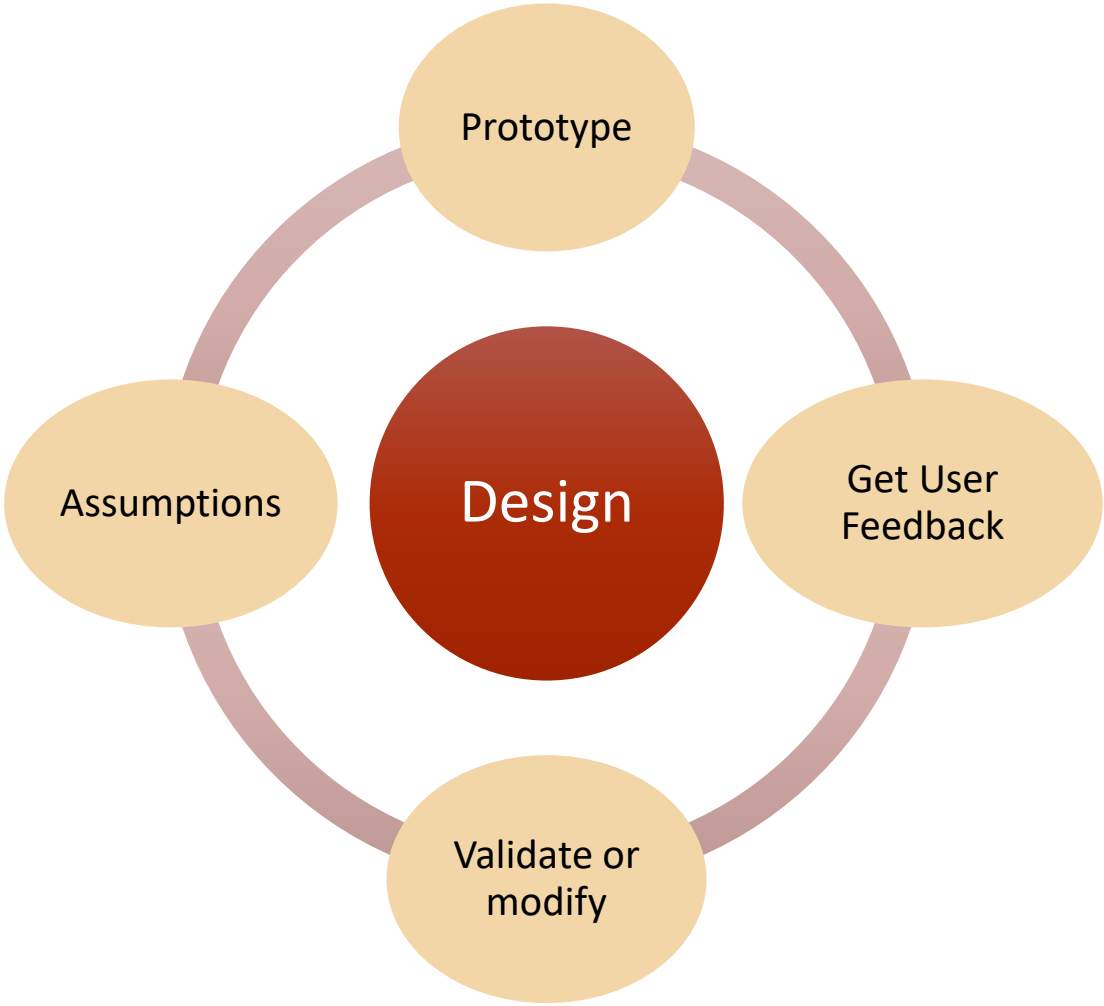
Ideal Software Engineering Life Cycle



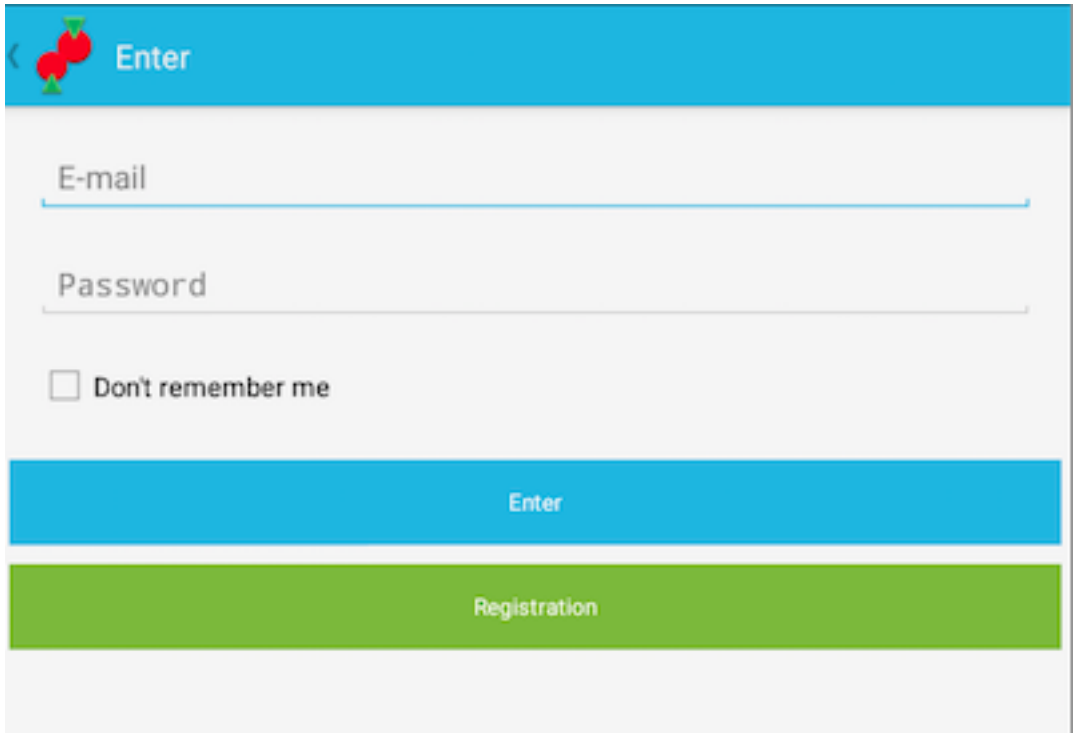
Where does prototyping come in?



