

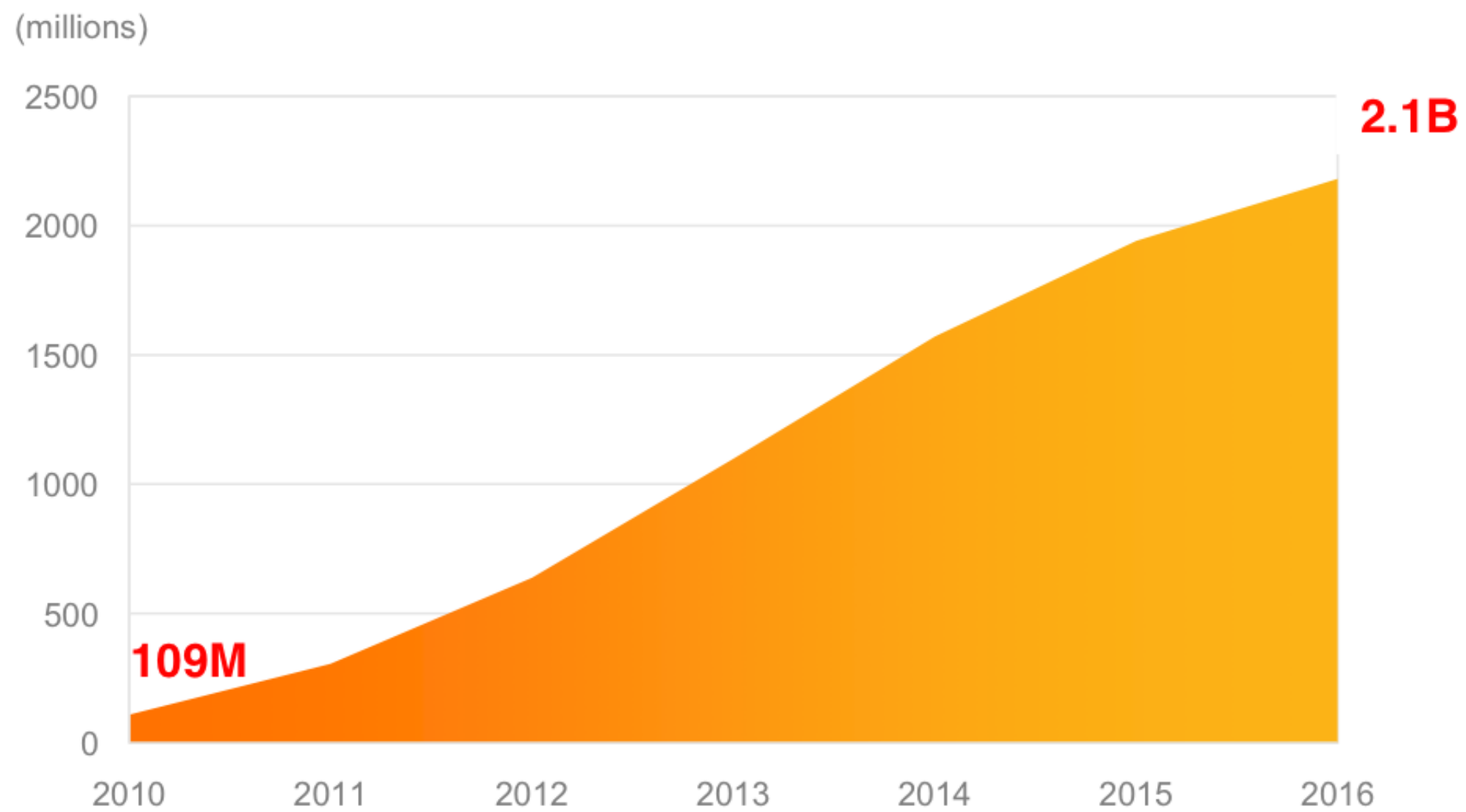
HTML5生态系统和应用 架构模型

范圣刚, princetoad@gmail.com, www.tfan.org

议题

- 基于Web服务的Mobile Apps
- Hybrid应用开发模式
- 本地开发和云开发
- HTML5应用的测试和调试
- 分发和部署：本地商店和Open Market
- HTML5的生态系统

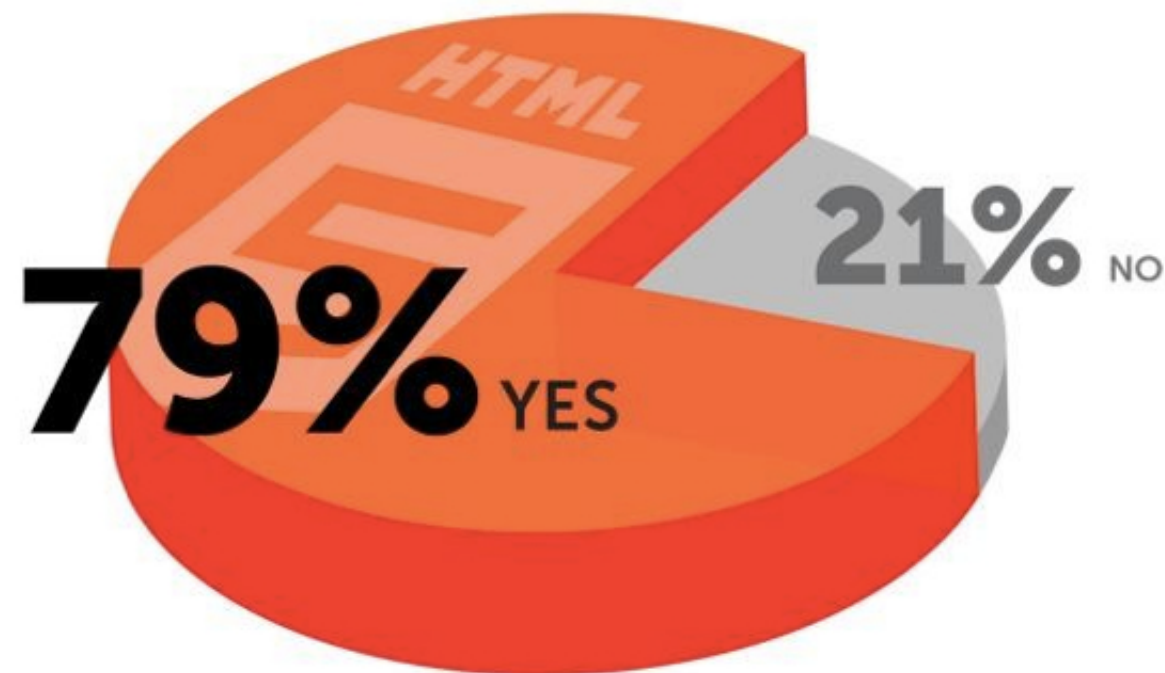
- In 2013, 1 Billion HTML5 capable phones and media tablets will be sold globally.(Strategy Analytics)
- By 2015, half of all mobile application in the world will be developed as HTML5 mobile Web apps(Gartner)



HTML5 for Mobile Devices and Tablets (June 30, 2011) ABIresearch

Do you plan to integrate HTML5 as a component into the mobile apps you plan to build in 2012?

