

CROSS PLATFORM MOBILE APP DEVELOPMENT WITH PHONEGAP BUILD AND GITHUB

ALREADY COVERED

- HTML5, CSS3, JAVASCRIPT, JQUERY
- JQUERY MOBILE / UI
- PHONEGAP (LOCAL BUILD for iOS)
- GEOLOCATION API
navigator.geolocation.watchPosition(); etc.
- GOOGLE MAPS API
<http://maps.googleapis.com>

NEXT...

- PHONEGAP BUILD + GITHUB
- ACCELEROMETER (DEVICE-MOTION)
- BASIC GEODATA (GEOLOCATION)
- MEDIA CAPTURE (AUDIO)
- LOCAL STORAGE

NONHEGEMONIC MEDIA CHANNELS?

- OPENSTREET MAPS API
 - COMMUNITY DRIVEN / DISTRIBUTED
- GOOGLE GETS JOB DONE BUT:
- SOCIO/TECHNO/POLITICAL
WORTHY OF CONSIDERATION

WORKING ENVIRONMENT

- DREAMWEAVER IDE

FIND THE DEVELOPMENT ENVIRONMENT THAT SUITS YOU! :

- ADOBE BRACKETS.IO (FREE/OPENSOURCE)
- TEXTWRANGLER (FREWARE)
- SUBLIMETEXT – GOOD BUT COSTS
- EMACS, VIM (FREE/OPENSOURCE)
POWERFULL BUT COMPLEX

ADOBE BRACKETS.IO

[Home](#)[Download](#)[Contribute](#)[Blog](#)[Wiki](#)

Code the Web

Brackets is an open source code editor for web designers and front-end developers.

Download Brackets
Sprint 34 (OSX)

[Other Downloads](#)



Live HTML Development

As you code, HTML changes are instantly pushed to browser without having to save or reload the page.
[See it in action.](#)

JS Debugging with Theseus

Theseus makes inspecting variables and control flow easy, even in asynchronous code.
[Learn more.](#)

Linux: New & Improved

Over the last few sprints we've made progress on Linux (Debian/Ubuntu) support for Brackets.
[Check it out.](#)

From Design Comp To Code

An experiment showing how front-end developers might build a website from a Photoshop design comp.
[You need to see this.](#)

WORKFLOW

LOCAL CODE



GITHUB



PHONEGAP BUILD



DEPLOY TO DEVICE



git

- VERSION CONTROL
- COLABORATIVE TOOL
- ONLINE CODE REPOSITORY

[HTTP://GITHUB.COM](http://github.com)

- PHONEGAP PLUGIN
- GIT = WIDESPREAD IN INDUSTRY
- OPENSOURCE / CROSSPLATFORM



android / platform_system_core

mirrored from <https://android.googlesource.com/platform/system/core.git>

Watch 49 Star 175 Fork 224

5,652 commits 37 branches 98 releases 62 contributors

branch: master platform_system_core /

Merge "Remove x86 debuggerd dependencies on non-uapi headers and cork..."

Elliott Hughes authored 3 days ago latest commit 3fa14a53e7
Gerrit Code Review committed 3 days ago

adb	Fix a bunch of small system/core bugs.	19 days ago
charger	Add liblog	7 months ago
cpio	Fix a bunch of small system/core bugs.	19 days ago
debuggerd	Remove x86 debuggerd dependencies on non-uapi headers and corkscrew.	3 days ago
fastboot	Fix a bunch of small system/core bugs.	19 days ago
fs_mgr	Fix fstab memory leak	2 months ago
gpttool	Fix a bunch of small system/core bugs.	19 days ago
include	Fix include files in backtrace.h.	11 days ago

