

Cross-Platform Tools

Build once and Run Everywhere

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INTERNATIONAL
SOFTWARE DEVELOPMENT
CONFERENCE

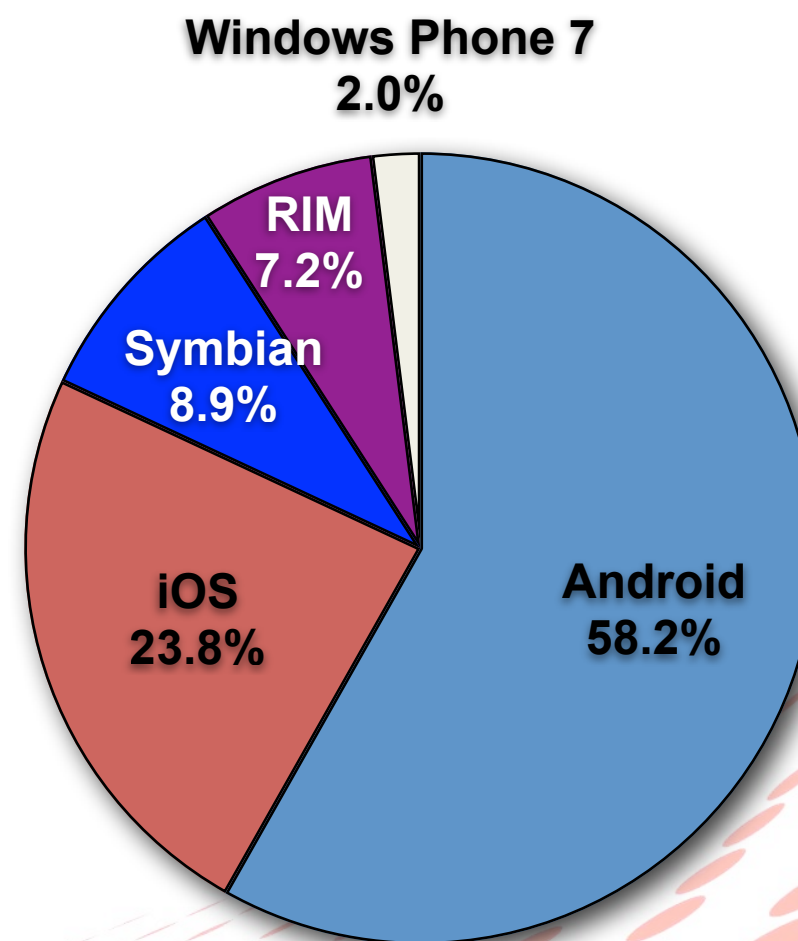
gotocon.com

- Current mobile platforms overview
- Main groups of cross-platform tools
- Examples of the usage
- Summary
- Questions

World-Wide Smartphone Sale (2012 Q1)



symbian



- JavaScript Libraries



- Wrappers around web applications



- Transformers to Native code



- Applications Frameworks



- Adobe Air



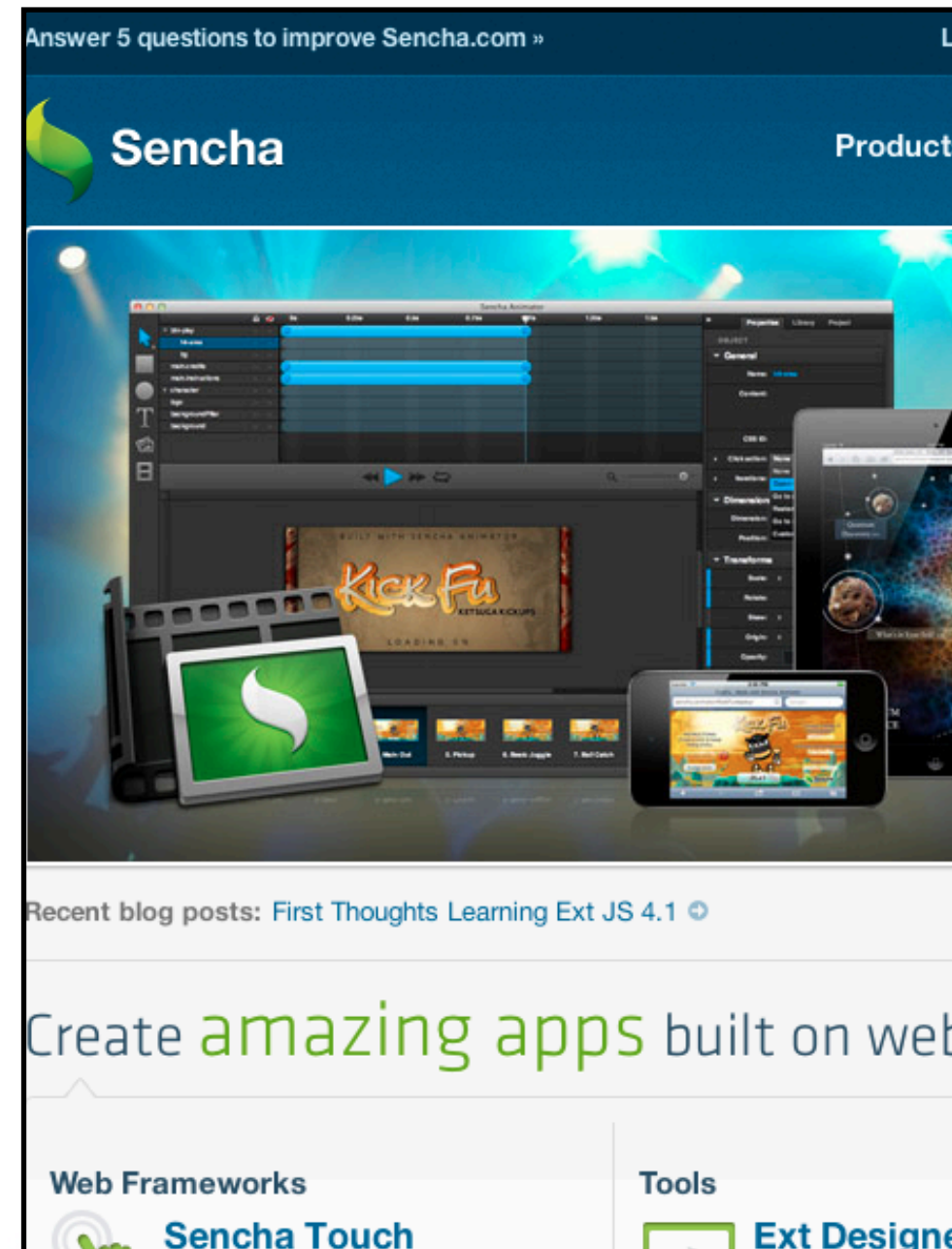
- **Single unified GUI**
You have one GUI for multiple devices (buttons, header, footer, tabs groups, and etc.)
- **Touch interface benefits**
Most of the devices have build in touch screens
- **HTML5, CSS3**
Audio, video, storage, animation and effects

Sencha

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

```
Ext.application({  
  name: 'MyApp',  
  models: ['User', 'Product', 'Order'],  
  views: ['OrderList', 'OrderDetail', 'Main'],  
  controllers: ['Orders'],  
  
  launch: function() {  
    Ext.create('MyApp.view.Main');  
  }  
});
```

