



Develop

Arindam Ghosh
Prof. Giuseppe Riccardi



Design, Develop and Deliver

Arindam Ghosh
Prof. Giuseppe Riccardi



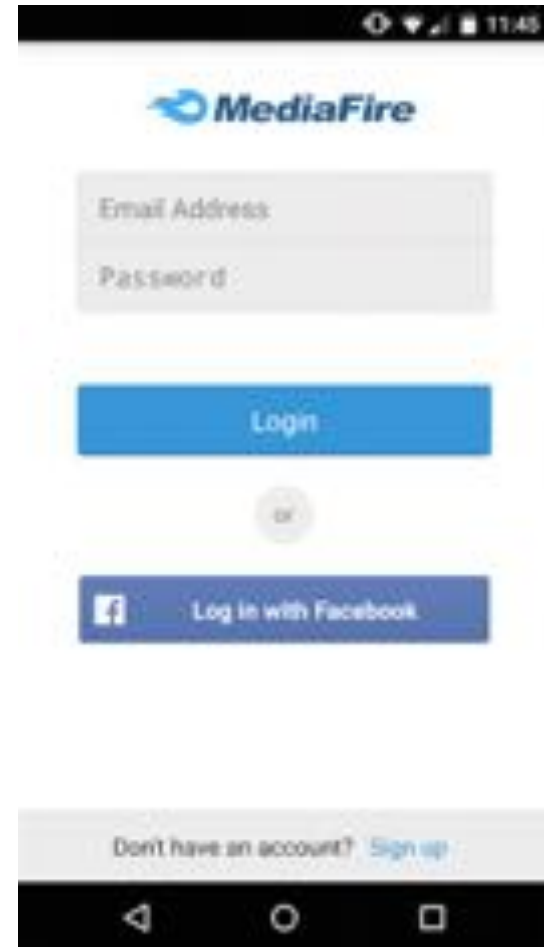
D-D-D







Sign up screen – social or not?



NEWS

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

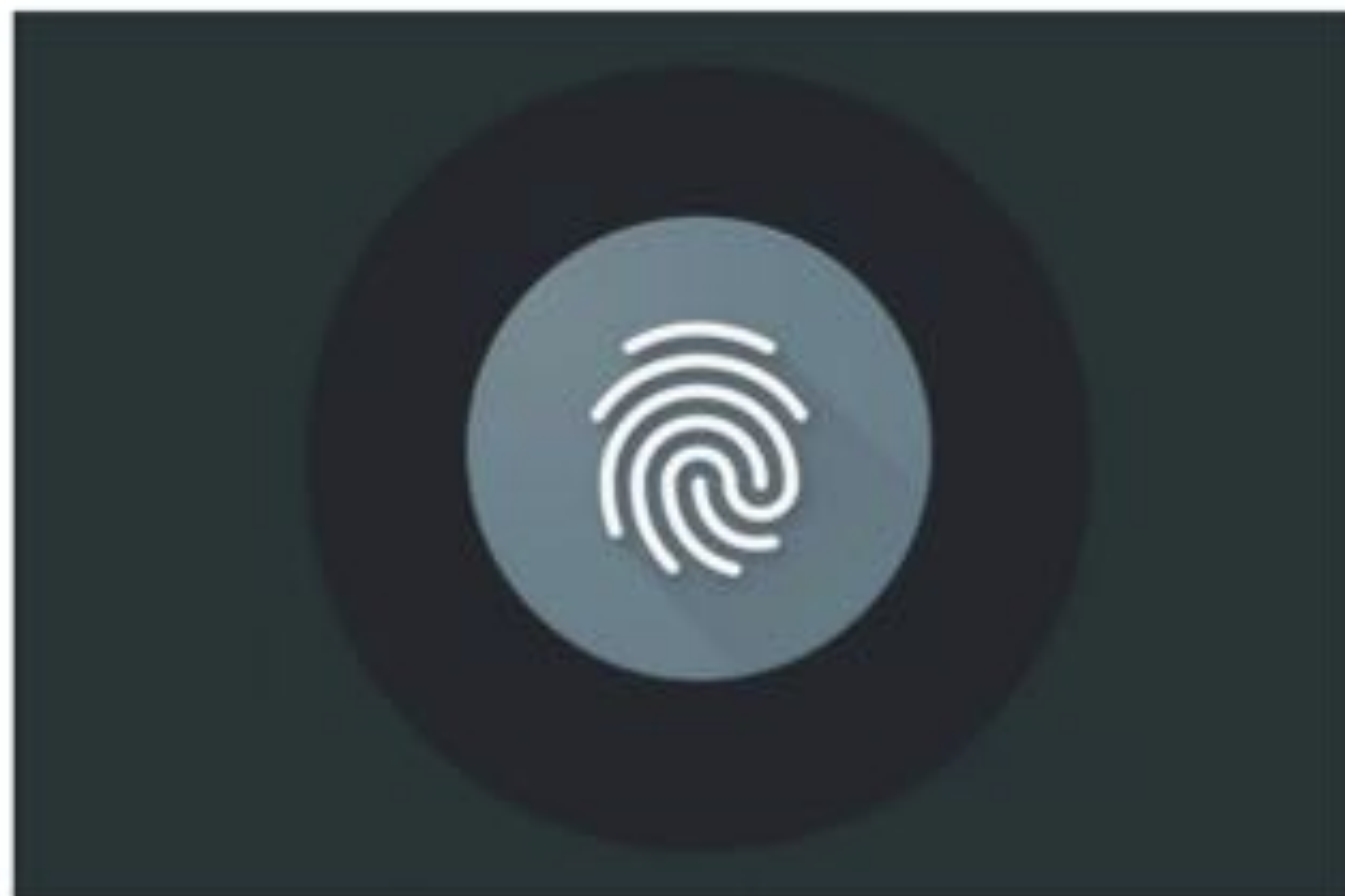


image 10

Requirements

#	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



Stylus or Touch Screen ?



Is Apple making an 'iPad Pro' with a stylus?

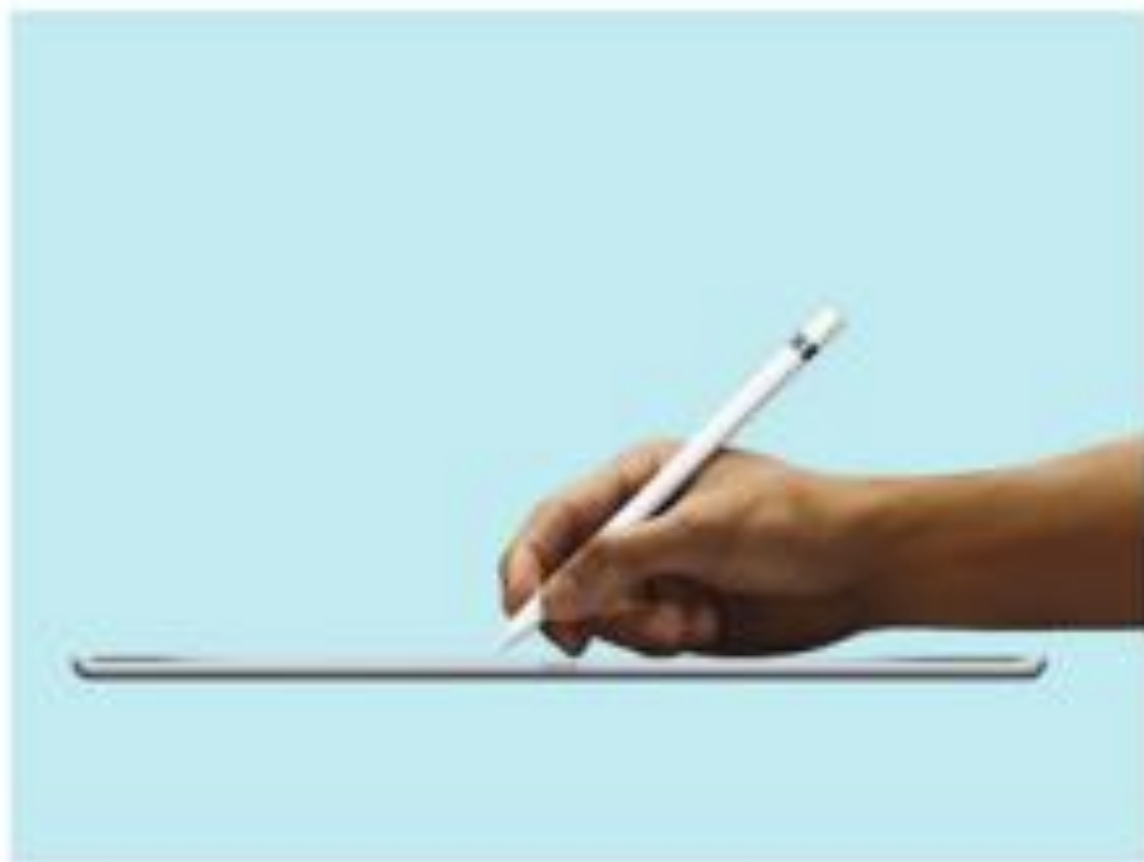
By **Sam Byford** on January 18, 2015 08:41 pm [Email](#) [@345triangle](#)



<http://www.theverge.com/2015/1/18/7785443/apple-ipad-pro-stylus>

DAVID PIERCE DEAR 09.12.19 7:00 AM

ONLY APPLE CAN MAKE THE PERFECT STYLUS IT ONCE SPURNED



Alarm App - cool or simple?

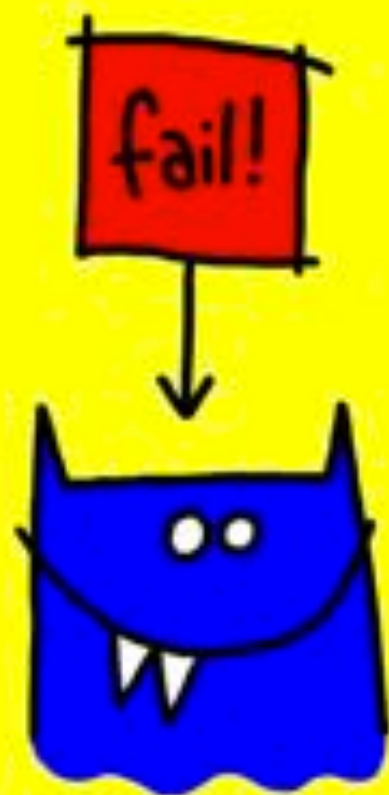


YOU HAD ONE JOB





fail cheap.
fail quick.
fail often.
fail. fail. fail. fail.
fail. fail. fail. fail.
exactly.



