Making Apps with Construct 2

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Introduction

It is assumed that you have created a game using Construct2 and that you have a licence; this is required to export in a format compatible with PhoneGap and CocoonJS. This guide is very Android-centric as I work with a PC and have an Android phone. There is some guidance for ios app builds here, but Apple as usual is not very open or flexible. If you want to develop ios apps, you are probably better off using a mac and using GameSalad; although this is much more expensive than Construct2. You also need to be a developer to build ios apps, which adds another layer of complexity. If I had access to Mac’s then I probably would go down this path and also extend in senior subjects by utilising the following resources:

- You can download xcode on your MacBook or iMac - it is a free application.
https://developer.apple.com/

- Developer resources:
https://developer.apple.com/xcode/


- Applause is a site for learning about App design:
http://www.applause.com/?ls=Newsletter&cc=Fr&mc=Applause-Pr_BB

Guide

1. Adjust for screen sizes

- I used this site as a guide:
https://www.scirra.com/tutorials/73/supporting-multiple-screen-sizes

- I used these settings:
- You need to experiment here. When I used a smaller size (320x480), the images were larger, so 640x480 was about right. The main thing is to use rectangular dimensions – see list below:

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>240 x 320</td>
<td>Feature Phone</td>
</tr>
<tr>
<td>320 x 480</td>
<td>Smart Phone</td>
</tr>
<tr>
<td>480 x 800</td>
<td>Smart Phone</td>
</tr>
<tr>
<td>592 x 1024</td>
<td>Tablet</td>
</tr>
<tr>
<td>1000 x 620</td>
<td>(1024 x 768, Maximized)</td>
</tr>
<tr>
<td>1280 x 875</td>
<td>(1280 x 1024, Maximized)</td>
</tr>
<tr>
<td>1440 x 750</td>
<td>(1440 x 900, Maximized)</td>
</tr>
<tr>
<td>1580 x 1050</td>
<td>(1600 x 1200, Maximized)</td>
</tr>
</tbody>
</table>

2. **Exporting in Cocoon or PhoneGap format**

If you have a licence, you can export your project to multiple formats.
Choose the format you want and follow the prompts

For **PhoneGap**, you will get the following prompt:

```
Please make sure your project has an ID, description and version set in Project Properties before exporting for PhoneGap.
```

Set the properties to:

```
<table>
<thead>
<tr>
<th>Properties</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Ghost Shooter</td>
</tr>
<tr>
<td>Version</td>
<td>1</td>
</tr>
<tr>
<td>Description</td>
<td>shooter</td>
</tr>
<tr>
<td>ID</td>
<td>ghostshooter</td>
</tr>
<tr>
<td>Author</td>
<td></td>
</tr>
</tbody>
</table>
```

**NOTE:** make sure that you zip your files before uploading them.
- Test this out before you go any further. Use the ‘Creating Apps with CocoonJS’ or ‘Creating Apps with Adobe PhoneGap Build’ instructions below.

- make changes and re-test as necessary

3. **Add touch controls to your game**

   - I used this site as a guide:


   - I used the Ghost shooter Demo project

   a. Add touch object to your game
b. We need to change these existing mouse events to touch events:

Add the following event:

```
Touch Is in touch
```

Update to this:

```
System Every tick Player Set angle toward (Touch.X, Touch.Y)
               Status Set text to “Score: ” & Score & ” & fps & newline & “Use touch to move and touch to shoot!”
```

Delete:

```
Mouse On Left button Clicked
```

c. We need to change the gameover event. The existing one is:

Update this to:

```
Touch On touched GameOverText
System Player.Count = 0
```

```
Keyboard On Space pressed System Set MonsterSpeed to 80
System Player.Count = 0
System Set Score to 0
System Go to Layout 1
```
NOTE: experiment with the different types of touch. I probably should have used ‘On any touch end’ as player 1 kept firing while my finger was in contact with the screen. Your other options are:

<table>
<thead>
<tr>
<th>Orientation &amp; motion</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Compare acceleration</td>
<td>✓ Compare orientation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Touch</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Compare touch speed</td>
<td>✓ Has Nth touch</td>
</tr>
<tr>
<td>✓ Is in touch</td>
<td>✓ Is touching object</td>
</tr>
<tr>
<td>✓ On any touch end</td>
<td>✓ On any touch start</td>
</tr>
<tr>
<td>✓ On Nth touch end</td>
<td>✓ On Nth touch start</td>
</tr>
<tr>
<td>✓ On touched object</td>
<td></td>
</tr>
</tbody>
</table>

If you have a platform game, then you will need to add a new layer and set its Parallax to 0, 0. This prevents any objects on that layer from scrolling - they'll always appear in the same place on-screen. See: https://www.scirra.com/tutorials/202/touch-controls-and-a-trick-to-detect-input-method

- Test this out before you go any further. Use the ‘Creating Apps with CocoonJS’ or ‘Creating Apps with Adobe PhoneGap Build’ instructions below.