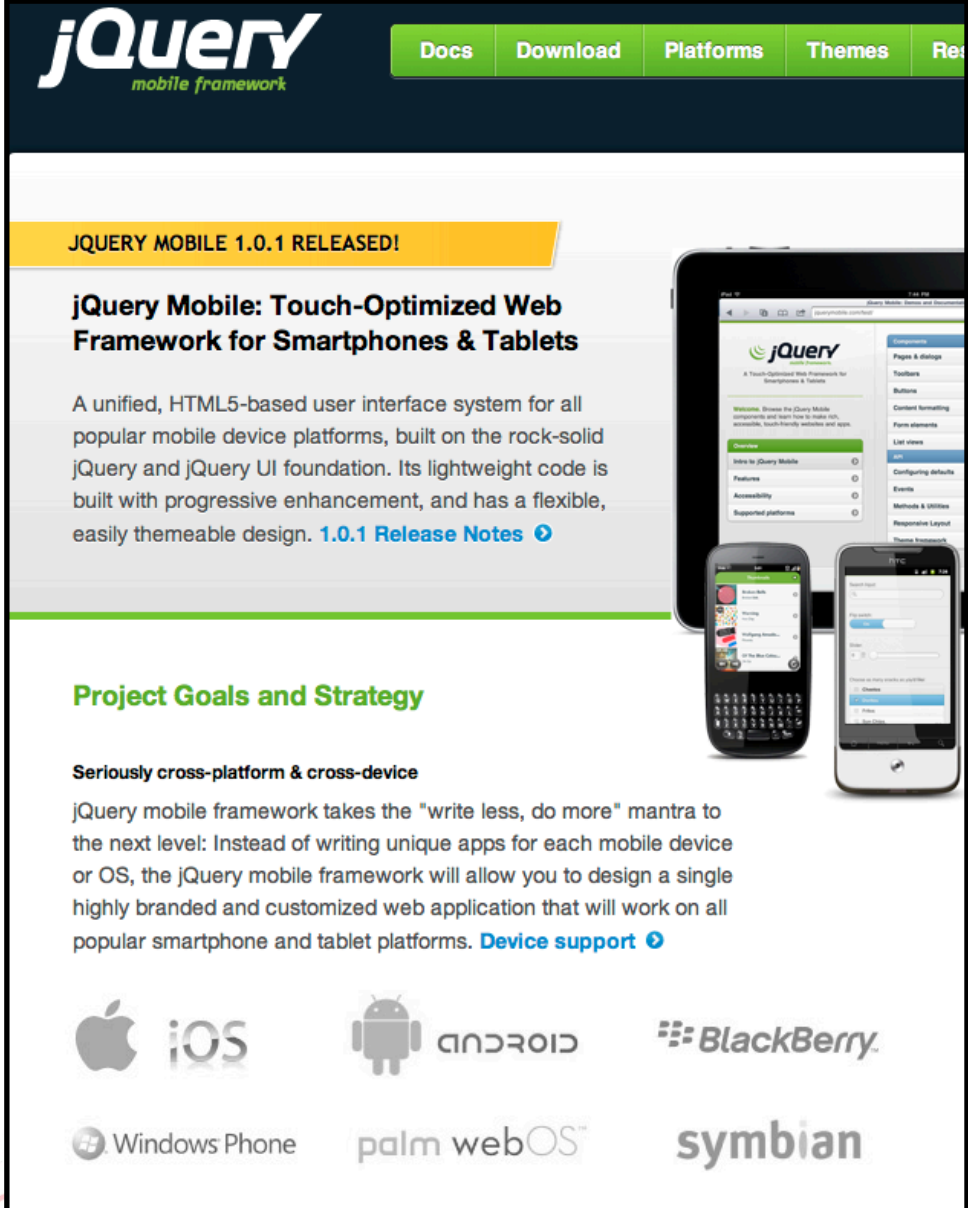
Have some additional related products:
Sencha Architect (UI builder)
Sencha Animator (CSS3 effects builder)



jQuery mobile

<http://jquerymobile.com>

```
...
<body>
<div data-role="page">
  <div data-role="header">
    <h1>My Title</h1>
  </div><!-- /header -->
  <div data-role="content">
    <h1>Lists</h1>
    <ul data-role="listview" data-inset="true" data-filter="true">
      <li><a href="#">Acura</a></li>
      <li><a href="#">Audi</a></li>
    </ul>
    <h1>Forms</h1>
    <form><label for="slider-0">Input slider:</label>
      <input type="range" name="slider" id="slider-0"
        value="25" min="0" max="100" />
    </form>
  </div><!-- /content -->
  <div data-role="footer">
    <p>&copy; 2011-12 Altoros Systems LLC.</p>
  </div><!-- /header -->
</div><!-- /page -->
</body>
...
```



The screenshot shows the jQuery Mobile website. At the top is a navigation bar with links for Docs, Download, Platforms, Themes, and Release. Below this is a yellow banner announcing 'JQUERY MOBILE 1.0.1 RELEASED!'. The main heading is 'jQuery Mobile: Touch-Optimized Web Framework for Smartphones & Tablets'. The text describes it as a unified, HTML5-based user interface system for popular mobile device platforms, built on the jQuery and jQuery UI foundation. It mentions progressive enhancement and a flexible, themeable design, with a link to '1.0.1 Release Notes'. To the right, there are images of a tablet and two smartphones displaying the jQuery Mobile interface. Below the main text is a section titled 'Project Goals and Strategy' with the subheading 'Seriously cross-platform & cross-device'. It explains that the framework takes the 'write less, do more' mantra to the next level, allowing for a single highly branded and customized web application that works on all popular smartphone and tablet platforms, with a link to 'Device support'. At the bottom, there are logos for supported platforms: Apple iOS, Android, BlackBerry, Windows Phone, palm webOS, and symbian.

