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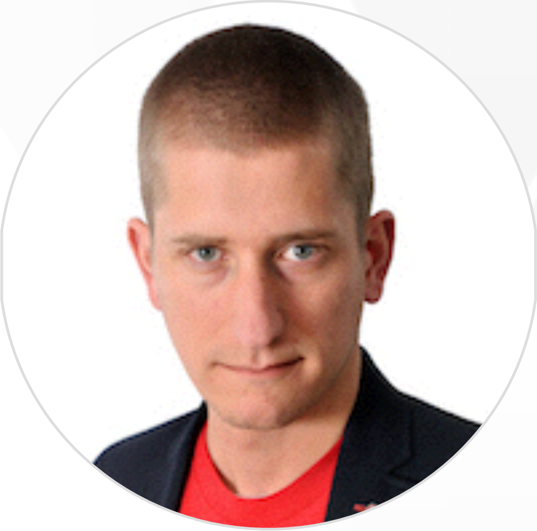
Titanium Tutorial

Your instructors

Jason

Titan
Certified Instructor
Self-employed

@JasonKneen



Fokke

Titan
Certified Instructor
Self-employed

@FokkeZB

Program

- **What is Titanium?**
  - Finding resources
  - Setting up
- **What is Alloy?**
- **Build your first app**
  - Using TiShadow
  - Step by step assignments
- **What’s next?**

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Titanium

… and what is Appcelerator?

About Appcelerator

Founded
In **2007**

Mountain View
London
Tokyo
Beijing

150
Employees

$50M
Mayfield, Translink, Storm, Sierra, eBay, Red Hat

THE WALL STREET JOURNAL
The Next Big Thing

Gartner

Gartner 2013 Magic Quadrant
Highest placement in both vision and execution thereof.

You’ve probably already used Titanium

600K

Developers

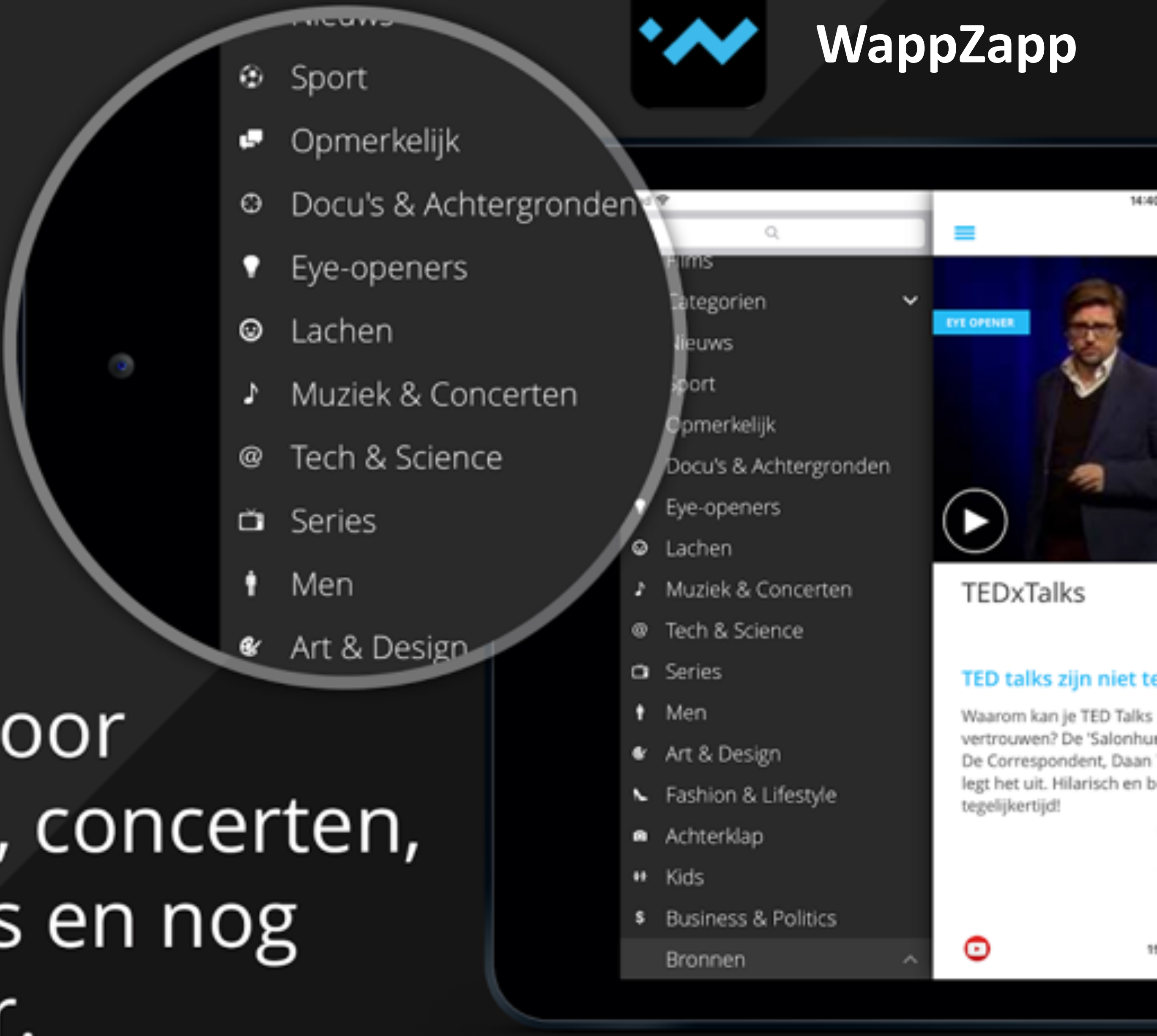
60K

Apps

230M

Devices

WappZapp



TED talks zijn niet te

Waarom kan je TED Talks vertrouwen? De 'Salonhu De Correspondent, Daan legt het uit. Hilarisch en b tegelijkertijd!

Browse door tv-gemist, concerten, webseries en nog veel meer.

Native UI

```
// This is a
(function() {
        //determ
        var osna
```

Swift? We have Hyperloop!

OBJECTIVE-C

```
UITableView *myTableView = [[UITableView alloc] initWithFrame:CGRectZero
style:UITableViewStyleGrouped];
```

SWIFT

```
let myTableView: UITableView = UITableView(frame: CGRectZero, style: .Grouped)
```

HYPERLOOP

```
var myTableView = new UITableView({ frame: CGRectZero(), style: UITableView.Grouped });
```

TITANIUM

```
var myTableView = Ti.UI.createTableView({ style: Ti.UI.TableView.GROUPED });
```

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Resources

Where to get your information?

