

Building mobile web applications with Sencha Touch 2

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iOSOnRailsConf 2013 13-14 April, Alushta Ukraine





Introduction

About me



Martin de Keijzer Dutch web developer



Working for Ibuildings



PHPBenelux Board Member



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<http://www.martindekeijzer.nl>

The mobile web

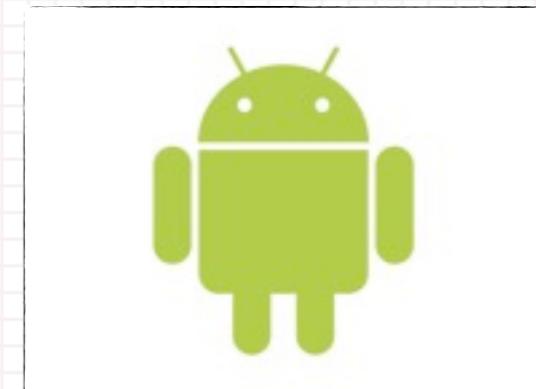


Apps



Languages

- ▶ Apple: Objective-C
- ▶ Android: Java
- ▶ Windows Phone: C# / Visual Basic



Distribution Methods

- Apple: AppStore
- Android: Market
- Windows Phone: Microsoft Market Place

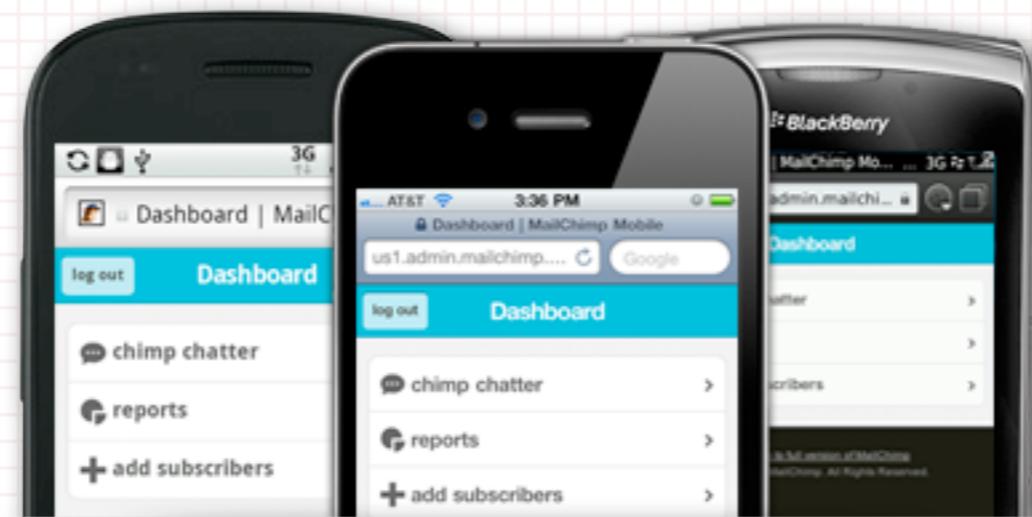
Web Apps



Available through the web



Web Apps



Platform independent

Web Apps



Can be transformed to an App-like experience

Web Apps



The screenshot shows the iTunes Store interface. At the top, there's a progress bar indicating "Downloading 2 items" for "Hardwell On Air 109 / Hardwell On Air Official Podcast (9 minutes remaining)". The search bar contains "Dutch PHP Confe". Below the search bar, the menu bar includes "iTunes" (with a red dot), "File", "Edit", "View", "Library", "Store", "Help", and "iTunes Store". The main content area displays search results for "Showing results for ‘Dutch PHP Conference’".
iPhone Apps: Two apps are listed: "Dutch PHP Conference" (Business, Free) and "Dutch Mobile Conference" (Business, Free).
iPad Apps: Two apps are listed: "Dutch PHP Conference" (Business, Free) and "Dutch Mobile Conference" (Business, Free).
On the right side, there are filters: "All" (selected), "iPhone Apps", and "iPad Apps". Below that is a section titled "ARTISTS AND MORE" showing "ibuildings > Software Developer".

Can be wrapped as native apps



Sencha



The Sencha Touch way

- ▶ Building applications, not websites
- ▶ Pure JavaScript
- ▶ Touch framework
- ▶ MV(S)C Paradigm
- ▶ Based on ExtJS 4

Downloadable from <http://www.sencha.com>



Sencha Cmd

Rapidly starting

12

Quick start: Sencha Cmd

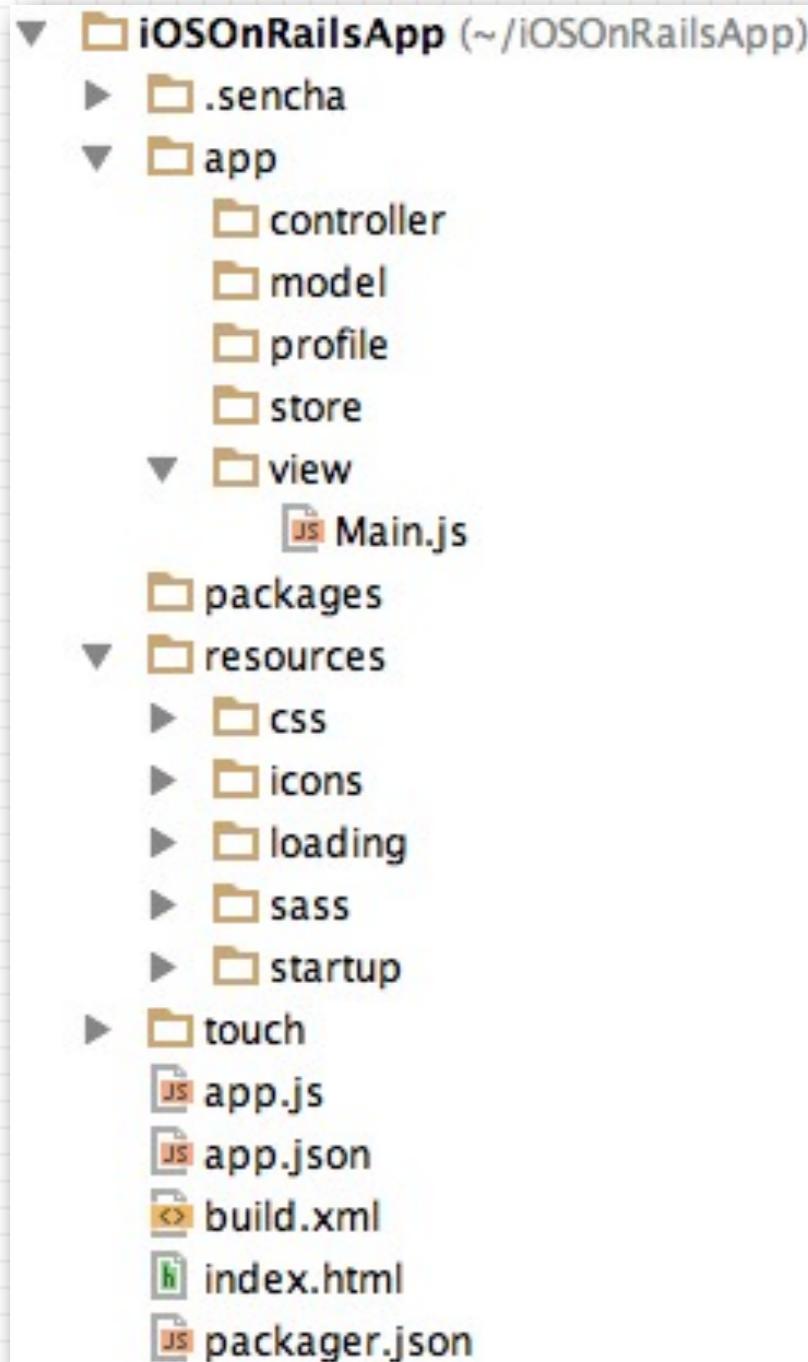


```
sencha generate app <name> <path>
```

```
sencha generate app iOSOnRailsConf ~/iOSOnRailsApp
Sencha Cmd v3.1.0.256
[INF] init-plugin:
[INF] init-plugin:
[INF] Invoking plugin (/Users/martindekeijzer/bin/Sencha/Cmd/3.1.0.256/plugins/touch/2.1/plugin.xml) - supported
[INF] -before-generate-workspace:
[INF] Invoking plugin (/Users/martindekeijzer/bin/Sencha/Cmd/3.1.0.256/plugins/touch/2.1/plugin.xml) - supported
[INF] cmd-root-plugin.init-properties:
[INF] init-properties:
[INF] init-sencha-command:
[INF] init+
```



Quick start: Sencha Cmd



- App
- Resources
- app.js
- .json files
- index.html
- touch (DO NOT TOUCH!)