Code

Pull Requests 0

Wiki

Pulse

Graphs

Network

HTTPS clone URL

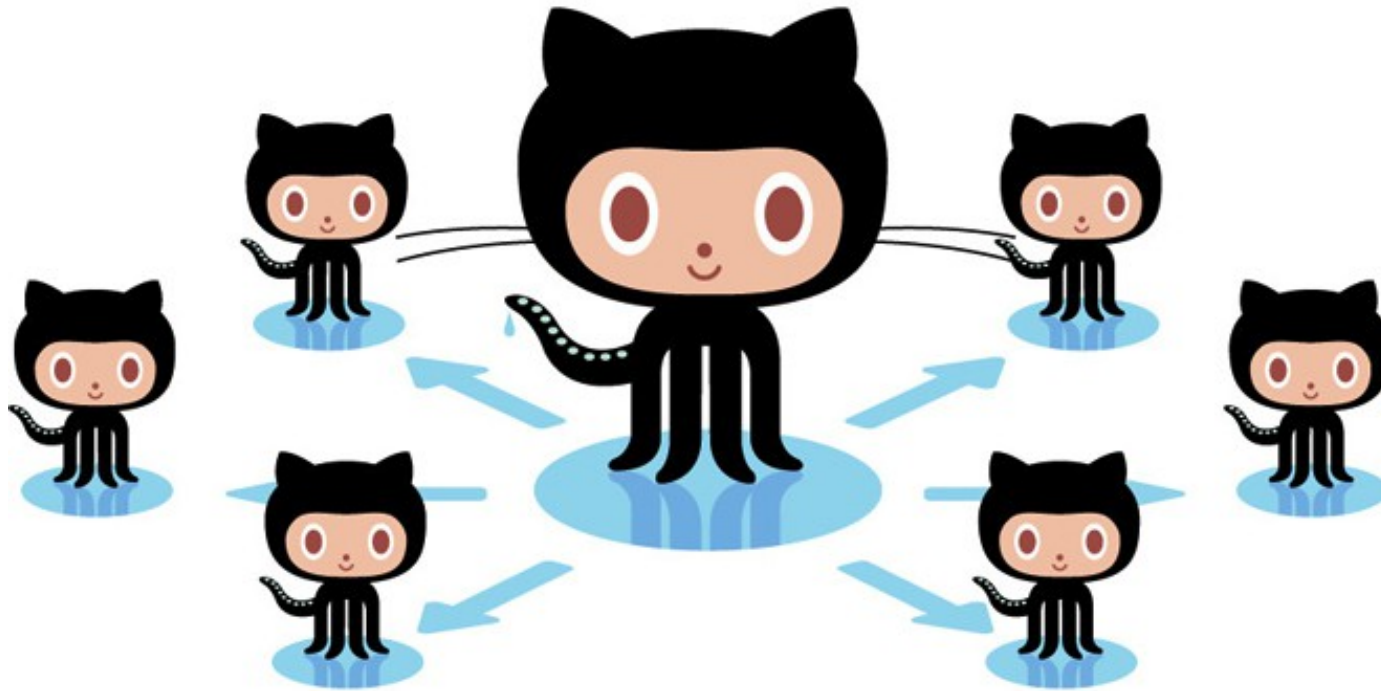
<https://github.com>

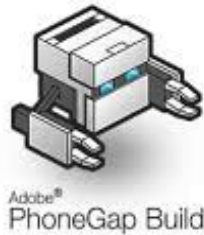
You can clone with [HTTPS](#), [SSH](#), or [Subversion](#).

Clone in Desktop

Download ZIP

Create a github.com account!

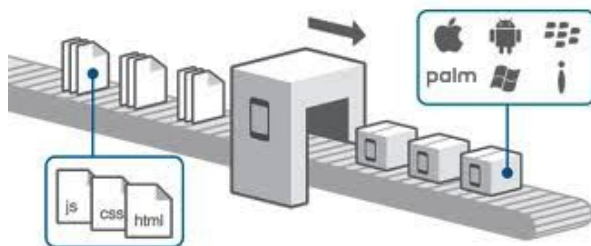




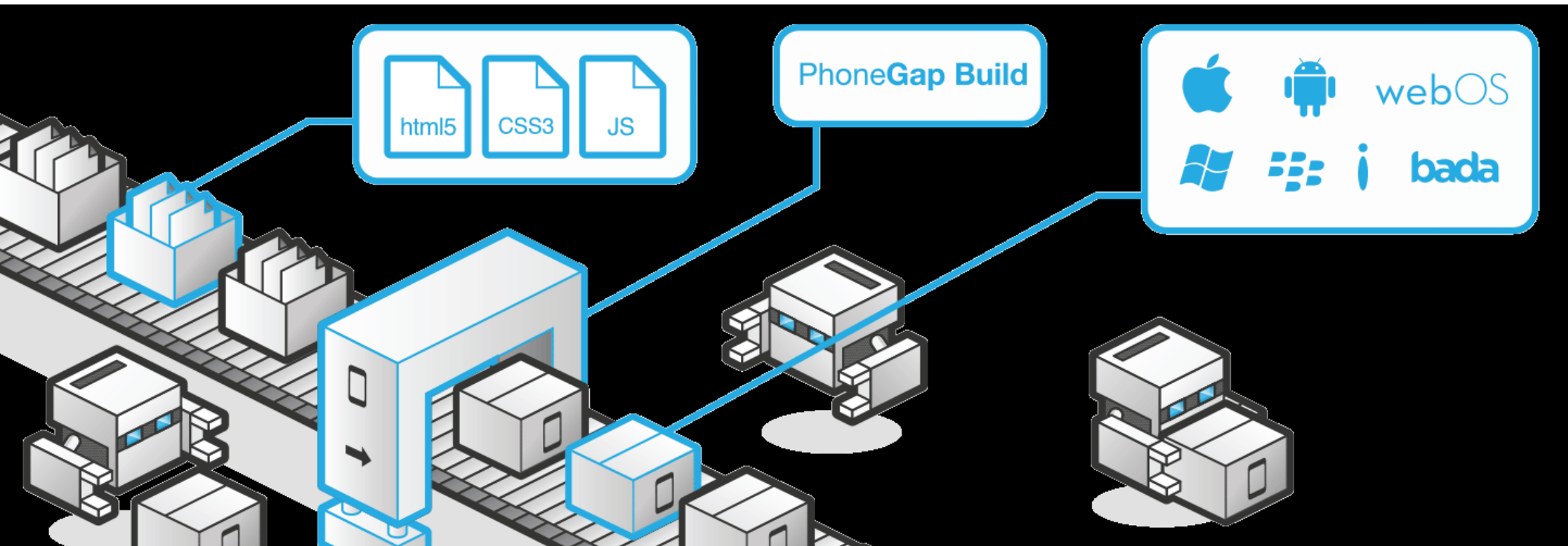
PHONEGAP

Adobe PhoneGap is a standards-based, open-source development framework for building cross-platform mobile apps with HTML, CSS and JavaScript for iOS, Android™, Windows® Phone, webOS, BlackBerry® and more.

- OPENSOURCE DISTRIBUTION OF CORDOVA
- JAVASCRIPT LIBRARY PROVIDING LINK BETWEEN HTML5 CSS JAVASCRIPT AND THE NATIVE DEVICE APIS
- EVERYTHING NEEDED TO CREATE AN APP WITH ACCESS TO EVENTS AND SENSORS OF THE DEVICE
- EACH PLATFORM HAS DIFFERENT .JS