Resources

- tidev.io/resources

- appcelerator.com/developers
- docs.appcelerator.com

- ticonf.org/#amsterdam
  June 28-29th, European conference
- amsterdam-titanium.nl
  July 2nd, every 1st Wednesday / month

Assignment

- Repeat after me: “Titanium is Native”
- Bookmark tidev.io/resources

- Get a last-minute ticonf.org/#amsterdam

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Set-up

Getting Ready!

What makes Titanium?

- NodeJS CLI
- SDK
- Titanium Studio (optional)

```
// This is a
(function() {
    //determ
    var osna
```

- Target platform SDKs

Assignment

- Sign up and download Studio
- Install Studio and its dependencies
  - JAVA, NodeJS, CLI, SDK
- Use the Platform Configuration Tool
- Create the **Classic / Default Project**
- Run in a simulator or device
- Investigate **Resources/app.js**

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Alloy

Conventions vs Chaos

This might be confusing

JS
HTML
CSS
5
5
3
BACKBONE.JS
UNDERSCORE.JS

Classic vs Alloy

CLASSIC: APP.JS

```
var win = Ti.UI.createWindow({backgroundColor:”white”});
win.open();
```

ALLOY: INDEX.XML

```
<Alloy><Window id=“win” /></Alloy>
```

ALLOY: INDEX.TSS

```
“#win”: { backgroundColor: ‘white’ }
```

ALLOY: INDEX.JS

```
$.win.open();
```

Few more things

Project Configuration File

Widgets

Built-ins

Controller-less views

Sync adapters

Build Configuration File

Backbone.js

Themes

Underscore.js

Moment.js

Source Maps

Require

Dynamic Styling

Data-binding

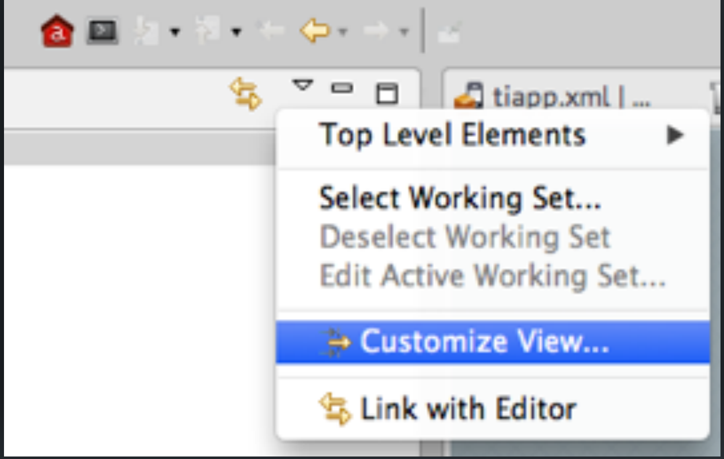
Open Source Widgets*

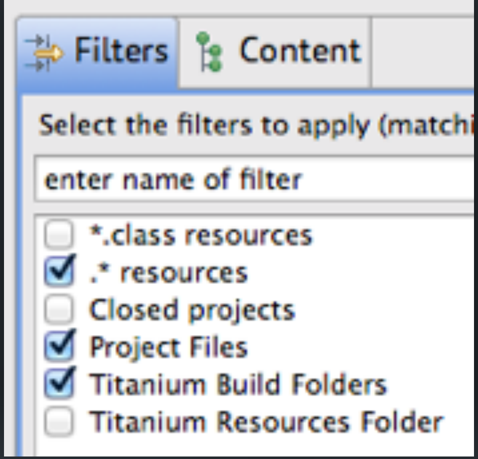
* And Modules

http://gitt.io

Assignment

- Create the **Two-tabbed Alloy Application**
- Run in a simulator or device
- Compare **index.xml/tss/js** with classic
- Unhide the Resources folder





Select the filters to apply (matchi

enter name of filter

- ☐ *.class resources
- ☑ .* resources
- ☐ Closed projects
- ☑ Project Files
- ☑ Titanium Build Folders
- ☐ Titanium Resources Folder

- Compare **app.js** & **iphone/alloy/controllers/index.js**

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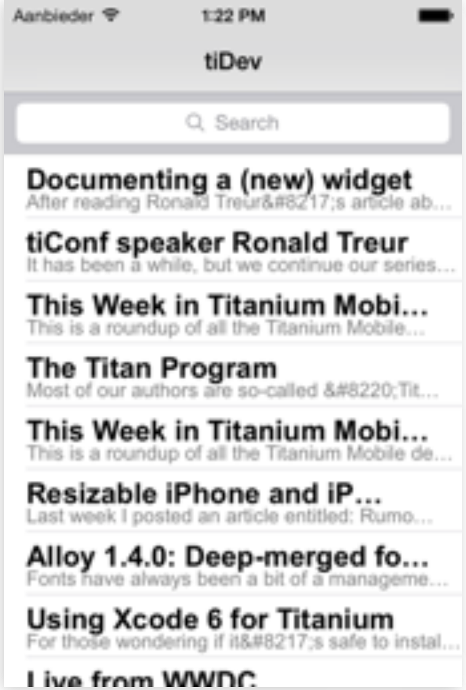
Zero to App

What you will build today

tiDev RSS reader



Documenting a (new) widget
After reading Ronald Treur&#8217;s article ab…

tiConf speaker Ronald Treur
It has been a while, but we continue our series…

This Week in Titanium Mobi…
This is a roundup of all the Titanium Mobile…

The Titan Program
Most of our authors are so-called &#8220;Tit…

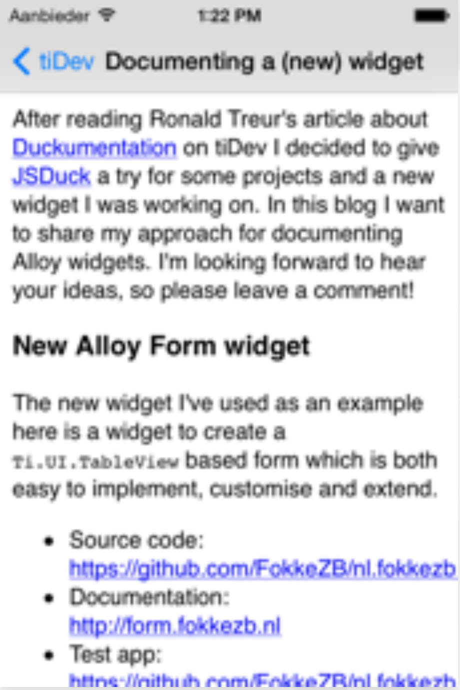
This Week in Titanium Mobi…
This is a roundup of all the Titanium Mobile de…

Resizable iPhone and iP…
Last week I posted an article entitled: Rumo…

Alloy 1.4.0: Deep-merged fo…
Fonts have always been a bit of a manageme…

Using Xcode 6 for Titanium
For those wondering if it&#8217;s safe to instal…

Live from WWDC



After reading Ronald Treur's article about Duckumentation on tiDev I decided to give JSDuck a try for some projects and a new widget I was working on. In this blog I want to share my approach for documenting Alloy widgets. I'm looking forward to hear your ideas, so please leave a comment!