Prototyping Life Cycle



Consider all possible events:
What could go wrong with a login screen?



They forgot the “FORGOT PASSWORD” button!!!

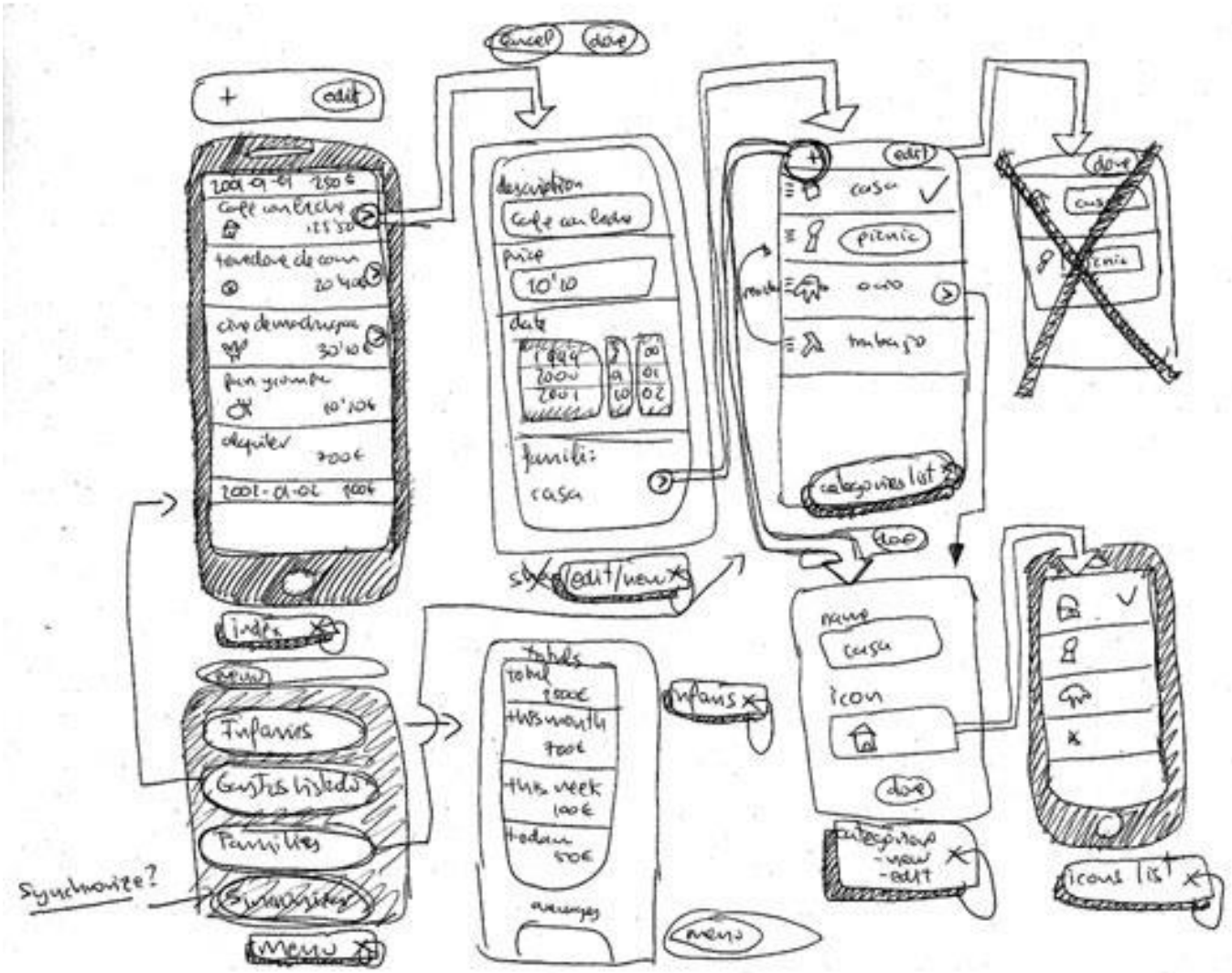
Common techniques

- Paper prototyping
- Wireframes and page schematics
- HTML wireframes
- Interactive prototypes

