Mobile Developement using AngularJS && Cordova

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Piksel

Piksel provides **Video Content Management Services** and solutions to deliver videos on **multiscreens** to most of the **modern devices** such as Smart TVs, Xbox One, PS4, Mobile...

About **2500 companies** have chosen us

Piksel – A focus on the Italian companies

TELCOS

- MAM for IPTV, WEB and Mobile
- MAM for IPTV, WEB and Mobile
- MAM for IPTV
- Content Aggregation for IPTV
- Customer BI, Mobile VAS, Testing Services
- Specialized Professional Services

BROADCASTER

- Internet TV, Mobile VAS, VOD Store, DTT
- MAM, Web TV Player, Mobile VAS
- Multi-screen TV
- Internet TV and Mobile VAS
- Global EPG for DTT
- CMS for Web and Mobile
- E-Commerce platform, Internet TV

PUBLISHERS

- Web TV platform e-commerce platform
- MAM for Multimedia Web Site, Internet TV
- MAM for Multimedia Web Site
- DAM for MultiMedia Newsroom and Syndication
- Interactive DTT
- MAM and Picture Library
- CMS for News Portals

PA & INDUSTRIES

- Multi-channel TV, CMS/MAM
- Web TV
- Intranet TV
- Extranet, E-learning
- Ad Platform
- MMediaPortal
- Professional Services
- CMS for Intranet
- AM, CMS, DWH, GIS, CRM, BI
- Web Sites and CMS
- AM, CRM, BI, NetwM

AngularJS

What is this?

- JavaScript Framework for building Web Apps
- JQLite based
- MVC + HTML Compiler
- Open Source (GitHub, MIT)
- Google Funded
- Official Website: https://angularjs.org/

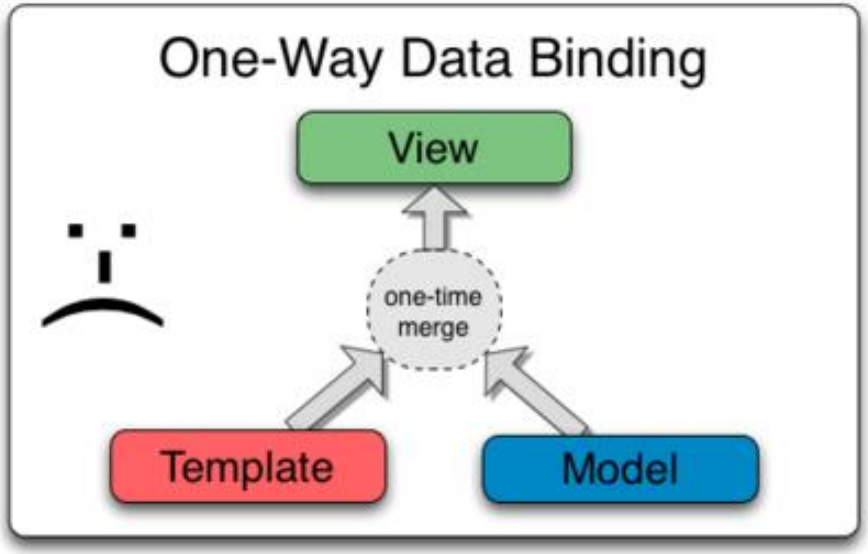
Example: http://jsfiddle.net/gmurabito/6Zd9Q/