Changing the SDK is bad! Extending is ok.



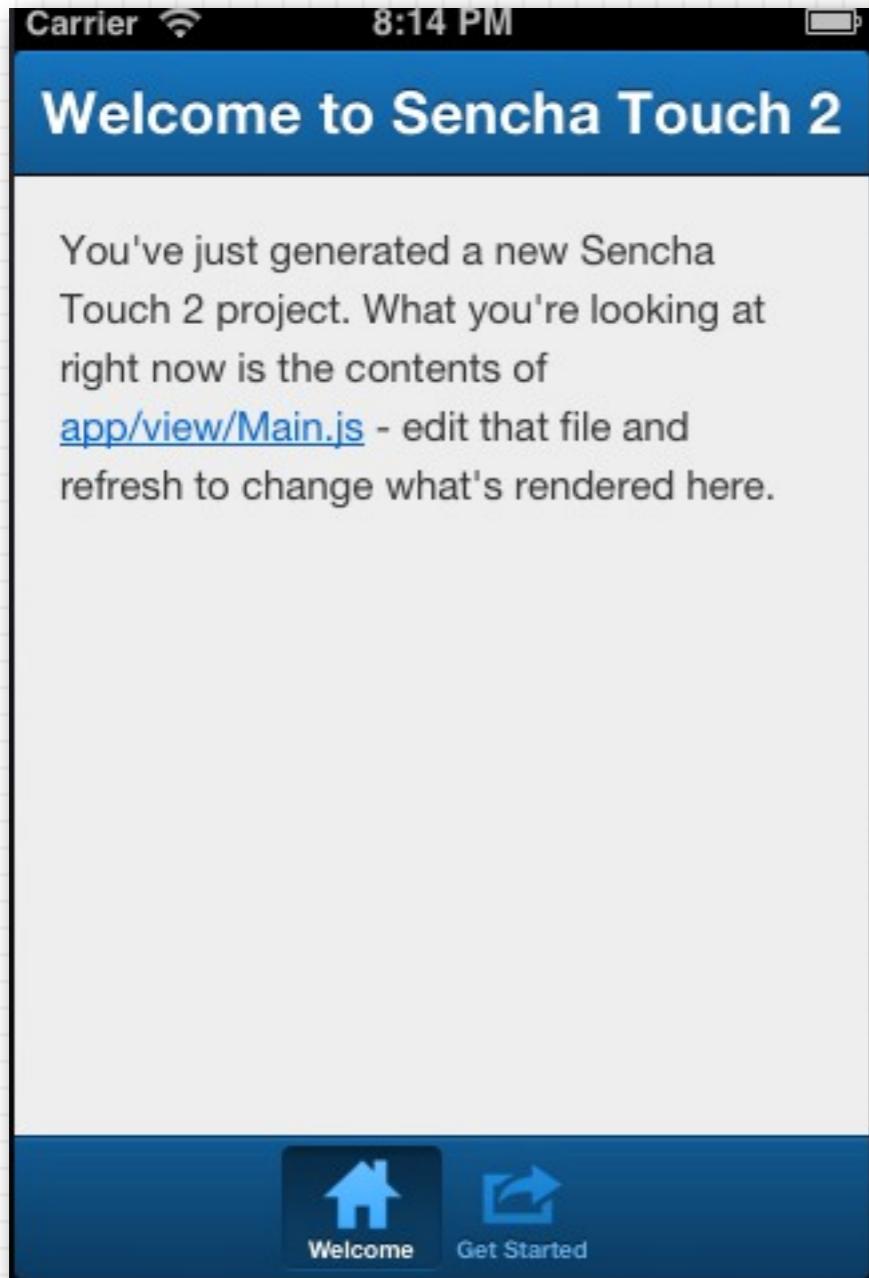
i don't like change

i don't like change

i don't like change

JOHNHSCHEE2BURGER.COM

Testing



Webkit



Interface design

Setting up views

User interface



Abstraction of various app ui elements:

- ▶ containers
- ▶ panels
- ▶ tab panels
- ▶ carousels
- ▶ lists
- ▶ forms
- ▶ toolbars

The image shows three mobile devices (an iPad, an iPhone, and a smaller smartphone) demonstrating different Sencha Touch user interface components. The iPad screen displays a list of users with small profile pictures and their names. The iPhone screen shows a detailed view of a group named 'Rubilyn Maghanoy's Group' with tabs for 'Overview', 'Activities', and 'Contributions'. The smaller phone screen shows a list of political figures under the heading 'GeoCongress'.

Sencha Touch
Develop web apps that look and feel native
on Apple iOS and Google Android touch devices.

Creating views



```
Ext.define('iOSOnRailsConf.view.Technologies', {
    extend: 'Ext.carousel.Carousel',
    xtype: 'techcarousel',

    config: {
        items: [
            { html: '' },
            { html: '' },
            { html: '' },
            { html: '' },
            { html: '' }
        ]
    }
});
```

app/view/Technologies.js

Creating views

The screenshot shows a documentation page for the `Ext.carousel.Carousel` class. At the top, there's a gear icon followed by the class name and its xtype: `xtype: carousel`. Below this is a navigation bar with tabs: `Configs 57`, `Properties 0`, `Methods 186`, `Events 31`, and `CSS Mixins 1`. The `Properties` tab is selected. A table lists properties with their descriptions:

Property	Description
activeItem	
autoDestroy	
baseCls	
border	
bottom	
bubbleEvents	
centered	
cls	
html	
id	
indicator	
itemId	
items	
left	
listeners	
margin	
tplWriteMode	through multiple full-screen pages. A
ui	o swipe through with your finger.
width	
xtype	is easy to configure - they just work like any
zIndex	sel:

At the bottom right of the table area, there's a "Select Code" button.

<http://docs.sencha.com>

Creating views



```
views: [  
  'Main',  
  'Technologies'  
,
```

/app.js

Creating views



```
Ext.define('iOSOnRailsConf.view.Main', {
    extend: 'Ext.tab.Panel',
    xtype: 'main',
    requires: [
        'Ext.TitleBar',
        'Ext.Video'
    ],
    config: {
        tabBarPosition: 'bottom',
        items: [
            {"title": 'Welcome'...},
            {"title": 'Get Started'...},
            {
                xtype: 'techcarousel',
                title: 'Technologies',
                iconCls: 'bulb'
            }
        ]
    }
});
```