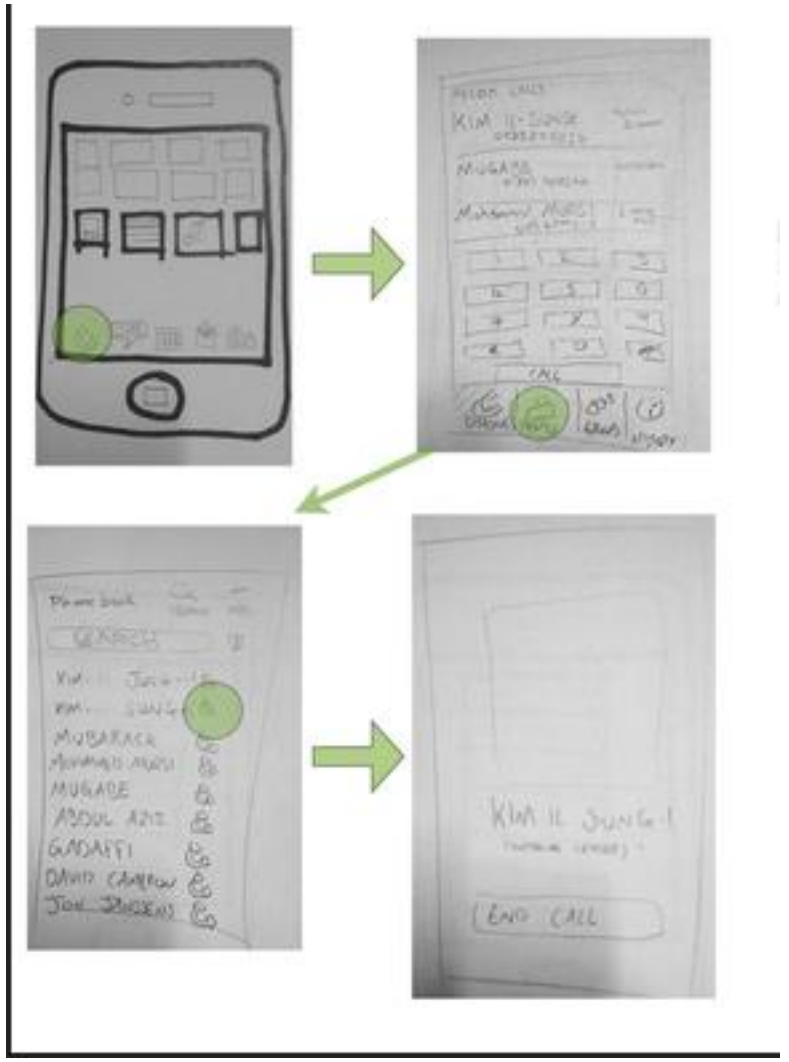
What is Paper Prototyping?

- Paper: materials of paper-and-pencil alike.
- Prototyping: The design and evaluation of the concept.
- Low-fidelity visual representation
- Test Usability.
- Representative users perform real tasks by interacting with a paper version of the interface.

Example Paper Prototypes



Example Paper Prototypes



Advantages

- Quick to build/refine, thus enabling rapid design interactions.
- Requires minimal resources and materials.
- People are willing to give you more feedback when they know you have invested little.

Disadvantages

- Its paper not a real app/webpage

Wireframes

- **Wireframes** – *basic illustrations* of the *structure and components* of a web page or Mobile Application
  - Real Proportions
  - Includes basic page/screen layout
  - Includes navigation
  - May include:
    - headers, footers, content areas, sidebars
    - dynamic widgets, search box, graphics, links

Wireframing examples

HTML Wireframes

Advantages

- Better than paper prototypes
  - Feels real
  - Things happen when you click

Disadvantages

- Just a skeleton
  - Not really how the real interfaces looks
  - Not really how the real interface behaves

Interactive Prototyping

Importance of transitions and movements

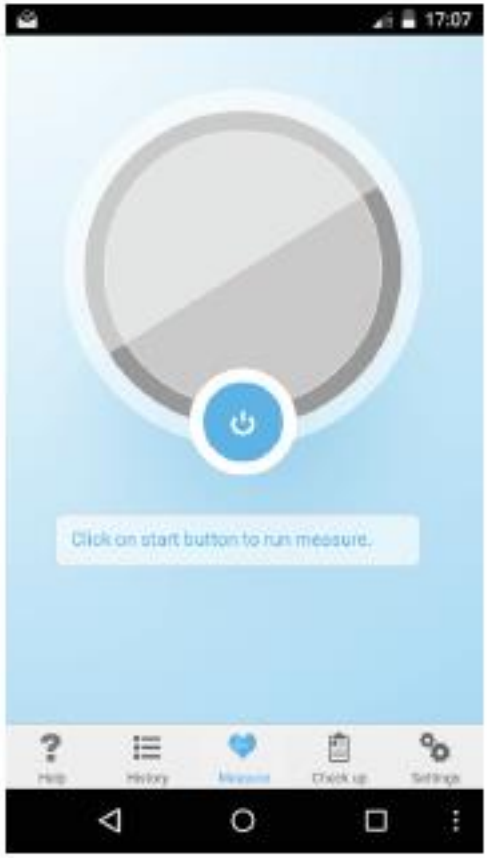
How did this?