New Alloy Form widget

The new widget I've used as an example here is a widget to create a `Ti.UI.TableView` based form which is both easy to implement, customise and extend.

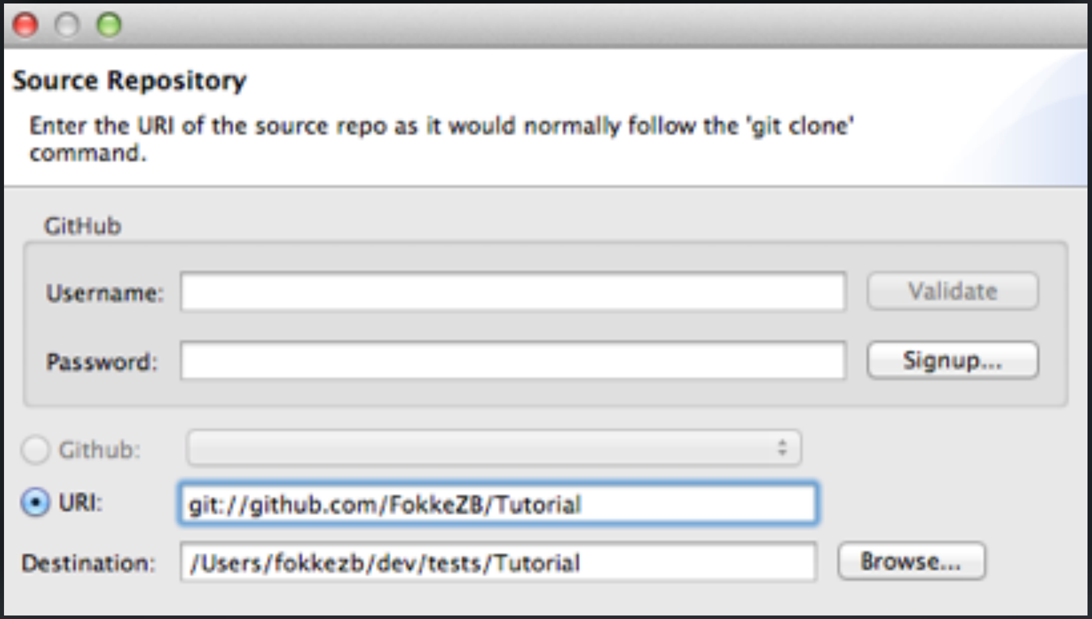
- Source code: https://github.com/FokkeZB/nl.fokkezb
- Documentation: http://form.fokkezb.nl
- Test app: https://github.com/FokkeZB/nl.fokkezb

Ingredients

- JSON feed: tidev.io/feed/json
- Repo: github.com/FokkeZB/Tutorial

vs

Assignment

- Import a clone of the repository
  - File > Import > Git > .. as New Project
  - 

Source Repository

Enter the URI of the source repo as it would normally follow the 'git clone' command.

GitHub

Username:

Password:

○ Github:

● URI: git://github.com/FokkeZB/Tutorial

Destination: /Users/fokkezb/dev/tests/Tutorial

- Run the app
- Download the PDF slides

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TiShadow

Rapid Application Development

“If you're not using TiShadow in your Titanium projects, you might be wasting hours per week on builds. Love it.”

@kevinwhinnery

Compile process

- Compiling for Alloy
- Compiling for Titanium
- Compiling for Xcode/Android
- Deploying to simulator/device
- Starting the app
- Running your code

Few more things

Dynamic localisation

Express

Rooms

Automatic updates

Server hosting

Jasmine

Automated testing

Should.js

REPL

Spies

Appify

Browser interface

Code coverage

Screengrabbing

Assignment

- Install TiShadow

```
~ $ [sudo] npm install -g tishadow
```

- Run an app using CLI and TiShadow Express

```
~/Tutorial $  ti build -p ios --shadow
```

- Change **backgroundColor** to **red** and save

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Window

Creating a Window

Views

- UI components are name-spaced **Ti.UI.***
- Most UI components extend Ti.UI.View
- Create components: **Ti.UI.create<View>()**
- In Alloy **<View>** ➤ **Ti.UI.create<View>()**
- XML attributes and TSS properties are merged and passed to the create-method.
- TSS can select by **tag**, **id or class**.
- JS can refer to **$.<id>**

Classic vs Alloy

CLASSIC: APP.JS

```
var win = Ti.UI.createWindow({backgroundColor:”white”});
win.open();
```

ALLOY: INDEX.XML

```
<Alloy><Window id=“win” /></Alloy>
```

ALLOY: INDEX.TSS

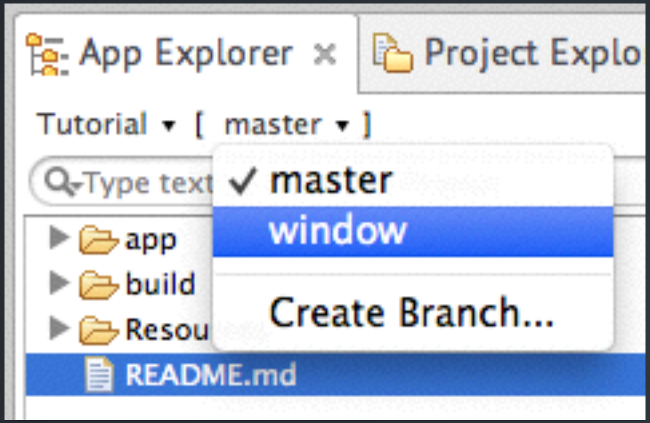
```
“#win”: { backgroundColor: ‘white’ }
```

ALLOY: INDEX.JS

```
$.win.open();
```

Assignment

- Switch to the **window** branch.