PHONEGAP BUILD



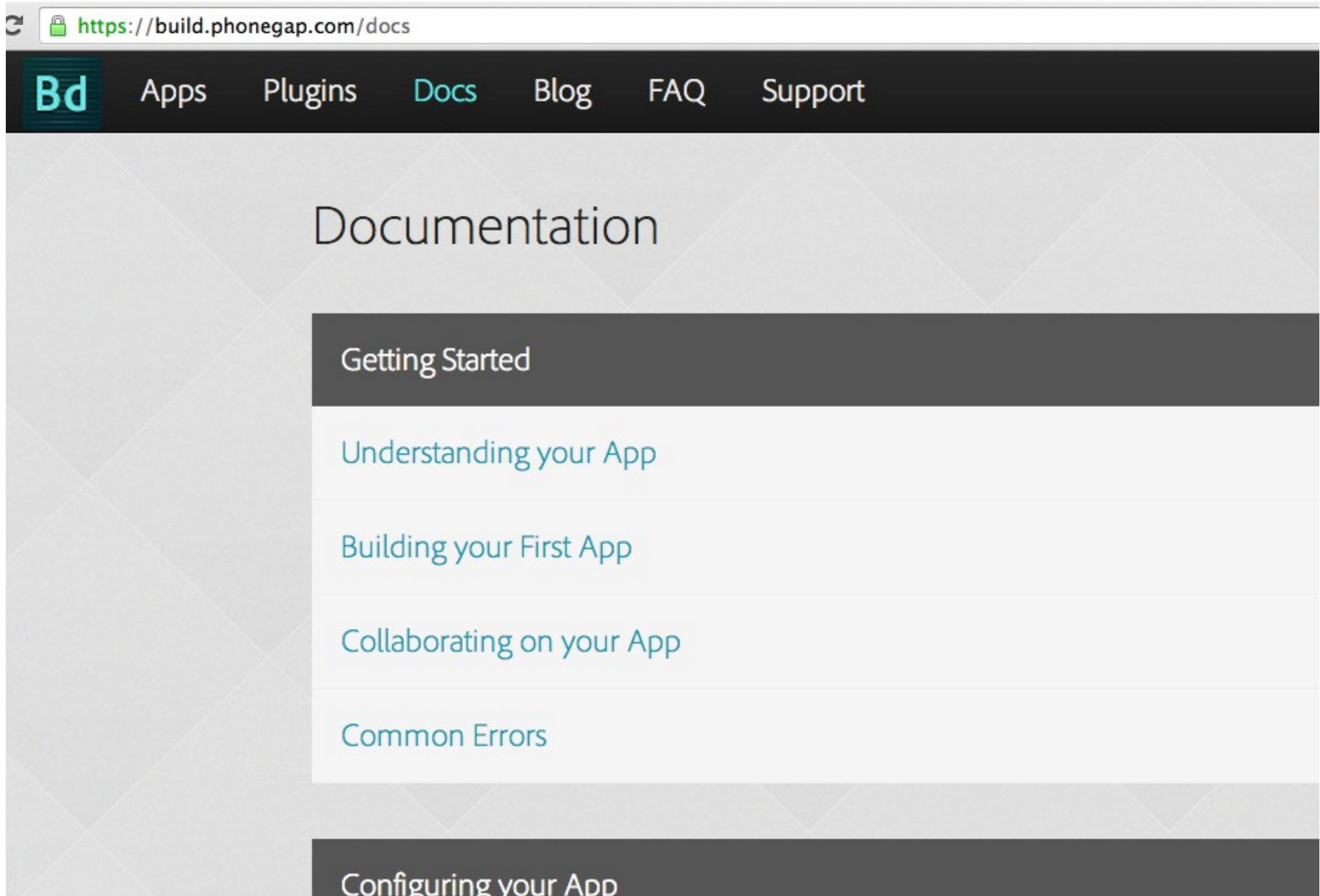
[HTTP://BUILD.PHONEGAP.COM](http://build.phonegap.com)

WHAT IS PHONEGAP BUILD?

[HTTP://BUILD.PHONEGAP.COM](http://build.phonegap.com)

- ONLINE BUILD ENVIRONMENT
(CLOUD SERVICE)
- MULTI PLATFORM BUILDS
injects appropriate phonegap.js serverside
- ONLINE DEVICE SIMULATION
- GITHUB INTEGRATION

RTFM!



- Make a GitHub Account
- Login and “Fork” this project template:
<https://github.com/phonegap/phonegap-start>

The screenshot shows the GitHub repository page for `phonegap / phonegap-start`. The repository is public and has 238 watchers, 2,952 stars, and 5,447 forks. The description is "A starting-point for PhoneGap apps". The repository statistics show 49 commits, 1 branch, 6 releases, and 11 contributors. The current branch is `master`. The commit history shows a merge pull request #112 from `asertiuk/patch-1` by `mwbrooks` 6 days ago, with the latest commit `f4450c0c36`. The commit list includes:

File	Commit Message	Time Ago
<code>www</code>	typo in access origin	6 days ago
<code>.gitignore</code>	Add README.md and UPDATING.md	a year ago
<code>COPYRIGHT</code>	[doc] Add COPYRIGHT.	5 months ago
<code>LICENSE</code>	[doc] Add LICENSE.	5 months ago
<code>README.md</code>	[doc] Update README.md and merge UPDATING.md.	5 months ago

The right sidebar shows the "Code" tab selected, with options for Issues (3), Pull Requests (0), Pulse, Graphs, and Network. The "HTTPS clone URL" is `https://github.com/phonegap/phonegap-start`. The "Download ZIP" button is also visible.

“Clone” a copy to your computer

In a terminal: `git clone https://github.com/rcbu/phonegap-start.git`

OR if git is not yet installed download the .zip:

HTTPS clone URL

<https://github.com/rcbu/phonegap-start.git>



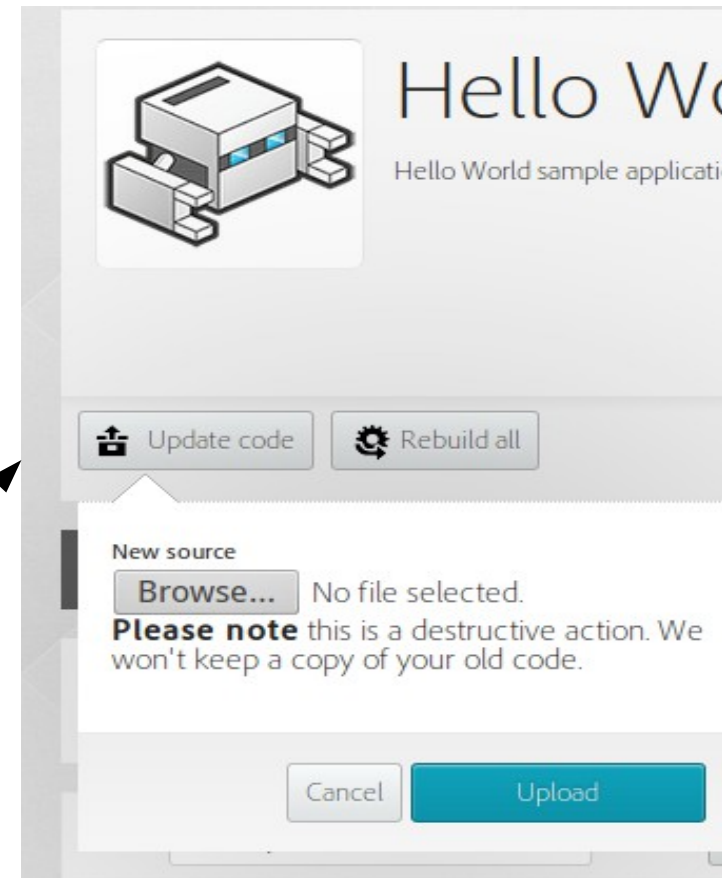
You can clone with [HTTPS](#), [SSH](#),
or [Subversion](#). ?



Download ZIP

UNZIP AND MAKE
MODIFICATIONS TO
LOCAL COPY

ZIP DIRECTORY AND REUPLOAD TO PHONEGAP



Config.xml

- Examine the config.xml file from <https://github.com/phonegap/phonegap-start>
 - This where we define permissions and plugins
 - As well as app name, author details, icons, splash etc.

Injected phonegap.js

- We don't need to include specific plugin and cordova references
- phonegap does all this work from a generalised config.xml
- We do need to reference this phonegap.js in our `<head></head>`
`<script type="text/javascript"src="phonegap.js"></script>`

Plugins

Plugins also need to be referenced in the `<head>`

- As well as in the config.xml plugin .js files need to be linked in the .html

```
<script type="text/javascript" src="phonegap.js"></script>
```

```
<script type="text/javascript" src="geolocation.js"></script>
```

```
<script type="text/javascript" src="camera.js"></script>
```

Plugins

3rd Party Plugins

PhoneGap Plugins

Your Plugins

Submit Plugin

BarcodeScanner

com.phonegap.plugins.barcodescanner

Latest Version	Apps	Last Used	Uploaded
1.1.0	3448	4 minutes ago	Oct 24, 2013

PushPlugin

com.phonegap.plugins.pushplugin

Latest Version	Apps	Last Used	Uploaded
2.0.5	1743	2 minutes ago	Nov 01, 2013

Child Browser

com.phonegap.plugins.childbrowser

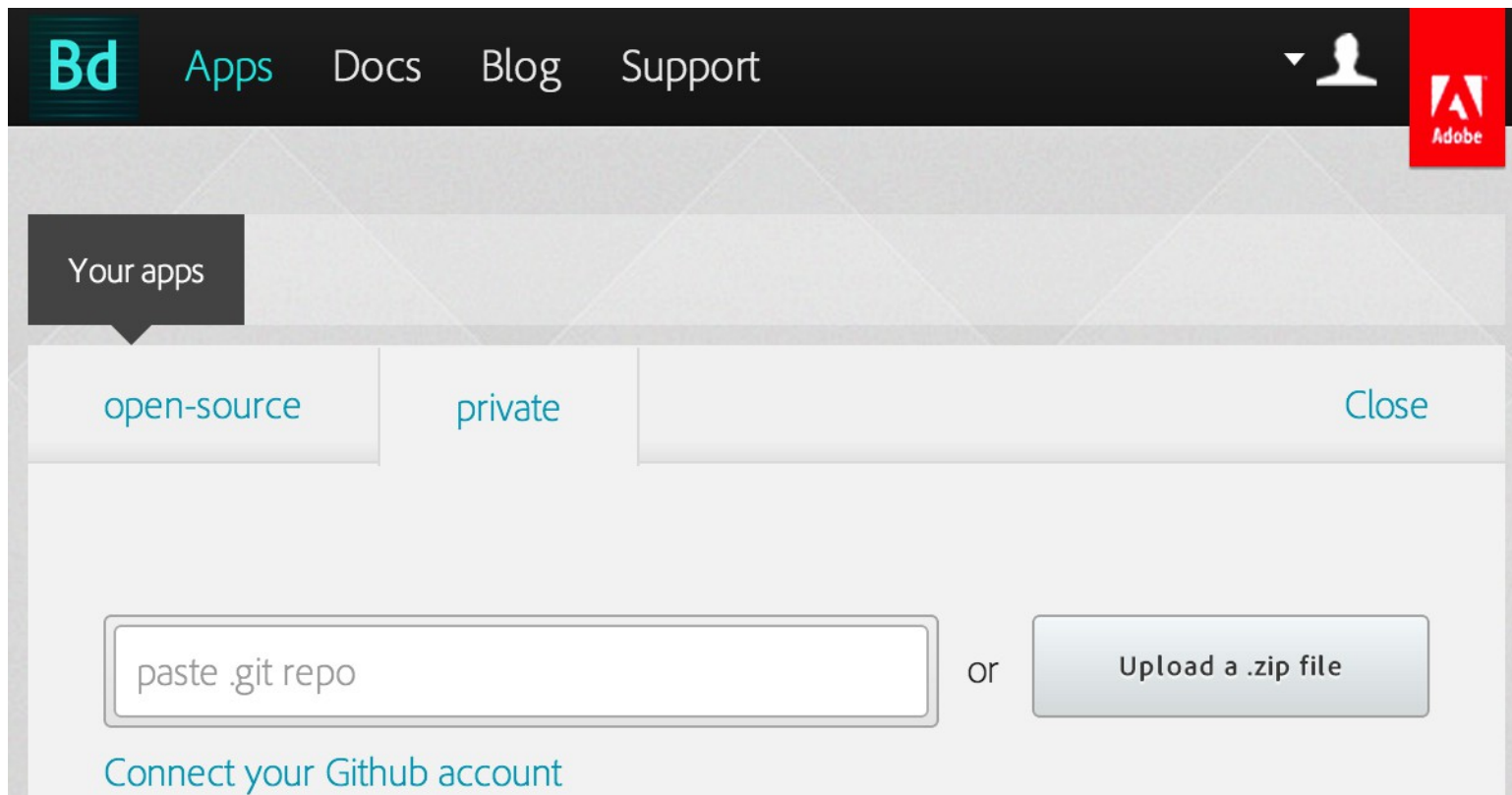
Latest Version	Apps	Last Used	Uploaded
4.2.1	1691	about 1 hour ago	Jul 15, 2013