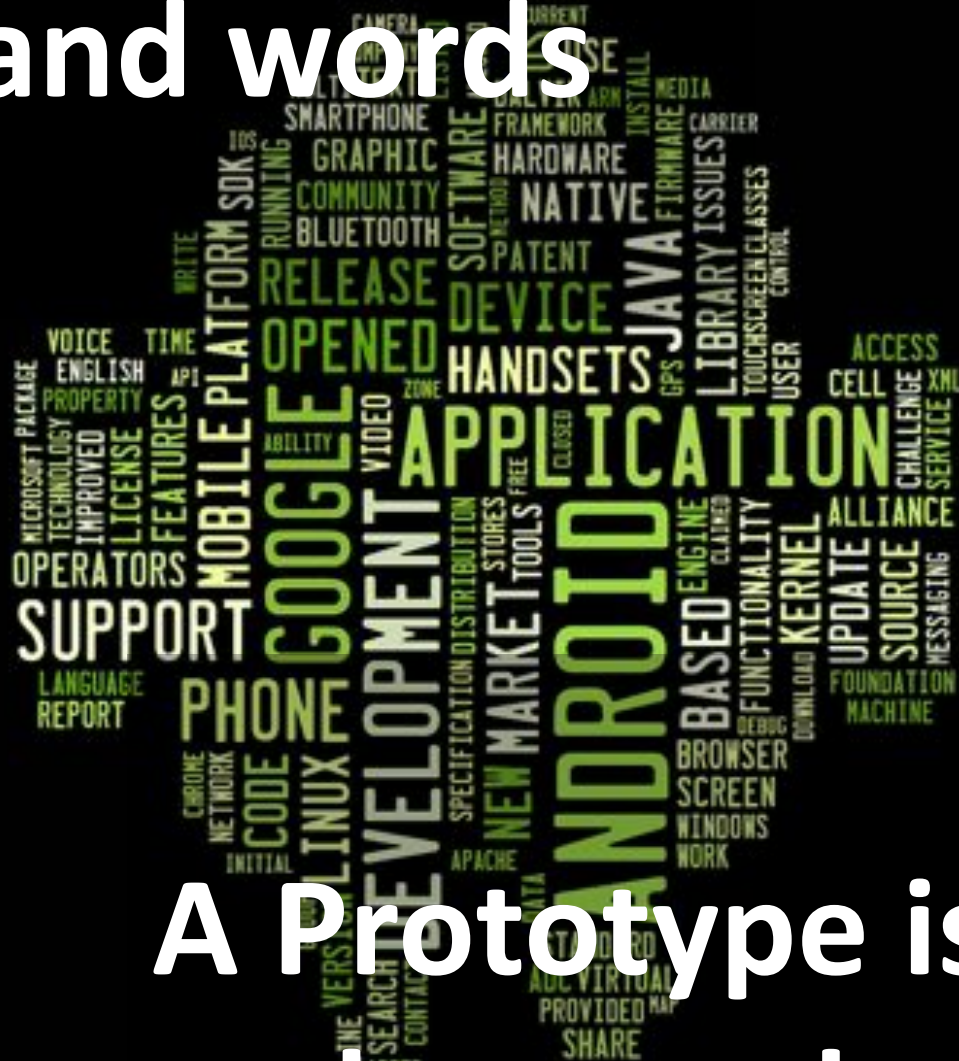
Prototype before you Build





<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

3D printed future car prototype



What is a Prototype?



A Testable, Early
version of an idea



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1 May 2014 Last updated at 12:36 GMT



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.



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

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

Architecture

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?

Square Footage:
 - Sq. ft.



Architecture

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

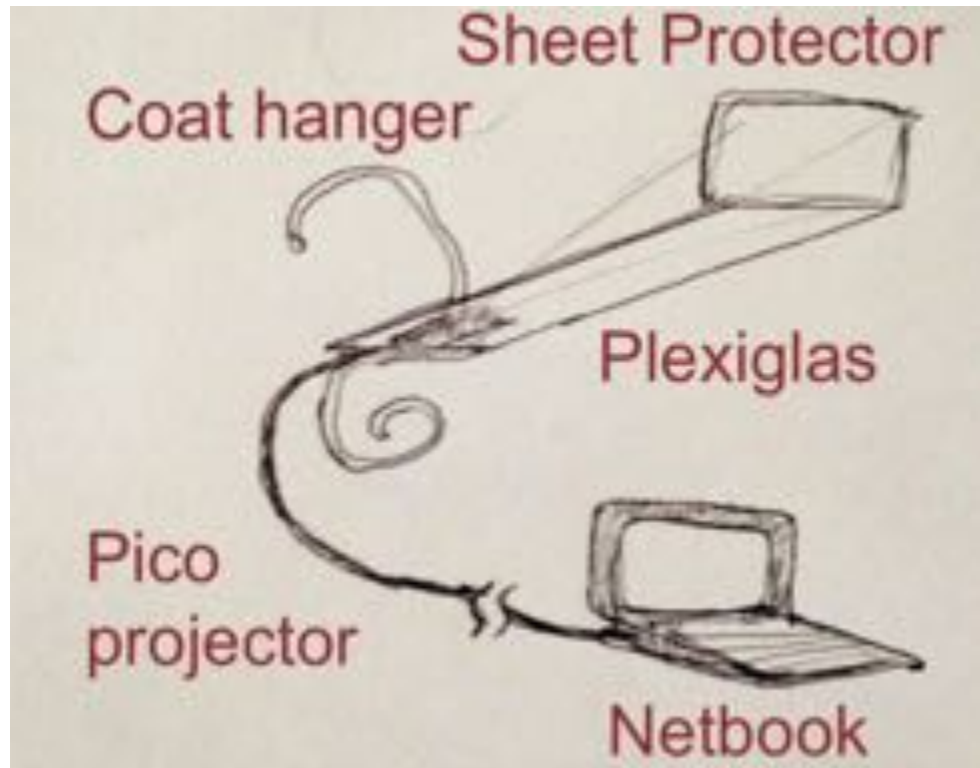
Square Footage:
0 - 15318 Sq. Ft.







Google Glass



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

What about Prototypes
for Software?

Before Building an app

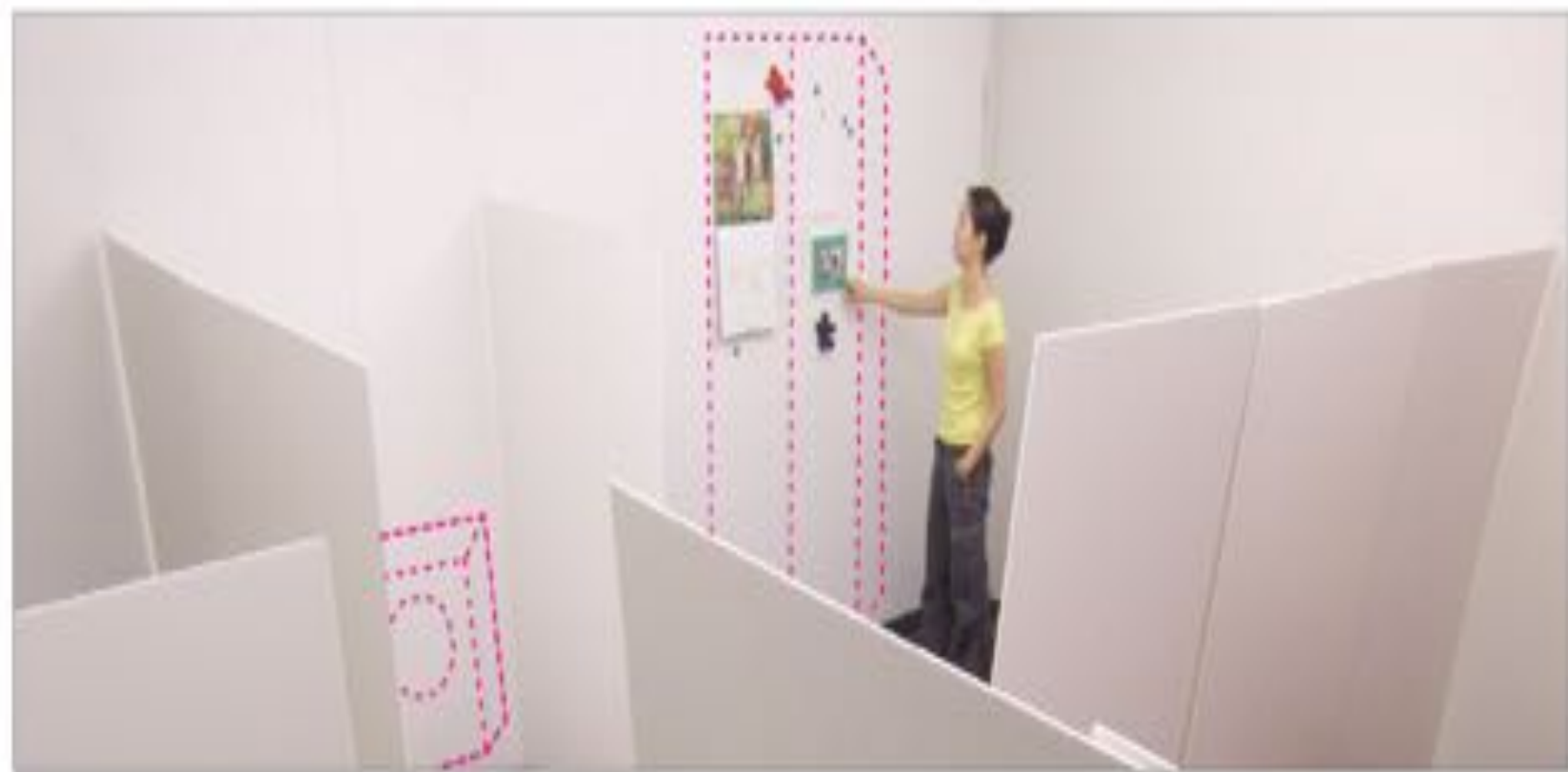


Build a Prototype



Smart Fridge





Smart Watch

Pebble Time - Awesome Smartwatch, No Compromises

by Pebble Technology



37,866

backers

\$8,035,231

pledged of \$500,000 goal

30

days to go

[Back This Project](#)

★ [Remind me](#)

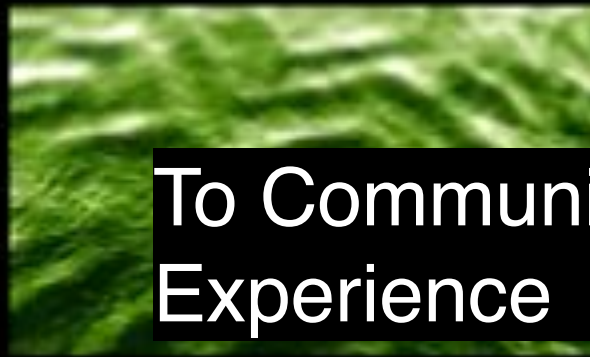




<https://blog.getpebble.com/2012/08/10/user-interface-preview-updates/>

Why Prototype?

To Communicate an Idea or Experience



We want to build the next cool
gadget...

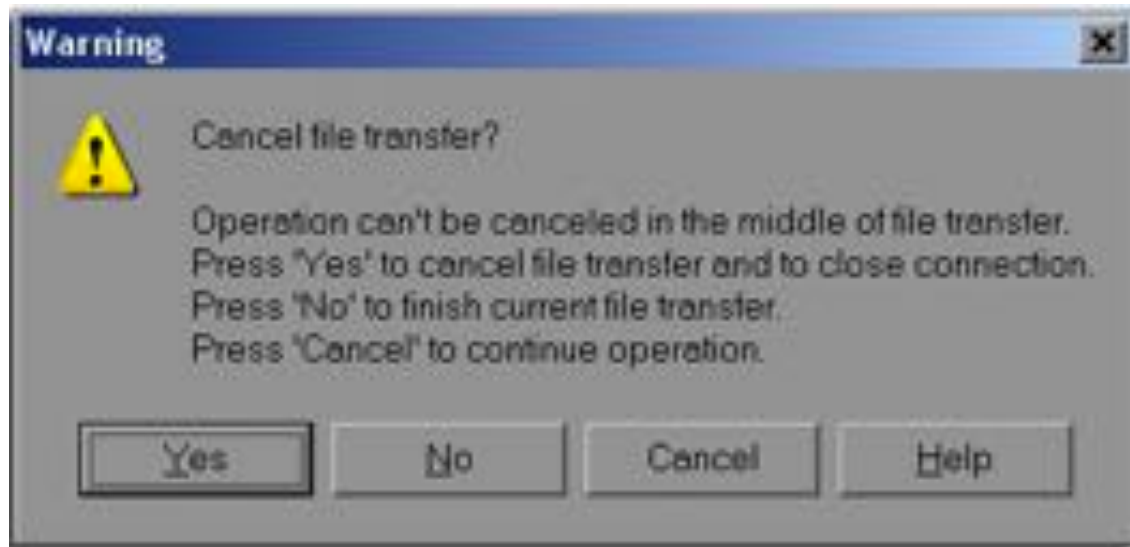


But What do people think about it?
Lets show them a video

A photograph of an iceberg floating in the ocean. The visible tip of the iceberg is small and jagged, while the vast, submerged portion is much larger and more complex in shape, illustrating the concept of hidden assumptions.