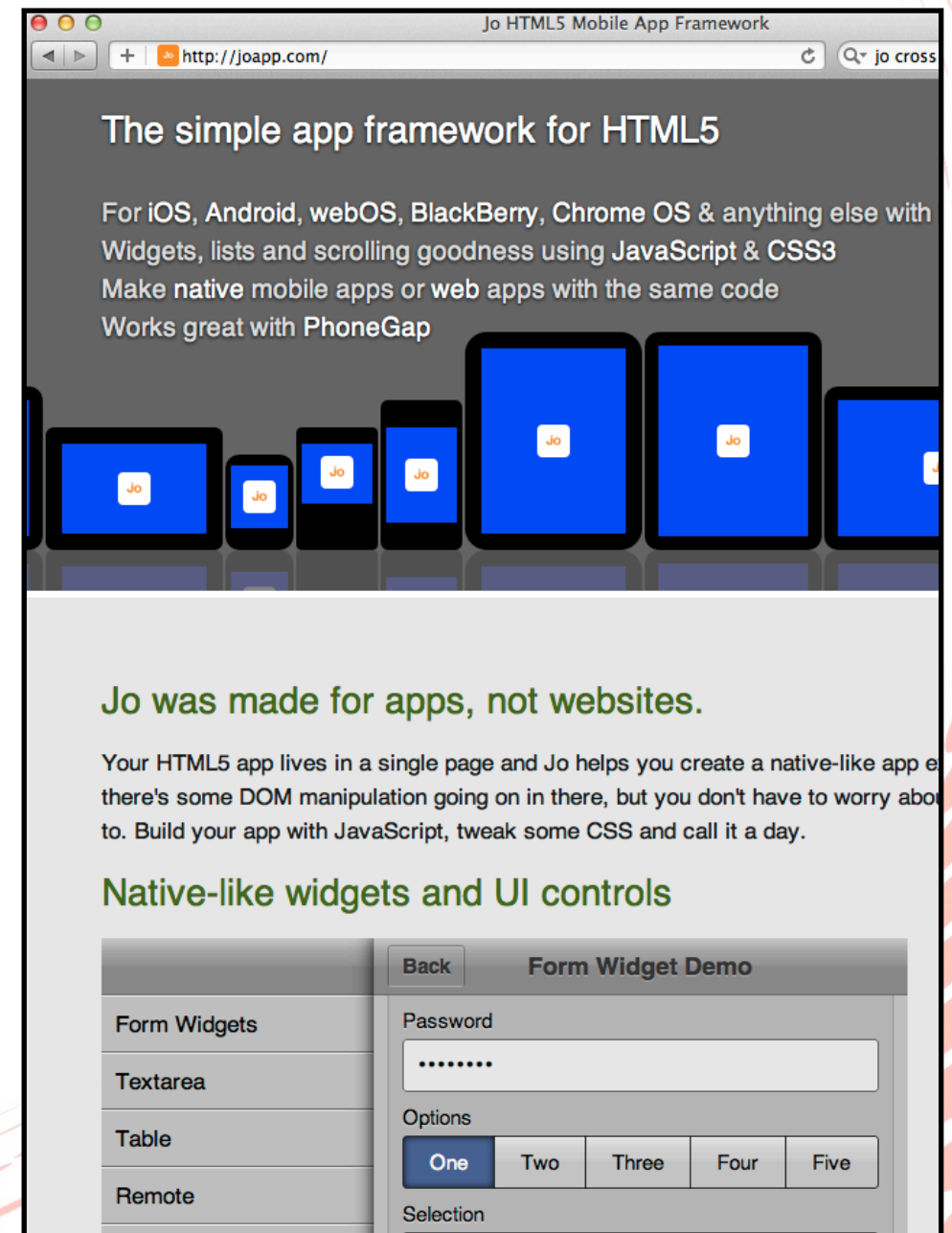
Jo

<http://joapp.com/>

```
// create our view card, notice we're nesting widgets inline
var card = new joCard([
  new joTitle("Hello"),
  new joCaption("Hello World!"),
  new joDivider(),
  new joButton("OK").selectEvent.subscribe(function() {
    stack.hide();
  })
]);
```

Lightweight JavaScript framework designed for HTML5 apps.

Last code update on GitHub about 4 month ago :(



Advantages

- Modern technologies
- Quick start
- Injection
- Widely used
- No special environment

Disadvantages

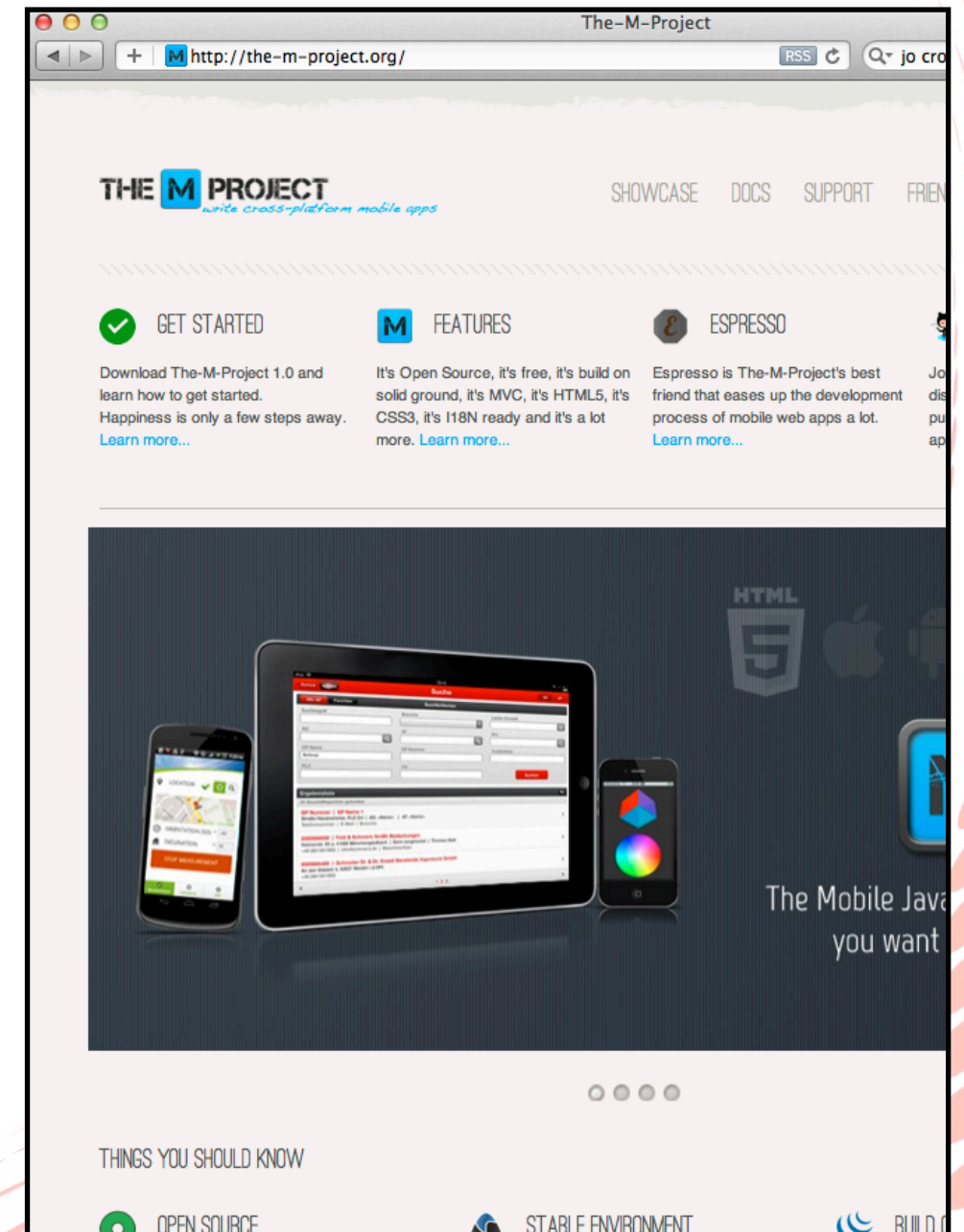
- Not a native app
- Application speed
- Platform dependable
- Internet
- No distribution channels

- Create an application from the start
- Familiar programming language

The M Project

<http://the-m-project.org/>

jQuery mobile, NodeJs, Build HTML



Advantages

- Single place for business and presentation layers
- Cutting-edge technologies

Disadvantages

- Doesn't allow migration
- 100% relay on development tools and community
- Online usage only
- Browser window
- No distribution channels

- Create a native app for mobile platform
- Integrated Development Environment
- Single code development
- Native API support