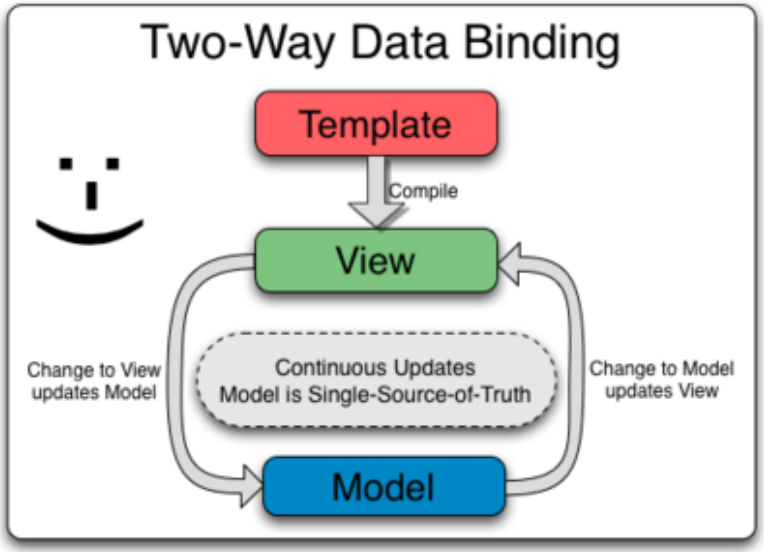
The Zen of Angular

- It is a very good idea to decouple DOM manipulation from app logic. This dramatically improves the testability of the code.
- It is an excellent idea to decouple the client side of an app from the server side.
- It is always good to make common tasks trivial and difficult tasks possible.
- **Manipulating HTML DOM programmatically**
- **Marshaling data to and from the UI:** CRUD operations make up the majority of AJAX applications' tasks.
- **Writing tons of initialization code just to get started:** Typically you need to write a lot of plumbing just to get a basic "Hello World" AJAX app working.

One VS Two Data Binding

Data-binding is an **automatic way** of updating the view whenever the model changes, as well as updating the model whenever the view changes.





Some features

- **Controllers**
  - Controllers are the behavior behind the DOM elements.
- **Templates**
  - Templates help the developer to move the job of filling page with data from the server to the client.
- **Services**
  - Angular services are substitutable objects that are wired together using **dependency injection (DI)**.
- **Directives**
  - At a high level, directives are markers on a DOM element (such as an **attribute**, element name, comment or CSS class).

- Example: localhost/angularTest

```
.controller('CreateCtrl', function($scope, $location, $timeout, Projects) {
  $scope.save = function() {
    Projects.$add($scope.project, function() {
      $timeout(function() { $location.path('/'); });
    });
  };
})

.controller('EditCtrl',
  function($scope, $location, $routeParams, $firebase, fbURL) {
    var projectUrl = fbURL + $routeParams.projectId;
    $scope.project = $firebase(new Firebase(projectUrl));

    $scope.destroy = function() {
      $scope.project.$remove();
      $location.path('/');
    };

    $scope.save = function() {
      $scope.project.$save();
      $location.path('/');
    };
});
```

Angular 4 mobile - ngTouch

- https://docs.angularjs.org/api/ngTouch
- It adds touch events and other helper
- It removes the **300 ms delay** of the Webkit click
- It introduces two new directives ‘ng-swipe-left’ and ‘ng-swipe-right’

- ...but if you don’t need all of these features you can just use the Fastclick lib to remove the **300 ms delay**
  - How we can use it? `new FastClick(document.body);`
  - https://github.com/ftlabs/fastclick

Angular 4 mobile – angular-gestures

- https://github.com/wzr1337/angular-gestures
- AngularJS directive that adds support for multi touch gestures to your app. Based on hammer.js
  - Tip: take a look of hammer.js (http://eightmedia.github.io/hammer.js/)
- Declare 'angular-gestures' as a dependency for your angular app
  - `angular.module('myApp', ['angular-gestures']);`
- You can use angular interpolations like this:
  - `<div hm-swipe="remove_something({{ id }})"></div>`
- Some Supported Events
  - hmHold : 'hold'
  - hmPinch : 'pinch'
  - hmSwipe : 'swipe‘

Apache Cordova

...before we start

- **Node.js**
  - Node.js is a platform built on Chrome's JavaScript runtime for easily building fast, scalable network applications. Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient, perfect for data-intensive real-time applications that run across distributed devices.
  - http://nodejs.org/

- **Npm**
  - Node Packaged Modules
  - https://www.npmjs.org/

What is this?