Facebook Connect

com.phonegap.plugins.facebookconnect


build.phonegap.com

- Login to build.phonegap.com with git account
- “Create new app” (Private)
- Upload Zip File




The screenshot shows the 'Your apps' section of the build.phonegap.com website. At the top, there is a dark navigation bar with the 'Bd' logo, links for 'Apps', 'Docs', 'Blog', and 'Support', a user profile icon, and the Adobe logo. Below this, a 'Your apps' header is followed by three tabs: 'open-source', 'private' (which is selected), and 'Close'. The main content area features a text input field with the placeholder text 'paste .git repo', followed by the word 'or' and a button labeled 'Upload a .zip file'. At the bottom, there is a link that says 'Connect your Github account'.

BUILDS – PLUGINS - QRCODE




Your application has updated and a build has been queued



BU-GEOCAM

Workshop Test App



Install

Update code

Rebuild all

Blackberry, Symbian, and WebOS are no longer supported as of PhoneGap 3.

Builds

Plugins

Collaborators

Settings

App ID	Version	PhoneGap	Owned by	Last built (114)	Source
646003	1.1.0	3.0.0	rscanning@gmail.com	1 minute	.zip package

Upload Modifications



Update code



Rebuild all

New source

Choose File

No file chosen

Please note this is a destructive action.
We won't keep a copy of your old code.

Cancel

Upload

ry, Symbian, and WebO



Settings

last built (114)

1 minute

Source

.zip package

<https://github.com/rcbu/mobappdev>

DOWNLOAD AND TEST

Android: Ready to Go!

IOS: Need to register key....





EMULATION



Ripple: Extension for Chrome

- Allows in browser emulation of multiple devices
 - <http://emulate.phonegap.com>
- Install from the Chrome Web Store

Ripple Emulator (Beta)



Ripple Emulator (Beta)

★★★★★ (296)

[Developer Tools](#)

from ripple.tinyhippos.com

110,246 users

ADDED TO CHROME



OVERVIEW

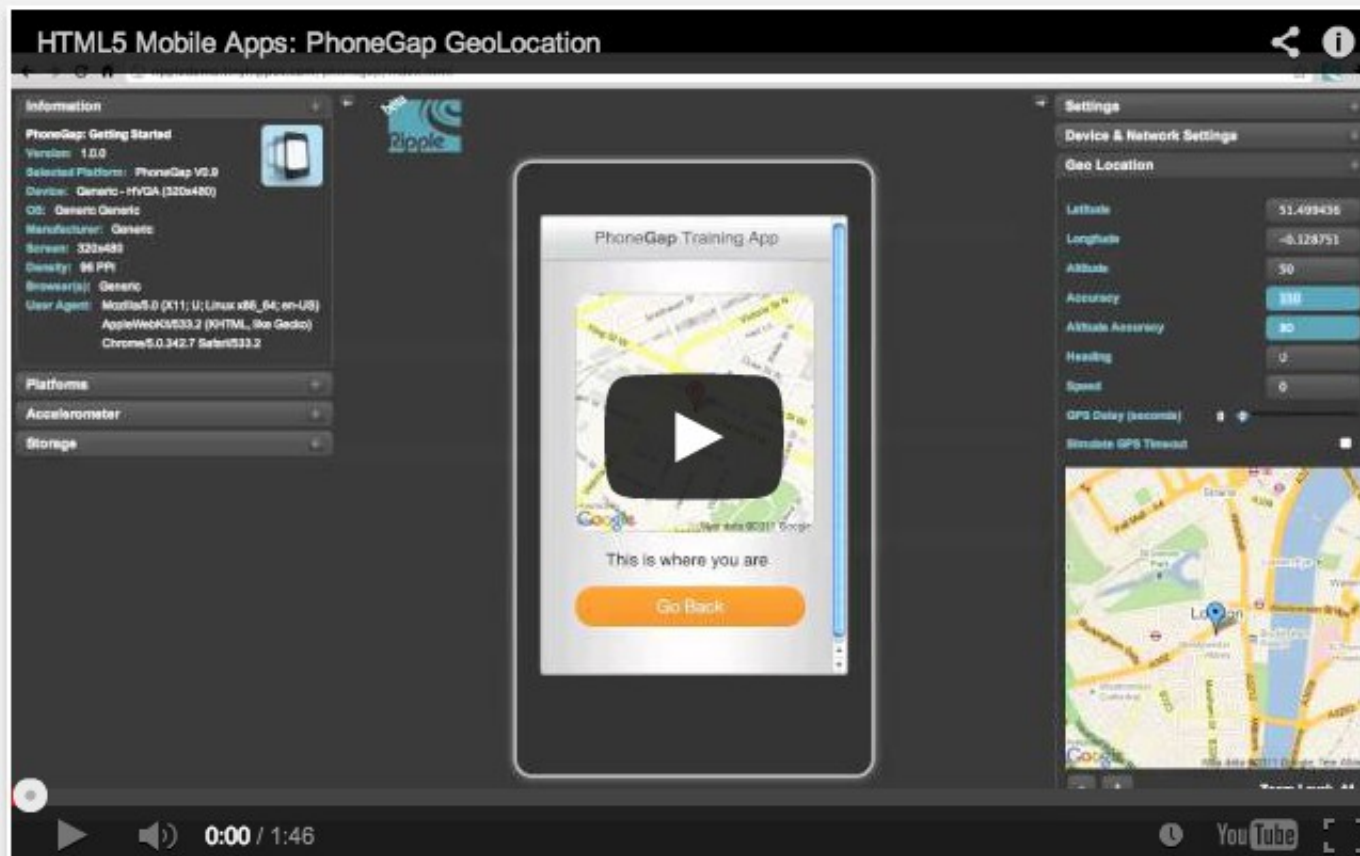
DETAILS

REVIEWS

RELATED

g+1

6



A browser based html5 mobile application development and testing tool

Welcome to Ripple, The Mobile Environment Emulator!