app/view/Main.js

Creating views





Taking control

Bootstrapping & Controllers

Bootstrapping and Controllers



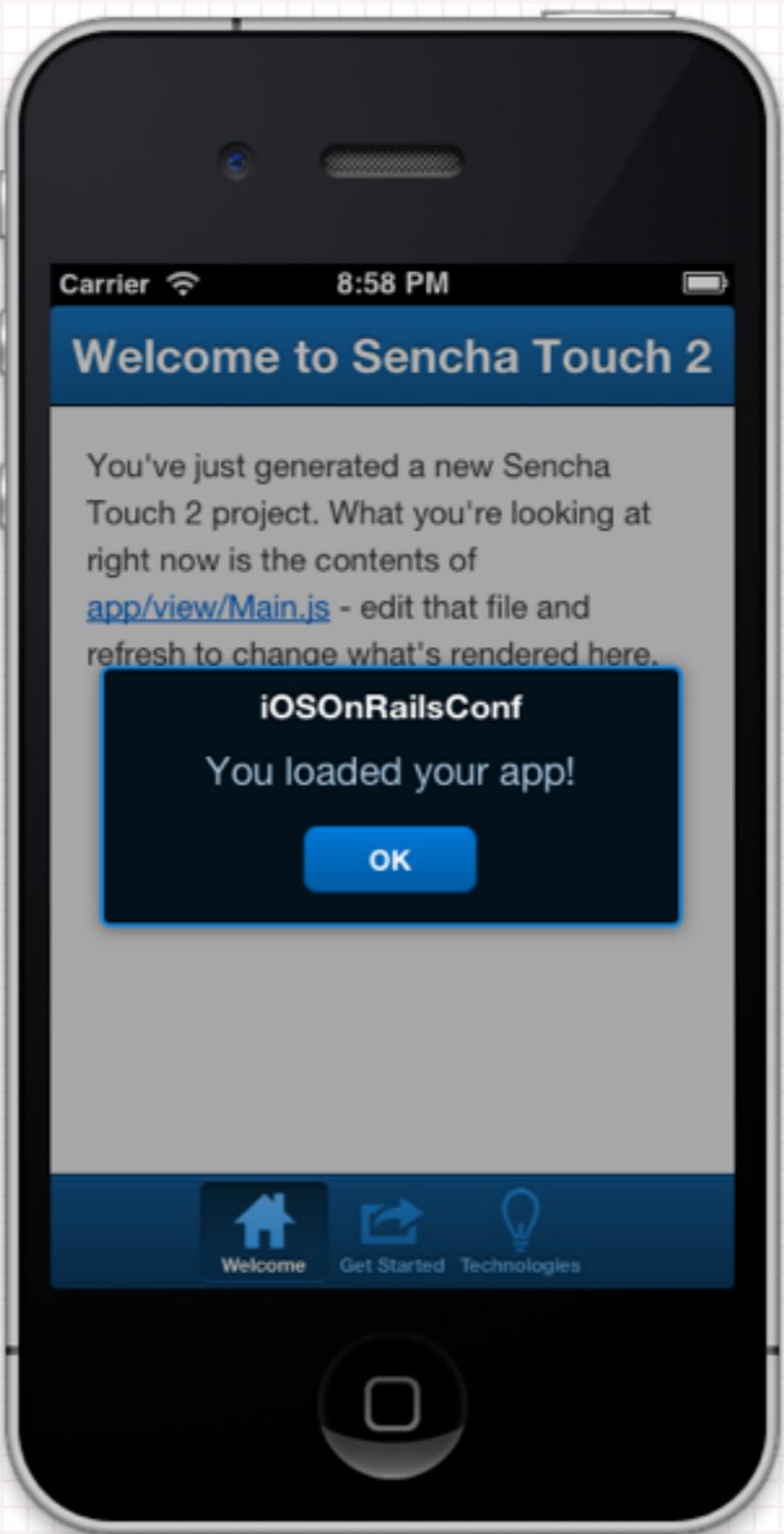
```
launch: function() {
    // Destroy the #appLoadingIndicator element
    Ext.fly('appLoadingIndicator').destroy();

    // Initialize the main view
    Ext.Viewport.add(Ext.create('iOSOnRailsConf.view.Main'));

    Ext.Msg.alert('iOSOnRailsConf', 'You loaded your app!');
},
```

/app.js
Final point of bootstrapping,
controllers & profiles go first

Bootstrapping and Controllers





sencha generate controller <name>

```
> sencha generate controller TechnologiesTab
Sencha Cmd v3.1.0.256
[INF] init-plugin:
[INF] init-plugin:
[INF] Invoking plugin (/Users/martindekeijzer/bin/Sencha
[INF] enable-architect:
[INF] -before-generate-controller:
```

Create a new controller

Events



```
{  
    xtype: 'image',  
    src: ''  
},
```

Make the component selectable

Events



```
Ext.define('iOSOnRailsConf.controller.TechnologiesTab', {
    extend: 'Ext.app.Controller',
    config: {
        refs: {
            },
        control: {
            }
    },
    //called when the Application is launched, remove if not needed
    launch: function(app) {
        }
});
```

app/controller/TechnologiesTab.js

Events



```
config: {  
  refs: {  
    picture: 'img'  
  },  
  control: {  
    'picture': {  
      'tap' : 'onPictureTap'  
    }  
  }  
},
```

app/controller/TechnologiesTab.js



Ext.ComponentQuery singleton

Querying



Predefined events

Events

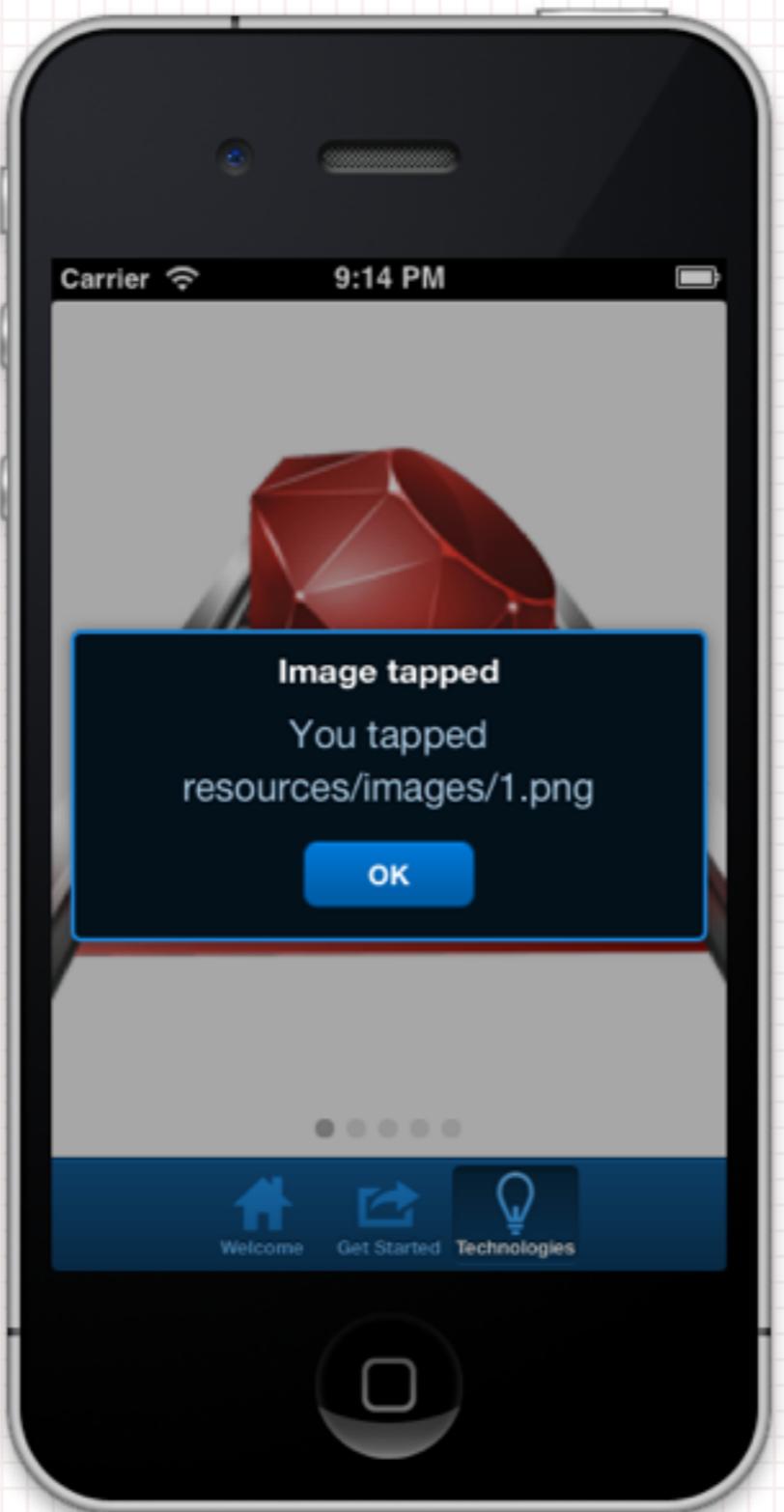


```
onPictureTap: function(image) {  
    var src = image.getSrc();  
    Ext.Msg.alert(  
        'Image tapped',  
        'You tapped ' + src  
    );  
}
```