To Validate Assumptions

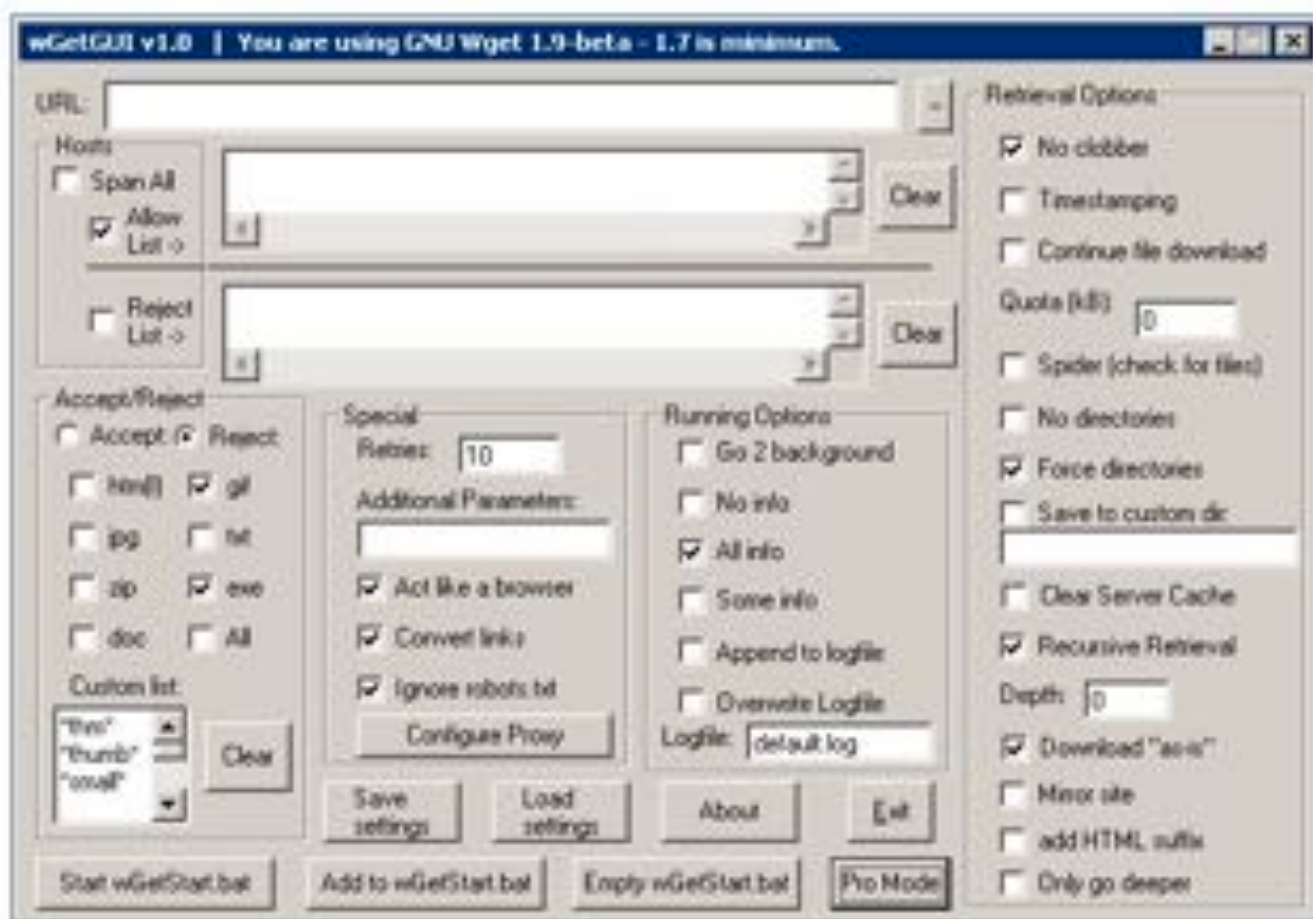
Does the User Understand you?



Press *Yes* to Cancel” – “Press *Cancel* to Continue ????

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.



Spiral Staircase - Good Idea?



Still a good idea?



Facebook Sign-in Only?



What if your users don't trust your app?



To compare alternatives



Stylus or Touch Screen ?





Fail early to avoid disasters

Get Feedback Early

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



How the customer
envisioned it



How the Project
Leader understood it



How the Analyst
designed it



How the Programmer
wrote it



How the Business
Consultant described it



How the project
was documented



What operations
instilled



How the customer
was billed



How it was supported



What the customer
really needed

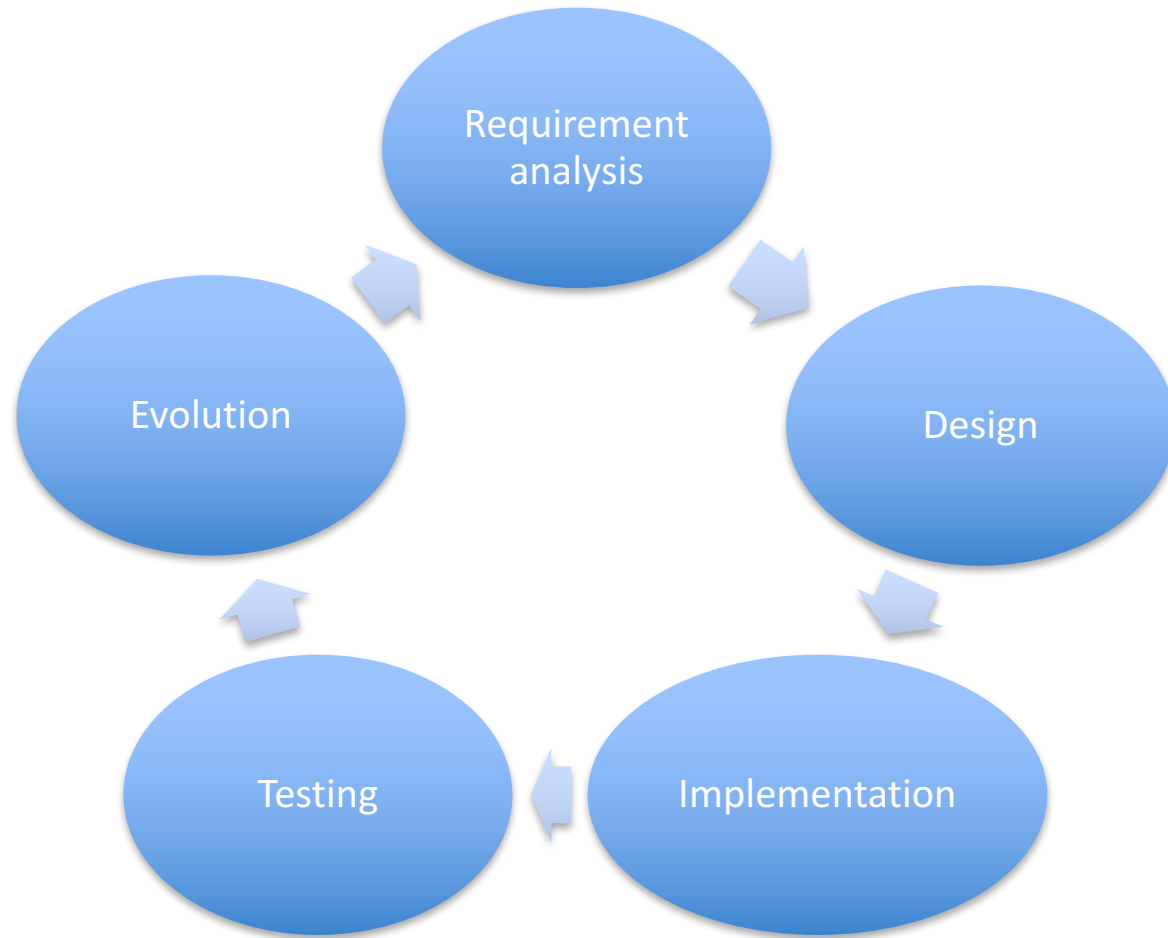
User Journeys/User Stories

- What are the goals of the user – *not of your app*.
 - Order find
 - Find **local** deals
 - Chat with **friends** nearby
 - Save Time
- How is the user going to use the app?
 - Type
 - Speech
 - Sensors
 - Virtual Reality

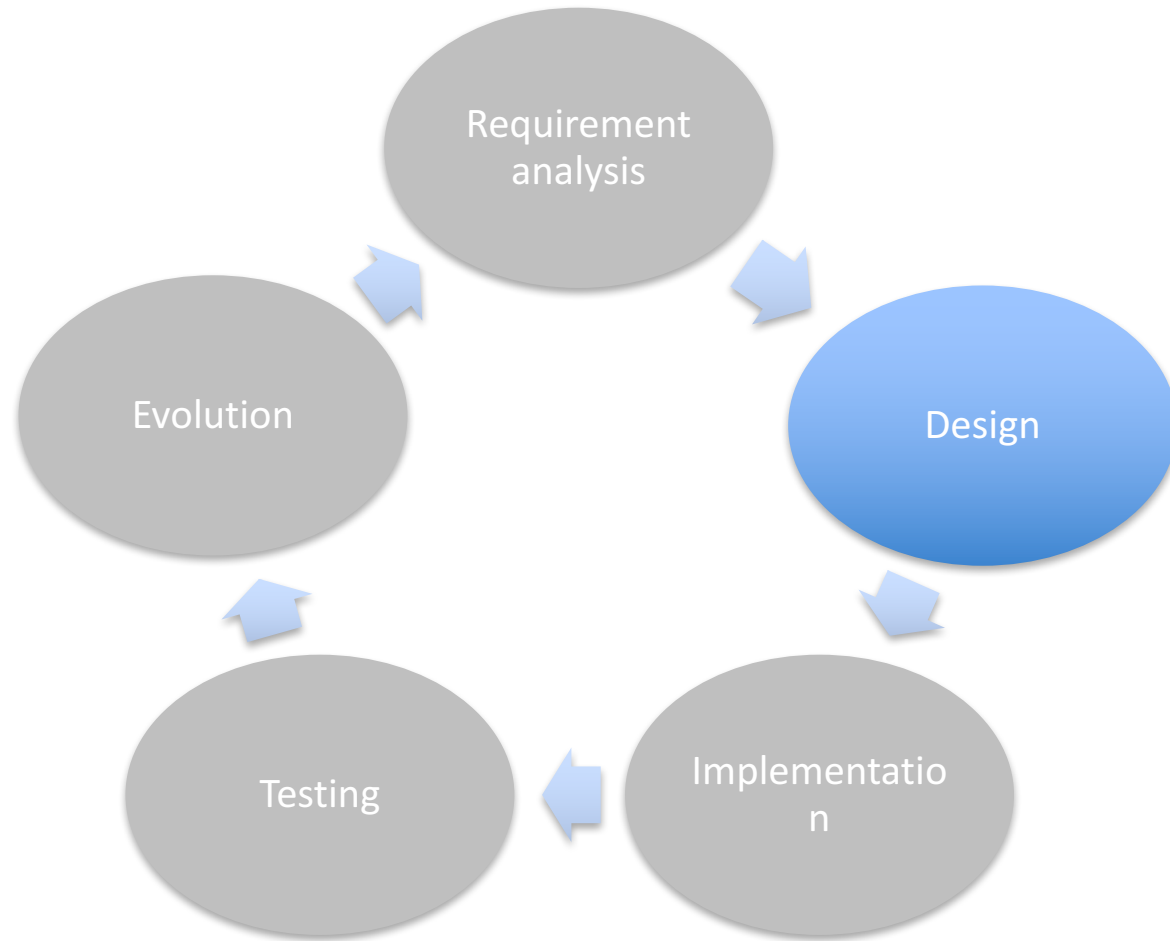
Constraints?