…become this?

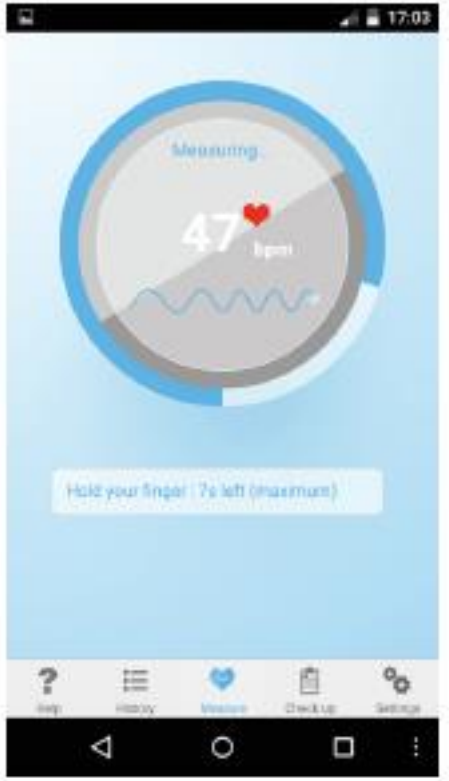
How did this?

…become this?

How did you go from this?



…to this?



Interactive Prototyping tools

Works both as a Firefox plugin and standalone installation on windows, mac, and Linux