- Apache Cordova is a platform for building native mobile applications using HTML, CSS and JavaScript
- Apache Cordova is a set of device APIs that allow a mobile app developer to access native **device function** such as the camera or accelerometer **using JavaScript**
- **No native code is required you can just use Web technologies**
- http://cordova.apache.org/

Multi Platform

- The great thing of Cordova is that it's compliant with most used mobile platforms:
  - iOs
  - Android
  - Windows Phone
  - BlackBerry
- How does it work?
  - It creates a native app with a single Web view which is the container of your app built with the HTML5, CSS3 and Javascript.
  -
```
$ cordova create hello com.example.hello "HelloWorld"
$ cd hello
$ cordova platform add ios
$ cordova build ios
```

Device features - Cordova Plugins

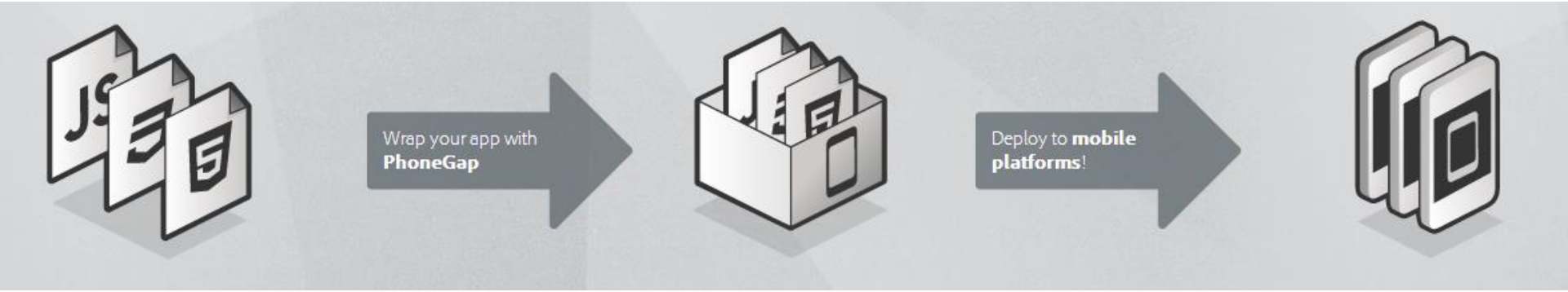
- Battery Status
- Camera
- Contacts
- Device (Device info)
- Device Motion
- Device Orientation
- Dialogs
- File
- File Transfer
- Geolocation
- Globalization
- In-App Browser
- Media
- Media Capture
- Network Information
- Splashscreen
- Statusbar
- Vibration

Compatibility

Feature	iPhone /iPhone 3G	iPhone 3GS and newer	Android 1.0 – 4.2	Windows Phone	BlackBerry 10 and PlayBook OS	4.6–4.7	5.0-6.0+	Bada	Symbian	webOS	Tizen	Ubuntu Touch	Firefox OS
Accelerometer	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Camera	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes	Yes	?
Compass	N/A	Yes	Yes	Yes	Yes	N/A	N/A	Yes	N/A	Yes	Yes	Yes	Yes
Contacts	Yes	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes	N/A	Yes	N/A	Yes
File	Yes	Yes	Yes	Yes	Yes	N/A	Yes	N/A	N/A	N/A	Yes	Yes	?
Geolocation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Media	Yes	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	Yes	Yes	?
Network	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	?
Notification (alert, sound, vibration)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Storage	Yes	Yes	Yes	Yes	Yes	N/A	Yes	N/A	Yes	Yes	Yes	Yes	?