- What are the constraints?
 - Used while driving/biking
 - Can the user interact with it easily?
 - Used mostly at home
 - Why would the user not use the computer/tablet/laptop?
 - Used while travelling in the mountains
 - How much battery will the app consume?
 - How will it deal with low connectivity?
 - Used for buying etc.
 - What if the user has no credit card?
 - How will the app ensure repeated usage once the user and seller have created a connection?

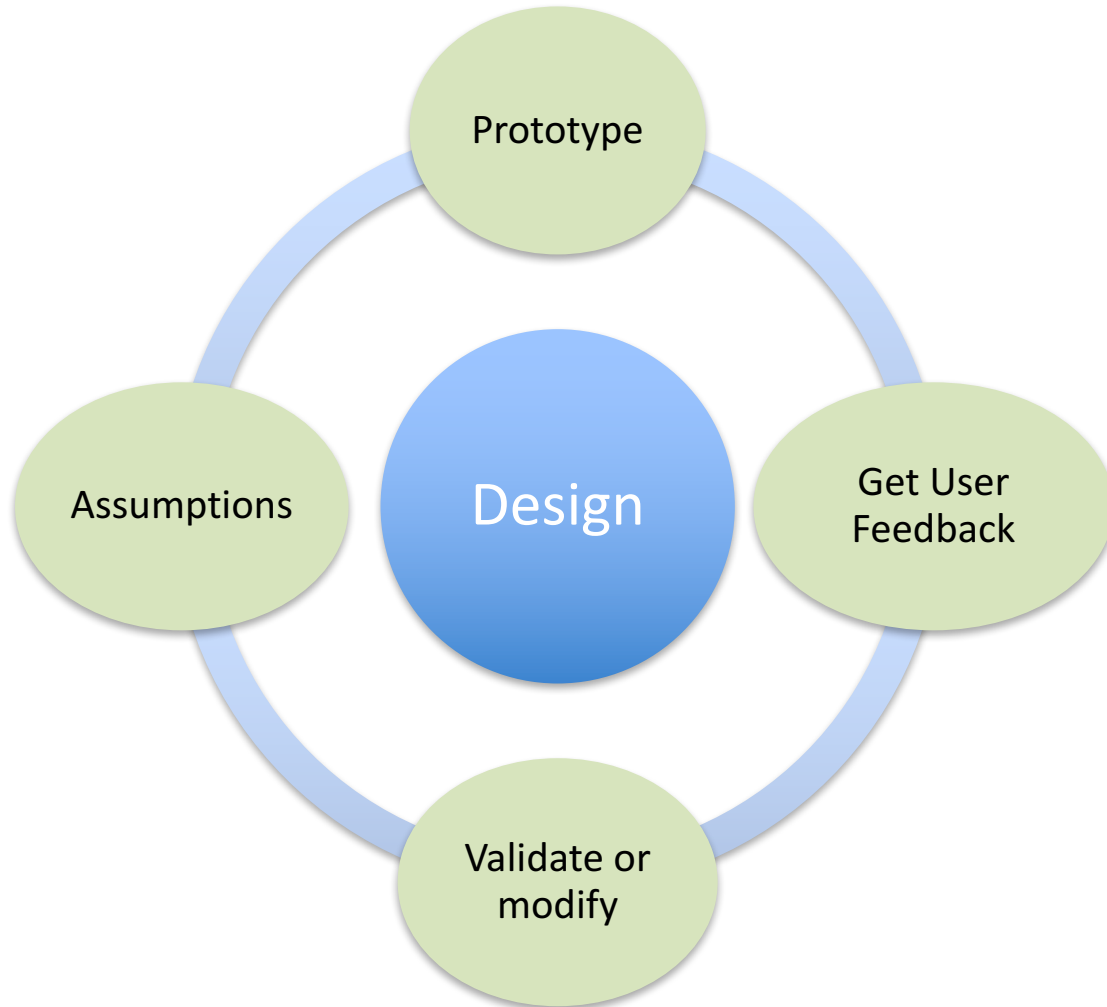
Ideal Software Engineering Life Cycle



Where does prototyping come in?



Prototyping Life Cycle



What could go wrong with a login screen?



The image shows a login interface with a blue header bar containing a red logo and the word "Enter". Below the header are two input fields labeled "E-mail" and "Password". Under the "Password" field is a checkbox labeled "Don't remember me". At the bottom of the form are two buttons: a blue "Enter" button and a green "Registration" button. The interface is clean and modern, but it lacks a "FORGOT PASSWORD" link or button, which is a common usability issue.

They forgot the “FORGOT PASSWORD” button!!!

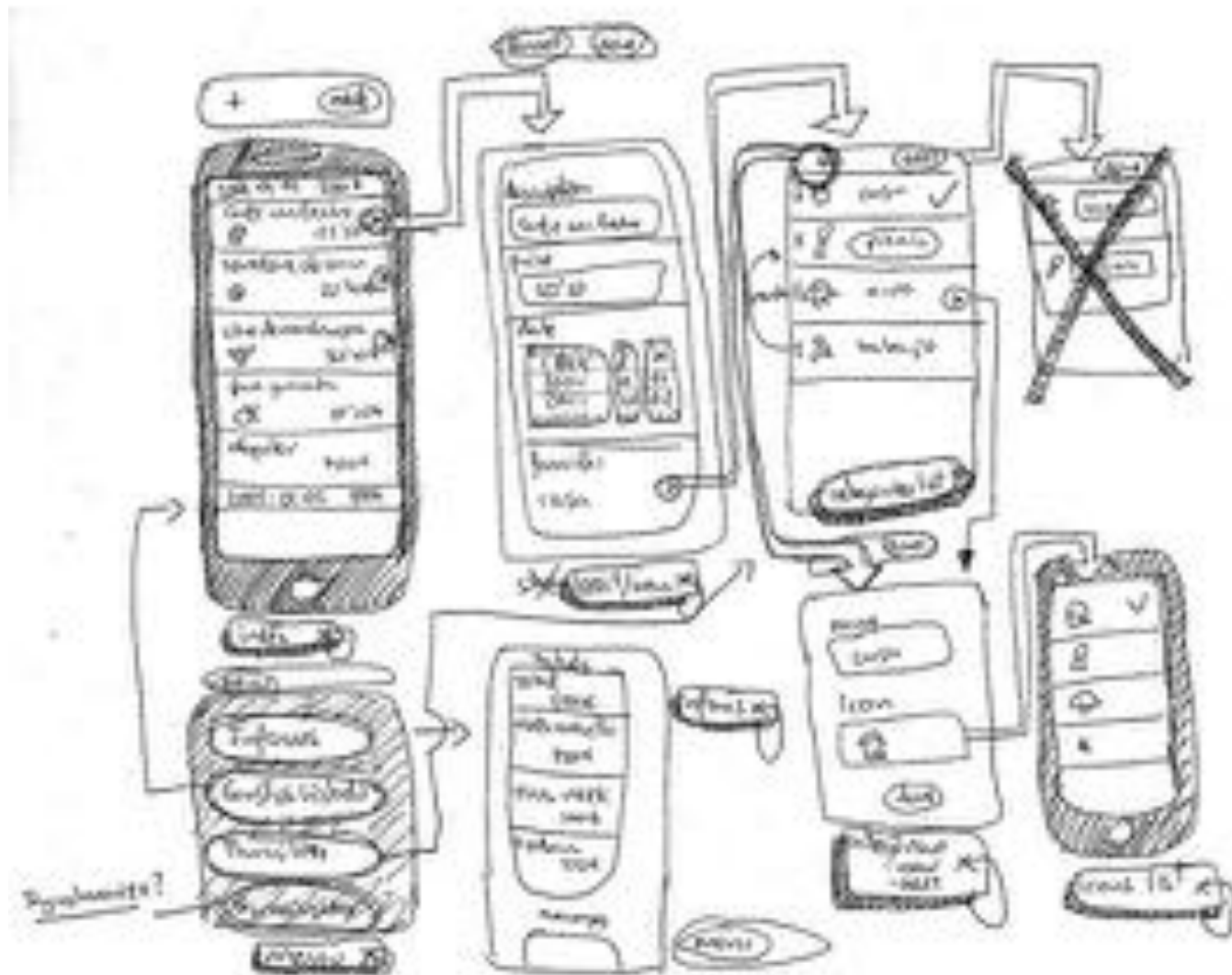
Common techniques

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

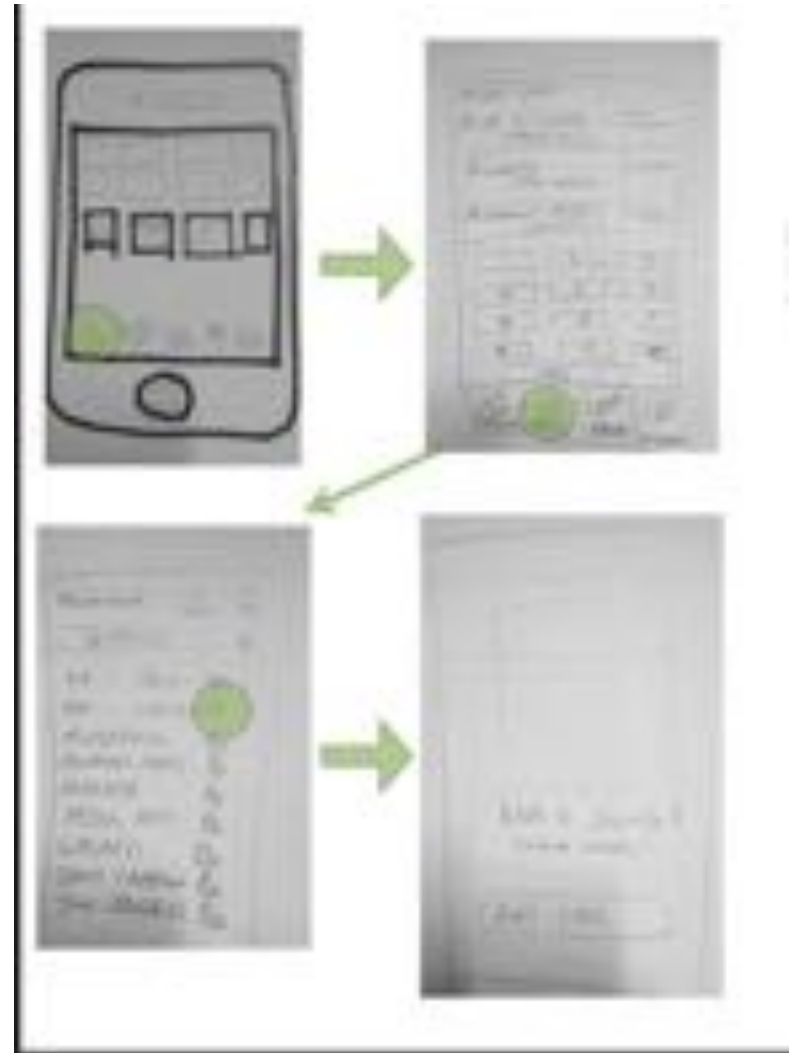
What is Paper Prototyping?