app/controller/TechnologiesTab.js

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Events

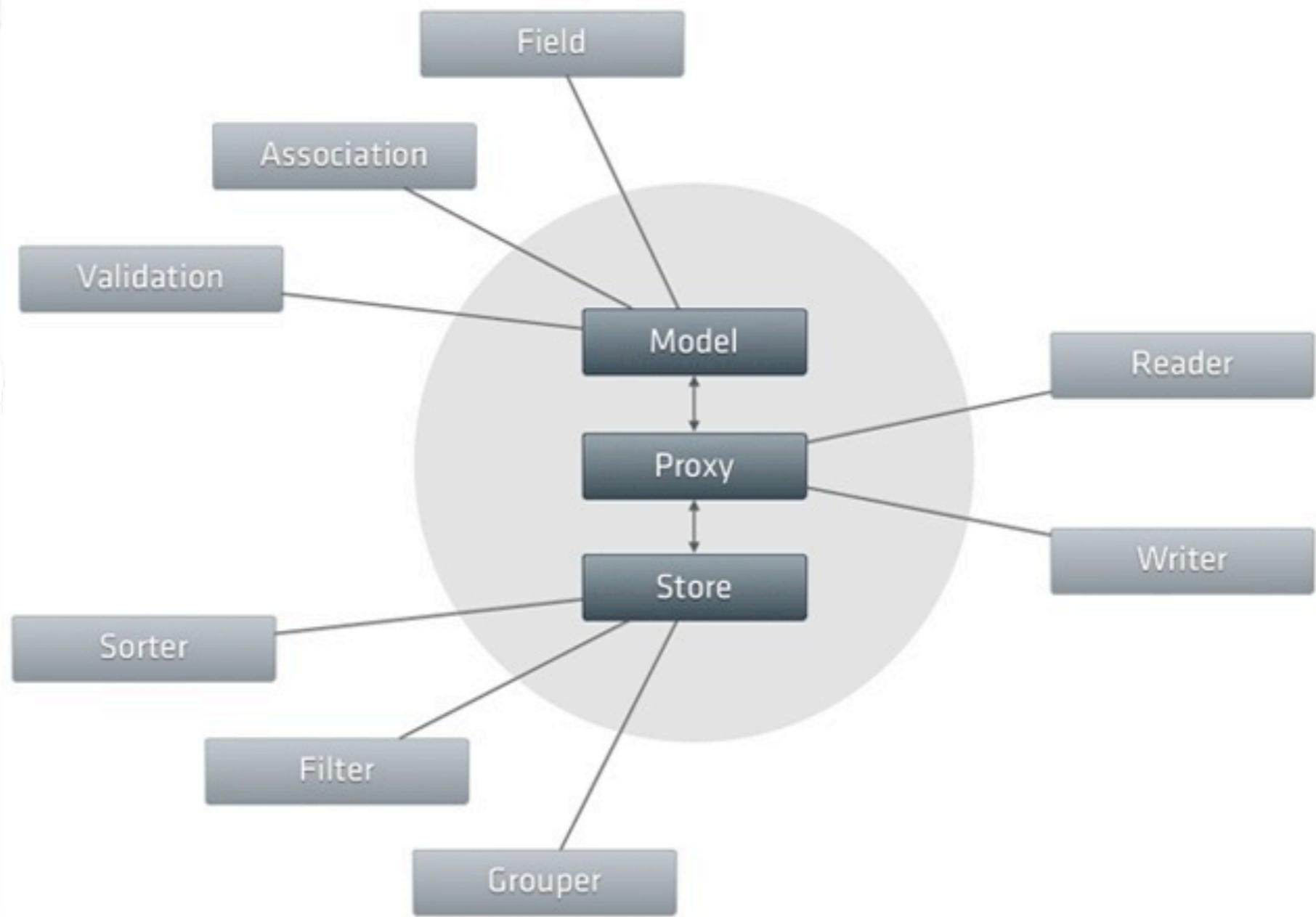




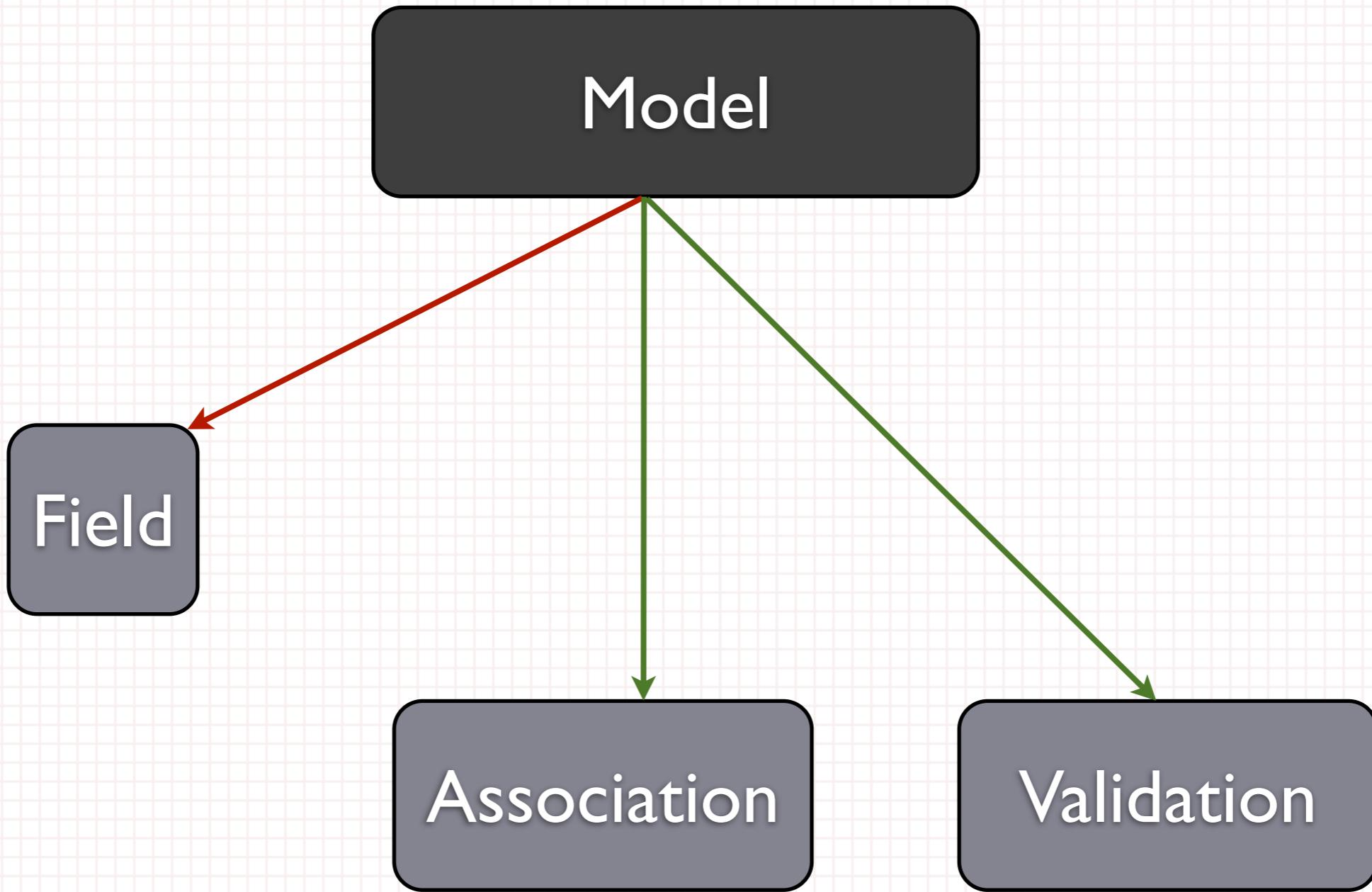
Data binding and communication

Data communication

Data Package in Ext JS 4



Model



Model



```
sencha generate model <name>
<property:type, [property:type] . . .>
```

```
> sencha generate model Technologies id:Number,name:String,image:String
Sencha Cmd v3.1.0.256
[INF] init-plugin:
[INF] init-plugin:
[INF] Invoking plugin (/usr/local/zend/apache2/htdocs/iosonrailsapp/.sencha
[INF] -before-generate-model:
[INF] Invoking plugin (/usr/local/zend/apache2/htdocs/iosonrailsapp/.sencha
```