- Run the app.
- Add a Label saying **Hello world.**
- Give the label a class.
- Use the class to make the color red.

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ListView

Not the most easy component

ListViews

- Docs > Search: guide: ListViews
- Docs > Search: UI.ListView

- “Crossing the bridge” has a toll
- **ListView** vs TableView
- Alloy does most of the hard work

Assignment

- Study the ListViews guide.
- Compare the API doc classic & Alloy examples.
- Switch to the **listview** branch.
- Run the app.
- Try the first API doc Alloy example JS & TSS.
- Compare **Resources/iphone/alloy/controllers/index.js** with the classic examples.
- Remove the blank icons, align the text left, reduce the sections to one and remove the headerTitle of that section.

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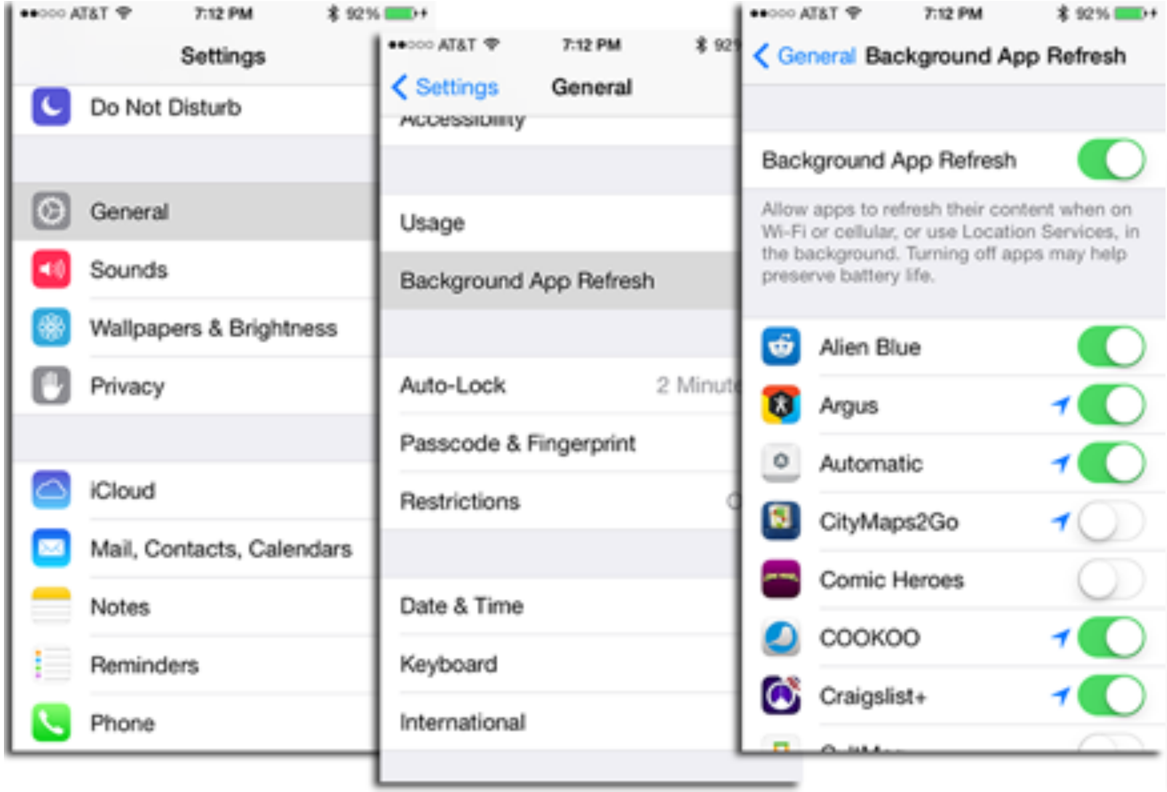
NavigationWindow

Stacking Windows

NavigationWindow

- Docs > Search: NavigationWindow
- **iOS only**



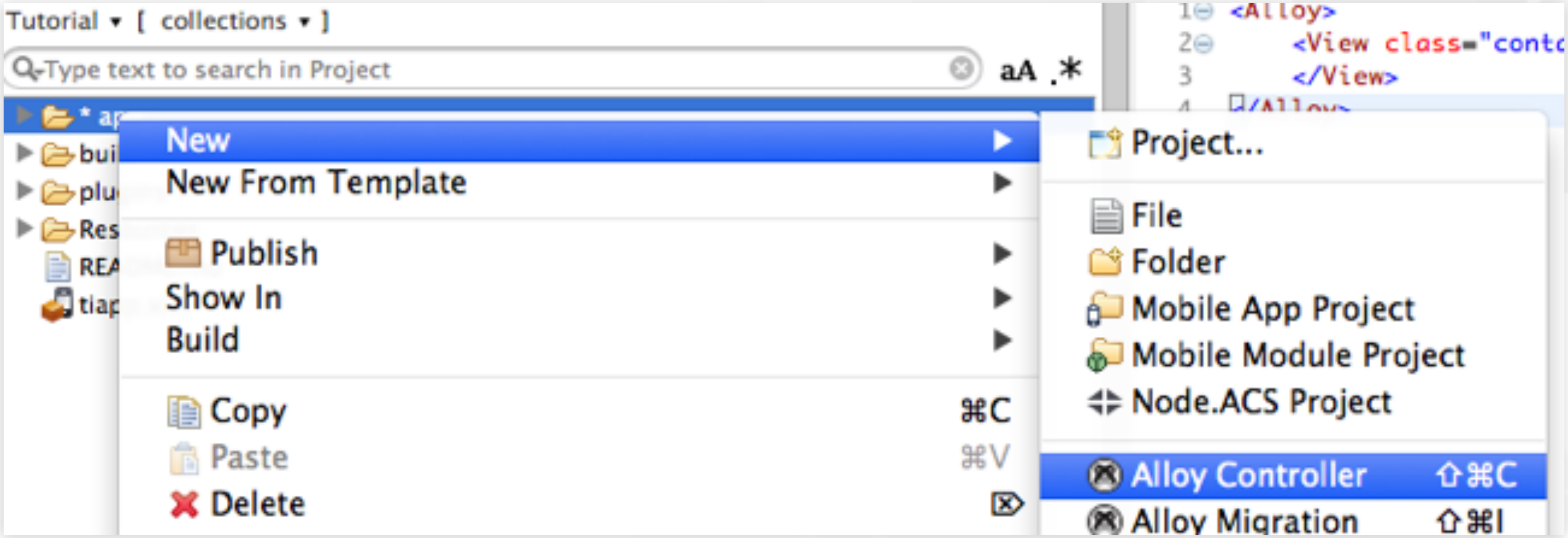
Event Handling

- Docs > Search: Alloy XML Markup
- HTML-like **on[Event]** attribute

```
INDEX.XML
<Button onClick=“talkToMe” />
```

```
INDEX.JS
function talkToMe(e) {
    alert(“hello world”);
}
```