- 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?

**Optimus
Prime**



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>

proto

Marvel

Completely in your browser

<https://proto.io/>

<https://marvelapp.com/>

JUSTINMIND[®]

Standalone installation on windows, and mac

<http://www.justinmind.com/download>

More tools

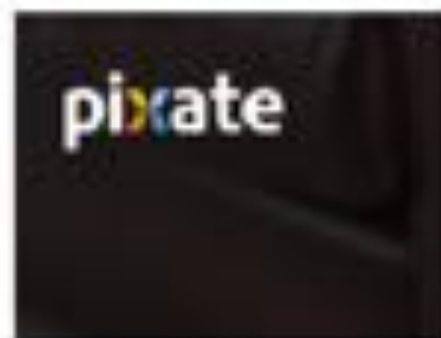
<https://popapp.in/>



<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.

CUSTOMERS

The preferred prototyping tool for thousands of companies

600,000+ other Justinminders in 180 countries. Join them!



Google



SIEMENS



AON




Download and Install



<https://www.justinmind.com/>

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JUSTINMIND



CREATE YOUR PROTOTYPE
Turn your idea into a fully functional prototype
It only takes 3 minutes.

• • •

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Sign Up



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SIGN UP

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Welcome to Justinmind

New 

[Create a New Prototype](#)

Open 

[Open a prototype](#)

[Open a recent prototype](#)

Learn 

[Justinmind in 3 minutes](#)

[Become an expert](#)

[Visit our site](#)

☐ Don't show again

[Close this window](#)

Select the Target device



Create New Prototype - Options

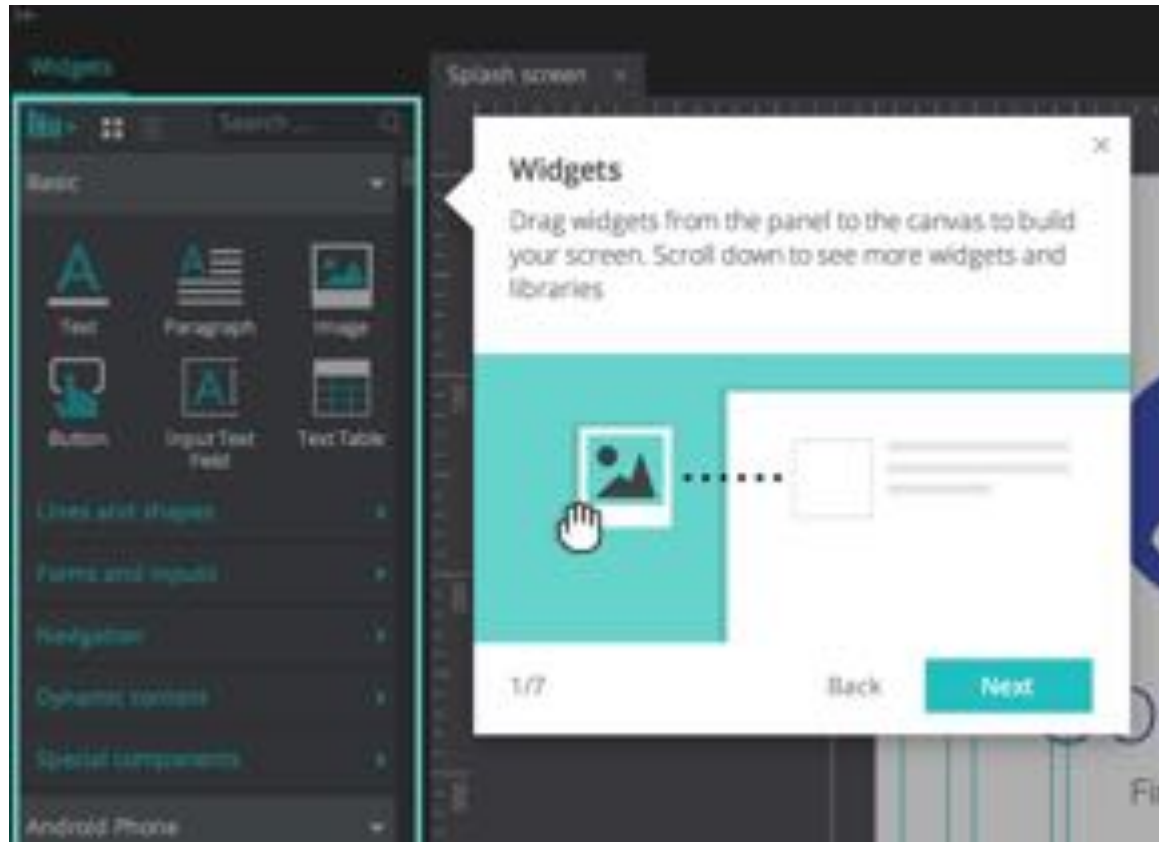


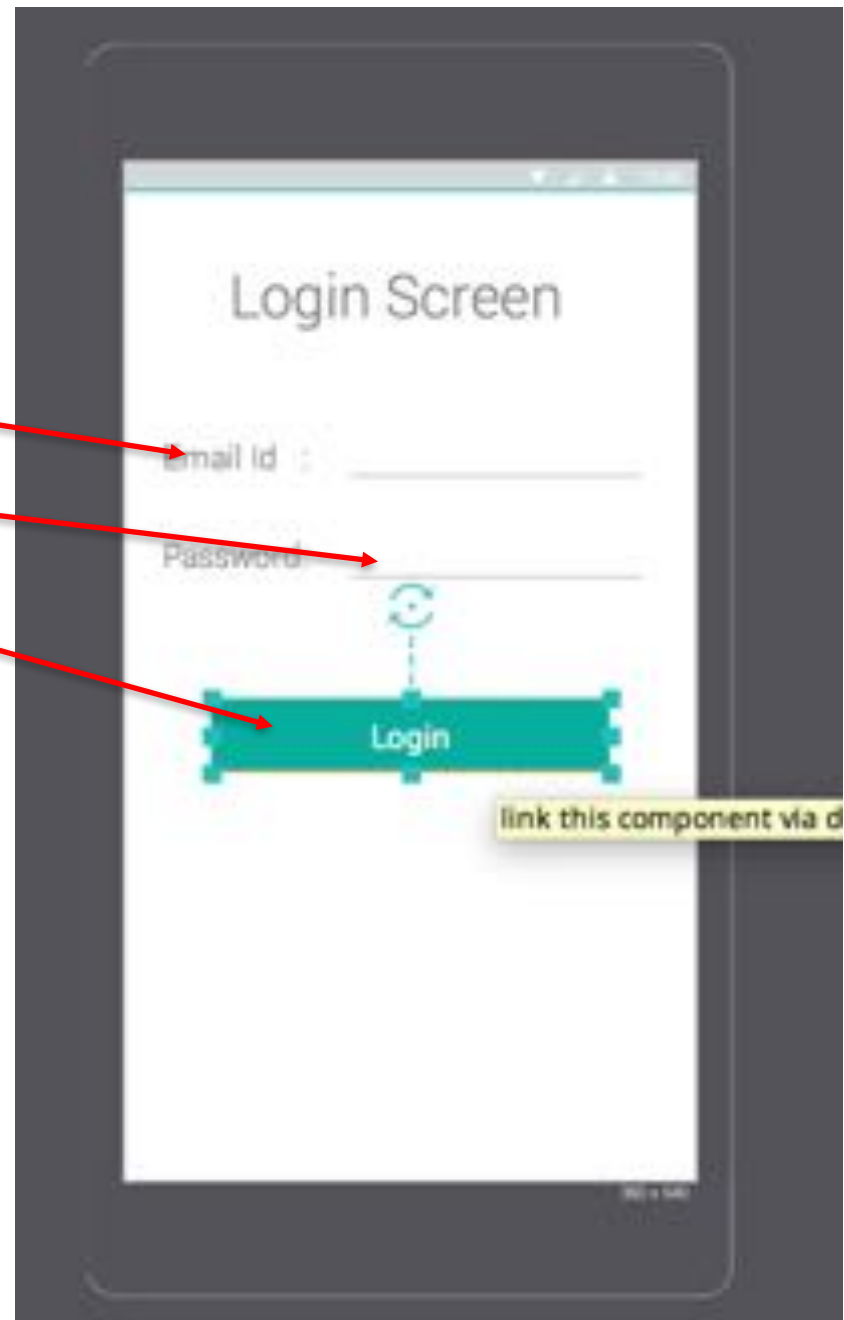
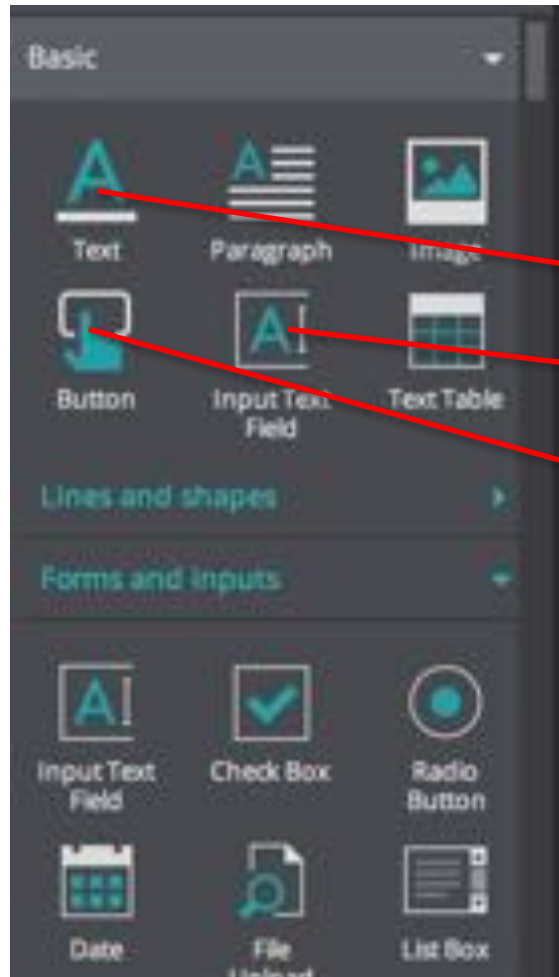
1. Start from an Empty Canvas
2. Start from a set of Images
3. Start from an existing Example
4. Start from another Prototype