Model

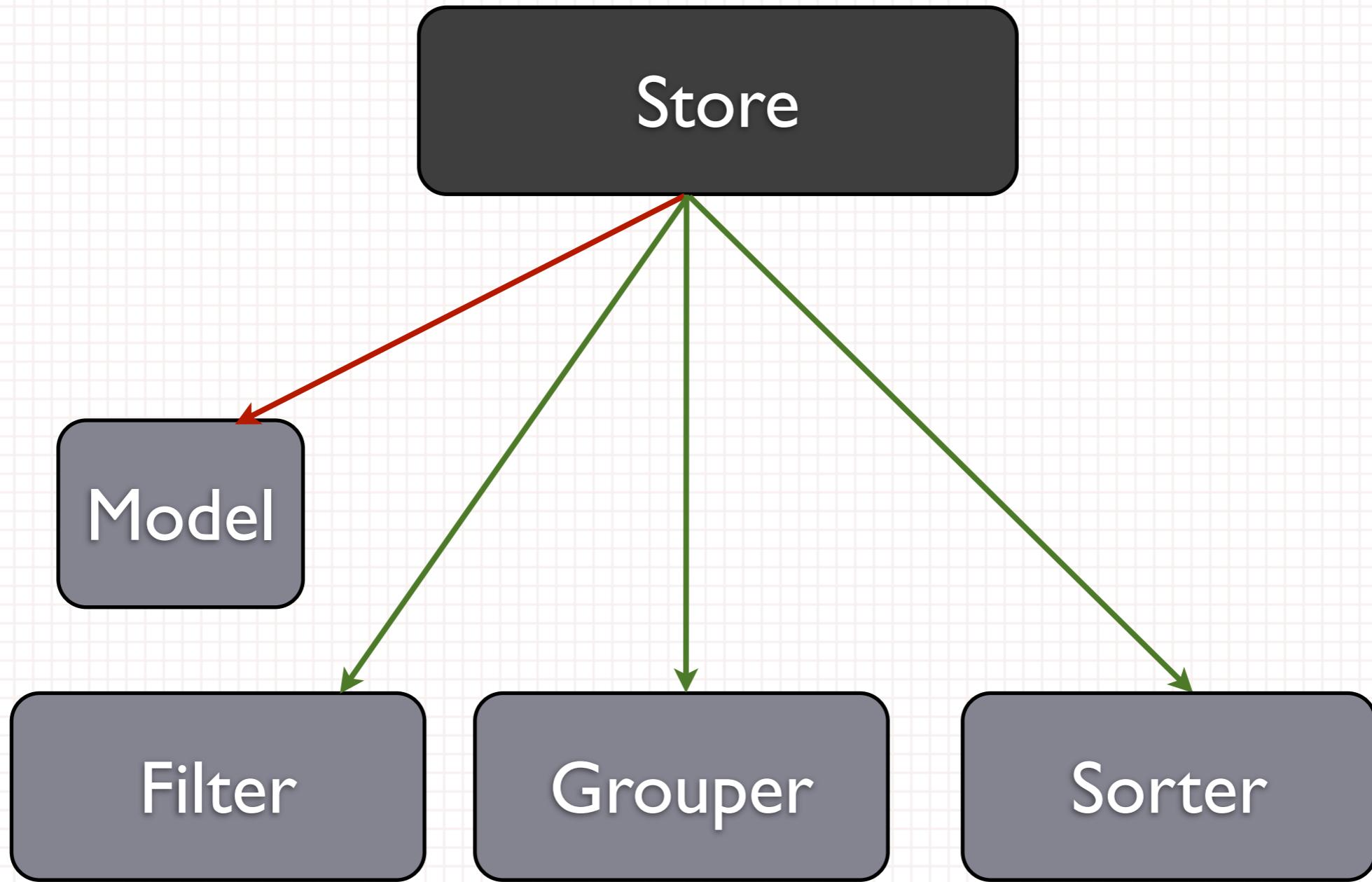


```
Ext.define('iOSOnRailsConf.model.Technologies', {
    extend: 'Ext.data.Model',

    config: {
        fields: [
            { name: 'id', type: 'Number' },
            { name: 'name', type: 'String' },
            { name: 'image', type: 'String' }
        ]
    }
});
```

app/model/Technologies.js

Store



Store



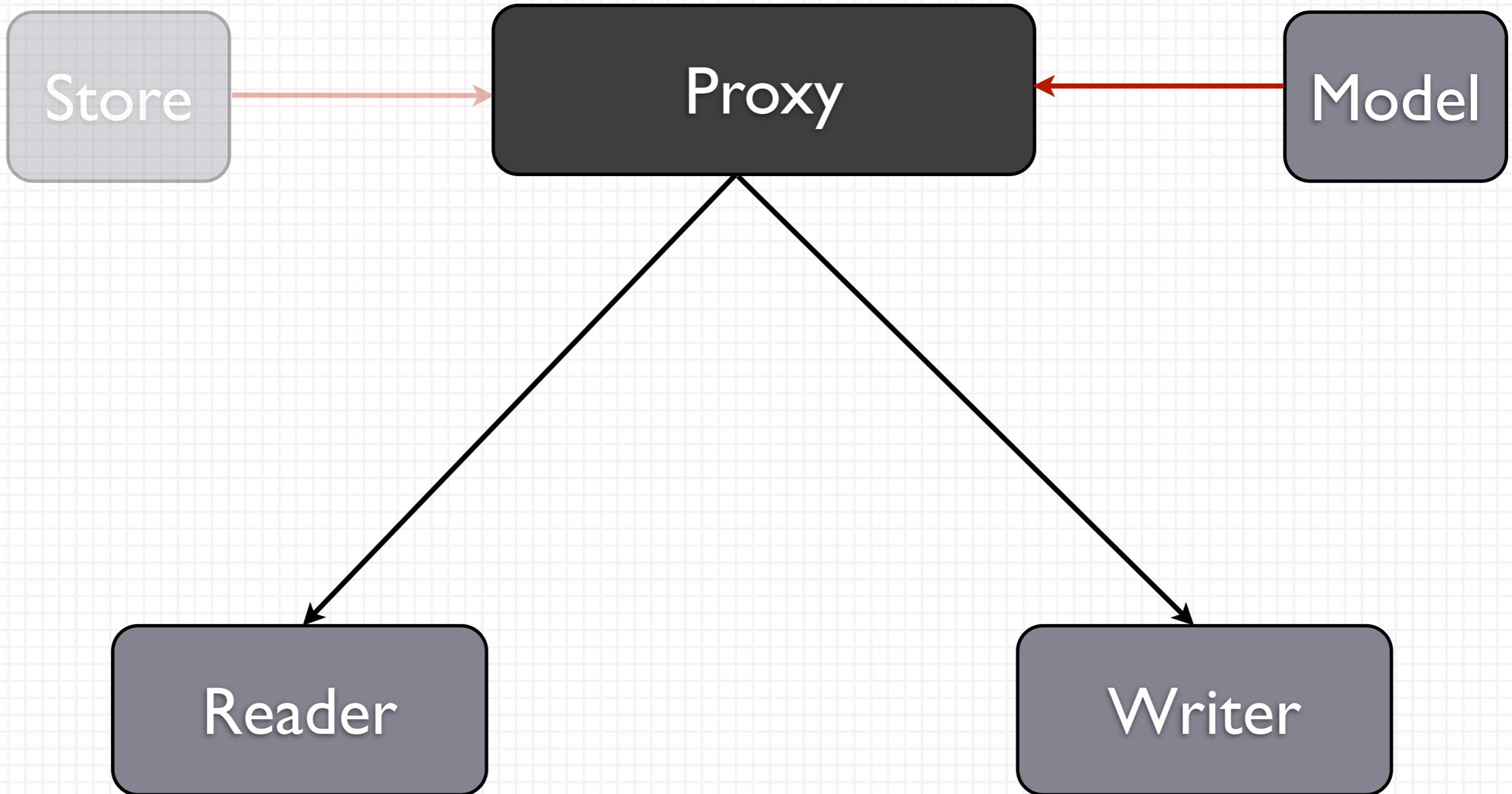
```
Ext.define('iOSOnRailsConf.store.Technologies', {
    extend: 'Ext.data.Store',
    config: {
        model: 'iOSOnRailsConf.model.Technologies',
        autoLoad: true
    }
});
```