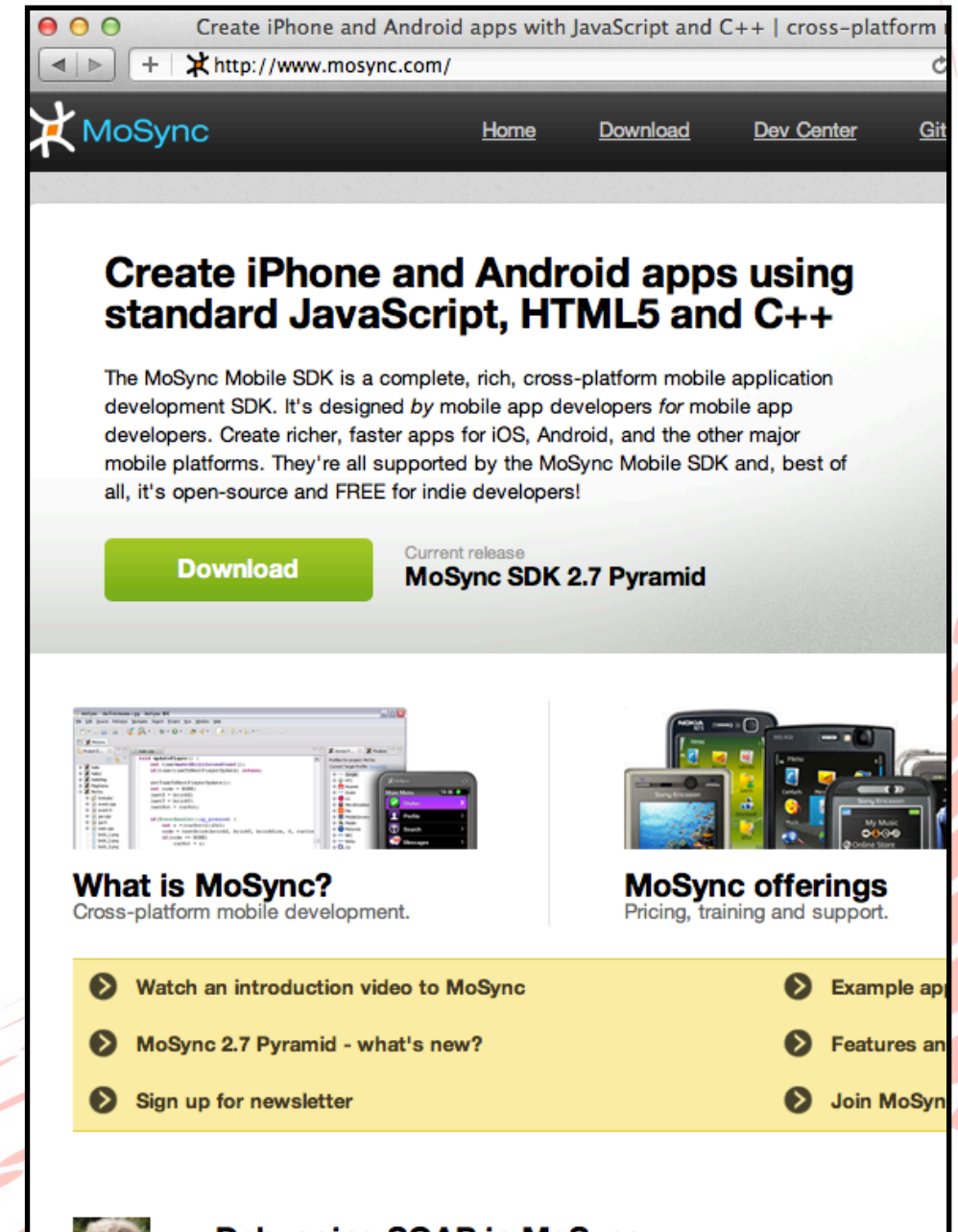
Wrappers around web applications

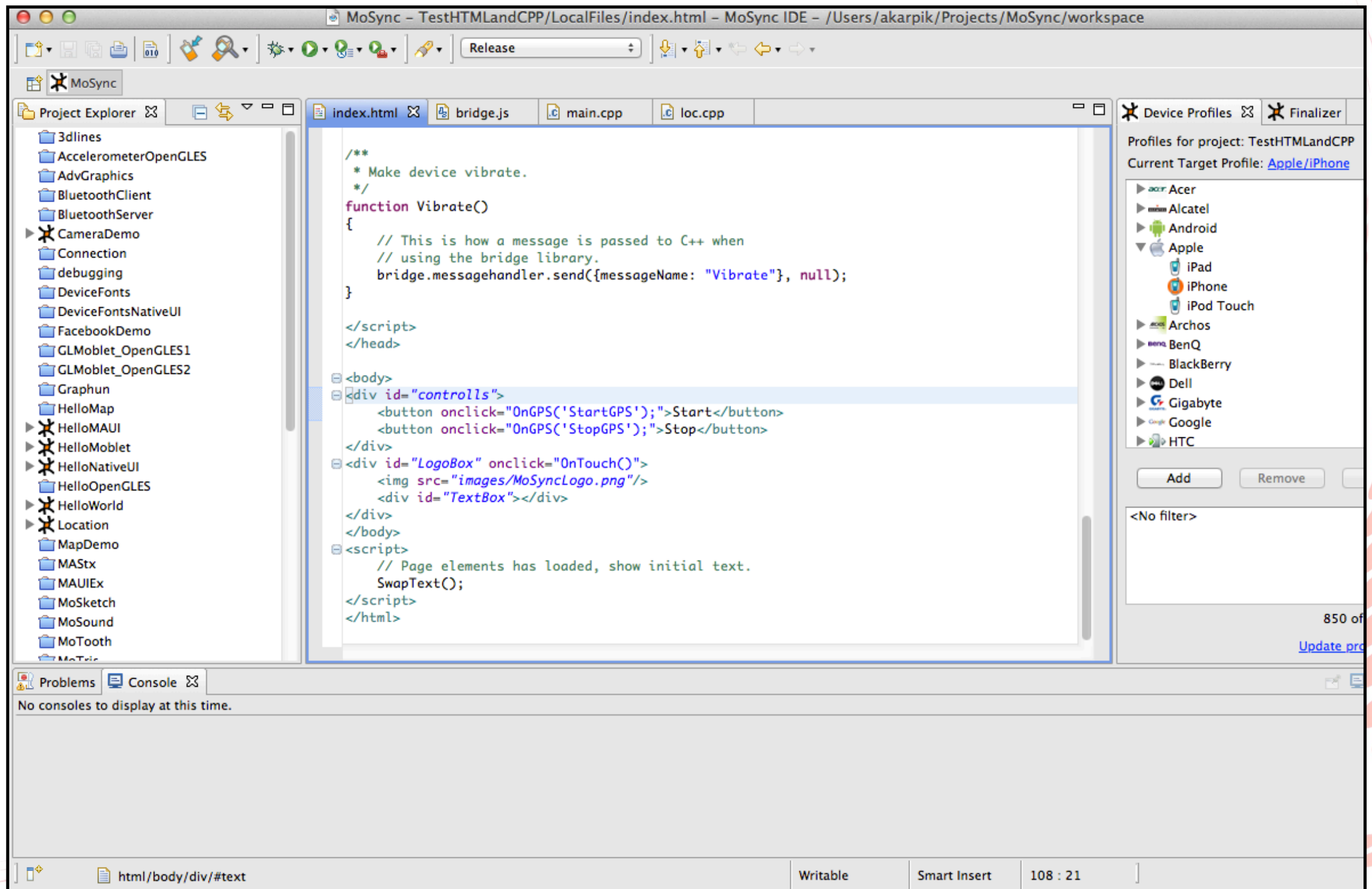


MoSync

<http://www.mosync.com>

JavaScript, HTML, C++





Wrappers around web applications



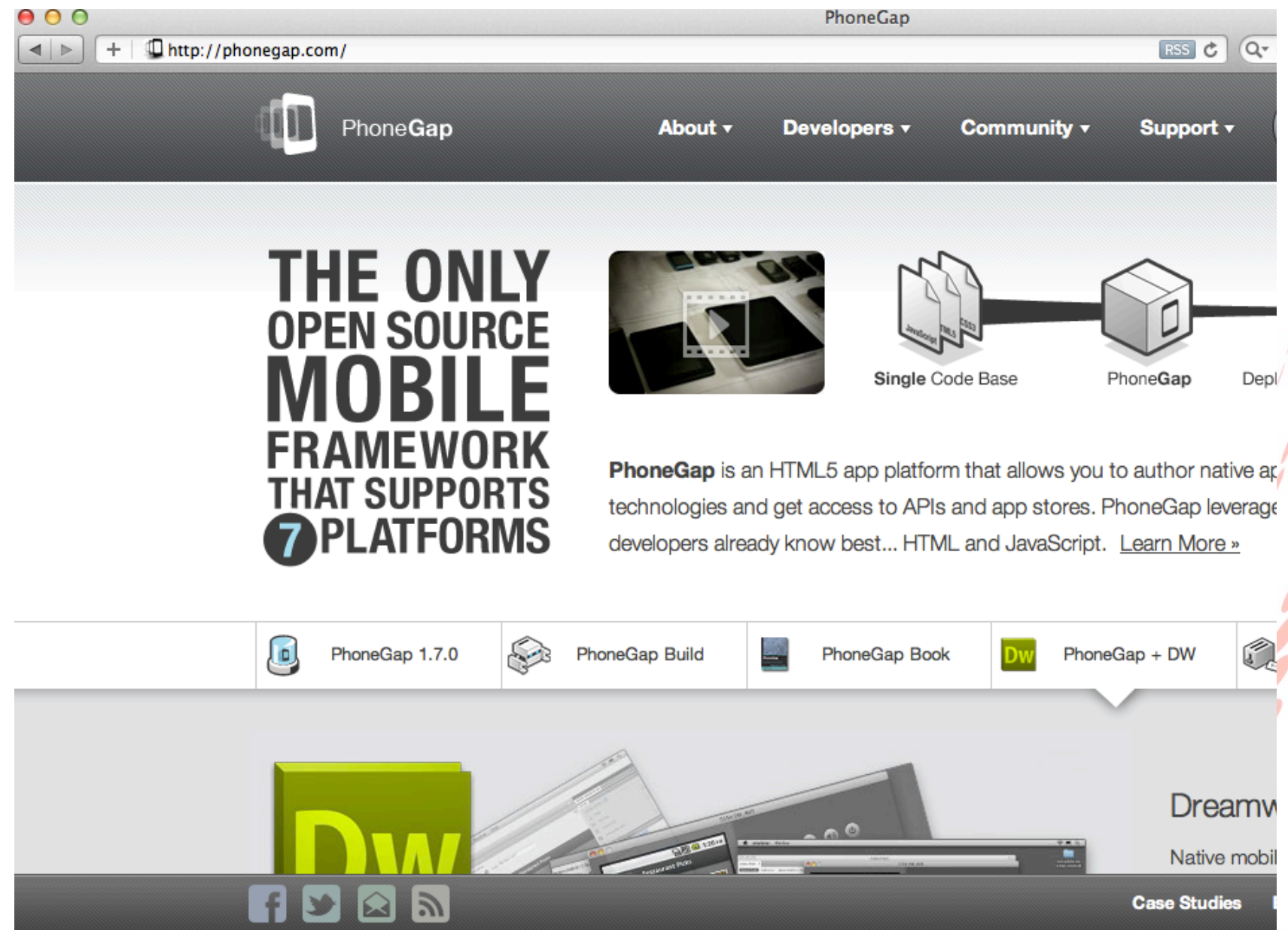
PhoneGap

<http://phonegap.com/>

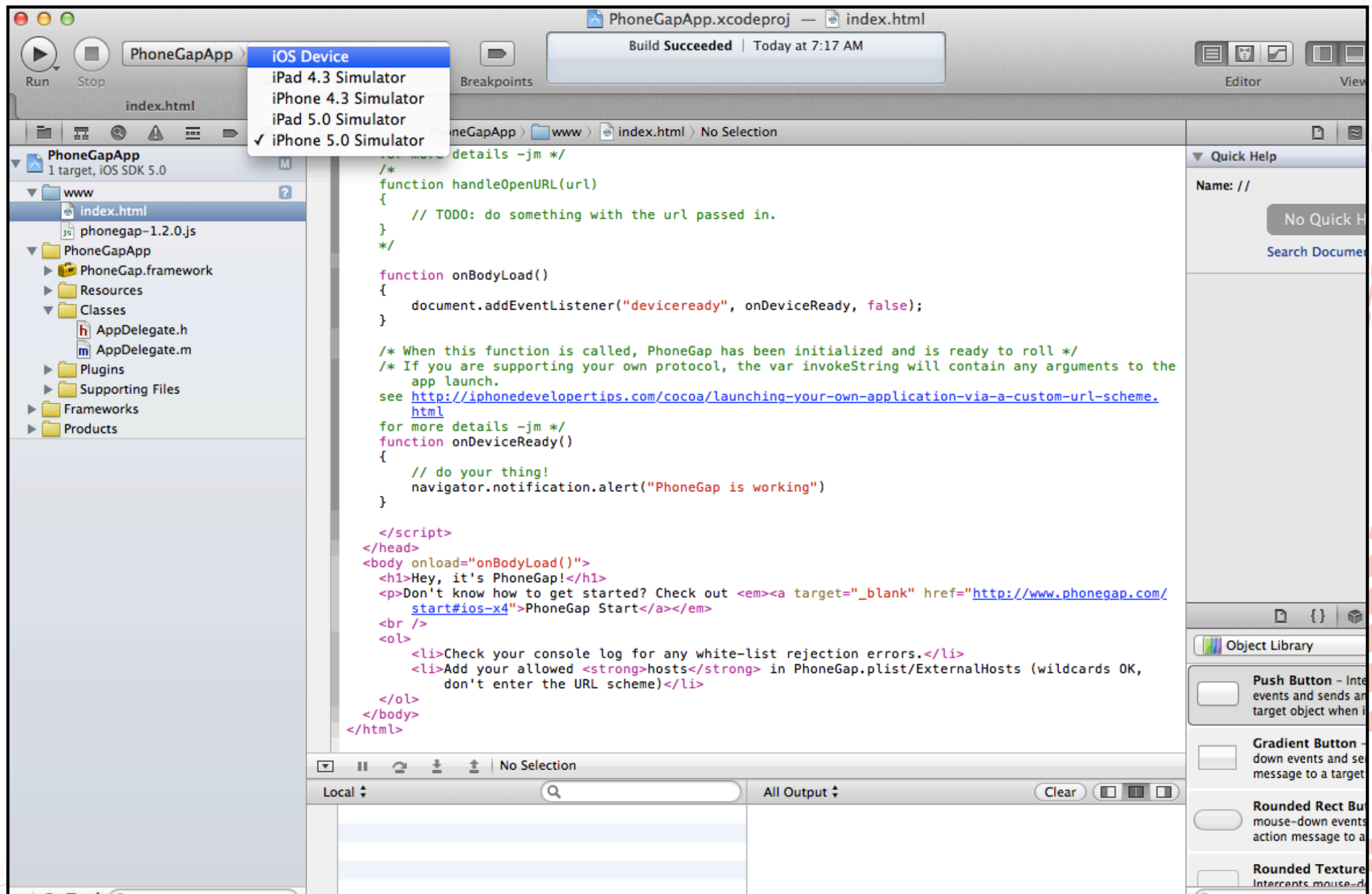