HTML5 Plans for 2012



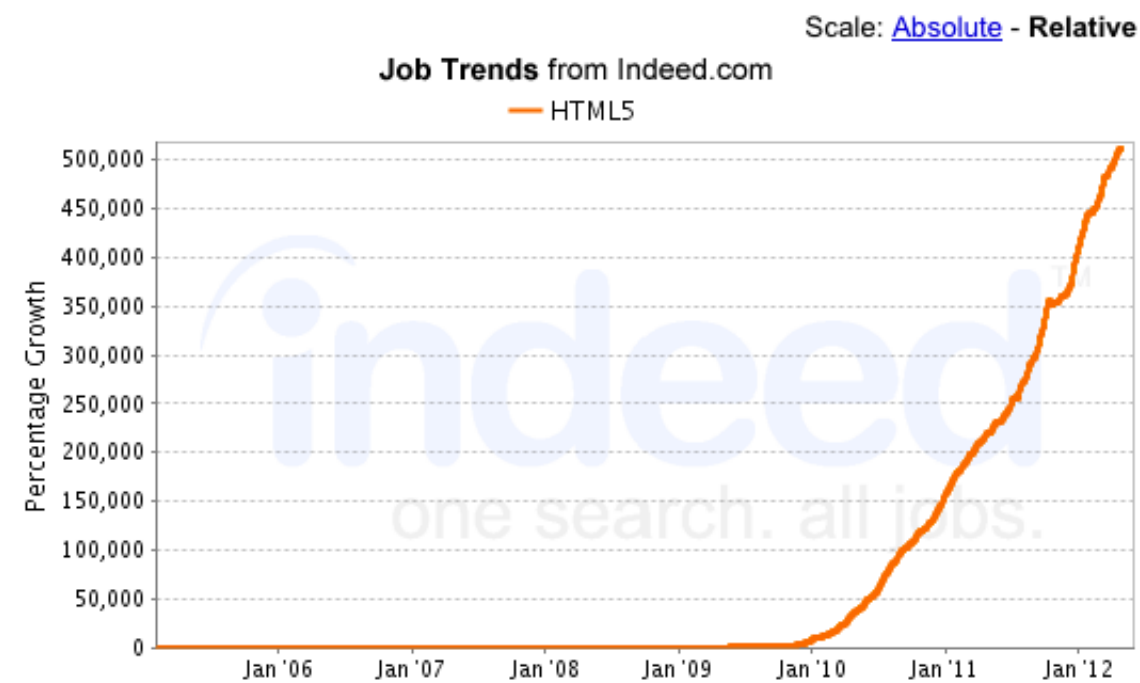
N=485 responses

Source: Appcelerator / IDC - 01/2012

 appcelerator®

 IDC
Analyze the Future

HTML5 Job Trends



Indeed.com searches millions of jobs from thousands of job sites.
This job trends graph shows relative growth for jobs we find matching your search terms.

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Top Job Trends

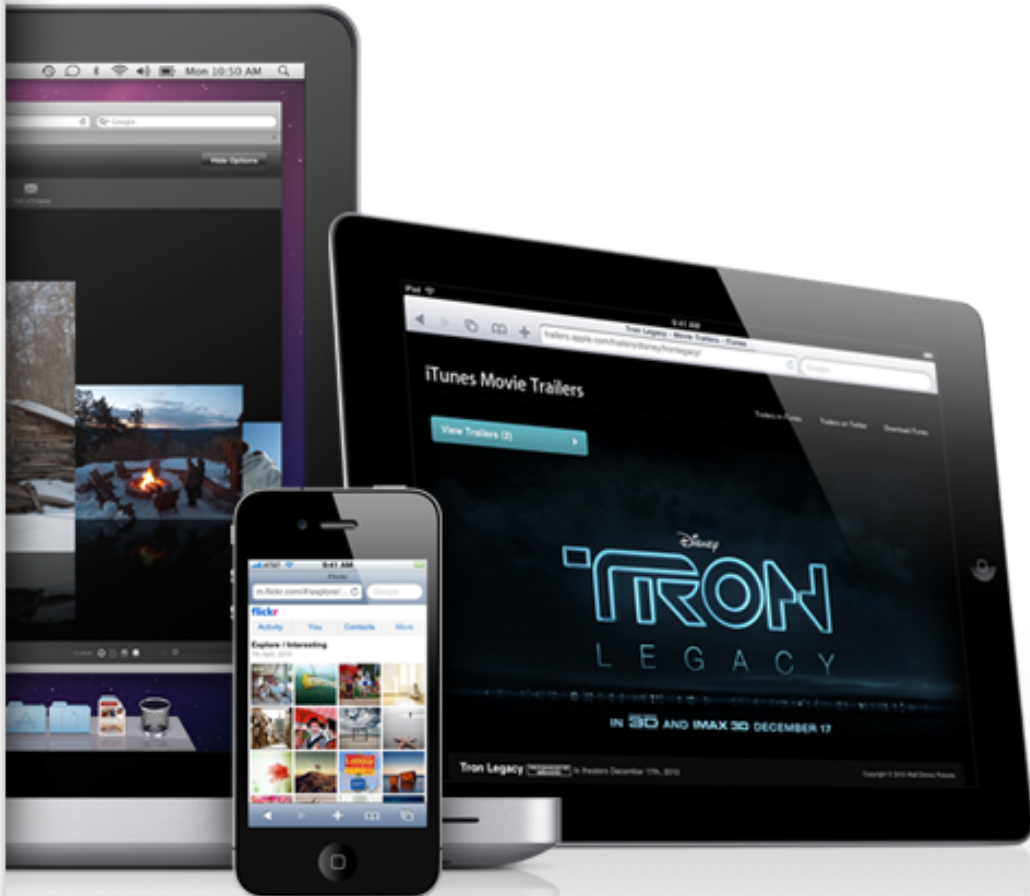
1. [HTML5](#)
2. [MongoDB](#)
3. [iOS](#)
4. [Android](#)
5. [Mobile app](#)
6. [Puppet](#)
7. [Hadoop](#)
8. [jQuery](#)
9. [PaaS](#)
10. [Social Media](#)

HTML5!

Apple

“The world is moving to HTML5”
- Steve Jobs, Apple

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HTML5 and web standards.

Every new Apple mobile device and every new Mac — along with the latest version of Apple's Safari web browser — supports web standards including HTML5, CSS3, and JavaScript. These web standards are open, reliable, highly secure, and efficient. They allow web designers and developers to create advanced graphics, typography, animations, and transitions. Standards aren't add-ons to the web. They are the web. And you can start using them today.

HTML5 Showcase

The demos below show how the latest version of Apple's Safari web

Google

“The Web has not seen this level of transformation, this level of acceleration, in the past ten years... we’re betting big on HTML5”

- Vic Gundotra, VP of Engineering, Google



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WELCOME TO HTML5ROCKS
**WHAT KIND OF HTML DEV
 DO YOU THINK YOU ARE?**

HTML5 is the ubiquitous platform for the web. Whether you're a mobile web developer, an enterprise with specific business needs, or a serious game dev looking to explore the web as a new platform, HTML5 has something for you! Choose your path:

[MOBILE](#)
[GAMING](#)
[BUSINESS](#)

Microsoft

- “In a nutshell, we love HTML5, we love it so much we want it to actually work.”
- Dean Hachamovitch, General Manager for Internet Explorer, Microsoft

< HTML5 LABS >

Prototypes of Experimental or Unstable Web Standard Specifications



What is this site?

HTML5Labs is where Microsoft prototypes early and unstable specifications from web standards bodies such as W3C. Sharing these prototypes helps us have informed discussions with developer communities, and enables us to provide better feedback on draft specifications based on this implementation experience. To find out more about HTML5Labs, read the **blog** by Dean Hachamovitch, Corporate Vice President for Internet Explorer, and the **blog** by Jean Paoli, President, Microsoft Open Technologies, Inc.

Web Standard Prototypes



HTTP Speed + Mobility

This prototype implements the websocket-based session layer described in the [HTTP Speed+Mobility proposal](#) Microsoft contributed to the [IETF httpbis workgroup](#), as well as parts of the multiplexing logic incorporated from Google's SPDY proposal.

[More...](#)



Video Captioning



Device Orientation Events

This prototype is an implementation of the W3C [DeviceOrientation Event Specification draft](#) on [HTML5Labs.com](#). This specification defines new DOM events that provide information about the physical orientation and motion of a device. Such APIs will let web developers easily deliver advanced web user experiences leveraging modern devices sensors.



News

30 Aug 2012

[Device Orientation Prototype released](#)

28 Aug 2012

[Windows Azure plugin for Eclipse August 2012 Preview](#)

05 Jul 2012

[New update to the HTTP Speed + Mobility prototype](#)

11 May 2012

[HTTP Speed + Mobility prototype released](#)

第三方浏览器厂商



HTML5

[HISTORY](#)[EDIT](#)

HTML5 is the latest evolution of the standard that defines [HTML](#). The term represents two different concepts:

- A new version of the *language* HTML, with new elements, attributes, and behaviors.
- A larger set of technologies that allows more diverse and powerful Web sites and applications: this set is called *HTML5 & friends* and often shortened to just *HTML5*.

This reference links to numerous resources about HTML5 technologies, classified in several groups, based on the function: *semantics*, allowing to describe more precisely what the content is, *connectivity*, allowing to communicate with the server in new ways, *offline & storage*, allowing to optimize Web site to store locally data and perform better even when the browser is offline, *multimedia*, making of video and audio first-class citizen of the Web, *3D, graphics & effects*, achieving much more complex presentation, *performance & integration*, allowing for more speedy Web site, with better integration with the computer, *device access*, allowing to use more input and output devices, and *styling*, letting authors to write more sophisticated themes.