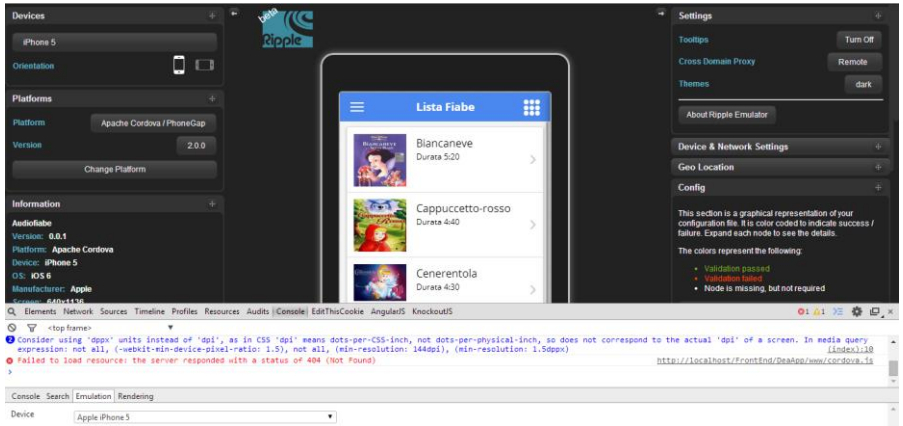
Adobe® Phonegap

- Adobe Phonegap is a **commercial version** of Apache Cordova but It's also involved in the development of the library with the **Apache Foundation**.
- It builds your mobile app using a **cloud service** that provides a full featured app ready for all the App Stores like App Store or Play Store.
  - Set your Developer App Keys
  - Upload your code
  - That's it! You're app is ready to be deployed!



How to debug

- The best solution to debug your app is using the **Ripple Emulator** with **Google Chrome**
  - A full feautured mobile emulator in your browser
  - https://chrome.google.com/webstore/detail/ripple-emulator-beta/geelfhphabnejjhdalkjhgipohgpdnoc



Who uses Cordova/Phonegap

- **Wikipedia:** the official Wikipedia mobile application is built using PhoneGap.
- **Facebook:** it uses a forked version of Phonegap for its Mobile SDK
- **Intel:** recently brought a framework called MonoTouch and continues to develop with the name of XDK
- **IBM:** Worklight Platform build, run and manage HTML5, hybrid and native mobile apps.
- **BBC:** the official Olympics App of BBC was built with Phonegap
- **AT&T:** they wrote their API using Phonegap
- **Zynga:** Zynga, one of the largest gaming companies, uses PhoneGap and HTML5 to build awesome games

$scope.angularjs + $scope.apache-cordova =
$scope.ionic-framework

What is this?

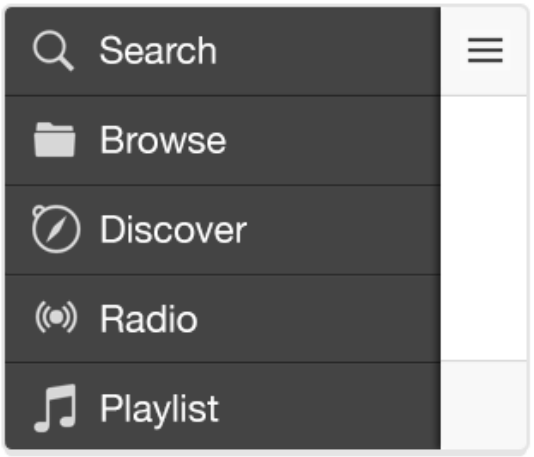
- It's a library of mobile-optimized **HTML, CSS and JS components** for building highly interactive apps.
- Built with **SASS** and **Angular**.
- http://ionicframework.com/
- It's simply a collection of Angular's directives mobile compliant