HTML

JavaScript Libraries

Xcode plugin



PhoneGap



Wrappers around web applications



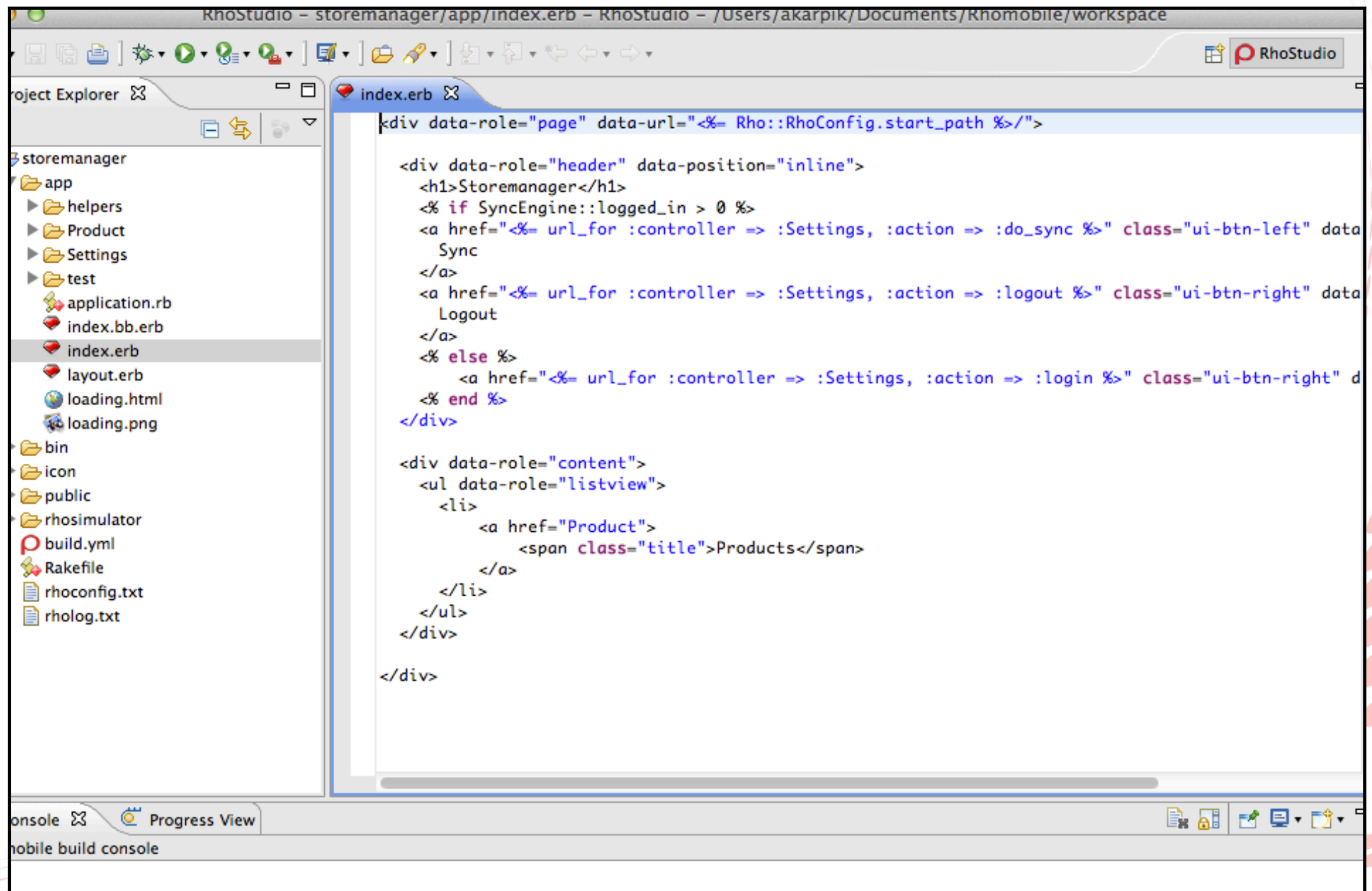
RhoMobile

<http://rhomobile.com/>

Ruby

jQuery Mobile





Advantages

- Native API
- Extendable tools
- Offline support
- Native Application
- Covered common cases
- Native SDK
- Native Distribution channels

Disadvantages

- Not Native UI
- Challenges to go live
- High level of expertise
- Dependence on native SDK versions.

- Create a native app for mobile platform
- Transform Platform Language into Native code
- Integrated Development Environment
- Have Platform Services
- Native API support