Creating Controllers



```
<Alloy>
	<View class="conta
	</View>
</Alloy>
```

```
$ alloy generate controller detail
```

Using Controllers

- Use <Require> to create + add in XML
- Use Alloy.createController in JS

```
INDEX.XML
<Window id=“win”>
  <Require src=“detail” />
</Window>
```

```
INDEX.JS
var detailController = Alloy.createController(‘detail’);
var rootView = detailController.getView();
$.win.add(rootView);
```

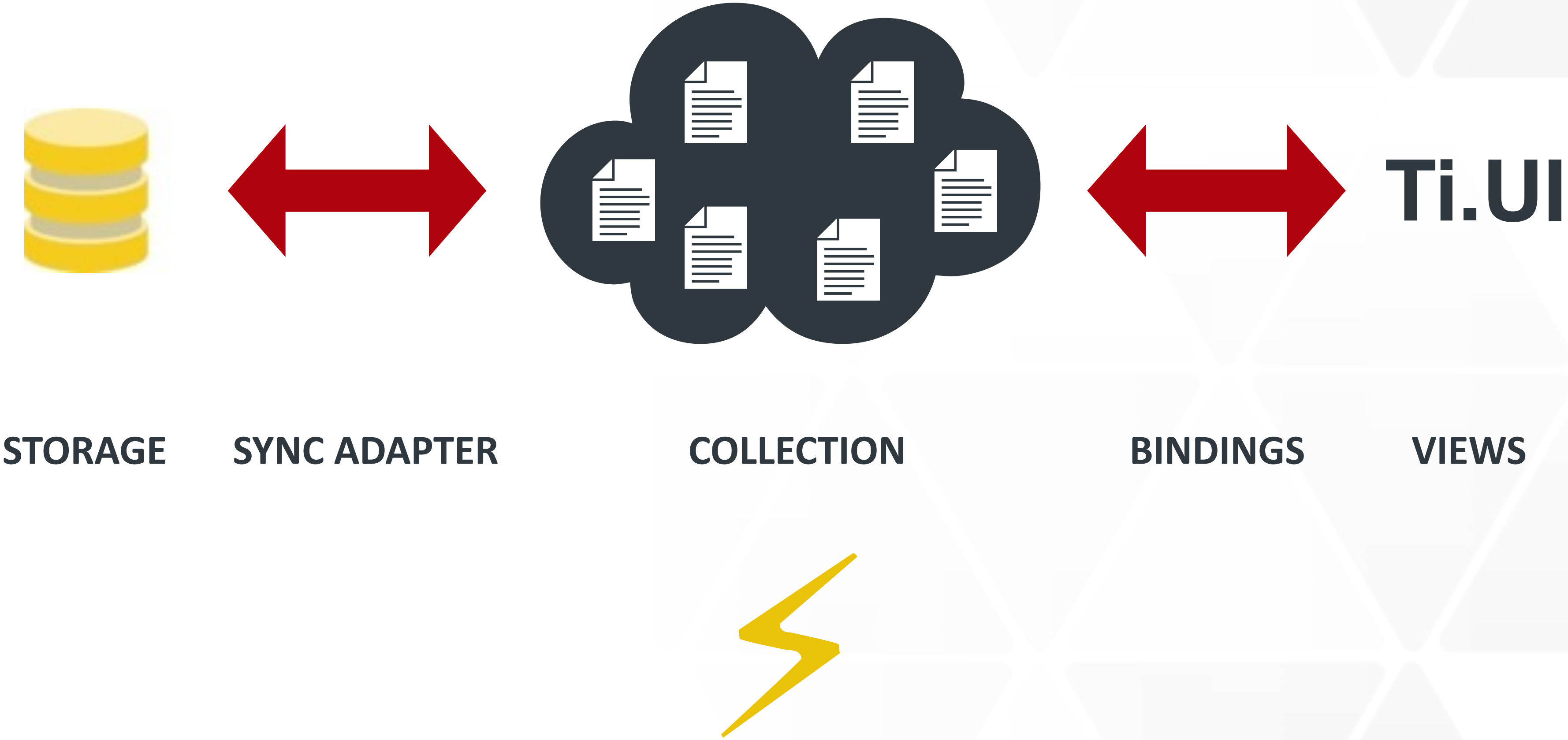
Assignment

- Study the NavigationWindow API docs.
- Switch to the **navwin** branch and run it.
- Wrap the **Window** in a **NavigationWindow**
  For Android add `module="xp.ui"` attribute.
- Add an itemclick listener to the ListView.
- Create a new **detail** controller and make it a Window. Give both windows a title.
- On click, create a detail controller instance and open the window via NavigationWindow.
- Study **lib/xp.ui.js**. What happends on Android?

Collections

Models with brains

BACKBONE.JS



Ti.UI

STORAGE

SYNC ADAPTER

COLLECTION

BINDINGS

VIEWS

EVENTS

BACKBONE.JS

- Docs > Search: Alloy Models
  - **Note:** Older version (0.9.2)
- In Titanium JS has no DOM

- Instantiate a global collection: **Collection** tag
- Bind a collection to a loop-able view: **dataCollection** attribute
- Bind a model attribute to a child view property: **{<attribute>}** value

Assignment

- Study the Alloy Data Binding guide.
- Switch to the **collections** branch and run it.
- Bind the **feed** collection to the **ListSection** so that the list is populated showing the **title** and **excerpt** of the items.
- Study **models/feed.js** and **lib/alloy/sync/json.js**. How do they work? And why that second path?