app/store/Technologies.js

```
stores: [
    'Technologies'
],
```

app.js

Proxy



Proxy



```
proxy: {  
    type: 'ajax',  
    url: 'resources/technologies.json',  
    reader: {  
        type: 'json',  
        rootProperty: 'technologies'  
    }  
},
```

app/model/Technologies.js

Create a list

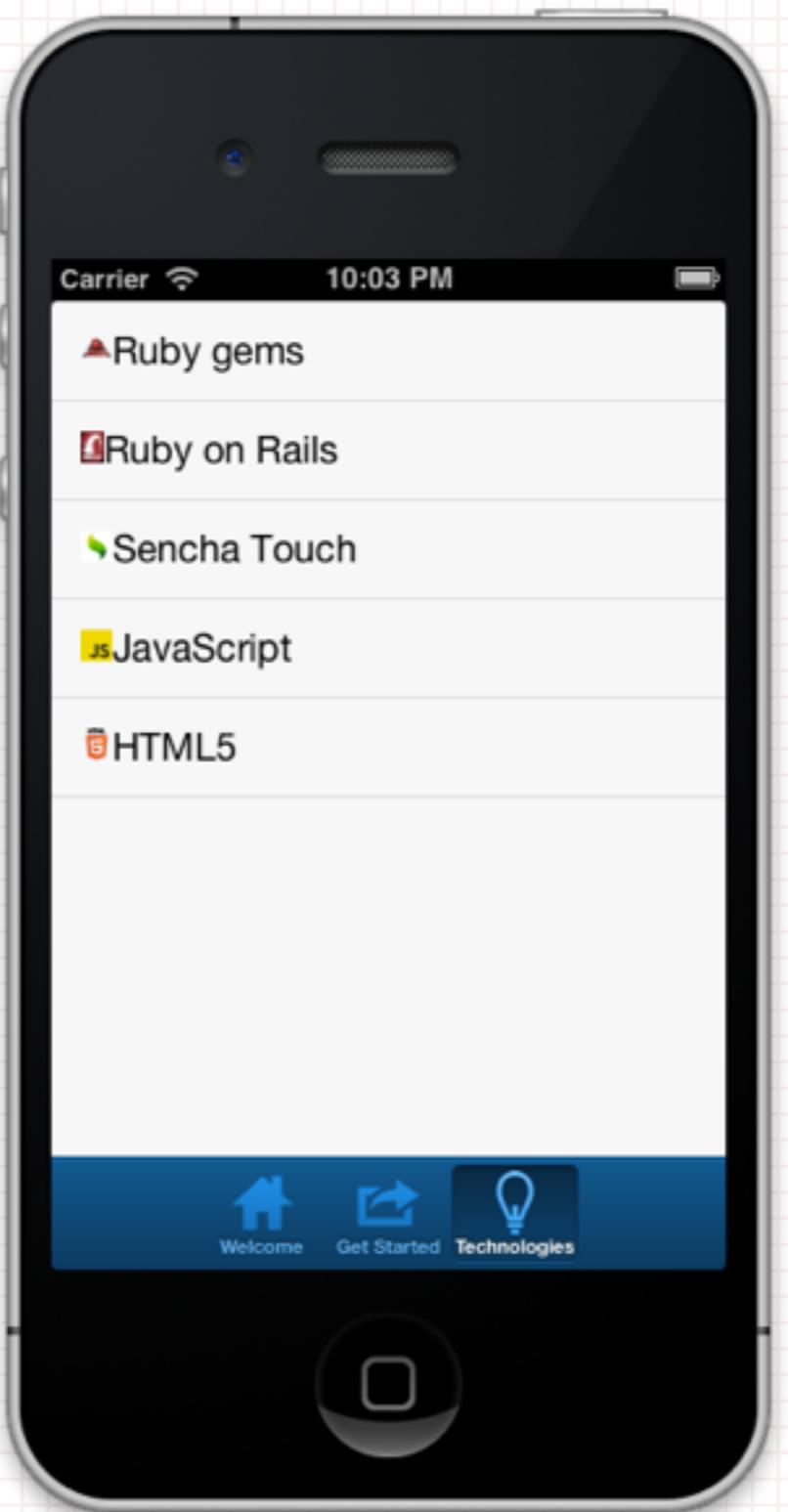


```
Ext.define('iOSOnRailsConf.view.Technologies', {
    extend: 'Ext.dataview.List',
    xtype: 'techlist',

    config: {
        store: 'Technologies',
        itemTpl: '{name}'
    }
});
```

app/view/Technologies.js

Data in action!





Device profiles

When an OS doesn't play well with your app

Device profiles



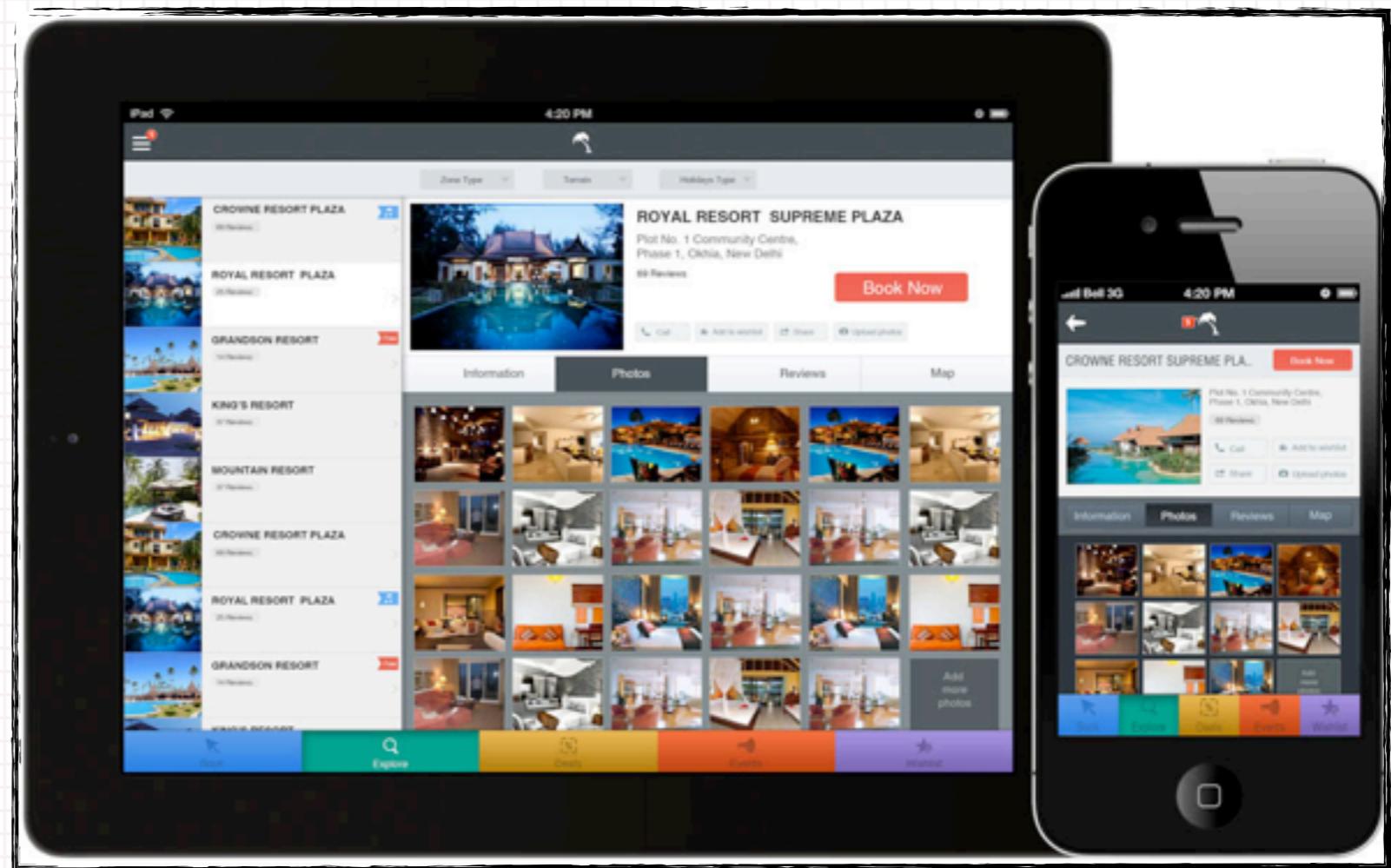
Different devices can require different options.