HTML5 DEMOS

A [collection of demos](#) showing the latest HTML technologies in action.



SEMANTICS

Sections and outlines in HTML5

A look at the new outlining and sectioning element in HTML5: `<section>`, `<article>`, `<nav>`, `<header>`, `<footer>`, `<aside>` and `<hgroup>`.

Using HTML5 audio and video

The `<audio>` and `<video>` elements embed and allow the manipulation of new



PERFORMANCE & INTEGRATION

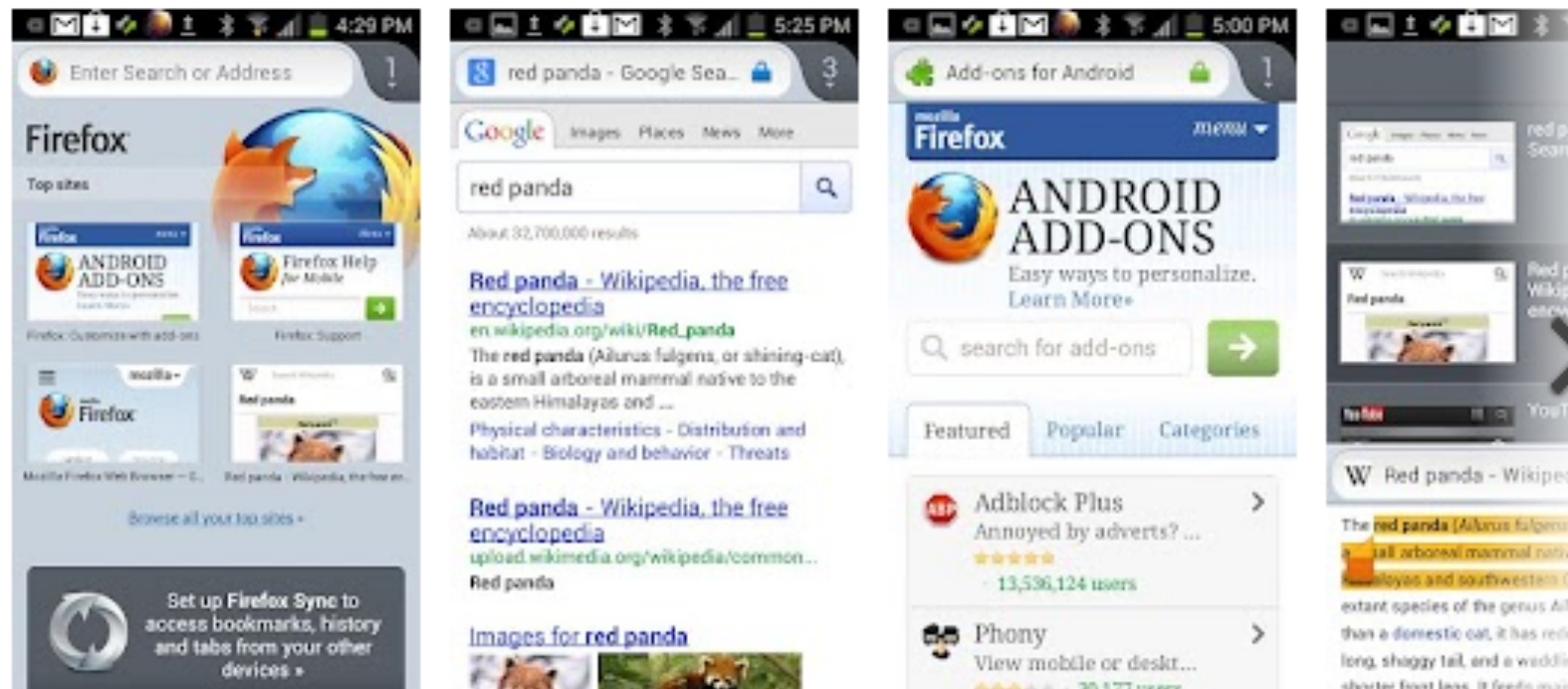
Web Workers

Allows to delegate JavaScript evaluation to background threads, allowing these activities to prevent slowing down interactive events.

XMLHttpRequest Level 2

Allows to fetch asynchronously some parts of the page, allowing it to be

Firefox - Android



mozilla

HOME

ABOUT

FAQ

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Bringing the Open Web to Mobile Devices

Welcome to a new, open and powerful mobile world!

We launched the Boot to Gecko project to enable the Open Web as a platform for mobile devices. We're making innovation possible by driving the development of new Web standards.



Opera

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HTML5 elements, attributes, and APIs support in Opera Presto 2.12

W3C references

[W3C HTML5 Working Draft](#)[W3C HTML5 differences from HTML 4](#)

Opera articles

[Accessible HTML5 Video with JavaScripted captions](#)[An HTML5 <audio> radio player](#)[Building a custom HTML5 video player with CSS3 and jQuery](#)[Blob Sallad - canvas tag and JavaScript physics simulation experiment](#)[Creating an HTML5 canvas painting application](#)[Creating pseudo 3D games with HTML5 canvas and raycasting](#)[Everything you need to know about HTML5 video and audio](#)[HTML5 canvas - the basics](#)[Introduction to HTML5 video](#)[Opera supports the WebM video format](#)[Rich HTML editing in the browser: part 1](#)[Rich HTML editing in the browser: part 2](#)[SVG or Canvas? Choosing between the two](#)

On this page...

[New HTML5 elements support](#)

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Windows Phone 7.5 2.0正式版

WP7上首个 语音搜索浏览器

性能优化 | 语音浏览 | 网页预读 | 在线视频

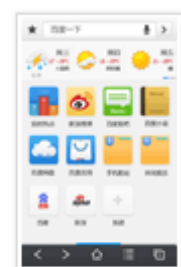
百度手机浏览器

更新时间: 2012.09.03
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1 2



“让首页飞”
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Android版 iPhone & iPad版 手机助手

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拥有云同步功能的傲游移动客户端,运行于Android系统的多标签网页浏览软件,拥有手势、多标签浏览体验。

手机版免费下载

版本: 2.7.2 Build 2830

更新日期: 2012-08-29 [更新记录](#)

软件大小: 1.76MB 适用于: Android 1.6以上

我无所不在的移动生活!

[手机演示视频](#)4 种方式
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电子市场

在手机自带的电子市场中搜索“傲游”

[查看电子市场>>](#)

本地安装

将软件下载至电脑,通过91助手安装。

[*中文版 *多语言版](#)

WAP 安装

使用手机浏览器访问

<http://wap.maxthon.cn>

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安装软件扫描二维码,即可便捷下载。

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Bada bada

Java Java

MTK MTK

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- 快乐分享, 传递你我——社区首届资源分享大赛
- 手机QQ浏览器云U盘体验记: 好资料随分享
- 手机QQ浏览器User-Agent使用指南
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- QQ消息盒·不上线也能收发消息
- 通行所有应用只需一次登录