From Examples

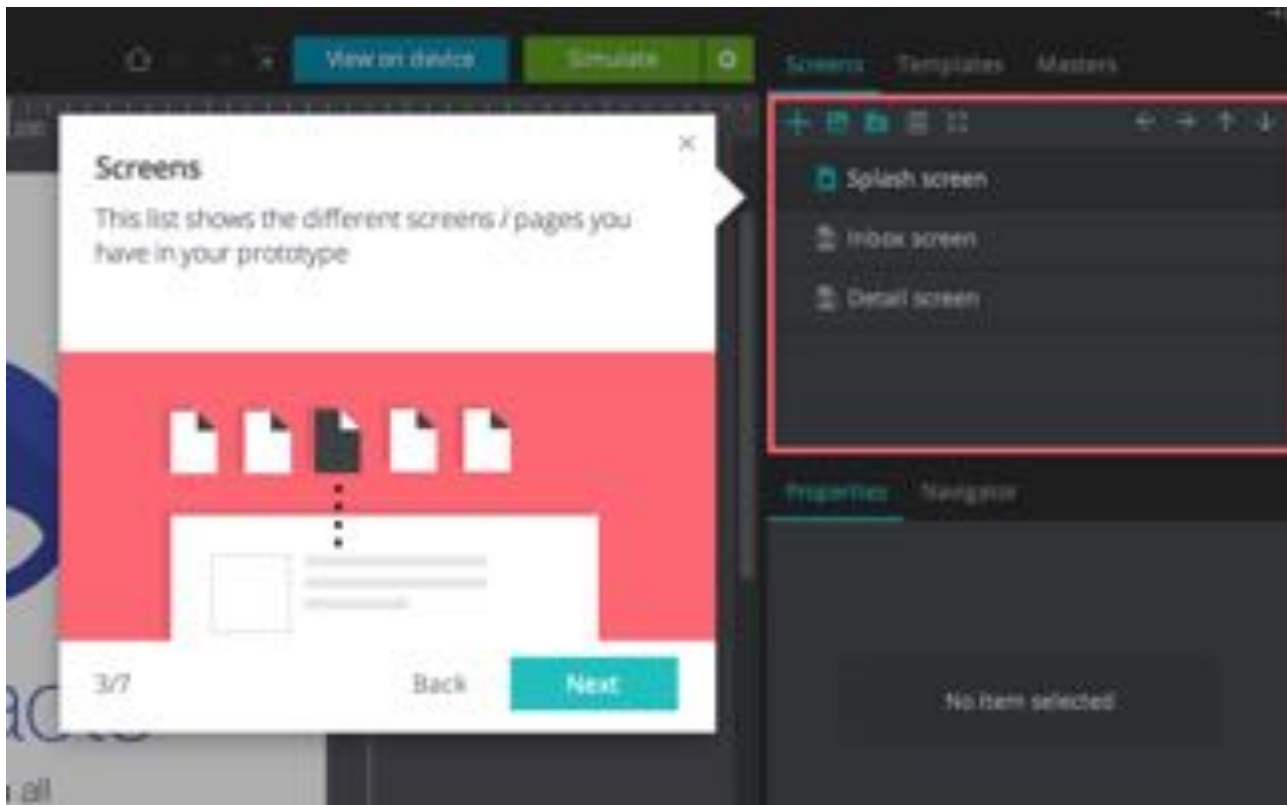


Widgets - pre-existing elements

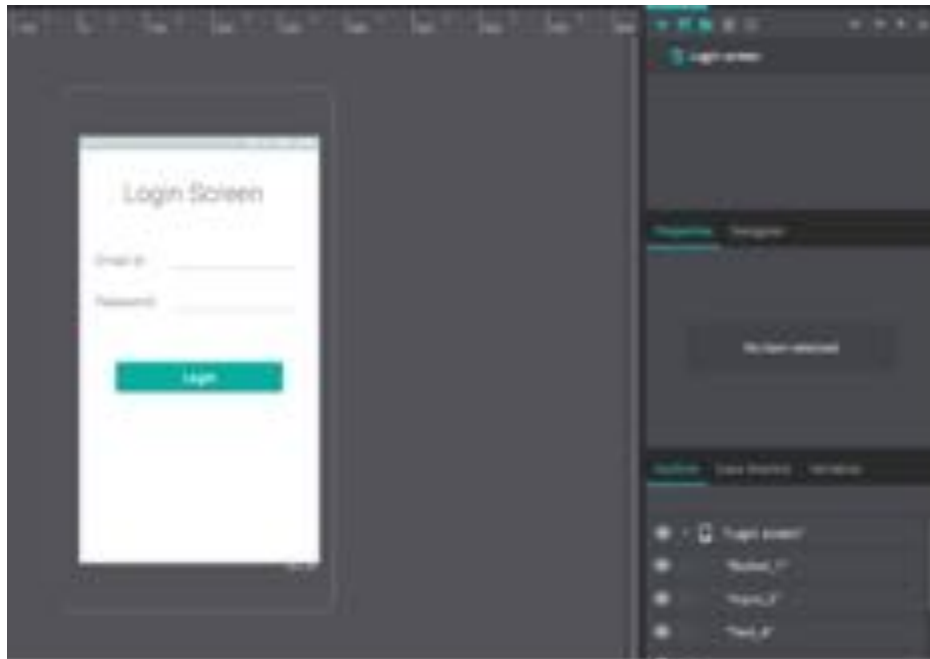




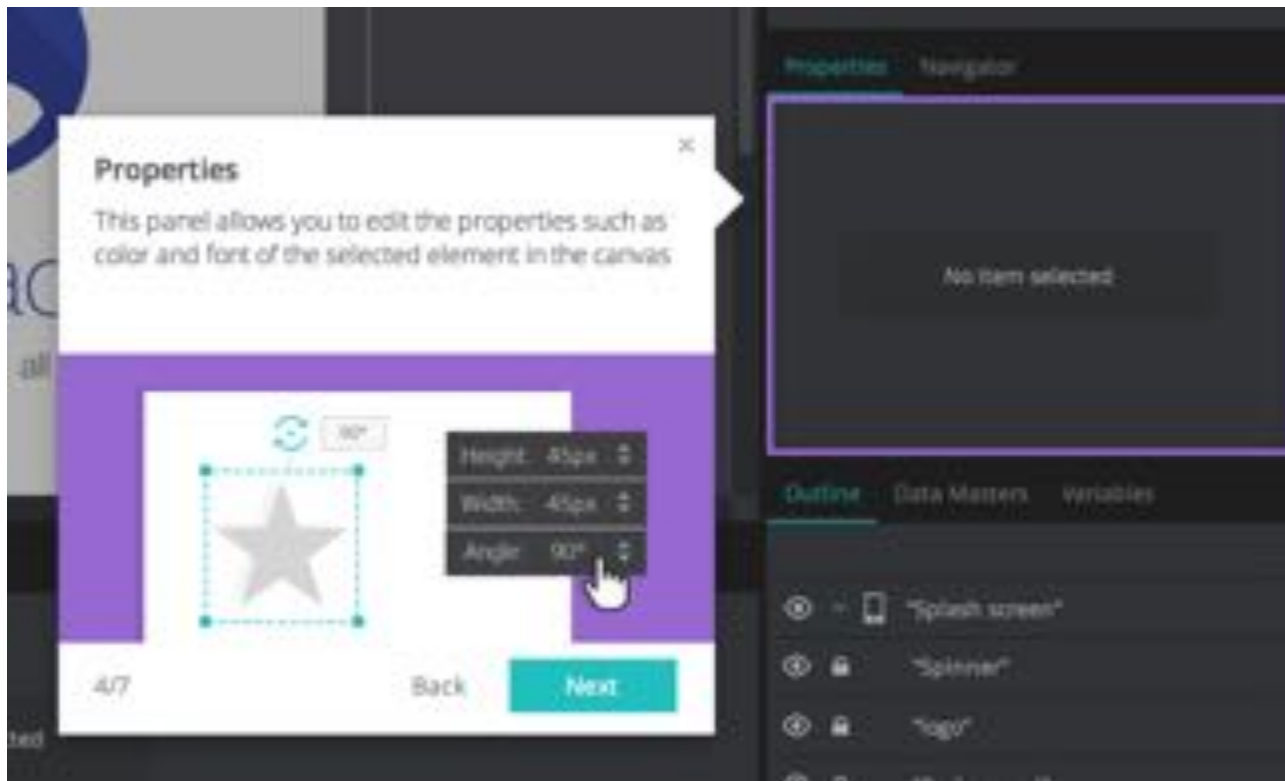
Screens – Each screen of your app