Ripple is a multi-platform mobile environment emulator that is custom-tailored to mobile HTML5 application development and testing. Ripple aims to reduce the challenges being faced by mobile developers caused by today's platform fragmentation in the marketplace.

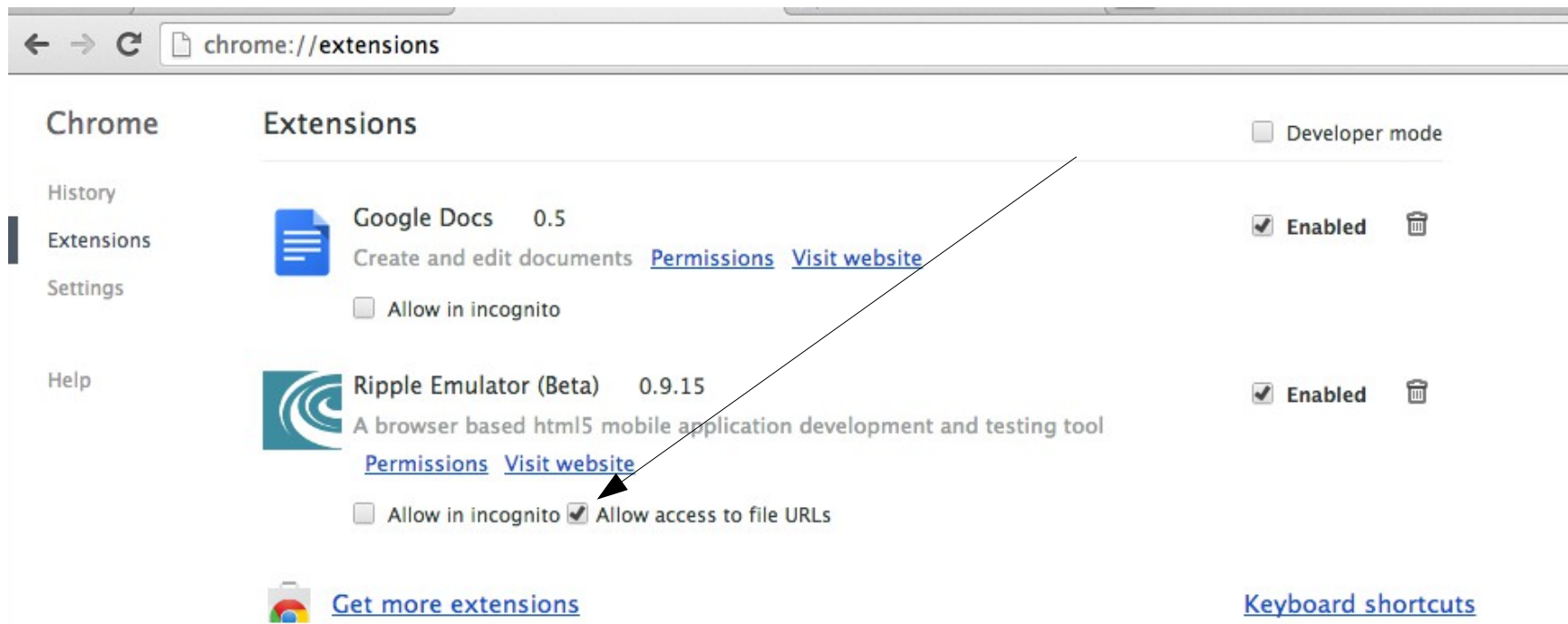
Ripple is targeted towards WebWorks, PhoneGap, and mobile web development and testing!

Ripple offers the ability to look under the hood of your mobile application, giving you full visibility into what it is doing. It also allows for the use of existing tools to perform JavaScript debugging, HTML DOM inspection, automated testing, as well as multiple device and screen resolution

Ripple Emulator (Beta)

- Enable extension in Chrome
- Multiple device/platform emulation
- Can emulate Accelerometer and GeoData
- Cordova-2.0.0.js must be present

In terminal: **If no localhost server running:**
`open /Applications/Google\ Chrome.app --args
--allow-file-access-from-files`



Local Assets

Don't outsource your assets if you need your app offline.

```
1 <!DOCTYPE HTML>
2 <html>
3   <head>
4     <meta charset="utf-8" />
5     <meta name="format-detection" content="telephone=no" />
6     <meta name="viewport" content="user-scalable=no, initial-scale=1, maximum-scale=1,
minimum-scale=1 target-densitydpi=device-dpi" />
7
8     <title>BU_PG_TEST</title>
9
10    <script type="text/javascript" src="jquery-1.10.2.min.js"></script>
11    <script type="text/javascript" src="js/jquery.mobile-1.3.2/jquery.mobile-1.3.2.js">
</script>
12    <link rel="stylesheet" href="js/jquery.mobile-1.3.2/jquery.mobile-1.3.2.css" />
13
14    <script type="text/javascript" src="phonegap.js"></script>
```

Usual PhoneGap Setup

```
1  //////////////////////////////////////
2  // Set the event listener to run when the device is ready
3  document.addEventListener("deviceready", onDeviceReady, false);
4
5  function onDeviceReady() {
6    //do stuff here|
7  }
8  //////////////////////////////////////
```