http://pencil.evolus.vn/Downloads.html

Completely in your browser

https://proto.io/ https://marvelapp.com/

Standalone
installation on windows, and mac

http://www.justinmind.com/download

More tools

https://popapp.in/

https://mockingbot.com/

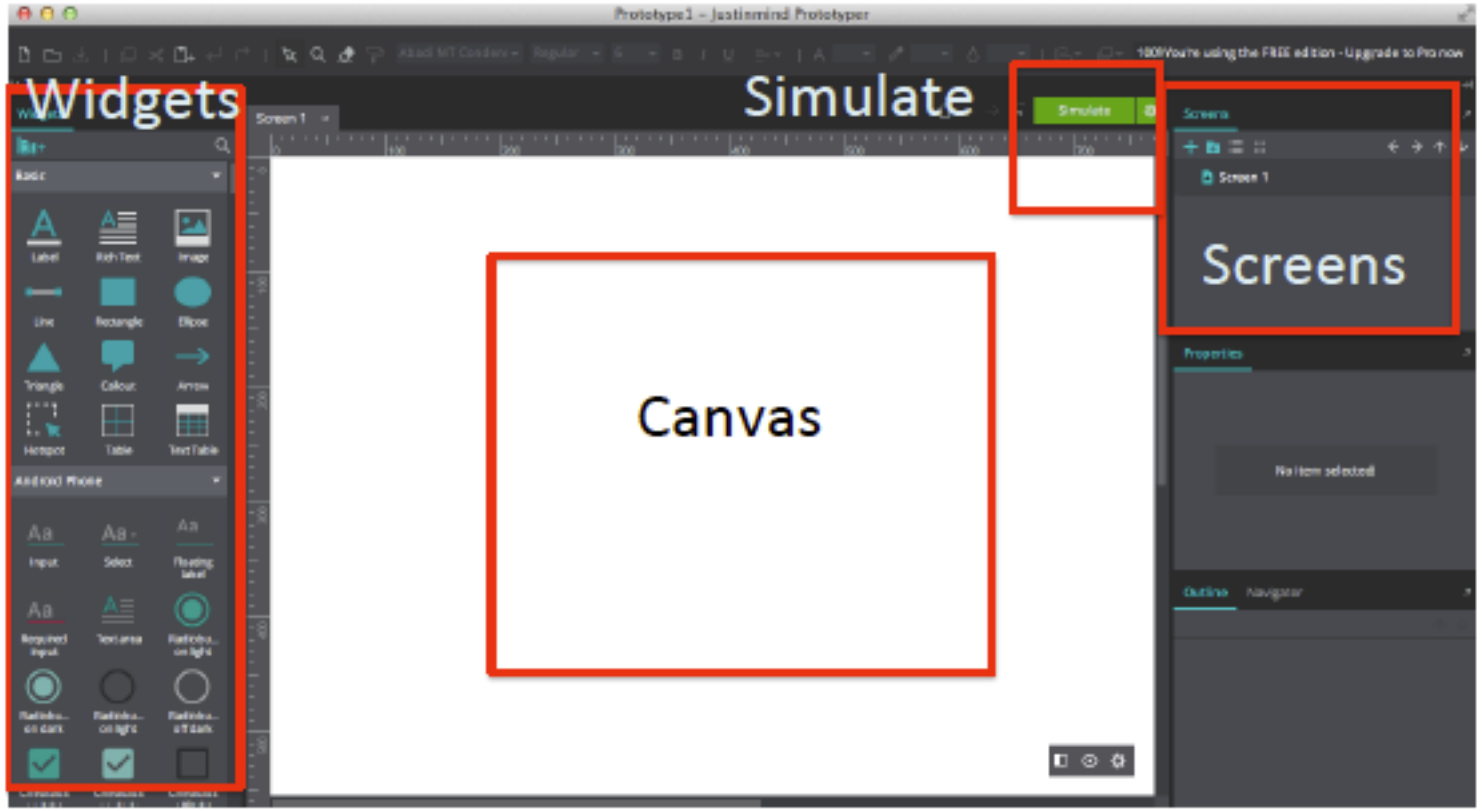
http://www.invisionapp.com/tour

http://www.pixate.com/

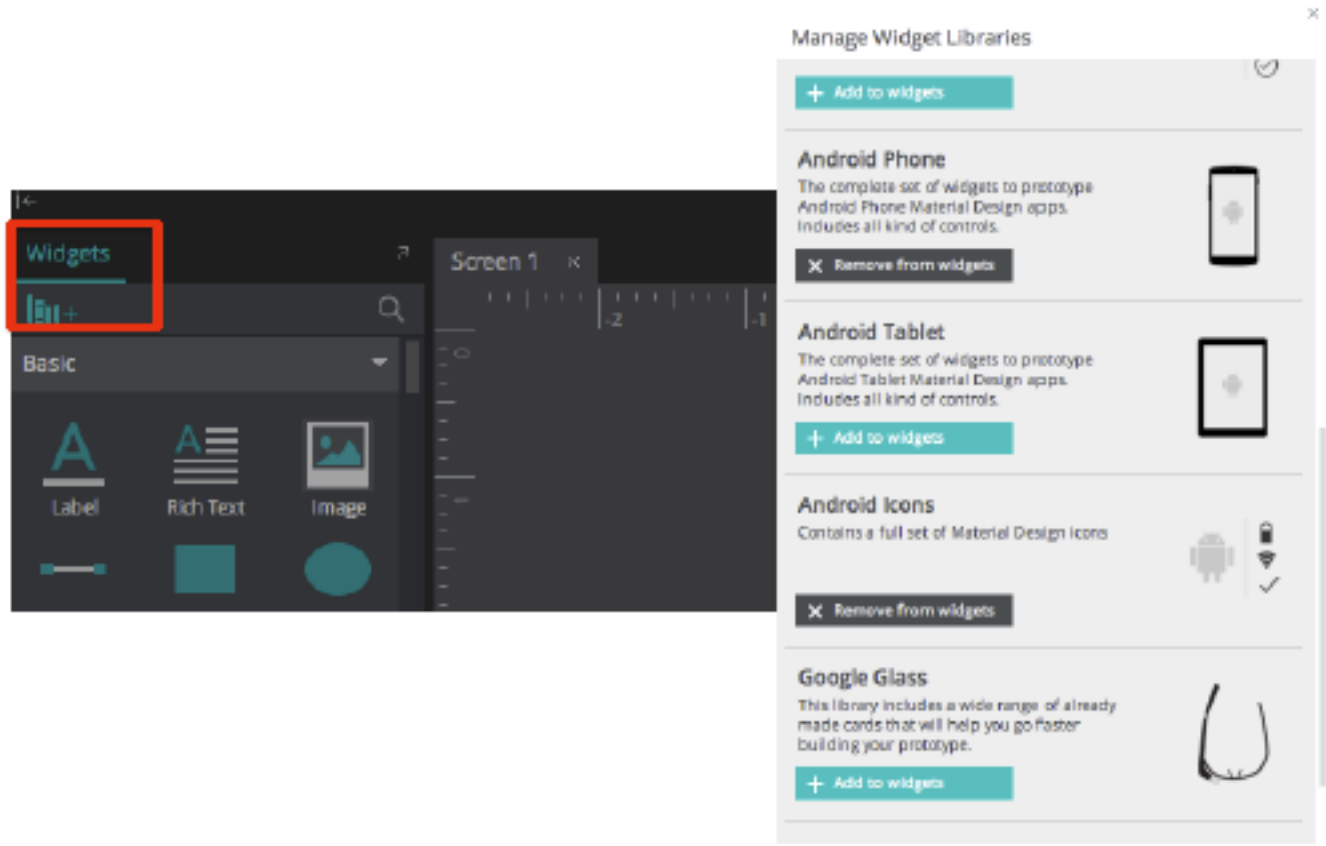
Justinmind Prototyper

Features

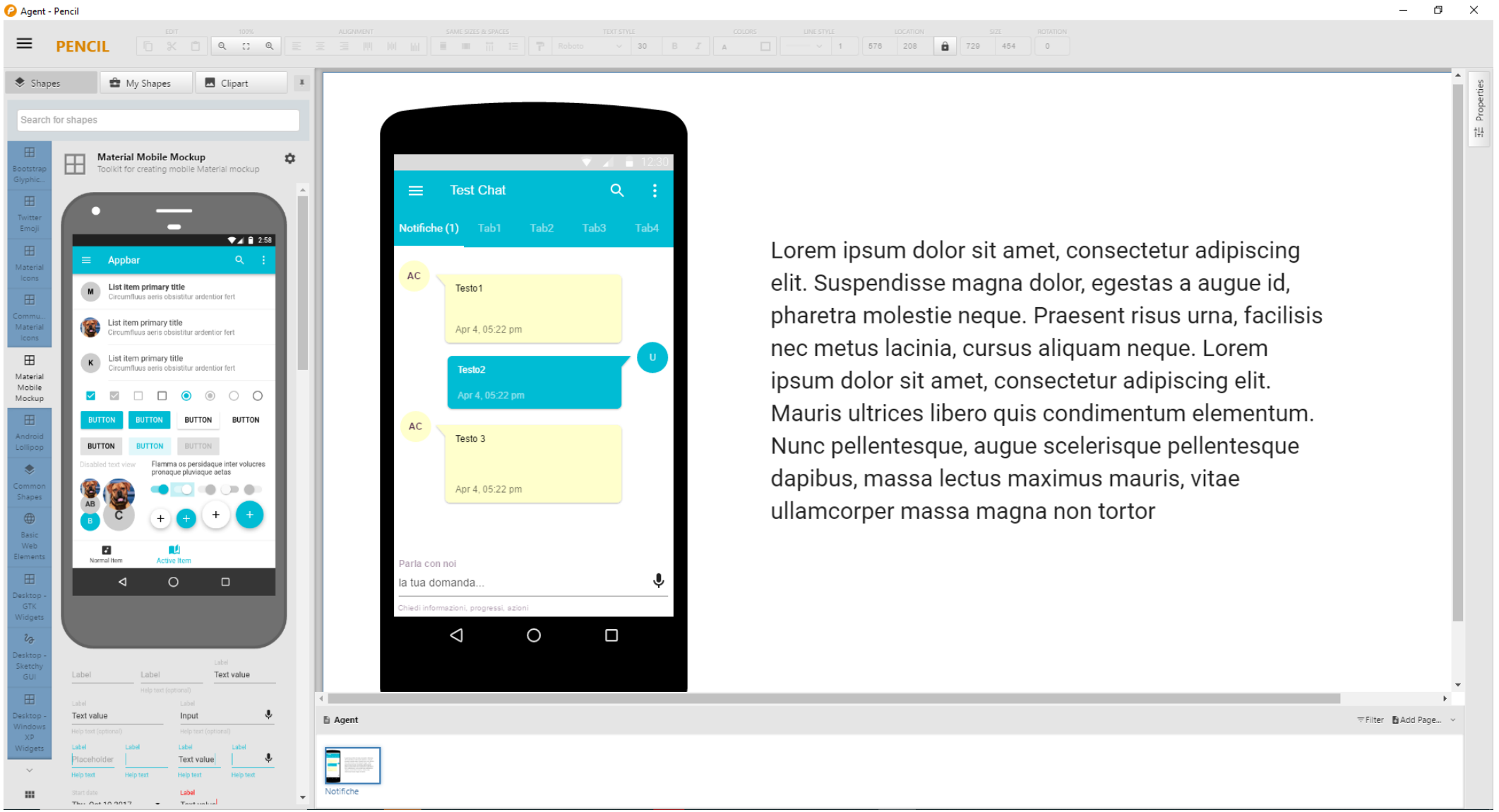
- **No programming required.** Justinmind Prototyper is an intuitive tool. Just drag the components or interactions that you need from the palettes to the work area.
- **Instant Simulations.** See your application's prototype in action by simply clicking the Simulate button. No waiting required.
- **Exportable to HTML.** Export to HTML effortlessly, so that your clients or users can see it work online and give you their opinion.