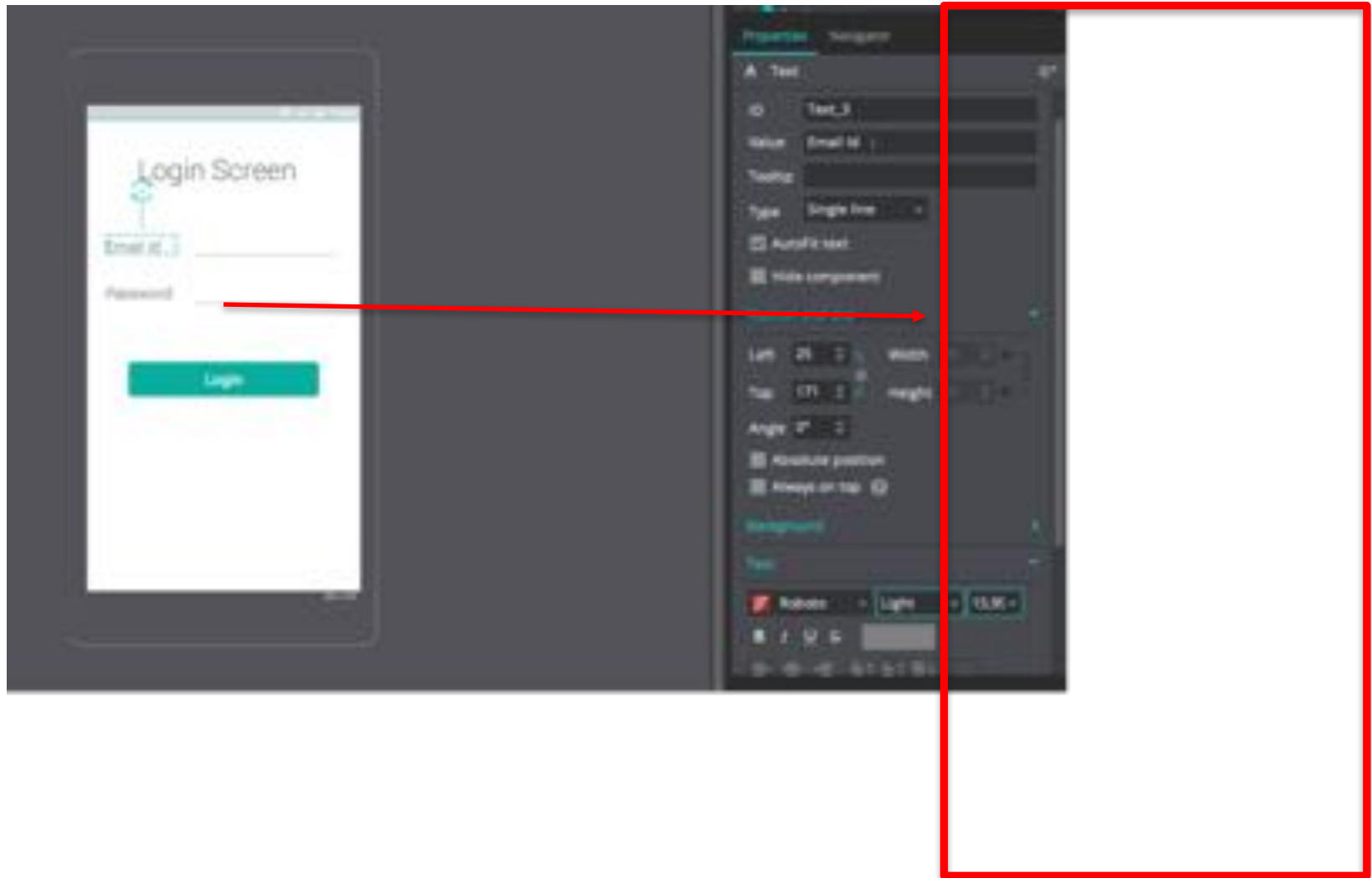
Screen



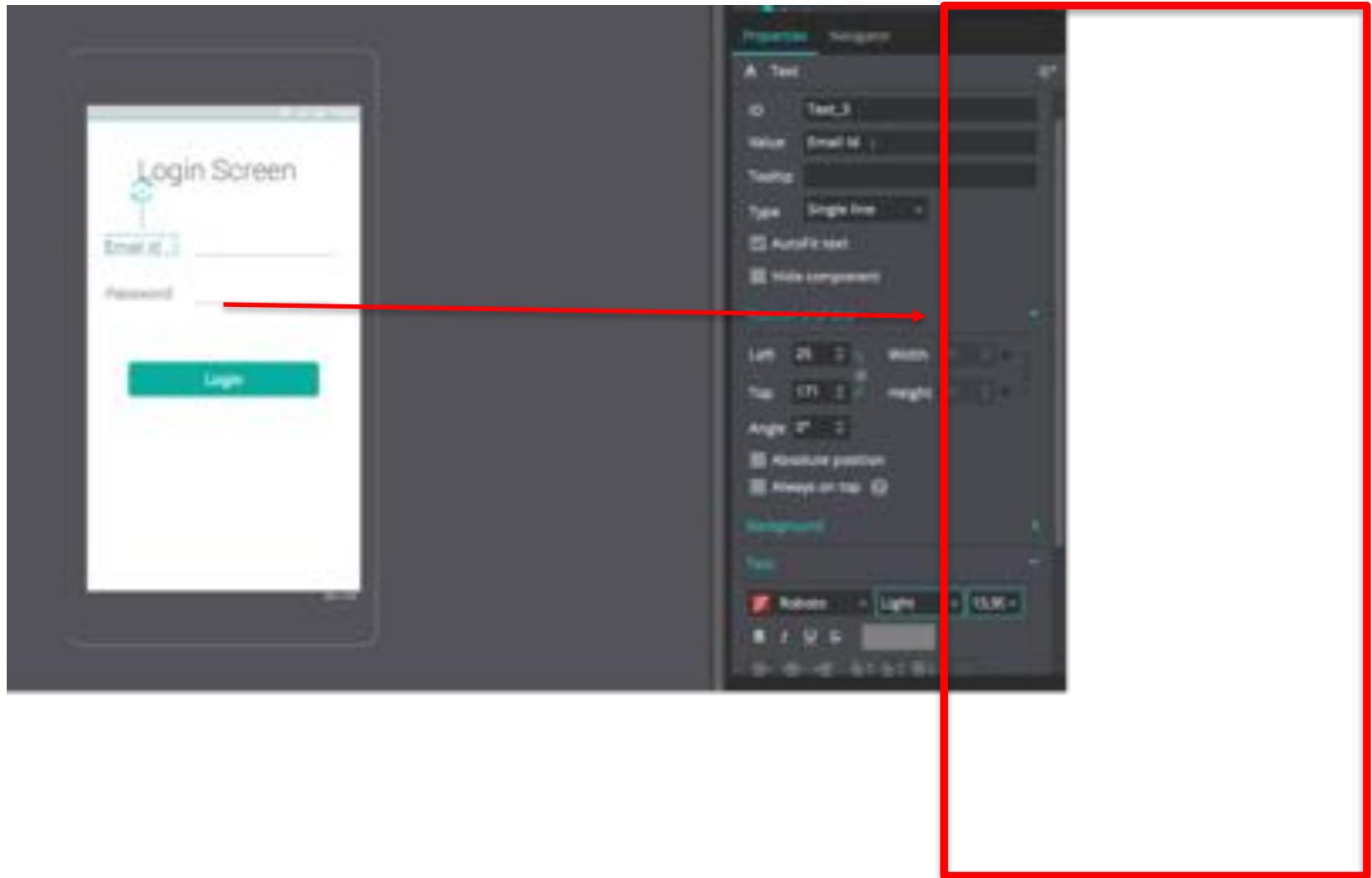
Properties of your individual widget

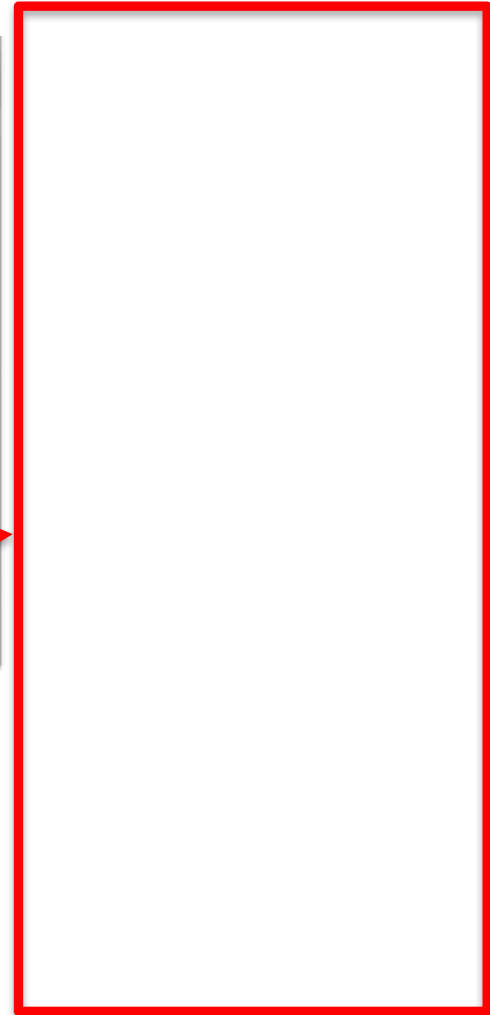
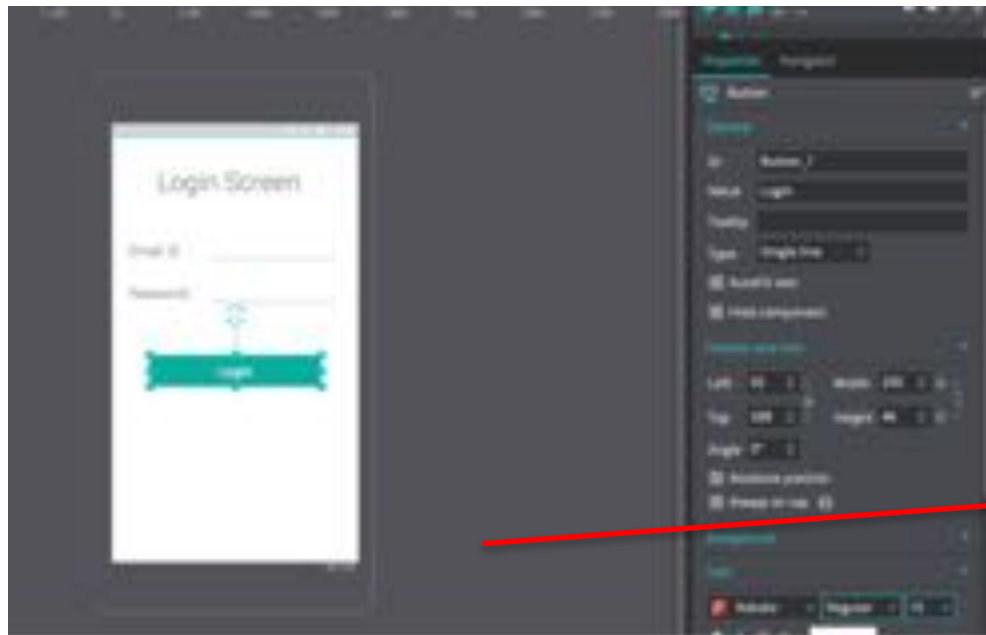