Device Profiles



Tablet has more screen real estate and can provide more user interaction than a phone.



Device Profiles



Device profiles provide a solution!





Profile setup

```
sencha generate profile <name>
```

```
> sencha generate profile Tablet  
Sencha Cmd v3.1.0.256  
[INF]  
[INF] init-plugin:
```

```
//this profile will be active  
isActive: function(app) {  
    return Ext.os.is.Tablet;  
}
```



Profile overriding

```
Ext.define('iOSOnRailsConf.view.desktop.Main', {
    extend: 'Ext.Panel',
    xtype: 'main',
    requires: [
        'Ext.TitleBar',
        'Ext.Video'
    ],
    config: {
        layout: 'vbox',
        items: [
            {"styleHtmlContent": true...},
            {"flex": 2...},
            {"flex": 2...}
        ]
    }
});
```

app/view/Desktop/Main.js



Profile overriding

```
Ext.define('iOSOnRailsConf.view.tablet.Main', {
    extend: 'Ext.Panel',
    xtype: 'main',
    requires: [
        'Ext.TitleBar',
        'Ext.Video'
    ],
    config: {
        layout: 'hbox',
        items: [
            {"flex": 1...},
            {
                flex: 2,
                layout: 'vbox',
                items: [
                    {"docked": 'top'...},
                    {"flex": 1...},
                    {"flex": 2...}
                ]
            }
        ]
    }
});
```

app/view/Tablet/Main.js



Profile overriding

```
Ext.define('iOSOnRailsConf.view.phone.Main', {
    extend: 'Ext.tab.Panel',
    xtype: 'main',
    requires: [
        'Ext.TitleBar',
        'Ext.Video'
    ],
    config: {
        tabBarPosition: 'bottom',
        items: [
            {"title": "Welcome"}, ...,
            {"title": "Get Started"}, ...,
            {"title": "Technologies"}, ...
        ]
    }
});
```

app/view/Phone/Main.js



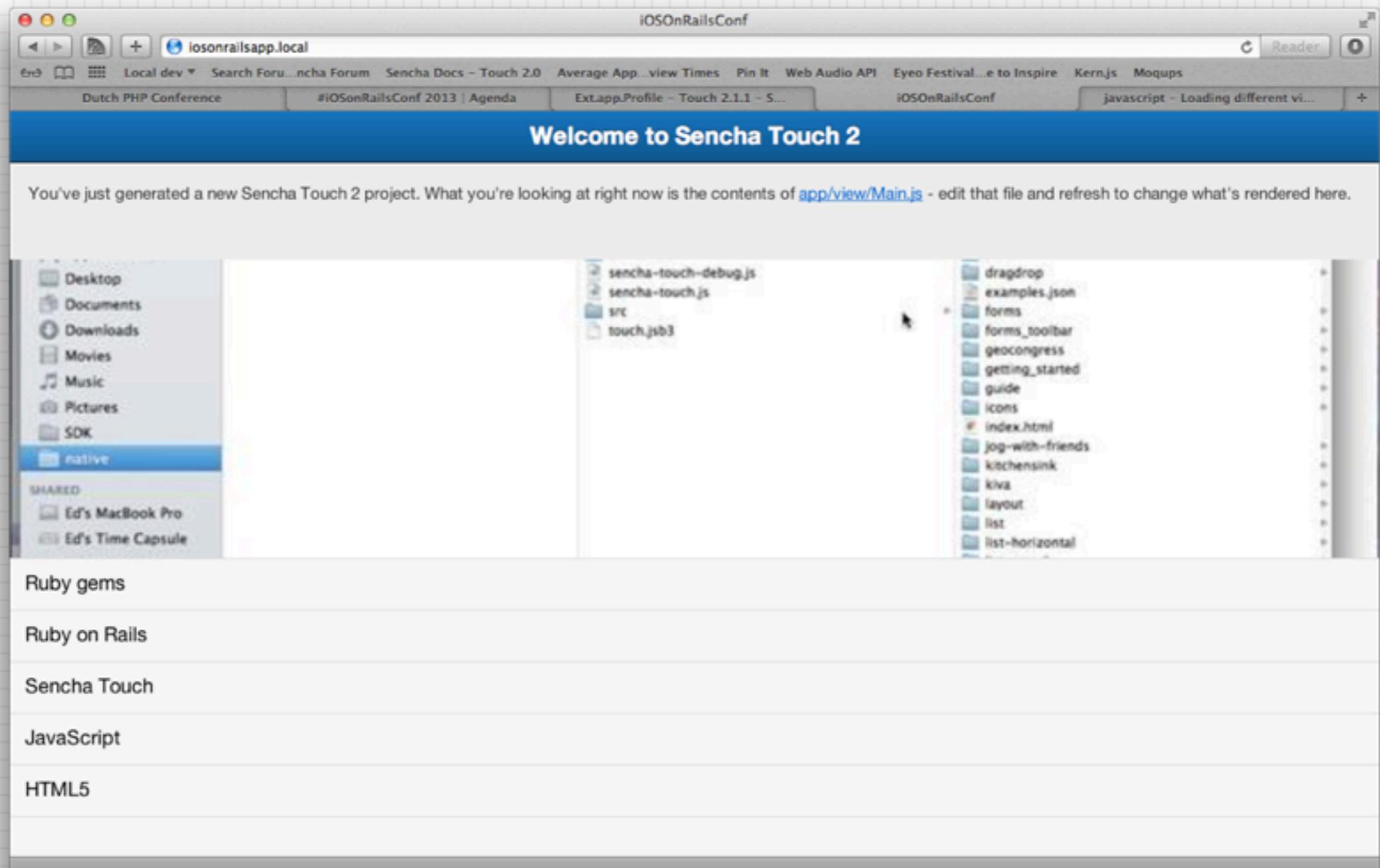
Profile overriding

```
//define any additional classes your Profile needs here
config: {
    views: ['Main'],
    models: [],
    stores: [],
    controllers: []
},
launch: function() {
    // Destroy the #appLoadingIndicator element
    Ext.fly('appLoadingIndicator').destroy();

    // Initialize the main view
    Ext.Viewport.add(Ext.create('iosOnRailsConf.view.tablet.Main'));
},
```