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WebView

Titanium > Phonegap

WebView

- Docs > Search: guide: Communication
- Docs > Search: UI.WebView

- Display local, remote and “inline” HTML
- Communicate via events and evalJS

- Displaying formatted text native is complex
- Displaying HTML in WebView is easy :)

Assignment

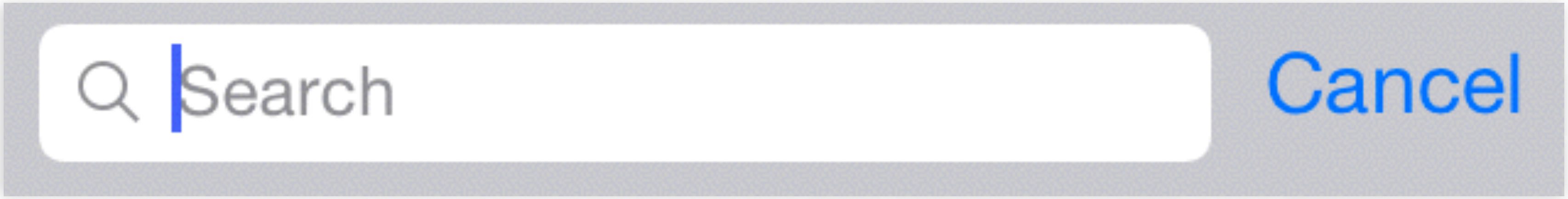
- Study the WebView docs.
- Switch to the **webview** branch and run it.
- Study **index.xml** to see how we expose the id of the model via itemId.
- Pass the model to the detail controller.
- Add a WebView to the detail Window and use the model to populate it.
- Use the model to set the **title** of the detail Window.

SeachBar

Proxy Tags

SearchBar

- Docs > Search: ListViews > Search Text and View
- Docs > Search: UI.ListView (last examples)
- Docs > Search: UI.SearchBar



- **ListView.searchView** works together with **ListView.searchText** & **ListItem.searchAbleText**

Assignment

- Study the last two ListView examples.
- Switch to the **searchbar** branch and run it.
- Add a SearchBar (also for Android) to the list to search on the **excerpt**.
- If you have time left, try to search on the **content,** after using the dataTransform attribute to remove HTML tags from it.

HINT: Google is your friend.

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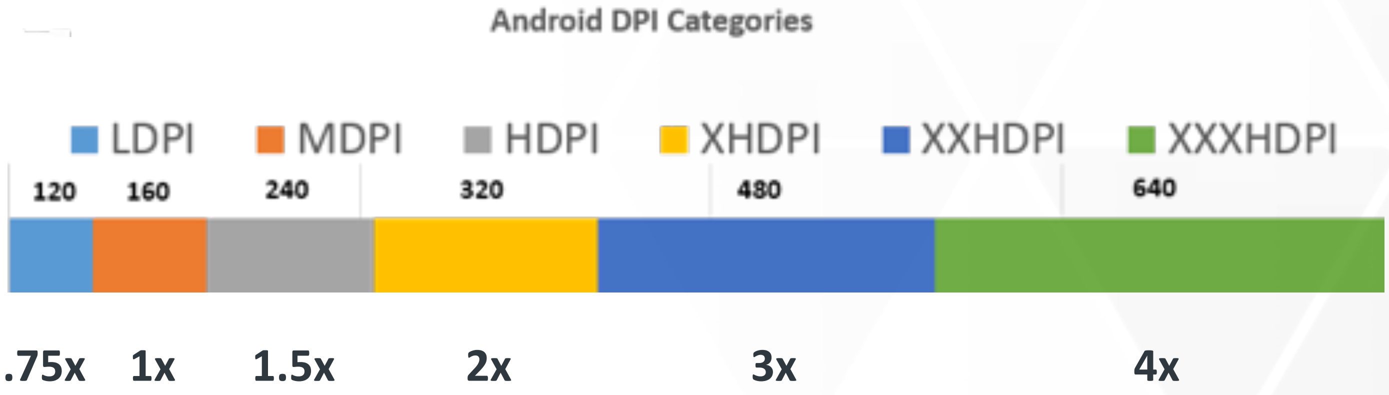
Artwork