Properties



Text Label Properties





Events – what makes your prototype interactive





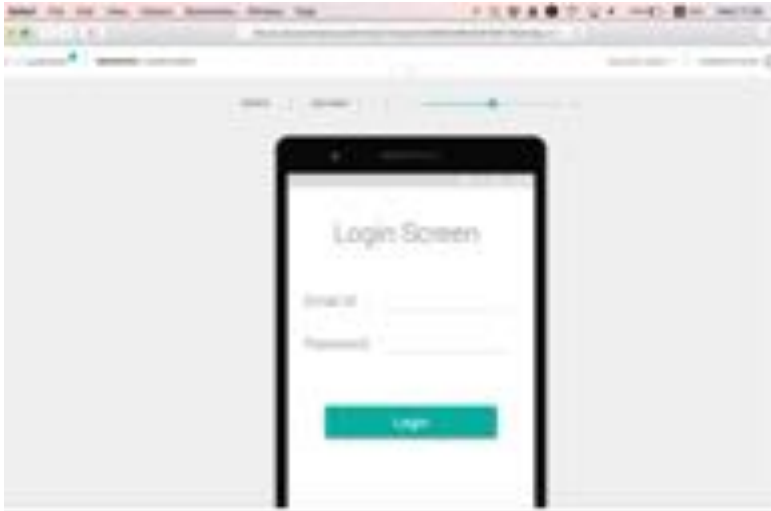
Events



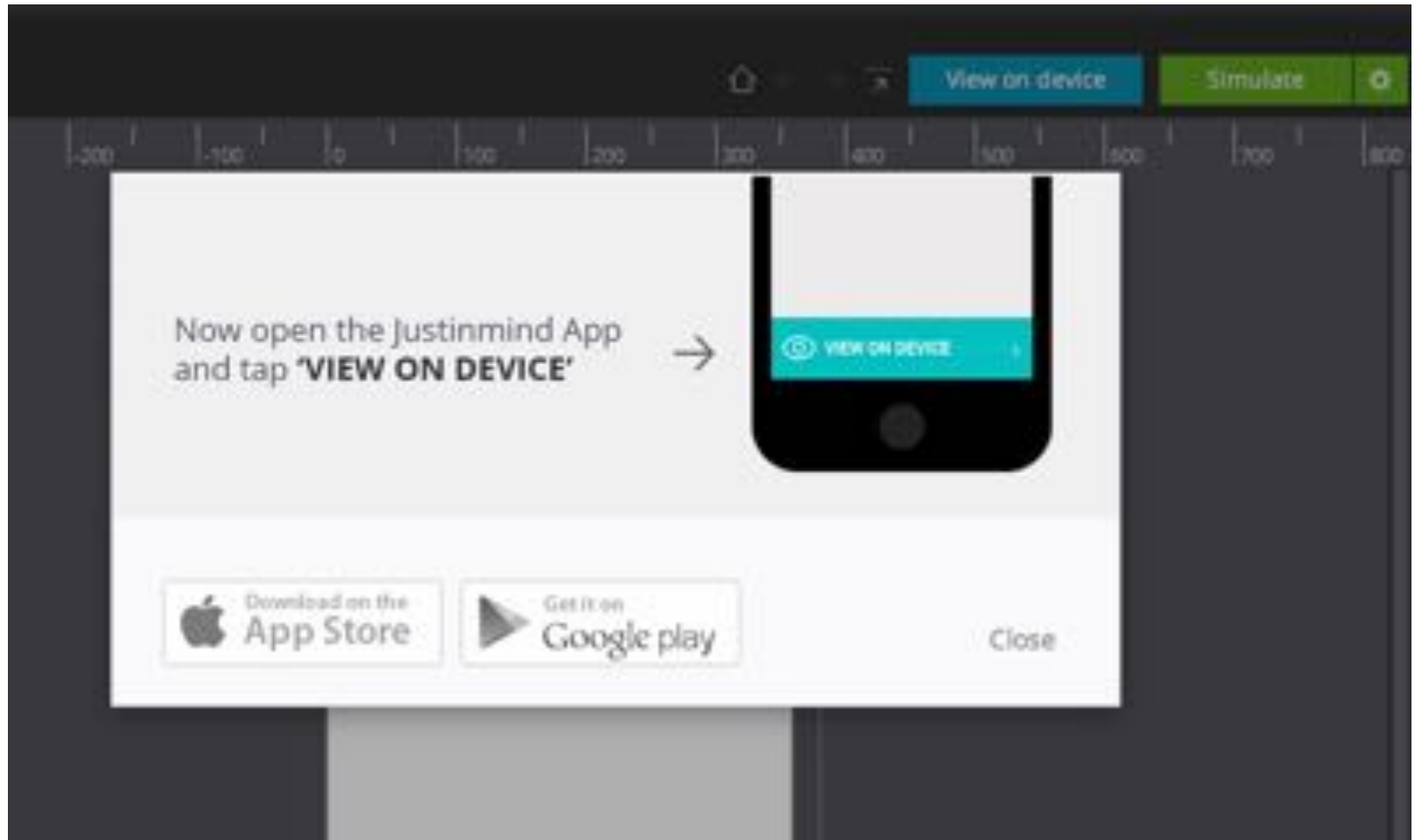
Simulation – see it all in action



Simulates on browser



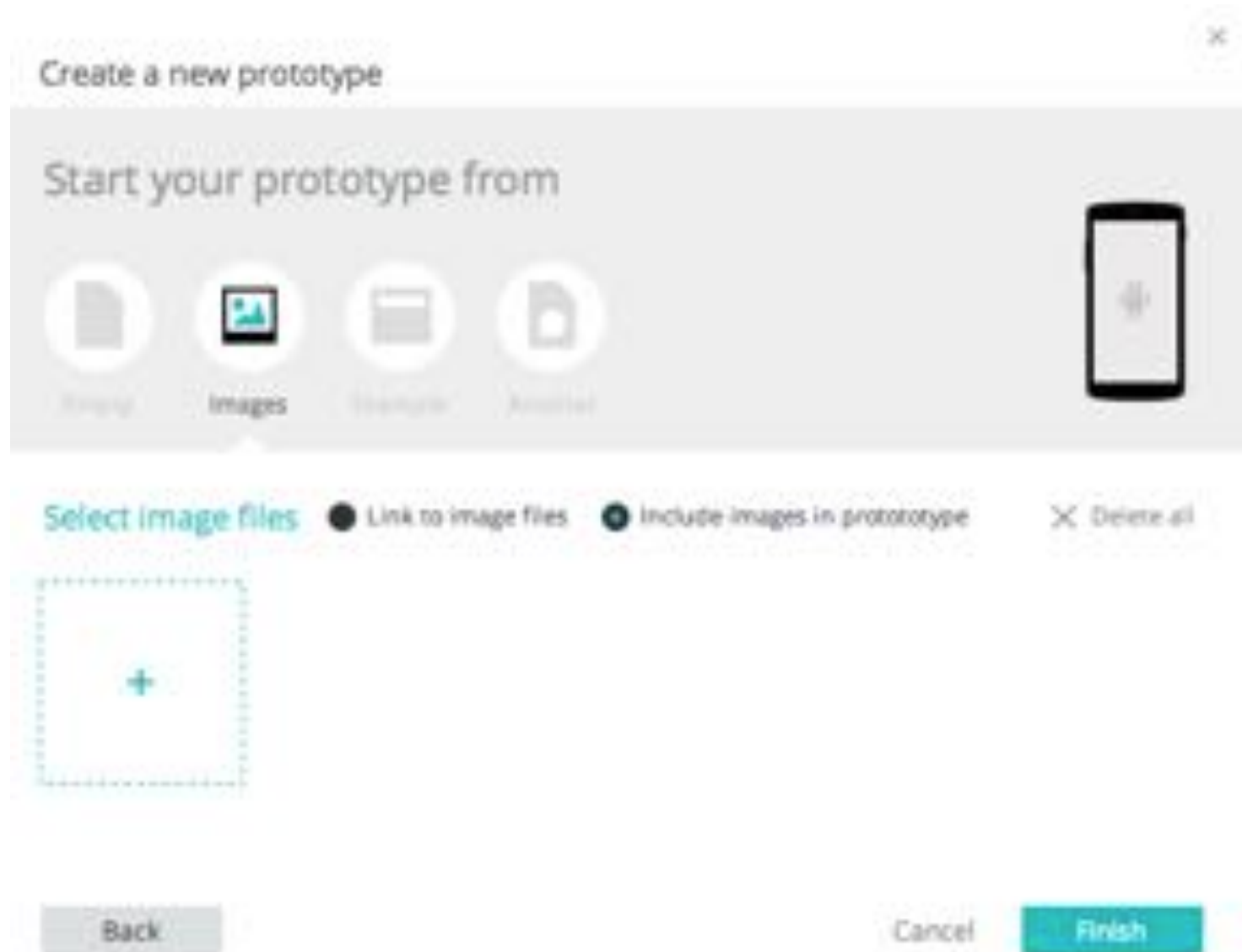
View on Device



Using Predesigned Asset Files

- Designed in Adobe PS/Sketch
- Import into Prototyping Tool

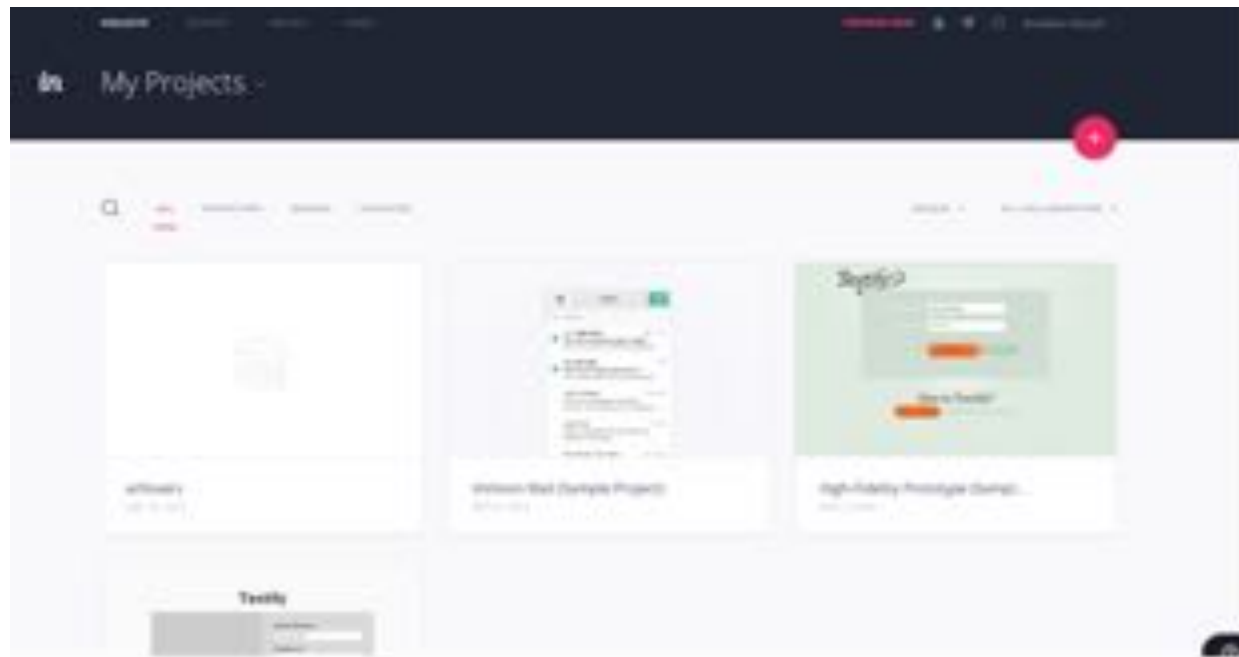
In Justinmind



Marvel App

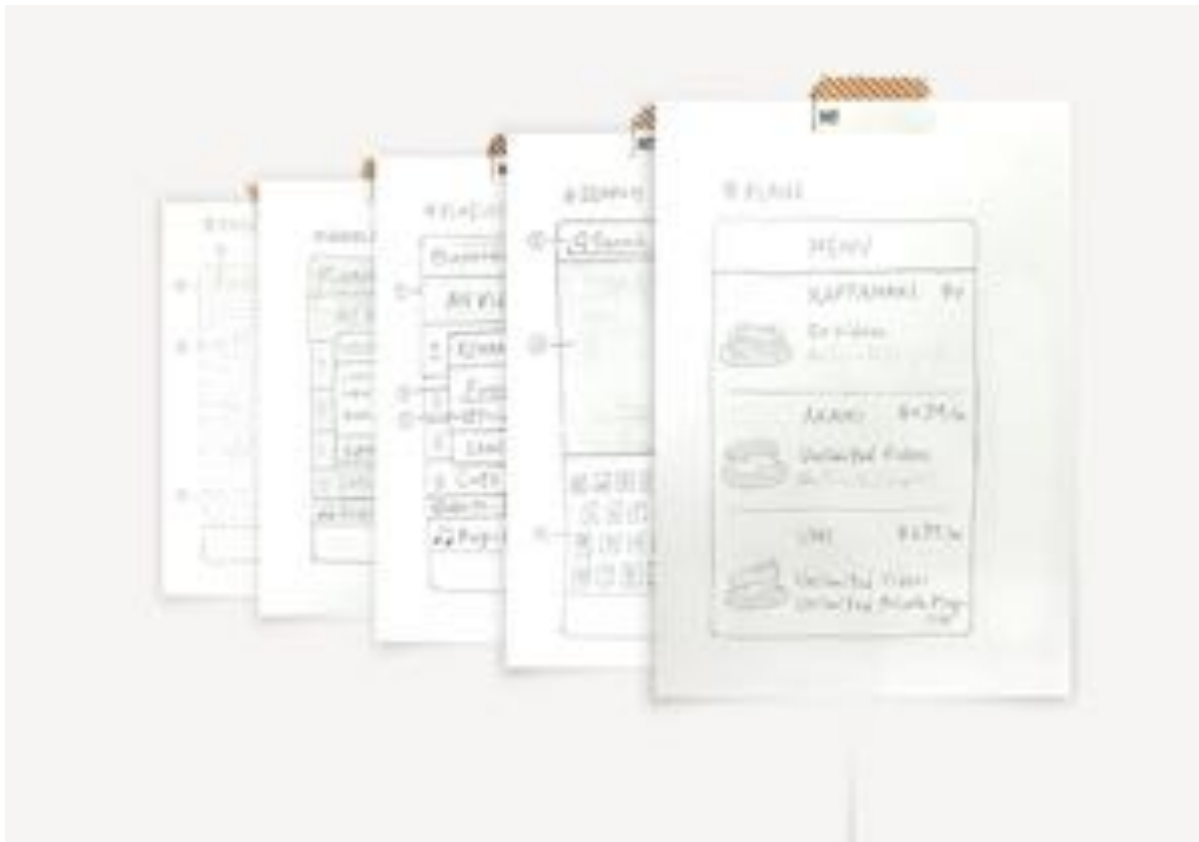


Invision



Pop

- Leveraging the simplicity of paper prototyping



Design on paper

Simulate and Test



Take Pictures



Simulate clicks

Marvel acquires prototyping tool POP

Posted Nov 19, 2016 by [Steve O'Hear](#) (@sohear)



[Back in May](#), Woomoo, the startup behind app prototyping tool POP, was acquired by Priceline, leaving POP's future a little uncertain. Today that uncertainty comes to an end with news that the U.K.'s [Marvel](#), a rival web and app design platform, has acquired the

Homework

- Chat Application

- Look at existing chat applications
- What features would you want to add/remove
- Next class YOU will *build the* prototype