ACCELEROMETER

Start and Stop Functions:

```
12 // Poll the accelerometer at intervals
13 function watchAcc() {
14     // Set the frequency of updates
15     // from the acceleration
16     var options = { frequency: 300 };
17     // Assign watchAcceleration to the watchID variable
18     // and pass through the options array
19     watchID = navigator.accelerometer.watchAcceleration(onAccSuccess, onAccError, options);
20 }
21
22 // Stop watching the accelerometer
23 function stopWatch() {
24     if (watchID) {
25         navigator.accelerometer.clearWatch(watchID);
26         watchID = null;
27         var element = document.getElementById('accelerometerData');
28         element.innerHTML = 'Polling Accelerometer: OFF.';
29     }
30 }
```


ACCELEROMETER

```
12 // Poll the accelerometer at intervals
13 function watchAcc() {
14     // Set the frequency of updates
15     // from the acceleration
16     var options = { frequency: 300 };
17     // Assign watchAcceleration to the watchID variable
18     // and pass through the options array
19     watchID = navigator.accelerometer.watchAcceleration(onAccSuccess, onAccError, options);
20 }
21
22 // Stop watching the accelerometer
23 function stopWatch() {
24     if (watchID) {
25         navigator.accelerometer.clearWatch(watchID);
26         watchID = null;
27         var element = document.getElementById('accelerometerData');
28         element.innerHTML = 'Polling Accelerometer: OFF.';
29     }
30 }
```

Success / Error Functions

```
32 // Run after successful transaction
33 // Let's display the accelerometer data
34 function onAccSuccess(acceleration) {
35     var element = document.getElementById('accelerometerData');
36     element.innerHTML = 'X: ' + acceleration.x + '<br />' +
37         'Y: ' + acceleration.y + '<br />' +
38         'Z: ' + acceleration.z + '<br />' +
39         'Timestamp: ' + acceleration.timestamp + '<br />';
40 }
41
42 // Run if we get an error accessing sensor data
43 function onAccError() {
44     var element = document.getElementById('accelerometerData');
45     element.innerHTML = 'unable to access sensor data...';
46 }
47
```

Accelerometer HTML section

```
42     <div data-role="page" id="acc">
43     <div data-role="header"><h1>FOO BAZ BAR</h1></div>
44         <div data-role="header">
45             <h1>ACC</h1>
46             <div data-role="navbar">
47                 <ul>
48                     <li><a href="#home" data-transition="none" data-icon="home">HOME</a></li>
49                     <li><a href="#acc" data-transition="none" data-icon="plus">ACC</a></li>
50                     <li><a href="#geo" data-transition="none" data-icon="star">GEO</a></li>
51                     <li><a href="#rec" data-transition="none" data-icon="star">REC</a></li>
52                 </ul>
53             </div>
54         </div>
55         <div data-role="content">
56             <h1>ACCELEROMETER</h1>
57             <button id="startBtn" onclick="watchAcc()">start</button>
58             <button id="stopBtn" onclick="stopWatch()">stop</button>
59             <div id="accelerometerData">waiting for sensor...</div>
60         </div>
61     </div>
```

Get it working!

- Put accelerometer functions into a .js file
- In your index.html reference the .js file in the <head>
- In index.html create start and stop buttons and the accelerometerData <div>
- Code snippets are in code.txt