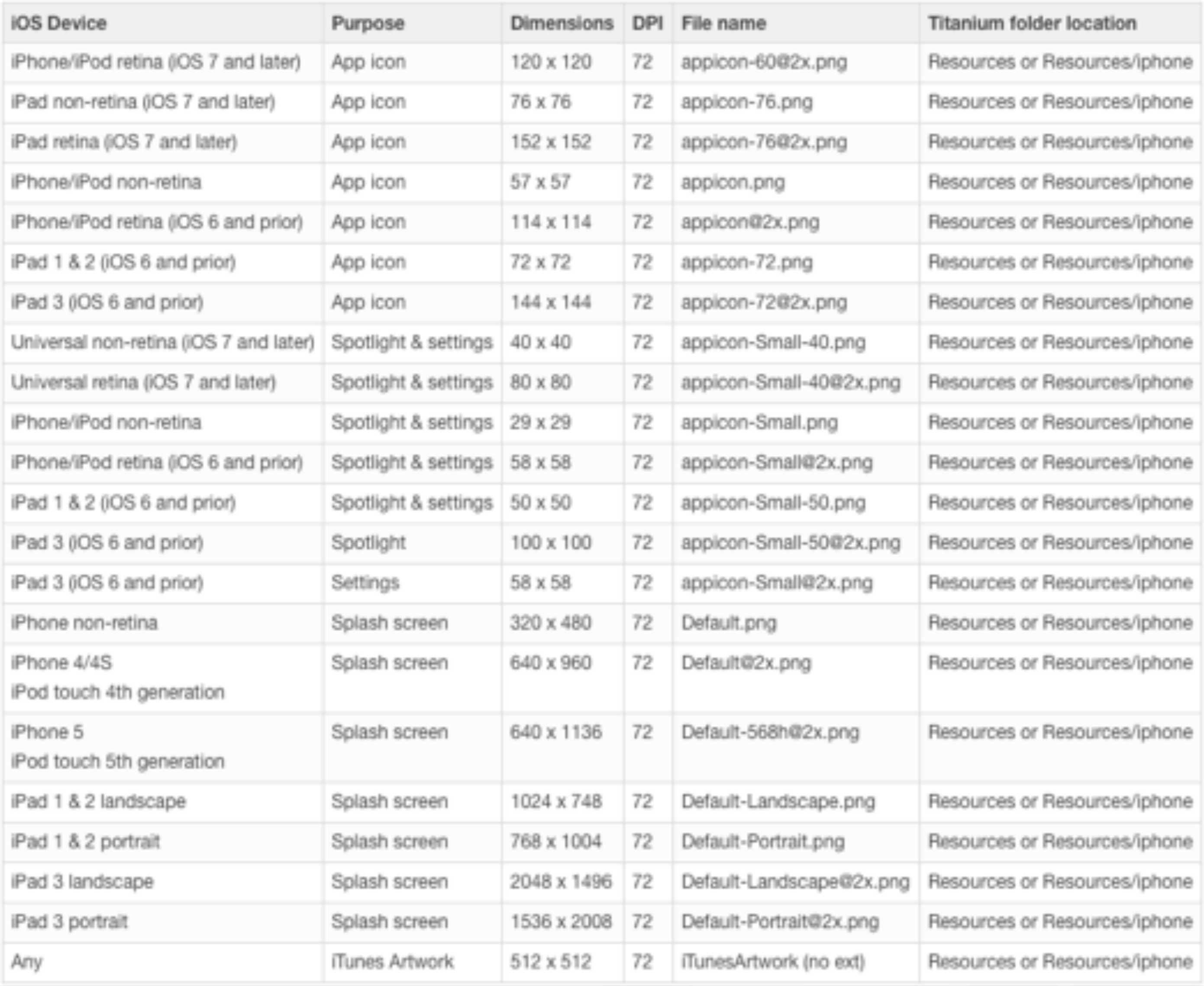
Density Hell

NON-RETINA

RETINA (2X)



Icons & Splashes



iOS Device	Purpose	Dimensions	DPI	File name	Titanium folder location
iPhone/iPod retina (iOS 7 and later)	App icon	120 x 120	72	appicon-60@2x.png	Resources or Resources/iphone
iPad non-retina (iOS 7 and later)	App icon	76 x 76	72	appicon-76.png	Resources or Resources/iphone
iPad retina (iOS 7 and later)	App icon	152 x 152	72	appicon-76@2x.png	Resources or Resources/iphone
iPhone/iPod non-retina	App icon	57 x 57	72	appicon.png	Resources or Resources/iphone
iPhone/iPod retina (iOS 6 and prior)	App icon	114 x 114	72	appicon@2x.png	Resources or Resources/iphone
iPad 1 & 2 (iOS 6 and prior)	App icon	72 x 72	72	appicon-72.png	Resources or Resources/iphone
iPad 3 (iOS 6 and prior)	App icon	144 x 144	72	appicon-72@2x.png	Resources or Resources/iphone
Universal non-retina (iOS 7 and later)	Spotlight & settings	40 x 40	72	appicon-Small-40.png	Resources or Resources/iphone
Universal retina (iOS 7 and later)	Spotlight & settings	80 x 80	72	appicon-Small-40@2x.png	Resources or Resources/iphone
iPhone/iPod non-retina	Spotlight & settings	29 x 29	72	appicon-Small.png	Resources or Resources/iphone
iPhone/iPod retina (iOS 6 and prior)	Spotlight & settings	58 x 58	72	appicon-Small@2x.png	Resources or Resources/iphone
iPad 1 & 2 (iOS 6 and prior)	Spotlight & settings	50 x 50	72	appicon-Small-50.png	Resources or Resources/iphone
iPad 3 (iOS 6 and prior)	Spotlight	100 x 100	72	appicon-Small-50@2x.png	Resources or Resources/iphone
iPad 3 (iOS 6 and prior)	Settings	58 x 58	72	appicon-Small@2x.png	Resources or Resources/iphone
iPhone non-retina	Splash screen	320 x 480	72	Default.png	Resources or Resources/iphone
iPhone 4/4S iPod touch 4th generation	Splash screen	640 x 960	72	Default@2x.png	Resources or Resources/iphone
iPhone 5 iPod touch 5th generation	Splash screen	640 x 1136	72	Default-568h@2x.png	Resources or Resources/iphone
iPad 1 & 2 landscape	Splash screen	1024 x 748	72	Default-Landscape.png	Resources or Resources/iphone
iPad 1 & 2 portrait	Splash screen	768 x 1004	72	Default-Portrait.png	Resources or Resources/iphone
iPad 3 landscape	Splash screen	2048 x 1496	72	Default-Landscape@2x.png	Resources or Resources/iphone
iPad 3 portrait	Splash screen	1536 x 2008	72	Default-Portrait@2x.png	Resources or Resources/iphone
Any	iTunes Artwork	512 x 512	72	iTunesArtwork (no ext)	Resources or Resources/iphone

Platform & Density specific folders

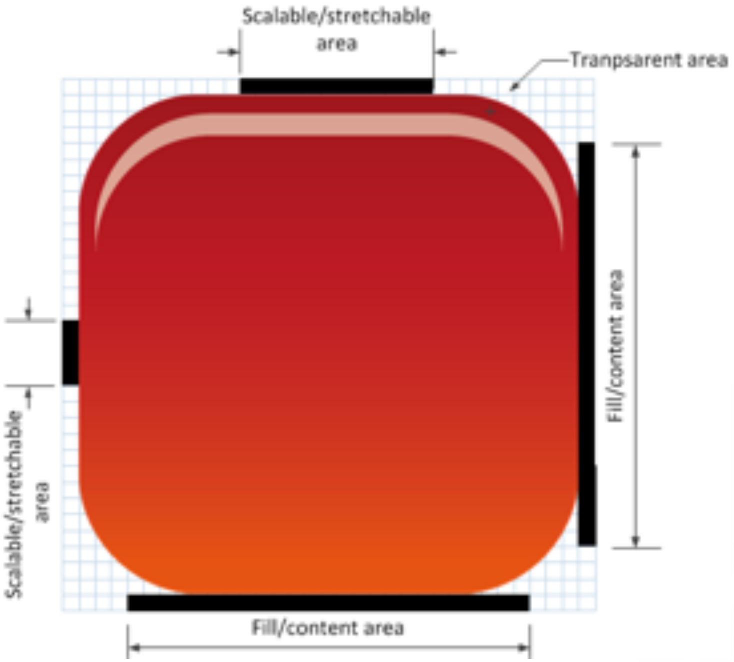
```
assets/some_dir/some.file
assets/android/some_dir/some.file
assets/iphone/some_dir/some.file
```