Widgets
Simulate
Screens
Canvas

Add New Widgets from Library



Pencil



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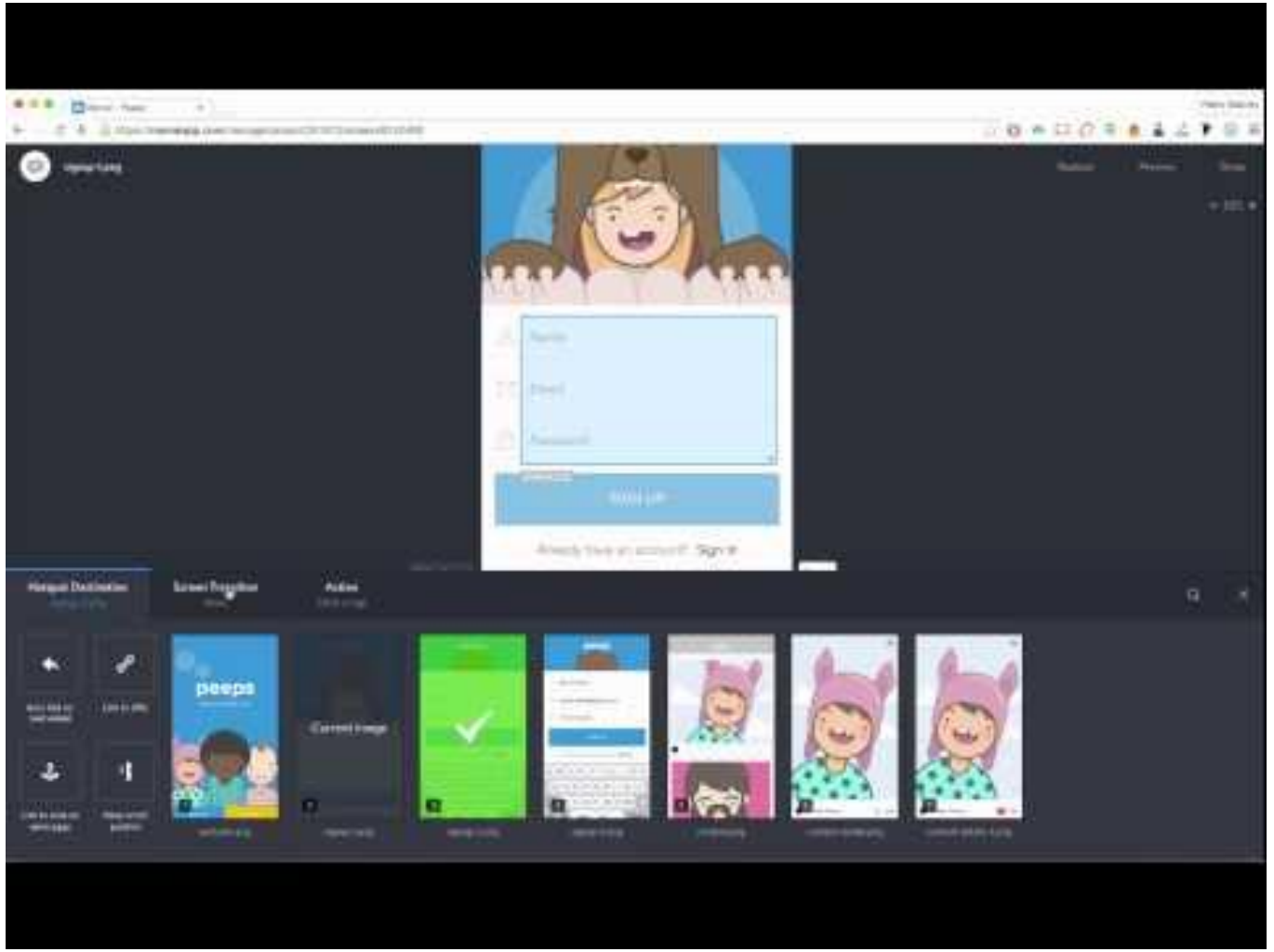
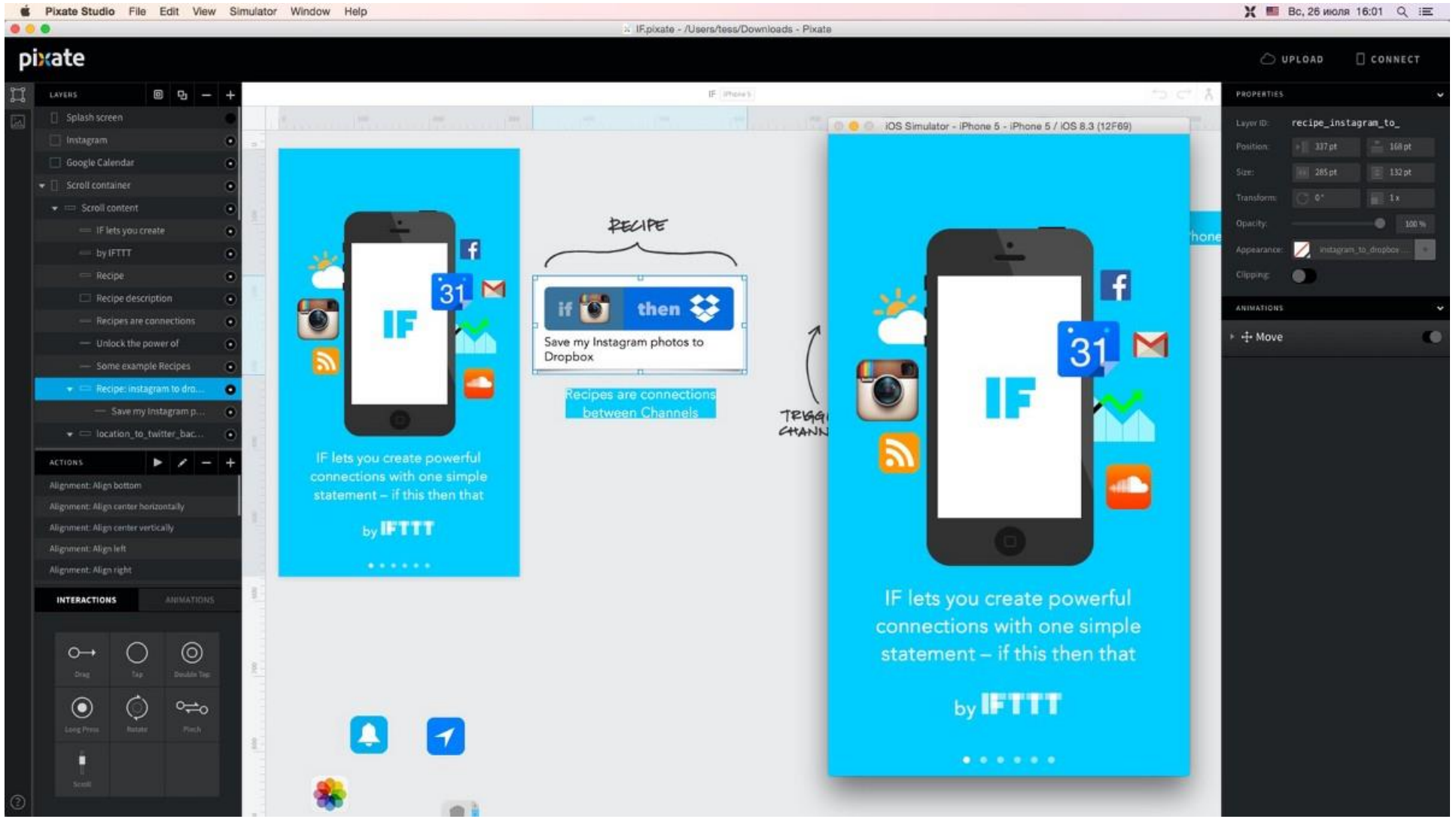
Marvel App