Transformers to Native code



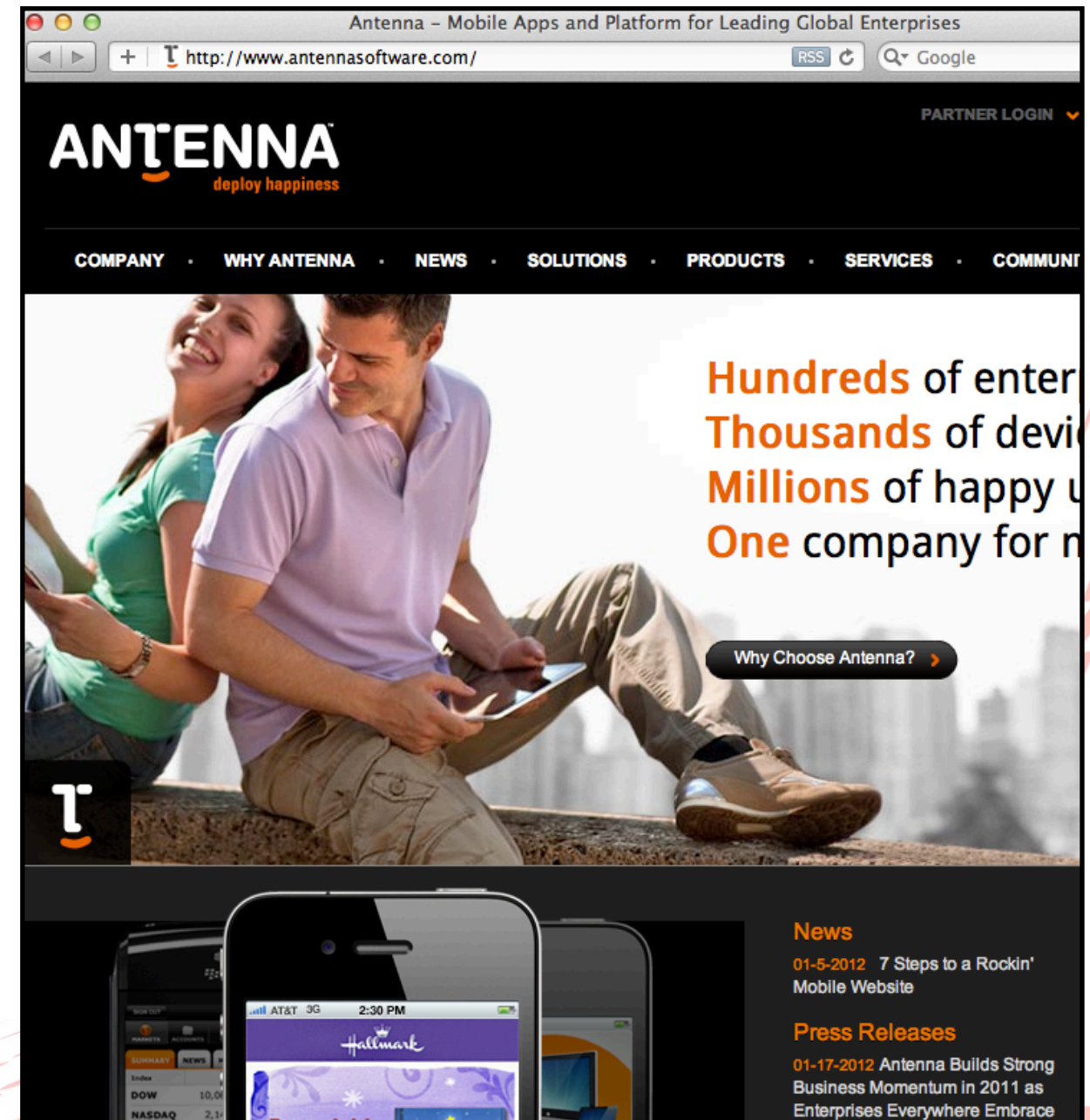
Antenna

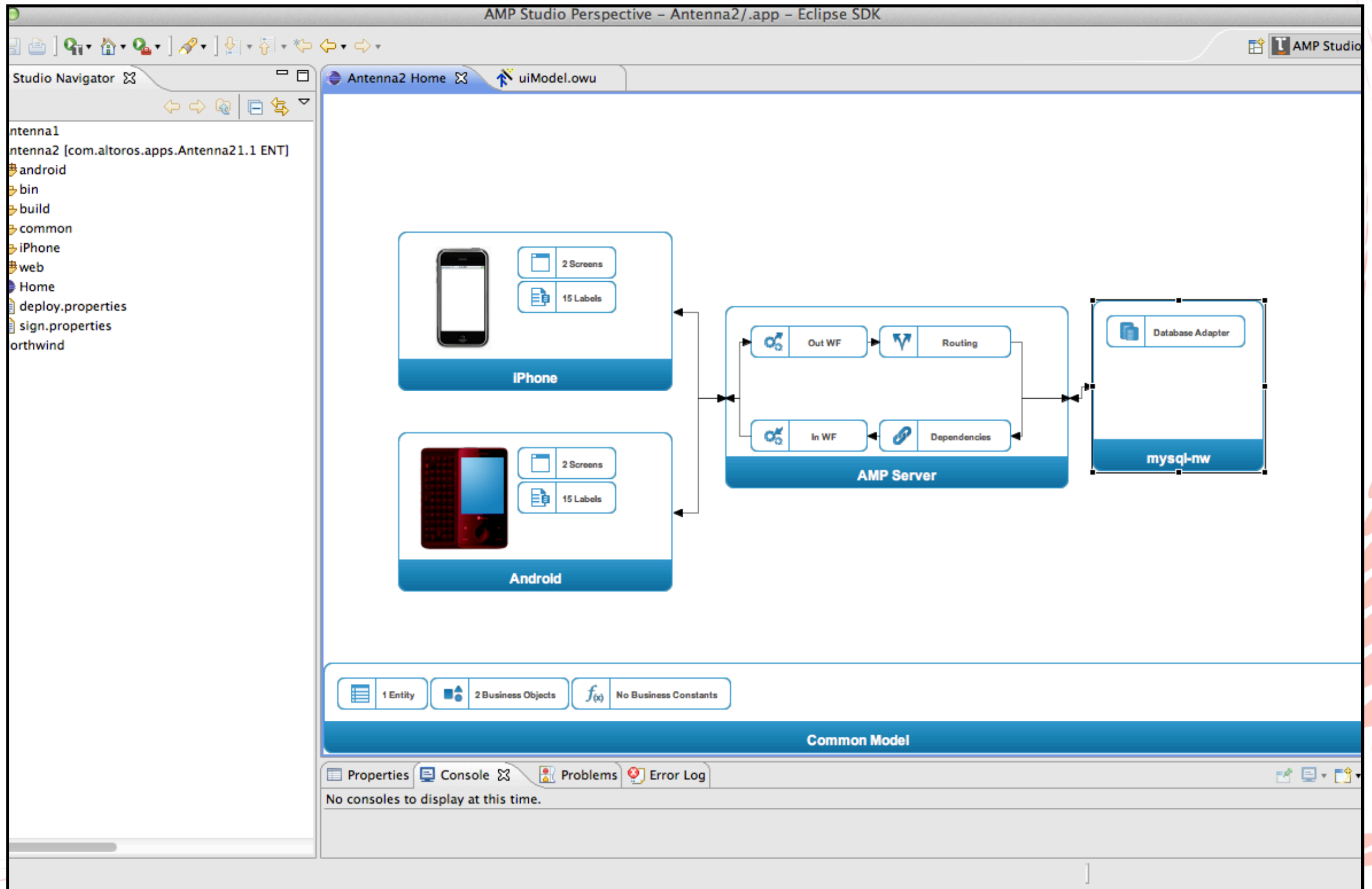
<http://www.antennasoftware.com/>

AMP

Wizards

Build-in User Management



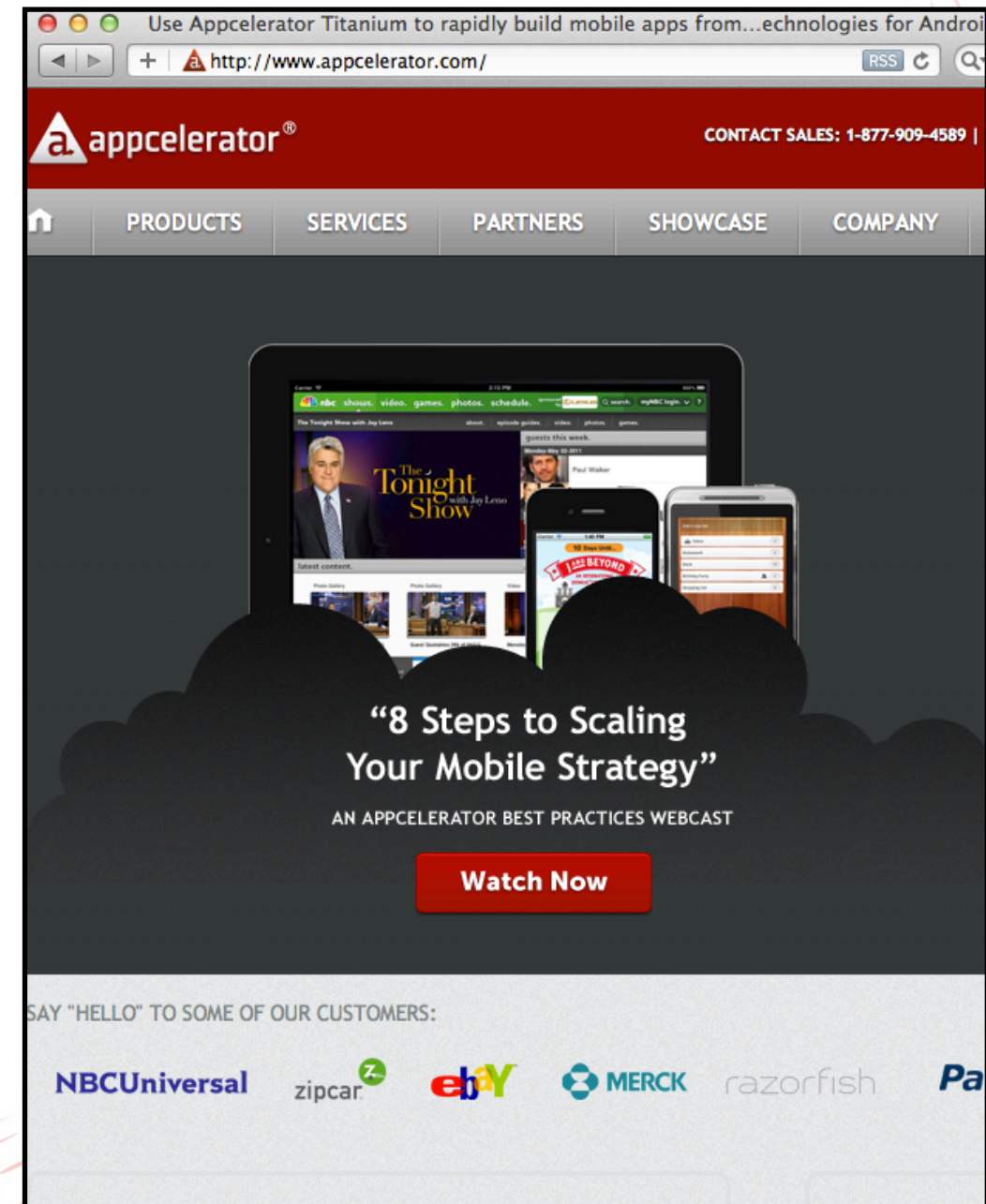


Appcelerator Titanium

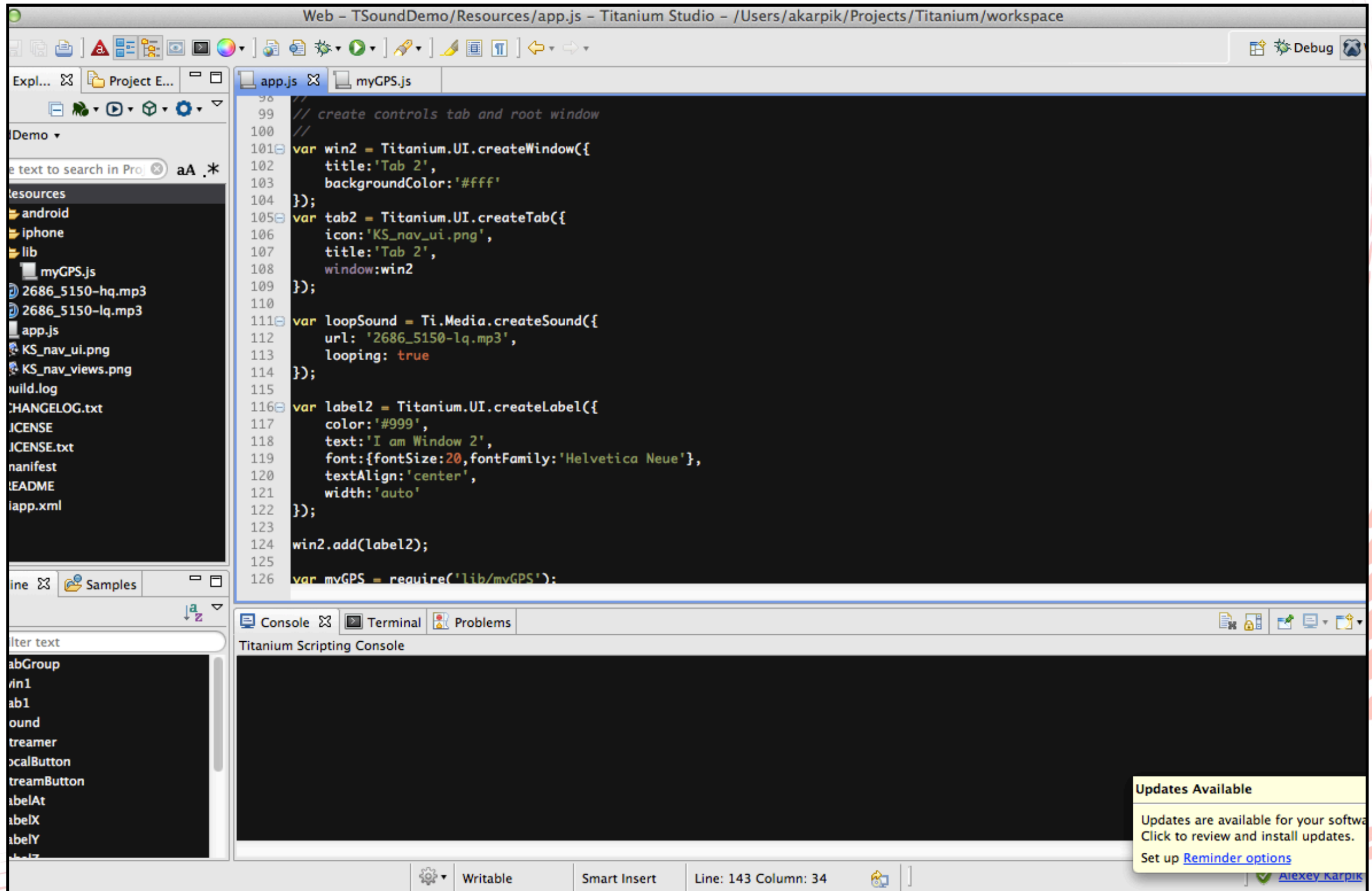
<http://www.appcelerator.com>

JavaScript only, but recently support HTML5
(mobile web version)

The only tool that generates native UI
elements, and transforms JavaScript into
Native Platform Code.



Appcelerator Titanium



Advantages

- Native API
- Extendable tools
- Offline support
- Native Application
- Native UI
- Native SDK
- Native Distribution channels

Disadvantages

- Challenges to go live
- Dependence on Transformers
- Dependence on native SDK versions.

- Integrated Development Environment
- Create native app for mobile platform

SWF byte-code runs on Native Platform, iOS - Adobe AIR player embedded into each app, on Android use system installed Adobe AIR player.

- Native API support
- Stage 3D

Advantages

- Native API
- Extendable tools
- Offline support
- Native Application
- Stage 3D support (for games)
- Native Distribution channels

Disadvantages

- Not Native UI
- Challenges to go live
- Dependence on native SDK versions.
- Moved into Gaming directions

- Allows to utilities 80% off all web development resources.
- Covers about 70% of all common application GUI
- Covers about 60% of the common mobile application functionality
- Does not work for platform specific features
- No performance optimization as for native UI elements.
- Does not really cover all mobile platforms

Anything you want to
ask about?