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基于Web服务的Mobile Apps

Apps类型

单机版 vs 网络版



基于Web Service的应用

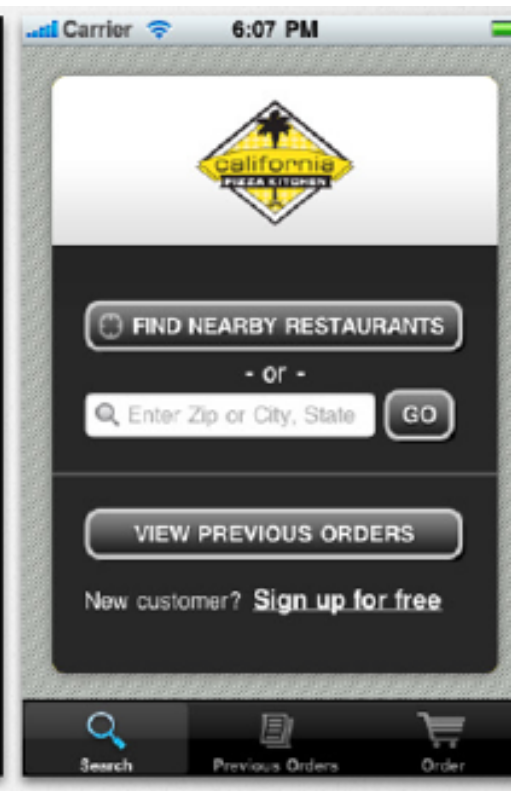
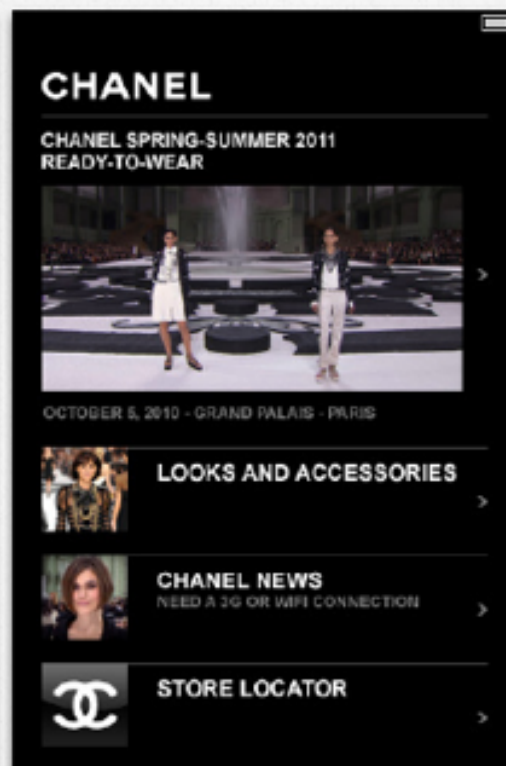
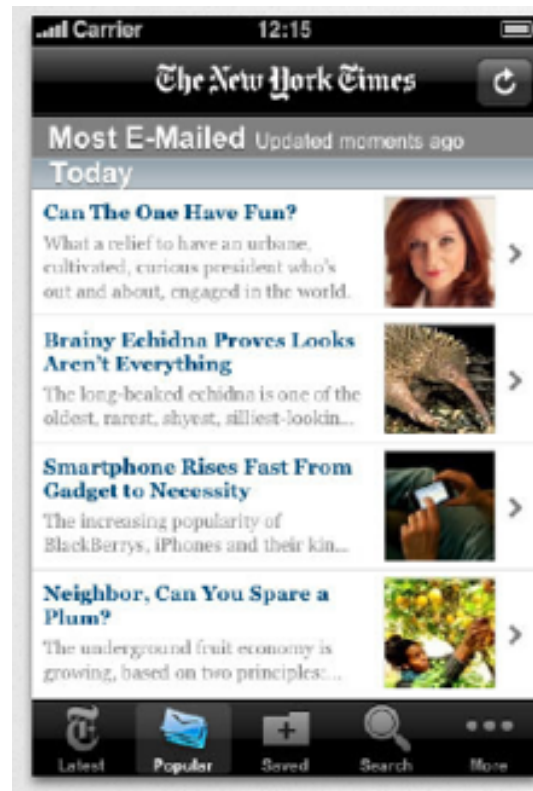
- Flickr
- Twitter
- Facebook
- Foursquare
- LinkedIn
- Path

Hybrid应用开发模式

2008

We must have an
iPhone App!





2010

We must have an
Android App!





2011

We must have a ?





操作系统的碎片化

- 迁移到另外一个新的平台需要大量的人力物力
- 花费大量的时间在技术实现上，而没有Focus在产品 and 用户上面
- 平台众多，造成管理，运营及培训用户的成本剧增

 BlackBerry

 SYMBIAN

 iOS



 Windows Phone

 hp palm

 bada

Native开发的一般工作流程

1. 为每一个平台设置不同的开发环境
2. 熟悉每个对应的操作系统，学习曲线一般会很长
3. 不同的移动平台需要不同的编程语言(C++, Objective-C, Java, C#...)
4. 要熟悉每个平台支持的特性

表： 开发要求

移动系统	开发系统	软件/IDE	编程语言
iOS	Mac	Xcode	Objective-C
Android	Windows/Mac/ Linux	Eclipse/Java/ADT	Java
BlackBerry	Windows	Eclipse/JDE, Java	Java
Symbian	Windows/Mac/ Linux	Carbide.c++	C++
WebOS	Windows/Mac/ Linux	Eclipse/WebOS Plugin	HTML/JavaScript/ C++
Windows Phone 7	Windows	Visual Studio 2010	C#, .NET, Silverlight或WPF

使用PhoneGap进行Hybrid开发

浏览器组件作为通用平台

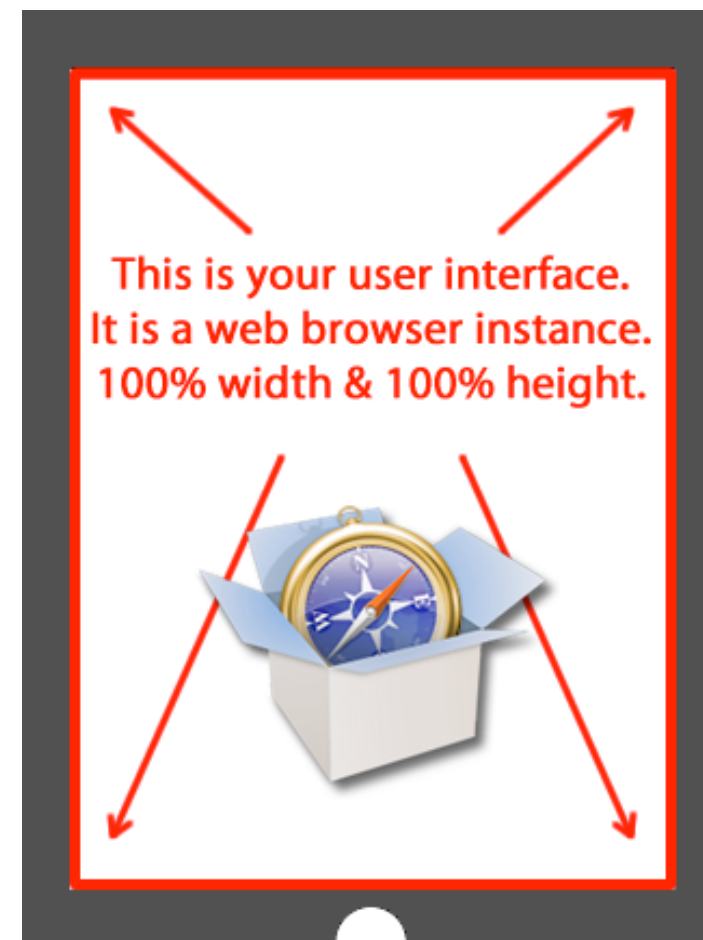
- Web的发展历史和HTML5平台
- 浏览器标准的统一趋势（HTML5/CSS3）
- 主要移动平台同样基于Webkit的浏览器（iOS Safari, Android Chrome）

移动浏览器

移动操作系	浏览器内核
Android	Webkit
iOS	Webkit
BlackBerry	Webkit
Windows	IE
WebOS	Webkit
Nokia	Webkit
Bada	Webkit

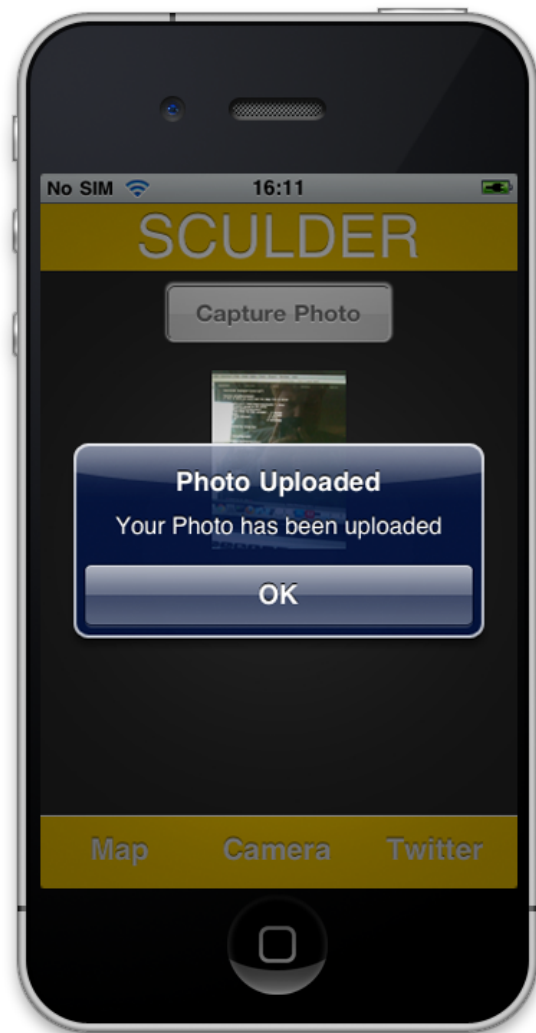
Webviews

- 所有的这些移动系统都支持在应用中嵌入浏览器
- 实时内容更新的需求，简化应用的审批部署流程
- PhoneGap使用本机浏览器：
 - iOS - UIWebView
 - Android - android.webkit.WebView