- make changes and re-test as necessary
Creating Apps with CocoonJS

Before you start, make sure you have a licence or your export options will be limited. An education licence is very affordable.

We need to evaluate the different technologies available to us to convert jQuery mobile webpages to apps; let’s have a look at CocoonJS. The advice below is mainly for Android, but may be useful for iOS.

Launcher

   - keep the email with the registration code safe

Where to keep zip file - options

Option a. Online
   - use filezilla to ftp your files to your web space (you may need an administrator to enable this)
   - the ftp settings are ftp.uppercoomerasc.eq.edu.au
   - you zip will probably be located at: http://www.uppercoomerasc.eq.edu.au/home/your-username/

Option b. Transferred to SD card of your phone/device
   - you will need to adapt here as bluetooth is probably disabled and your phone charger cable is probably at home. Even then, navigating the file management in mobile devices can be challenging.
   - I used Bluetooth, as my cable was at home, and the file ended up in /sdcard/bluetooth. I then put this into:

2. Launch and all should be well. You can exit by clicking on the little fps icon in the top left and the Actions> exit
If you have successfully tested your game with the launcher, you are ready to build a full app.

1. Initial Creation of Project

a. Go to the email that was sent when you registered (or register) and login using the link for the cloud compilation system.

b. 

c. Fill in fields. I used:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Name</td>
<td>Ghost Shooter</td>
</tr>
<tr>
<td>Bundle Id</td>
<td>ghostshooter</td>
</tr>
<tr>
<td>Application Version</td>
<td>1</td>
</tr>
<tr>
<td>Orientation</td>
<td>Landscape Left</td>
</tr>
<tr>
<td>Scale Method</td>
<td>Scale to fill</td>
</tr>
</tbody>
</table>

Please, select at least one orientation.
2. Configuration

a. Load Images

This is where you need to take some time to create the different load images required. I have Android, so I created the images required. If you have Photoshop, this should be fairly easy. Otherwise, most graphic programs can resize images to a certain extent. I would name each one with the dimensions in the list:

<table>
<thead>
<tr>
<th>Image Type</th>
<th>Dimensions</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Android LDPI Icon</td>
<td>36x36px</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Android MDPI Icon</td>
<td>48x48px</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Android HDPI Icon</td>
<td>72x72px</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Android XDPI Icon</td>
<td>96x96px</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b. Compile Project

Just upload the same zip file you used for the launcher and wait for the email.

c. Loading onto your device.

The advice is as follows:

== iOS Compilations ==

If you requested an iOS compilation, you will find here an XCode project as a file ending in ".xcodeproj". To upload this compilation to your device, just open it in XCode and run it in your device.

Please check that the device emulator is not selected as the active platform, as our compiler only creates builds for the ARM platform, which will fail to run in the iOS emulator.

Also, remember that XCode will not let you execute any programs without a valid provisioning profile, with a wrong app bundleID, or in a device not added to the provisioning profile you have selected.

== Android Compilations ==

If you requested an Android compilation, you will find here two APK files. One of them will end in ".debug_signed.apk", and the other one in ".release_unsigned.apk". Both files contain the same compilation files,
and the only difference is in the signing process. As their name suggests, the Release APK is unsigned, while the Debug APK is signed with a debug key. This means that you can upload the Debug APK directly to your device, but you won’t be able to submit it to the Play Store. On the other hand, you can’t upload the Release APK to any device until you sign it yourself, but after that you should be able to upload it to the Play Store without trouble.

You can also compile your project for free as many times as you want.

Remember to follow the steps to sign the APK file and/or use the XCode project to be able to upload your game to the stores.
Creating Apps with Adobe PhoneGap Build

a. Go to https://build.phonegap.com/

b. sign in

c. Click on Apps menu item

d. zip up your website root

e. upload via

f. Fill in fields and click ‘ready to build’
g. Now let's change some settings – click as directed below

h. Click on

i. Scroll down to the icon part and

j. Scroll down, not up, and

**NOTE: IOS won’t build unless you are an apple developer.**

How to become one and the advantages and disadvantages
10. Install to phone

You can either scan the QR code or pick your install type

NOTE: You can preview on a local network instead of uploading and downloading all the time

**Updating your code**

When you use the free version of phonegap, you can only build one app at a time. This means that you need to build over previous versions if you make changes or want to make a new app.

When you log in, click the update code button and upload your new zip file.
Other Technologies

There are other online technologies that will wrap up your website or html5/css3/js into an app. Why not experiment:

http://www.appmakr.com/

http://www.apparchitect.com/

http://www.buildanapp.com/home

http://genwi.com/

http://www.appsgeyser.com/