**Phonegap Workshop by Jimmy Ruska (Midcities Programming Group)**

**What is it?** Develop apps using html5/css/javascript for windows phones, iphones, android, and a few other platforms. You can access native APIs like camera and microphone from within javascript. Using build.adobe.com and a github account you can compile the app to platforms like iphone or windows without having to own an iphone or windows computer. Here are apps that use phonegap: http://phonegap.com/app/

**Requirements:**

* JDK7. The java development kit is required for android. JDK8 Will not work.
* Ant is required for android. It’s a build tool like GNU make or maven.
* Xcode is required for iphone.
* nodejs is required to install phonegap
* The android SDK/adt/eclipse is required for work with android
* An actual device is not required. You can run an emulator from the sdk. It’s just much slower. If you use a physical device be sure to enable USB debugging.

**Where you wouldn’t use phonegap:** If you’re trying to make the most of performance like in a 3d game, phonegap is not the best solution. It is however surprisingly fast. CSS3 animations, canvas and webgl can be hardware accelerated on newer devices. It does not have to look like a website or just have static content and you can compile it to multiple targets without having to learn multiple languages. The API support will be more limited. The application is not turned into native code.; it’s running on a native web view for the target platform. It is as good as the platform sdk’s browser. Your app can work offline and can be enhanced when online. With webrtc coming and websockets becoming more commonplace the future of mobile views looks good.

**Windows:** I made an easier installer for windows written in D (dlang.org). The source is included.

* Install the Java JDK 7. Then download: http://jimmyr.com/jimmy\_phonegap.zip
* Unzip to where you want to install phonegap (Desktop, Downloads, C:\, ...)
* Run phonegap.exe and follow the directions. You may have to run it more than once.

**Alternatively here are the official instructions**: http://docs.phonegap.com/en/3.4.0/guide\_cli\_index.md.html

* Go to nodejs.org/download/ and click the windows icon to download and install node
* Get a command prompt by going to: start -> run -> type “cmd”
* Type “npm install -g cordova phonegap ant”
* … See site for full instructions, there are quite a few.

**What is npm?** Node package manager. It’s for node apps and their dependencies. Node.js is a framework for running javascript outside of the browser, particularly servers.

**What is the difference between cordova and phonegap?** Cordova is the apache engine which powers phonegap. As far as the packages the phonegap command is usually slightly shorter than the phonegap command. For our purposes you can think of them as the same thing.

**What’s the catch?** You can’t compile ios apps on windows or windows apps on ios unless you use build.phonegap.com, but that only allows 1 free repository you can build at a time. Google requires a $25 fee to join their developer program. Apple requires $100. Those fees are not related to phonegap. You can still redistributes these apps without paying by passing apk or ipa files. They’re just more tricky to install. Phonegap is very tricky to install in general. It is not a simple install and play tool.

**What’re the benefits?** Same code, multiple platforms. Webapps you already have will work on mobile. Just swap to tapping events. All the frameworks available for javascript are now available for phone apps.

**Alternatives to phonegap:** Appbuilder/Icenium is very similar to phonegap. Xamarin=C#, Titanium=Javascript

**Recommended Tutorial:** google “coenraets 3 tutorial” **Learn HTML5:** http://www.html5rocks.com/en/

**Github Examples:** github.com/ccoenraets/ **Command line guide:** phonegap cli

**Learn Javascript:** developer.mozilla.org/en-US/docs/Web/JavaScript

**Workflow once everything is installed:**

$ cordova create myproject com.jimmy.project MyProject

$ cordova platforms add android

$ cd MyProject

$ cordova build

This will create all the project files needed for android. If you want ios just do *“cordova build ios”.* Now I can go to eclipse then: file -> import -> android -> existing android code-> next -> browser -> select the myproject directory -> finish. Then I click the new folder on the left and click the run -> run or ctrl+f11. From there you can pick to run it on your phone or an emulator. Plugin your phone and it will be automatically detected.

**Turn on debugging in android**

For older phones go to: Settings > Applications > Development. Newer Phones: Settings > Developer options. Sometimes this option is hidden, go to: Settings > About phone and tap Build number seven times. Return to the previous screen to find Developer options.

**Ask Questions**

stackoverflow.com, get an irc client and go to #phonegap, #ubuntu-webapps, #javascript, #jquery on freenode!

**Why not just make a mobile website?**

This works offline and you can push notifications/alerts to the user, allow them to use their camera/mic without prompting permissions every time. Performance can be better because they have many assets locally cached.

**Frameworks that can help you!**

**chrome dev tools OR Firebug** - You’re going to need to get used to using it.

**jquery 2** - It’s jquery without old IE support. Some recommend zepto, but I do not. Jquery is the standard now.

**jquery mobile** - css +js framework for making things look good and consistent on all devices. Many widgets.

**bootstrap** - column based layout setup for making consistent and responsive layouts

**topcoat** - pure css framework for making things look good and consistent on all devices.

**Ember.js, angularjs, batman, knockout** - MVC frameworks. Load views dynamically from javascript.

**ionic, ratchet, feathersui, onsenui** - batteries included frameworks for creating mobile web applications

**traceur** - A transpiler that takes javascript and outputs more compatible javascript.

**closure** - Google javascript minifier. It can also turn multiple javascript files into a single file.

**npm**- See the most starred projects on npm and what they’re about <https://www.npmjs.org/browse/star>

**ripple emulator**- html5 mobile testing chrome extension

**Hydration**- phonegap tool for quickly pushing updates supporting rapid development

**brackets.io, eclipse, atom.io,emacs,vim,notepad++,sublime,textmate,scite, komodo, idea** - text editors.

**There is infinity noise with javascript.** Everyone and their dog has written a javascript framework. It could go on forever. There are probably thousands of javascript projects with at least 1000 stars on github: Sass, Grunt, Bower, Yeoman, Elm, Polymer, Mootools, Jade, Gulp, Ejs, Stylus, Express, Createjs, Paperjs, Limejs, howler.js, polymer (oh god don’t use this yet), js\_of\_ocaml, coffeescript, dart, typescript, and on and on...