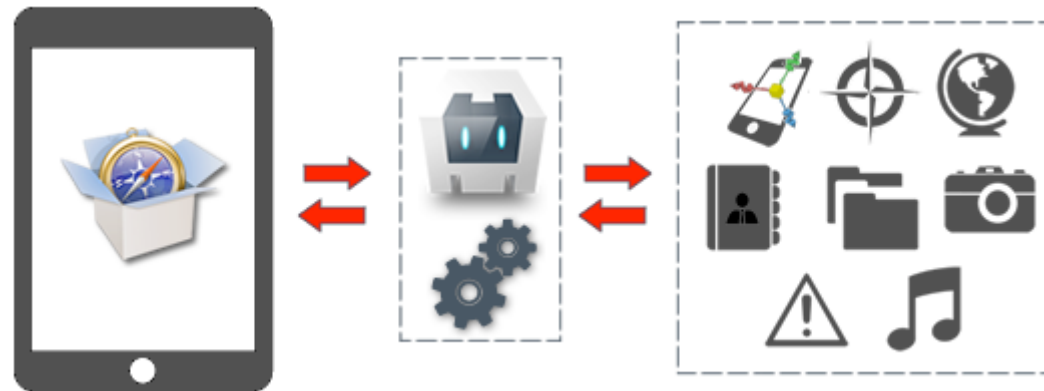


PhoneGap API

本机设备能力的使用



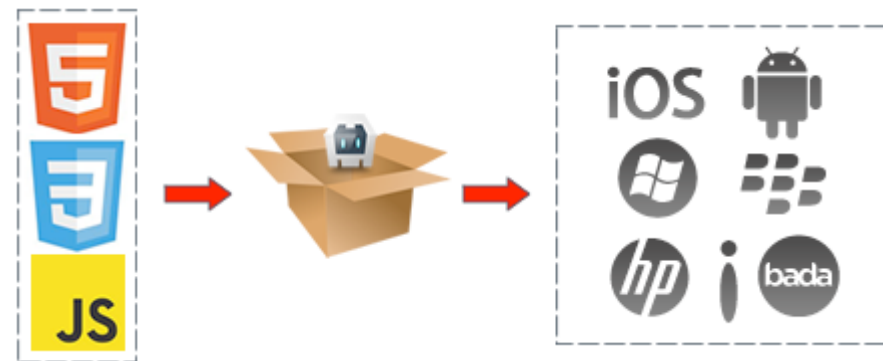
API原理和本地插件



- 所有这些平台都支持在webview中导出本地模块到JavaScript，也就是说都允许JS调用本地的Java/C++/Objective C代码，反之亦然。
- 使用本地代码封装设备能力；导出供JS调用的接口；通过JSON调用和页面交互数据
- 使用JavaScript-to-native机制编写自己的PhoneGap本地插件

PhoneGap应用的打包和分发

- iOS - IPA文件
- Android - APK文件
- Windows Phone - XAP文件
- 本地编译和PhoneGap Build
- 可以通过标准应用商店分发：
App Store, Google Play,
MarketPlace...



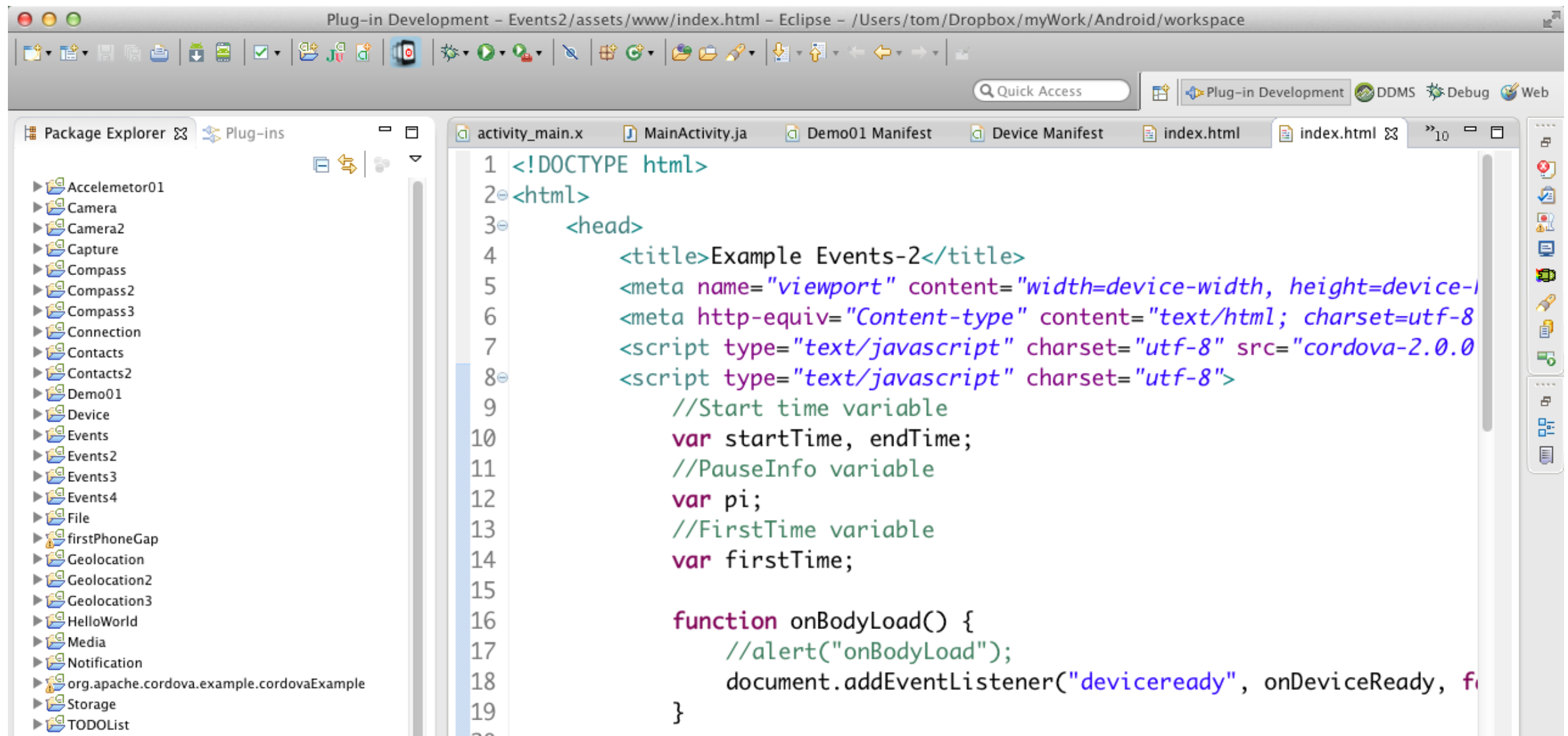
PhoneGap的（一般）应用架构

- PhoneGap应用作为跟用户交互的客户端
- 和Web服务器或者应用服务器等后台系统通信以交互数据
- 客户端服务器之间可以使用标准的HTTP接口，或者RESTful接口，JSON服务或者SOAP协议
- 客户端架构一般使用单一页面应用模型，应用逻辑都在一个HTML页面中。通过更新HTML DOM结构显示数据。