How to use

```
$ npm install -g cordova ionic
$ ionic start myApp tabs
```


`$ ionic start myApp blank`

`$ ionic start myApp tabs`

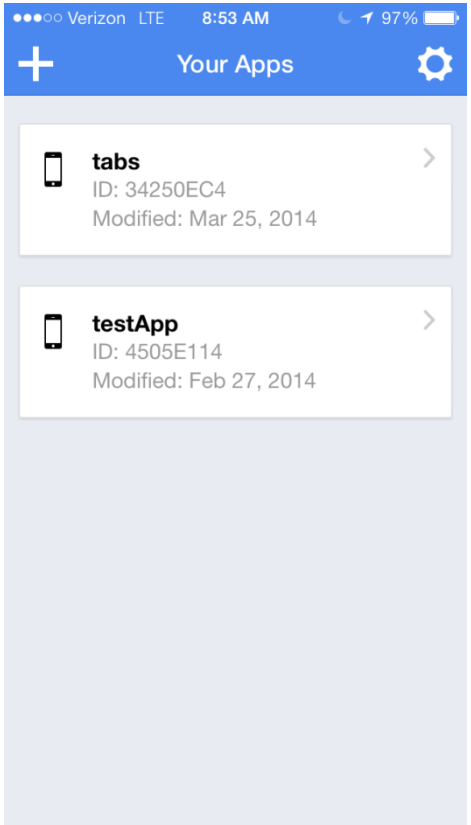


`$ ionic start myApp sidemenu`

How to use

```
$ cd myApp
$ ionic platform add ios/android
$ ionic build ios/android
$ ionic emulate/run ios/android
```

Now let's Start!!!



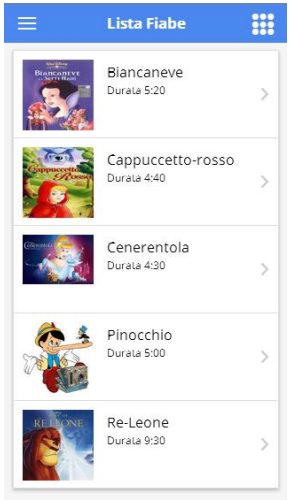
Ionic rivals

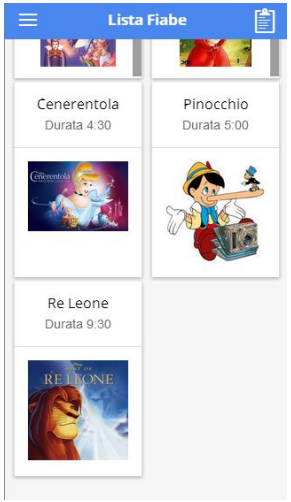
- **Onsen UI**
  - **Current version: 1.0.4**
  - Topcoat Based (again from Adobe)
  - http://onsenui.io/
  - It hasn't a npm module

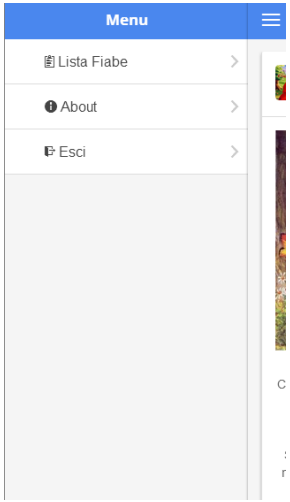
- **Jquery Mobile**
  - **The first mobile UI Framework**
  - It's not Angular based
  - You can use it with Backbone (http://backbonejs.org/)
  - The most used at moment (???)

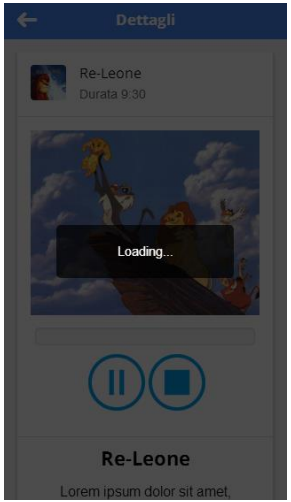
How we use all of these techs in Piksel

- **DeAgostini AudioFiabe**
  - It's a mobile app for iOs and Android
  - It's developed by students like you
  - Currently in beta









Q&A