app/profile/Tablet.js

Profile overriding



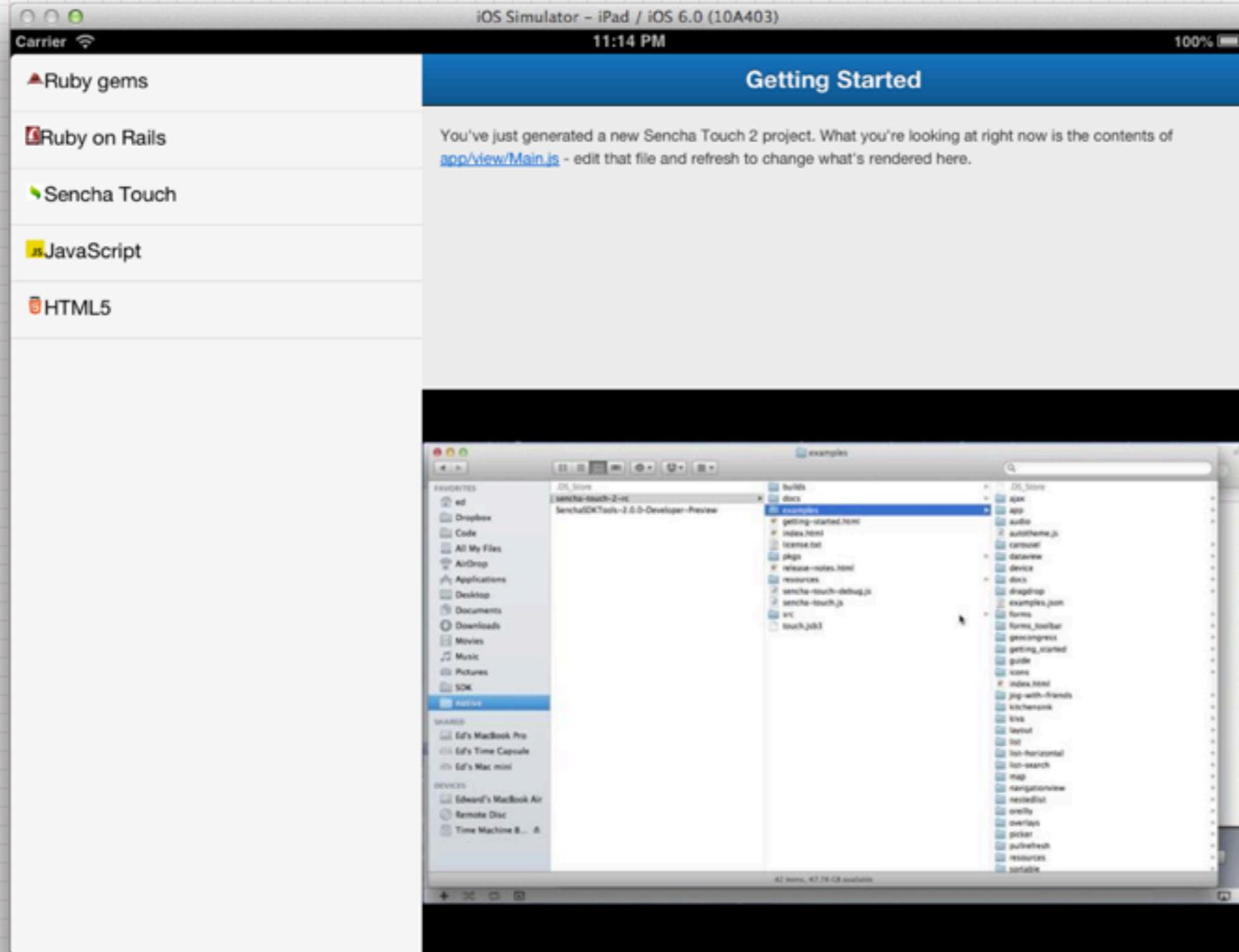
Desktop

Profile overriding



Phone

Profile overriding



Tablet



Your app's got style!

Styling an app



Installing Compass



```
gem install compass
```

The scss file



Extension: .scss

`compass compile`

`compass watch`

The scss file



```
@import 'sencha-touch/default/all';

// You may remove any of the following
// do not use in order to create a
@include sencha-panel;
@include sencha-buttons;
@include sencha-sheet;
@include sencha-picker;
@include sencha-tabs;
@include sencha-toolbar;
@include sencha-toolbar-forms;
@include sencha-indexbar;
@include sencha-list;
@include sencha-layout;
@include sencha-carousel;
@include sencha-form;
@include sencha-msgbox;

@include pictos-iconmask('bulb');

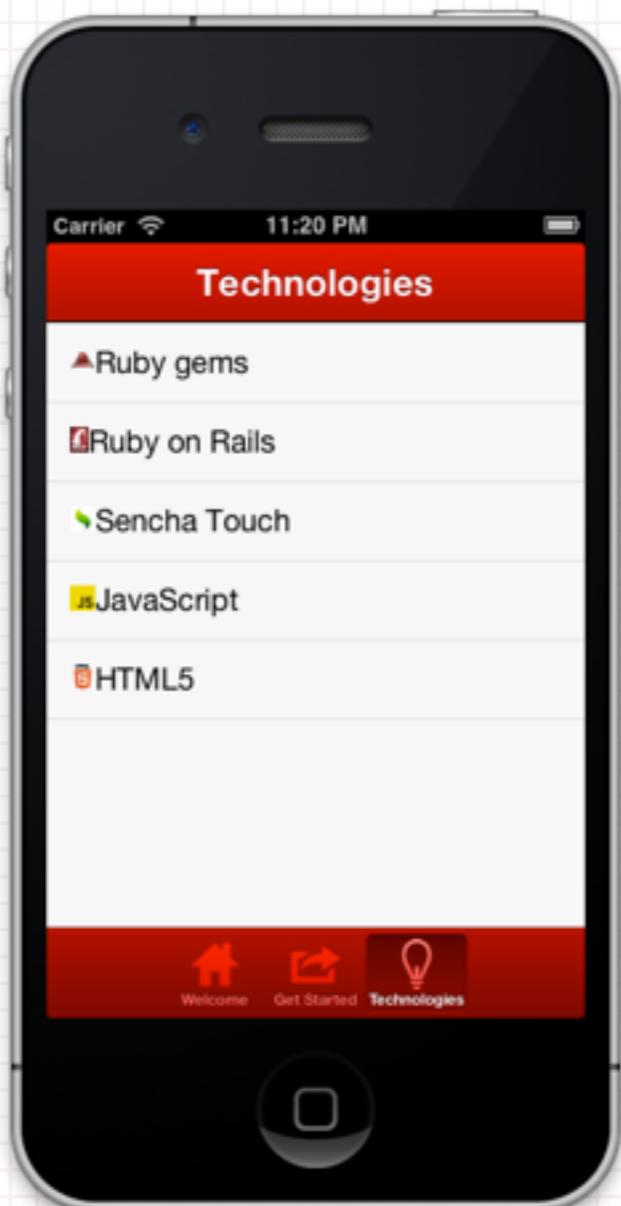
.listImg {
  max-height: 15px;
}
```

resources/sass/app.scss

Compass Variables



```
$base-color: #FF0000;  
@import 'sencha-touch/default/all';
```



**touch/resources/
themes/
stylesheets/
sencha-touch/
default/
variables.scss**

Compass Mixins



```
@mixin bevel-text($type: 'shadow') {  
  @if $include-highlights {  
    @if $type == shadow {  
      text-shadow: rgba(0,0,0,.5) 0 -.08em 0;  
    } @else {  
      text-shadow: rgba(255,255,255,.25) 0 .08em 0;  
    }  
  }  
}
```



Quick Tips



- Well documented on <http://docs.sencha.com>
- Sencha Command
- Sencha Architect 2
- Keep your views clean, use controllers!
- Mobile devices have limited hardware

Need another look?



[http://www.github.com/
Martin1982/
iOSOnRailsConf](http://www.github.com/Martin1982/iOSOnRailsConf)

Sencha Touch by Sencha



Sencha Touch by Sencha



Tomorrow's mini Workshop



Prepare to tag along: Sencha Cmd Sencha Touch 2.1.1 GPL

The screenshot shows the Sencha website's product page for Sencha Cmd. The top navigation bar includes links for Products, Support, Training, Company, Blog, Contact, and Store. The main content area features a large green Sencha logo icon. Below it, the text "Download Sencha Cmd" is displayed in green. A prominent call-to-action button says "Recommended Download Version 3.1.0 for Mac" with a "Download Now" button. Below this, there is a section for "Other Platforms" with icons for Windows, Linux 32-bit, and Linux 64-bit.

The screenshot shows the Sencha website's product page for Sencha Touch 2.1.1 GPL. The top navigation bar includes links for Products, Support, Training, Company, Blog, Contact, and Store. The main content area features a large green Sencha logo icon. Below it, the text "Download Sencha Touch" is displayed in green. A section titled "Free Commercial Version" asks for an email address to download. It includes a "Download" button and a checkbox for "Keep me up to date with Sencha news!". To the right, there are three smartphone icons displaying mobile application interfaces. Below this, a section titled "Working in Open Source?" explains the GPL version and provides a "Download for 2.1.1 GPL" button. Other links include "Read more about licensing options" and "Licensing FAQs".



QUESTIONS



Thank you for listening

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