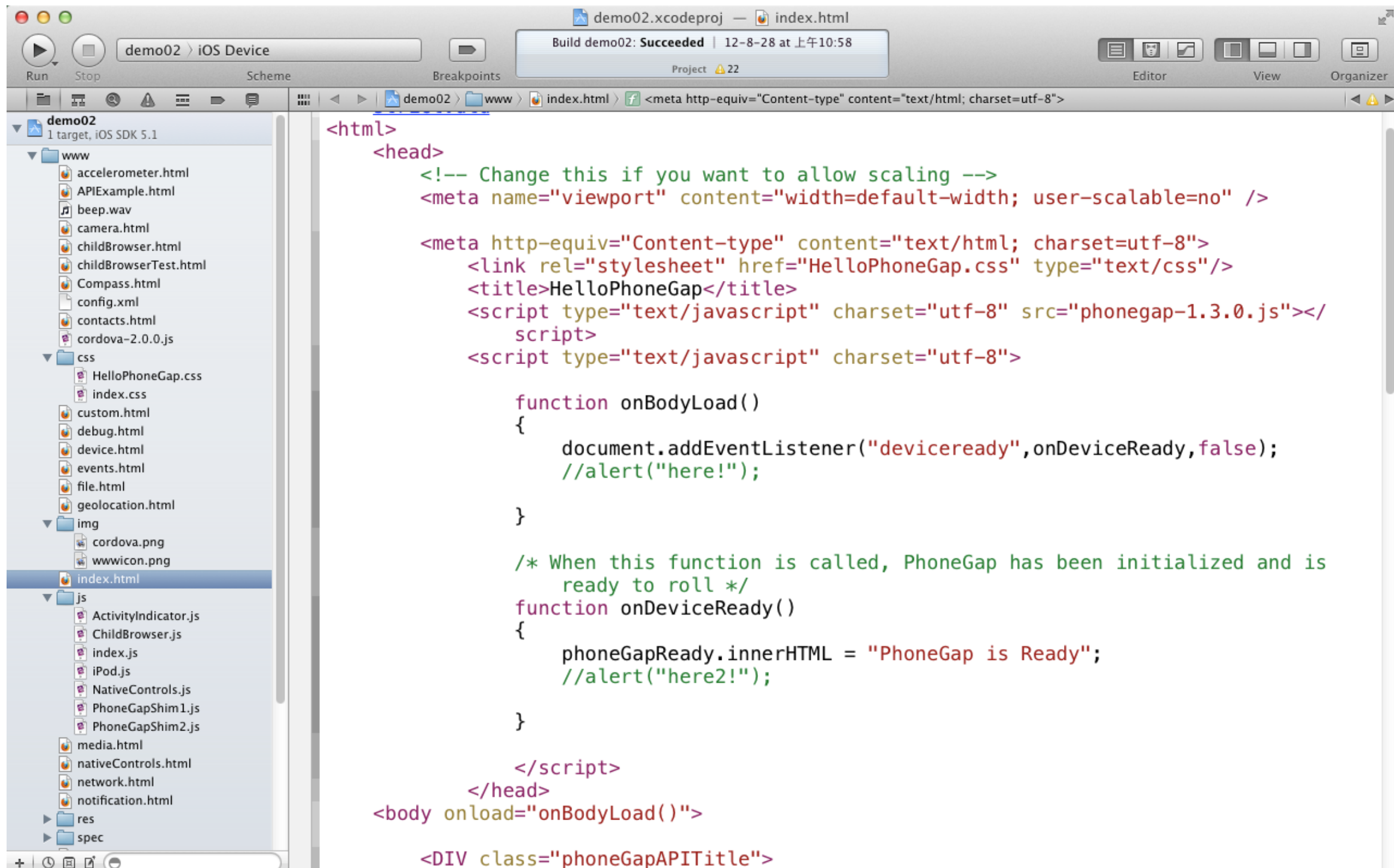


开发/调试工具

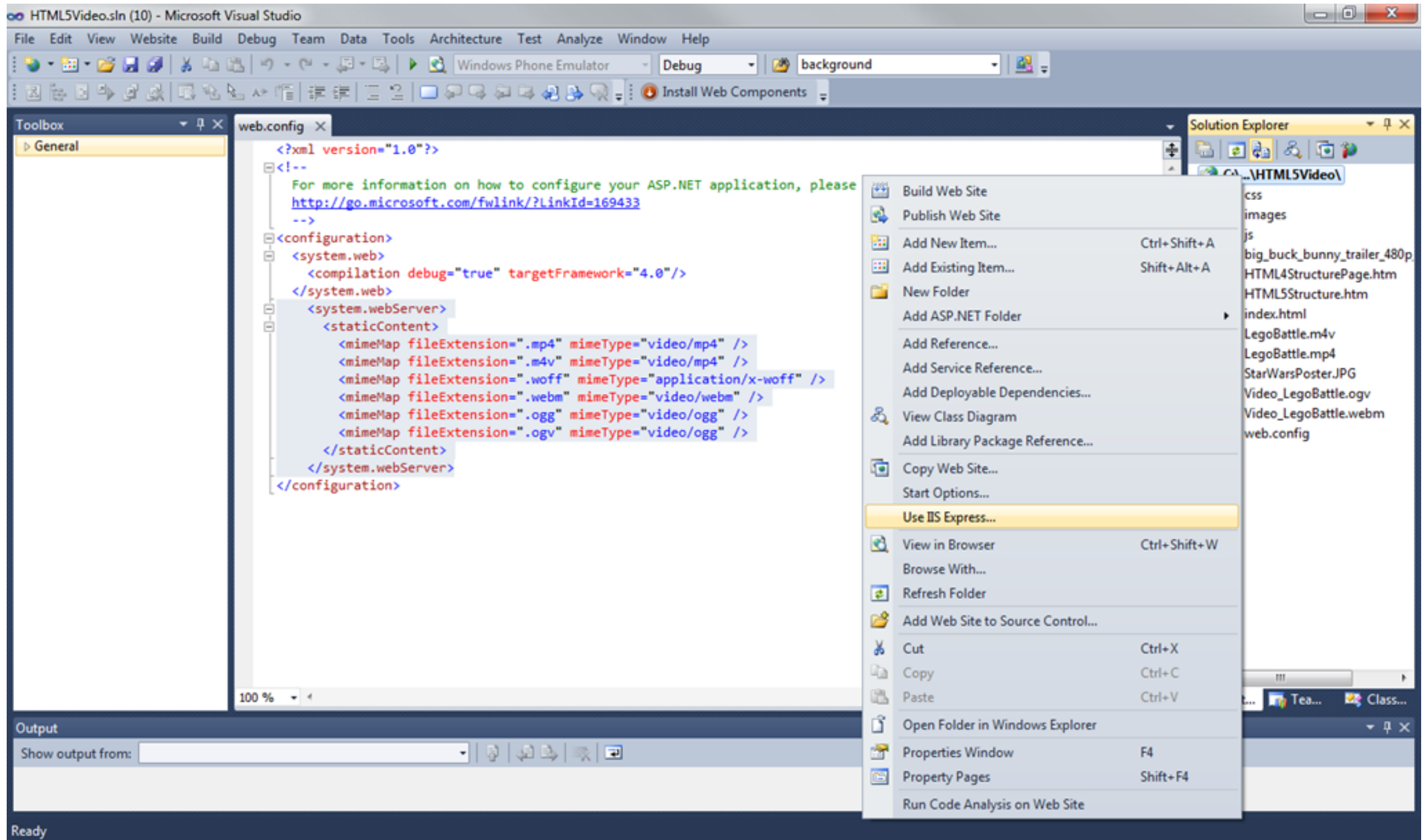
Eclipse



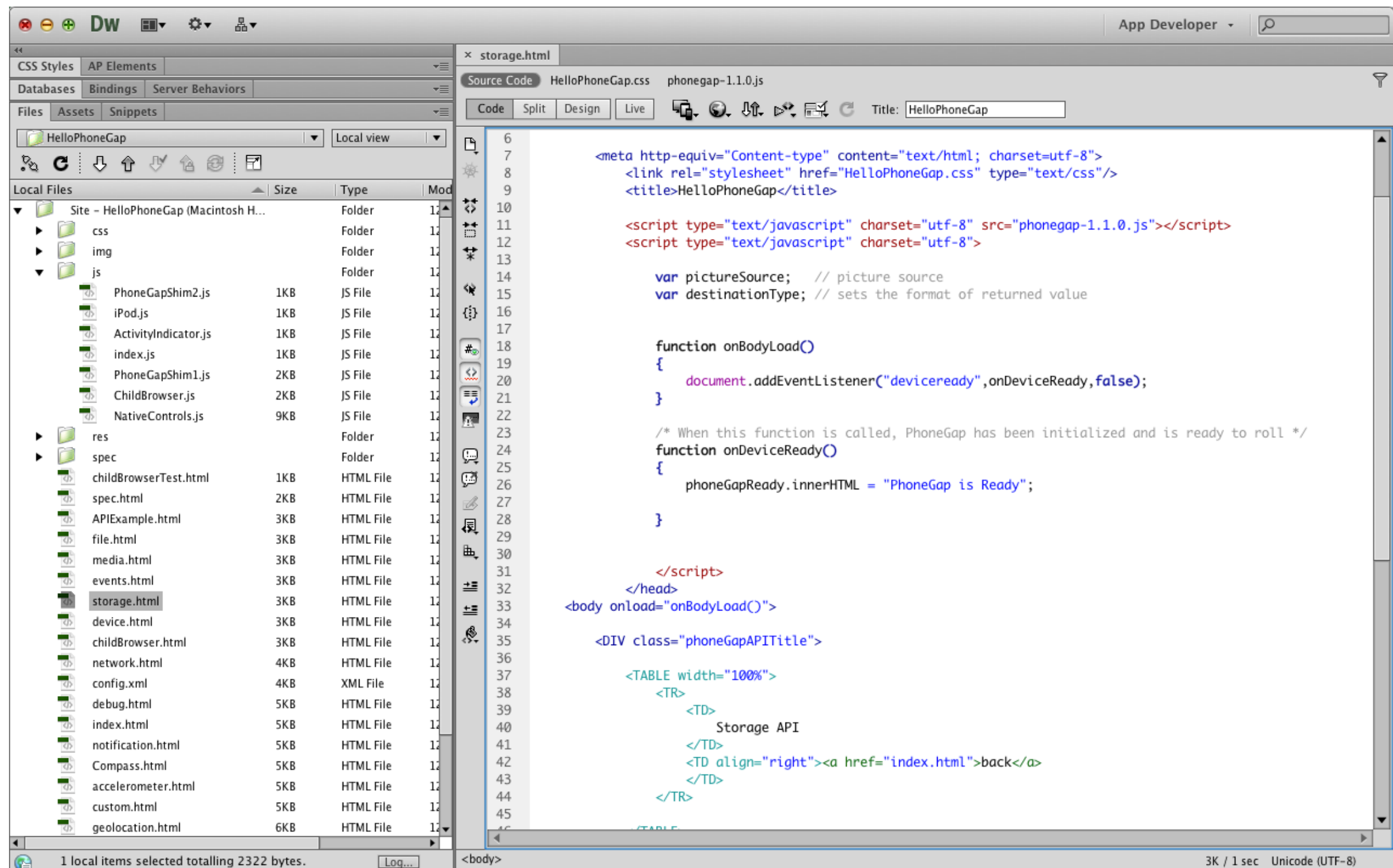
Xcode



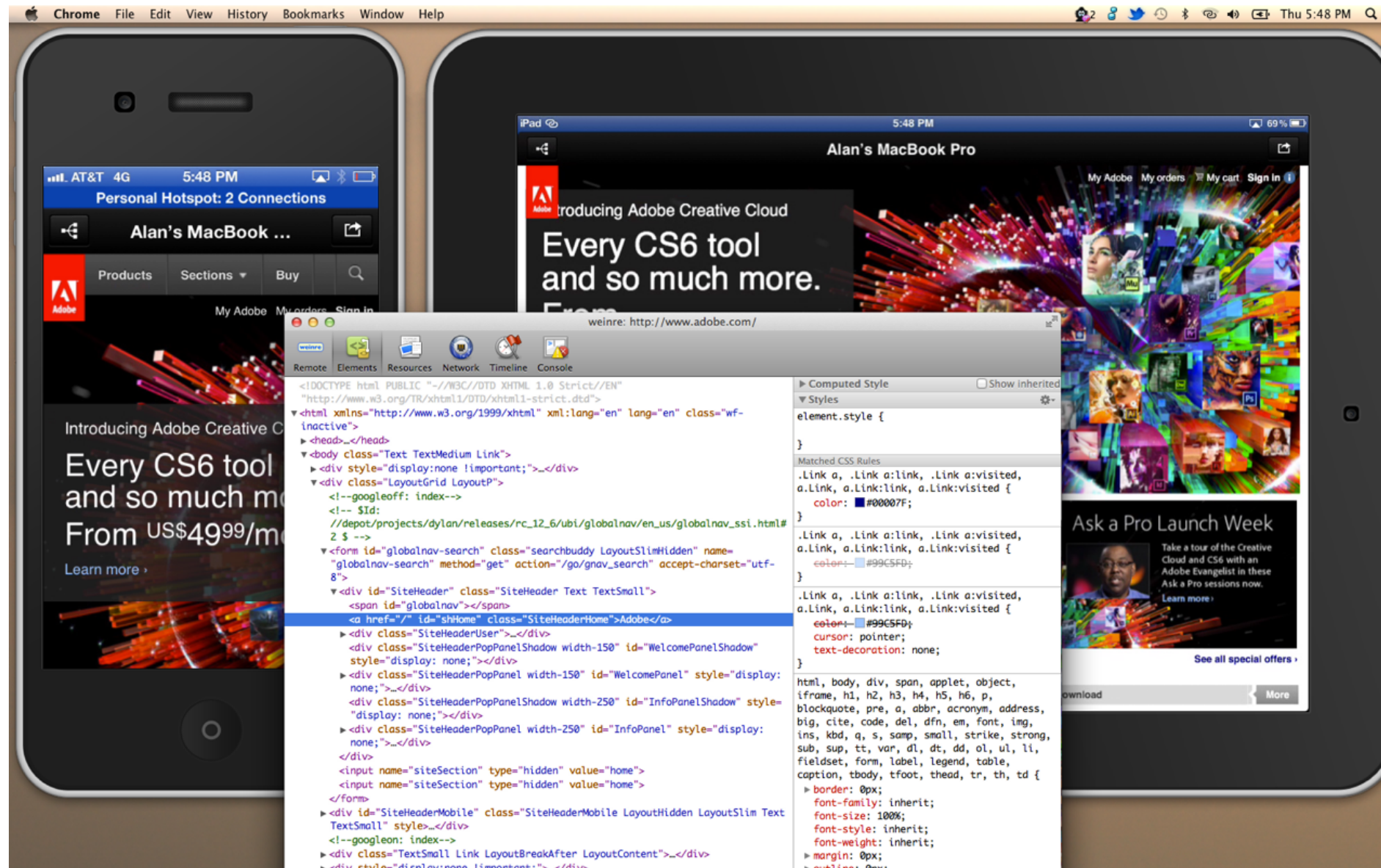
Visual Studio



Adobe Dreamweaver



Adobe Edge Inspector



PhoneGap

 PhoneGap

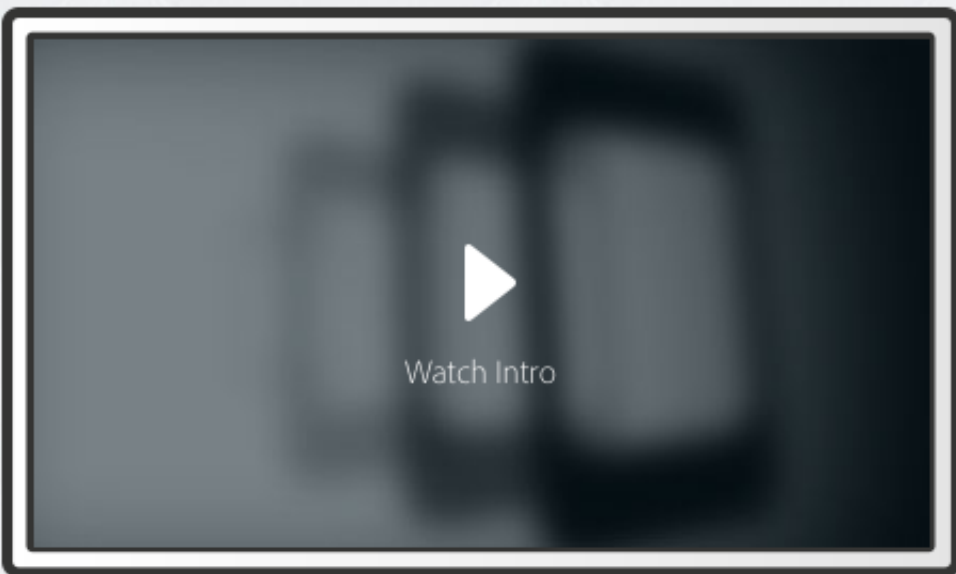
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 Download

Easily create apps with the only free **open source** framework that supports **7 mobile platforms**.

Developing with **Adobe PhoneGap** gives you the freedom to create mobile applications for **iOS, Android, Blackberry, Windows Phone, Palm WebOS, Bada** and **Symbian** using the web code you know and love: **HTML, CSS** and **Javascript**.

[Download PhoneGap ▶](#)[Getting Started Guides ▶](#)



Watch Intro



Wrap your app with **PhoneGap**

Deploy to **multiple platforms!**

appMobi



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FREE TOOLS

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- > JQMobi
- > GAMEDEV XDK
- > XDK

HTML5 DEVELOPER?