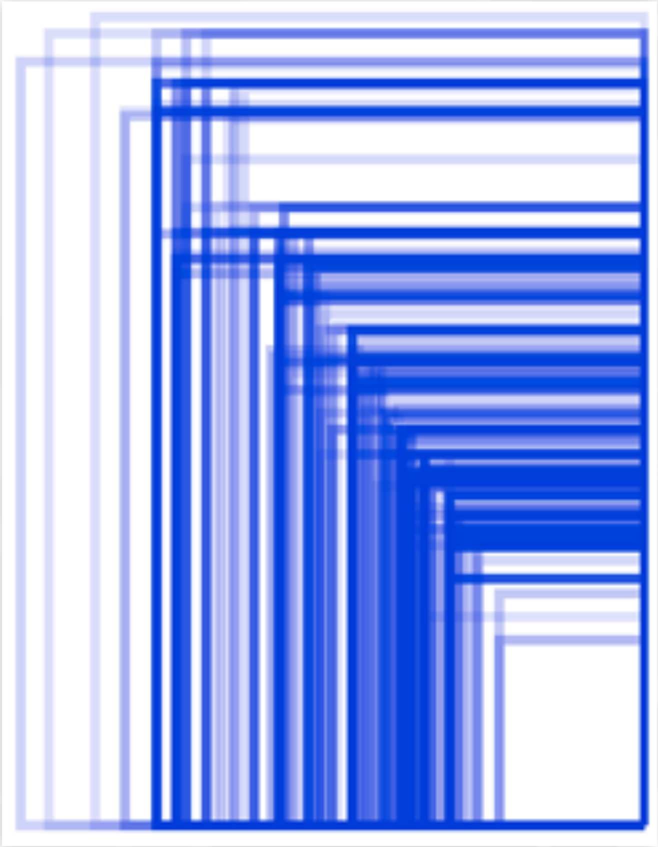
```
assets/android/images/res-xhdpi/some.file

platform/android/res/drawable-xhdpi/some.file
platform/android/res/drawable-nl-port-xhdpi/some.file
```

```
assets/iphone/images/image@2x.png
assets/images/image.png
~~assets/android/images/res-mdpi/image.png~~
assets/android/images/res-xhdpi/image.png
```

BEST PRACTICE

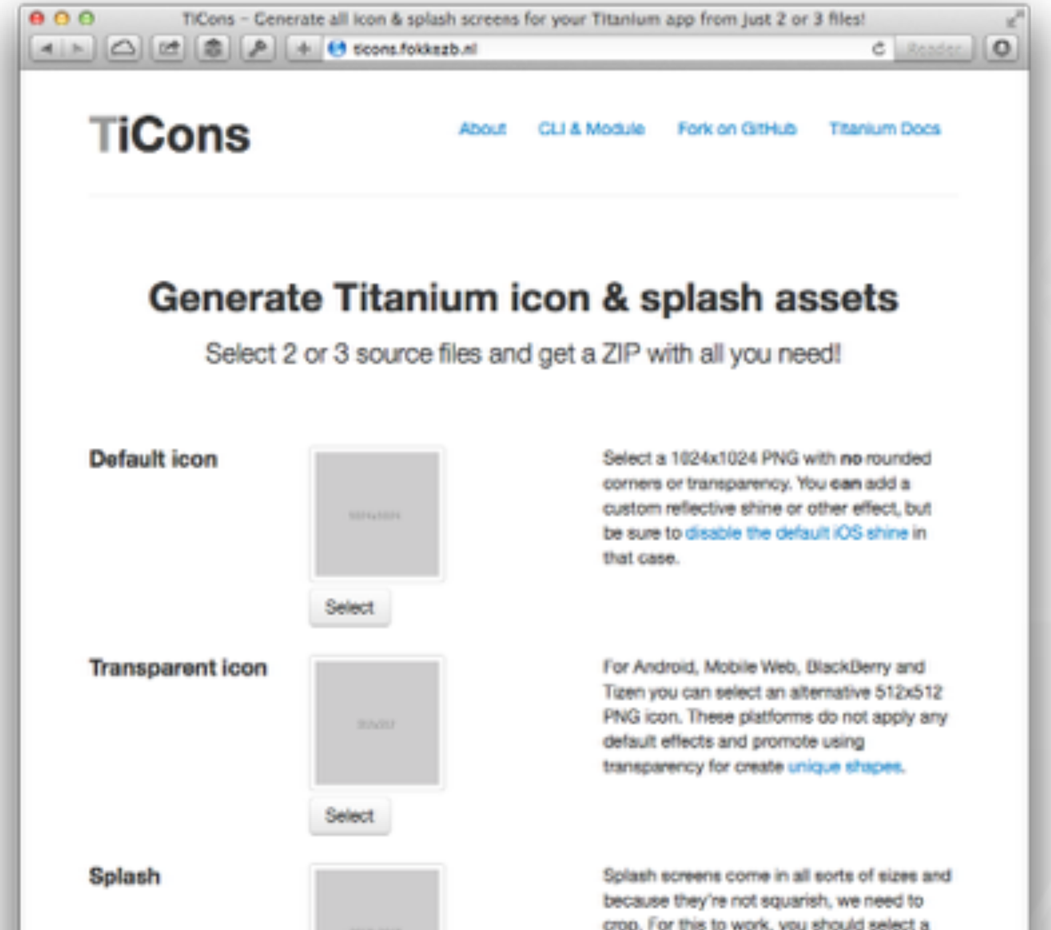
Android 9-Patch





No more handwork

```
~ $ [sudo] npm install -g ticons
```



TiCons - Generate all icon & splash screens for your Titanium app from just 2 or 3 files!

ticons.fokkezb.nl

Generate Titanium icon & splash assets

Select 2 or 3 source files and get a ZIP with all you need!

Default icon

Select a 1024x1024 PNG with **no** rounded corners or transparency. You **can** add a custom reflective shine or other effect, but be sure to disable the default iOS shine in that case.

Transparent icon

For Android, Mobile Web, BlackBerry and Tizen you can select an alternative 512x512 PNG icon. These platforms do not apply any default effects and promote using transparency for create unique shapes.

Splash

Splash screens come in all sorts of sizes and because they're not squarish, we need to crop. For this to work, you should select a

Assignment

- Study the Icons and Splash Screens guide
- Install the ticons CLI or visit the site.

```
~ $ [sudo] npm install -g ticons
```

- Switch to the **master** branch and run it.
- Generate icons and splashes using the CLI or site on the **logo.png** image.
- For splashes, find out how to prevent the logo from being cropped.

You are a TiDev now!

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What’s next?

Join the community

Join the community

- Follow @appcelerator & @TiDevIO.
- Follow @FokkeZB & @JasonKneen.
- Find a local Titanium Meetup on DevMap.
- Go to a tiConf on your continent.
- Find help on the Q&A.
- Find widgets & modules on gitTio.
- Share your libraries & widgets on GitHub.

Get certified

training.appcelerator.com/get-certified

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Thank you!