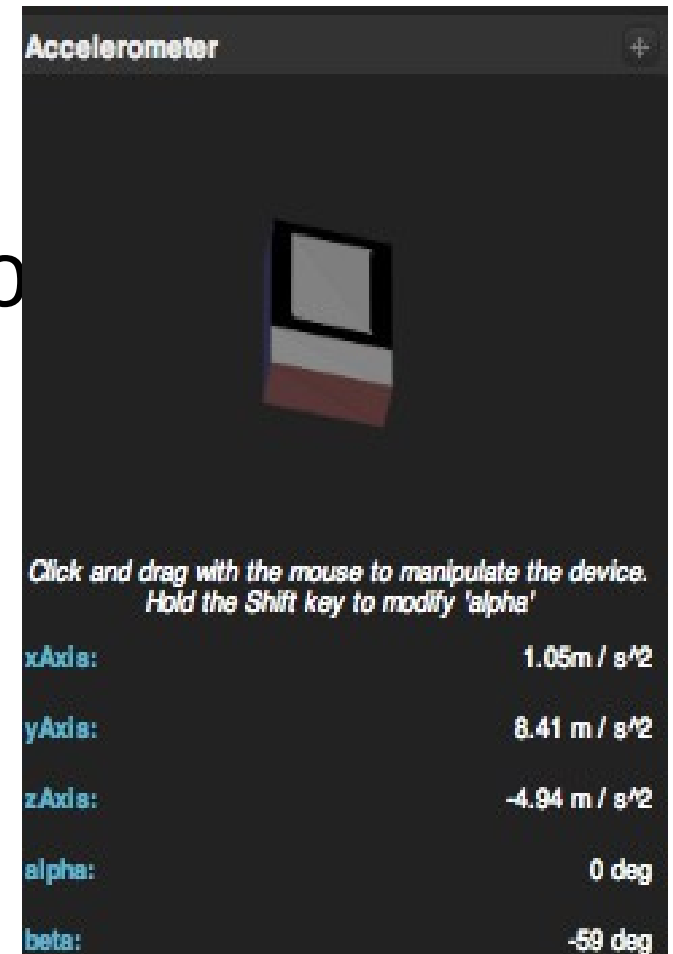


EMULATE

- Point the Chrome Browser to your index.html

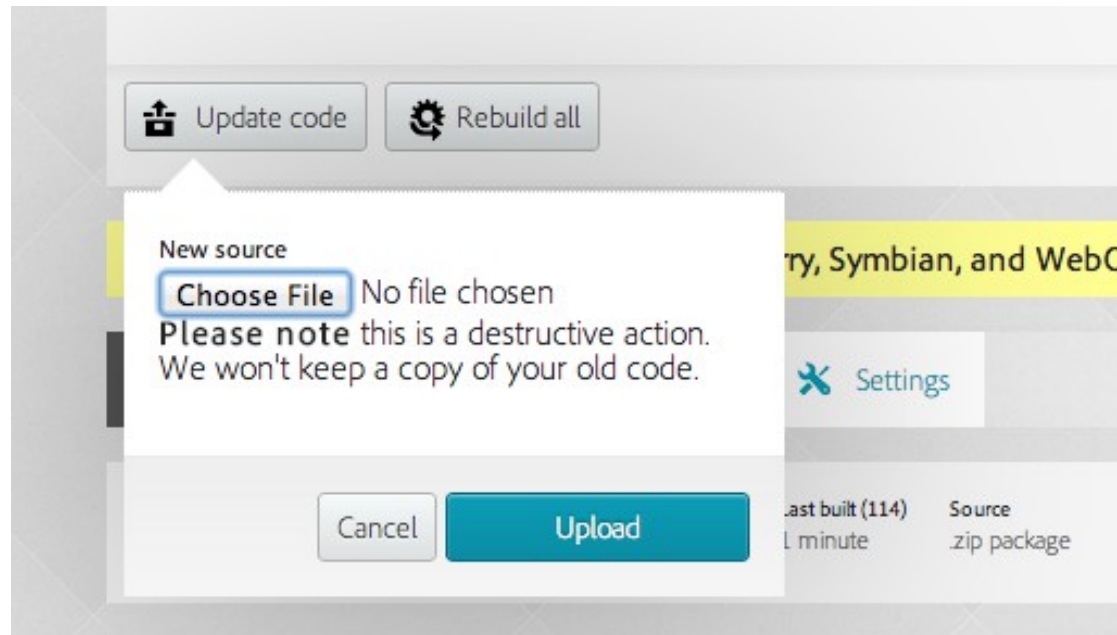
(must be in a localhost server address)

- Enable Ripple
- Experiment with device orientation



BUILD IT!

- Compress the www directory to a .zip
- Upload to phonegap via web interface



GeoLocation

```
51 // GEOLOCATION CODE
52 //////////////////////////////////////
53
54 function watchGeo(){
55     navigator.geolocation.watchPosition(onSuccess, onError,
56                                         {maximumAge: 5000,
57                                          timeout: 15000,
58                                          enableHighAccuracy: true}
59                                         );
60
61 // after successful transaction display the position data
62 function onSuccess(position) {
63     var geoElement = document.getElementById('geolocationData');
64     geoElement.innerHTML = 'Latitude: ' + position.coords.latitude + '<br />' +
65     'Longitude: ' + position.coords.longitude + '<br />' +
66     'Altitude: ' + position.coords.altitude + '<br />' +
67     'Accuracy: ' + position.coords.accuracy + '<br />' +
68     'Altitude Accuracy: ' +
69     position.coords.altitudeAccuracy + '<br />' +
70     'Heading: ' + position.coords.heading + '<br />' +
71     'Speed: ' + position.coords.speed + '<br />' +
72     'Timestamp: ' + position.timestamp + '<br />';
73 }
74
```

GEO – ERROR HANDLING

```
75 // Run if we face an error getting the position data
76 function onError(error) {
77     var errString = '';
78     // Check to see if we have received an error code
79     if(error.code) {
80         // If we have, handle it by case
81         switch(error.code)
82         {
83             case 1: // PERMISSION_DENIED
84                 errString =
85                     'Unable to obtain the location information ' +
86                     'because the device does not have permission ' +
87                     'to the use that service.';
88                 break;
89             case 2: // POSITION_UNAVAILABLE
90                 errString =
91                     'Unable to obtain the location information ' +
92                     'because the device location could not ' +
93                     'be determined.';
94                 break;
95             case 3: // TIMEOUT
```


AUDIO CAPTURE

```
111 ///////////////////////////////////////////////////
112 // 10" AUDIO SNIPPET RECORDER
113 ///////////////////////////////////////////////////
114 var maxTime = 10,
115     countdownInt = 3,
116     src,
117     audioRecording,
118     stopRecording;
119
120 function recordPrepare() {
121     $('#record').unbind();
122     $('#record').html('Start Recording!');
123     $('#record').bind('touchstart', function() { recordAudio();
124     });
125 }
126
127 function recordAudio() {
128     $('#record').unbind();
129     $('#record').html('Stop Recording!');
130     $('#record').bind('touchstart', function() {
131         stopRecording();
132     });
133     src = 'recording.' + Math.round(new Date().getTime()/1000) + '.mp3';
```

Recording and Countdown timer

RecordAudio() function continued:

```
133     src = 'recording_' + Math.round(new Date().getTime()/1000) + '.mp3';
134     audioRecording = new Media(src, onAudioSuccess, onAudioError);
135     var startCountdown = setInterval(function() {
136         $('#message').html('Recording will start in ' +
137             countdownInt + ' seconds...');
138         countdownInt = countdownInt - 1;
139         if(countdownInt <= 0) {
140             countdownInt = 3;
141             clearInterval(startCountdown);
142             audioRecording.startRecord();
143             var recTime = 0;
144             recInterval = setInterval(function() {
145                 recTime = recTime + 1;
146                 $('#message').html(Math.round(maxTime - recTime) +
147                     ' seconds remaining...');
148                 var progPerc = 100-((100/maxTime) * recTime);
149                 if (recTime >= maxTime) {
150                     stopRecording();
151                 }
152             }, 1000);
153     }, 1000); }
```

Stop recording and update .html with status.

```
155
156 function stopRecording() {
157     clearInterval(recInterval);
158     audioRecording.stopRecord();
159     recordPrepare();
160 }
161
162 function onAudioSuccess() {
163     $('#message').html('Audio Note created!:<br />' + src);
164 }
165 function onAudioError(error) {
166     $('#message').html('code: ' + error.code + '\n' + 'message: ' + error.message + '\n');
167 }
168
```

Line 157, Column 1 — Selected 11 lines — 168 Lines

AUGMENT MAP WITH MEDIA

- NEED GOOGLE ACCOUNT
- MY MAPS: CREATE NEW MAP
- PLACE MARKERS / ROUTES / TEXT
- LINK TO URL SO <AUDIO/><VIDEO/>

MANUAL PROCESS BUT USEFUL IF YOU
HAVE MEDIA YOU NEED TO GEOTAG

JURASIC COAST BRIEF?