MAKE WEBAPPS WITH YOUR HTML5 EXPERTISE

GET STARTED NOW

I WANT MY
NATIVE APP
TO RUN ON ALL PLATFORMS

I WANT TO MAKE APPS WITH
JAVASCRIPT

I WANT TO MAKE WEBAPPS
WITH HTML5

I WANT TO MAKE AMAZING
MOBILE GAMES

I WANT TO BUILD MY APP
**FOR THE TOP
APP STORES**

I WANT TO MAKE MY APPS
**BETTER & MORE
PROFITABLE**

UI Framework

JQUERY MOBILE 1.2.0 BETA RELEASED!

jQuery Mobile: Touch-Optimized Web Framework for Smartphones & Tablets

A unified, HTML5-based user interface system for all popular mobile device platforms, built on the rock-solid jQuery and jQuery UI foundation. Its lightweight code is built with progressive enhancement, and has a flexible, easily themeable design.

[Experimental version - 1.2.0 Beta](#)

[Latest stable version - 1.1.1](#) [Legacy version - 1.0.1](#)



Seriously cross-platform with HTML5

jQuery mobile framework takes the "write less, do more" mantra to the next level: Instead of writing unique apps for each mobile device or OS, the jQuery mobile framework allows you to design a single highly-branded web site or application that will work on all popular smartphone, tablet, and desktop platforms. [Device support](#)



Sencha Touch

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 **Sencha**

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 **Sencha Touch** Build Mobile Web Apps with HTML5

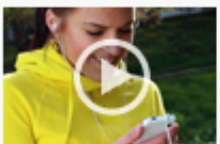
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The Best Framework Just Got Better

Build HTML5 mobile apps for iPhone, Android, and BlackBerry.

With over 50 built-in components, state management, and a built-in MVC system, Sencha Touch 2 provides everything you need to create immersive mobile apps.

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[View Examples](#) 

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What is Sencha Touch?

Sencha Touch 2, a high-performance HTML5 mobile application framework, is the cornerstone of the Sencha HTML5 platform. Built for enabling world-class user experiences, Sencha Touch 2 is the only framework that enables developers to build fast and

What's New?

Sencha Touch 2 includes an updated and easier to use API, enhanced MVC, and richer documentation. To harness local hardware and system services, Sencha Touch 2 provides access to a wider set of native device APIs, allowing HTML5 developers to

HTML5 BOILERPLATE

HTML5 ★ BOILERPLATE

SOURCE CODEDOCSOTHER PROJECTS

The web's most popular front-end template

HTML5 Boilerplate helps you build **fast**, **robust**, and **adaptable** web apps or sites. Kick-start your project with the combined knowledge and effort of 100s of developers, all in one little package.

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Get a custom build

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Save time. Create with confidence.

★ Analytics, icons, and more

★ Normalize.css and helpers

modernizr

**Modernizr**
FRONT-END DEVELOPMENT DONE RIGHT

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“An indispensable tool.”
— Bruce Bowman, *Adobe BrowserLab Product Manager*

Modernizr is a JavaScript library that detects HTML5 and CSS3 features in the user's browser.

Why use Modernizr?

Taking advantage of cool new web technologies is great fun, until you have to support browsers that lag behind. Modernizr makes it easy for you to write conditional JavaScript *and* CSS to handle each situation, whether a browser supports a feature or not. It's perfect for doing progressive enhancement easily.

How it works

Download Modernizr 2.6.2

Use the commented, uncompressed Development version to develop with and learn from.

[View documentation](#)

**DEVELOPMENT**
Uncompressed, 42 Kb

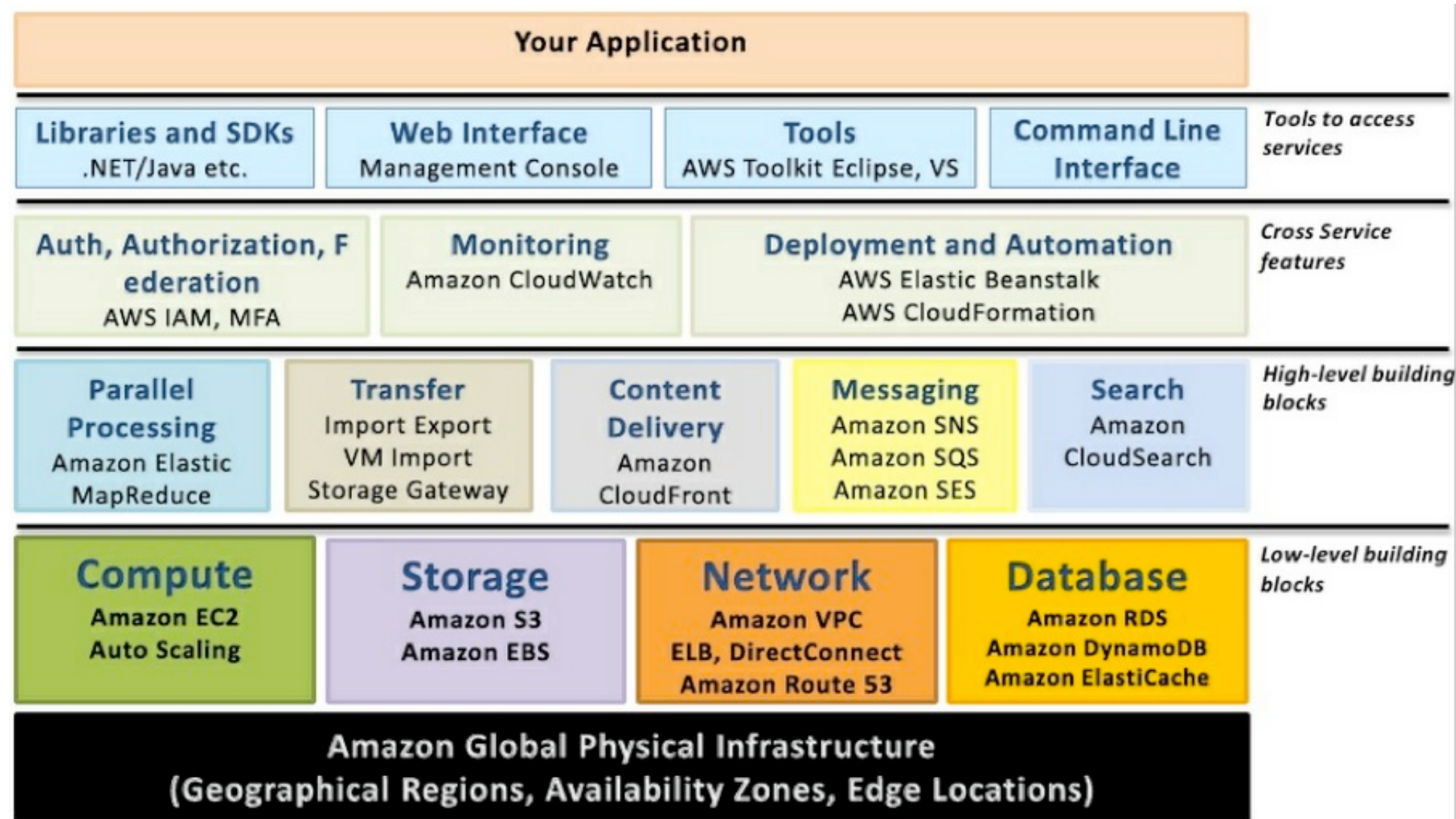
Then, dive into the Production build tool and pick just the tests you need!

**PRODUCTION**
Configure Your Build

Get started with Modernizr

While Modernizr gives you finer control over the experience through JavaScript-driven feature detection, it is important to continue to use best practices throughout your development process. Use progressive enhancement wherever you can, and don't sacrifice accessibility for convenience or performance.

Amazon EC2



小结

- 基于Web的HTML5，还需要几年的沉淀和发展，才能逐步取代移动应用
- HTML5让在线的软件和内容具有了更强的互动性（比如在线广告）
- HTML5对未来商业化内容如何发布将会产生非常明显的影响
- 使浏览器市场重新回到了一个高度竞争的时代，使Web更加开放

参考

- <http://html5labs.interoperabilitybridges.com/>
- <http://www.apple.com/html5/>
- <http://www.html5rocks.com/en/>
- <https://developer.mozilla.org/en-US/docs/HTML/HTML5>