Pixate

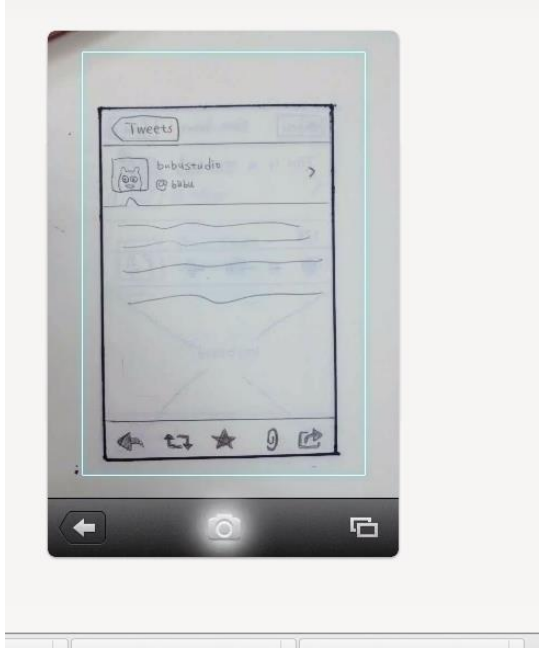

Pixate Studio File Edit View Simulator Window Help
IF.pixate - /Users/tess/Downloads - Pixate
pixate
UPLOAD
CONNECT
LAYERS
Splash screen
Instagram
Google Calendar
Scroll container
Scroll content
IF lets you create
by IFTTT
Recipe
Recipe description
Recipes are connections
Unlock the power of
Some example Recipes
ACTIONS
INTERACTIONS
ANIMATIONS
IF lets you create powerful connections with one simple statement – if this then that
by IFTTT
RECIPE
if then
Save my Instagram photos to Dropbox
Recipes are connections between Channels
iOS Simulator - iPhone 5 - iPhone 5 / iOS 8.3 (12F69)
PROPERTIES
Layer ID: recipe_instagram_to_
Position: 337 pt 168 pt
Size: 285 pt 132 pt
Transform: 0° 1 x
Opacity: 100 %
Appearance: instagram_to_dropbox
Clipping:
ANIMATIONS
Move

Pop

- Leveraging the simplicity of paper prototyping

Design on paper

Simulate and Test



Take Pictures

Simulate clicks

Homework

- Student/Teacher chat

- Imagine a student attending a distance-learning course. He needs a chat application to be able to interact with the teacher to ask questions, get homeworks, send documents (including papers and exams) and get feedbacks, also referencing to attended lessons when needed.
- Project must consider both Student and Teacher view and be differently usable for both to make them save time when interacting in the app.
- Look at existing shopping apps
- What features would you want to add/remove
- Next class YOU will *build the* prototype