Android Setup Guide

You can follow the Unity links below, but they aren't exactly complete. We need to set up a number of things to get Android working. Don't worry - we only need to do this setup once on our computer. We need to:

1. Set up the Fire HD tablet.
2. Install the Java Development Kit (JDK) which allows us to develop Java applications. (Android apps are written in the Java programming.)
3. Install the Android Software Development Kit (SDK) which provides us with all the Android specific programming tools that Unity will need.
4. Install the Unity editor extension that allows Unity to make Android apps. (It is not installed by default when you install Unity.)
5. Pray. (Just kidding.) There are a couple of troubleshooting things we may need to do along the way. See the troubleshooting section.
6. Set up the Unity Remote 5 app.

(Incomplete) Unity guides:

- General guide
- Getting Started Unity Guide

Fire HD Setup

1. Register with amazon account.
2. Connect to the UIC wifi (instructions).
3. Plug your tablet in and update the system to get the latest version of Fire OS. See slides.
4. Enable USB debugging and set screen to stay on while connected. See slides.

Software Setup

- Install the Unity Android Build editor package. File -> Build Settings -> Android -> Open download.
- Install JDK
  - Accept the license.
  - Pick the download that matches your operating system. x64 = modern 64-bit operating system. x86 = older, 32-bit operating system.

- Install Android SDK. Download just the command line tools at the bottom. You don't need Android Studio.
  - Unzip/install this folder some place you will remember. We need to tell Unity where it is. (Note: don't rename this folder when you unzip it.)
  - This folder is bare bones, but it has a manager that allows us to install specific things we will need. Open up the SDK Manager by running the "android" or "android.bat" file inside of the tools folder. (On a mac, right click on "android" and select open.) If you don't have the JDK installed yet, this step won't work.
  - The SDK Manager will now prompt you for what additional components you would like to download. The defaults that are selected should be fine, but double check that the following are selected:
    - Tools
      - Android SDK Tools
      - Android SDK Platform-tools
      - Android SDK Build-tools
    - Android 6.0 (API 23) or higher
    - Extras
      - Google USB driver

Testing the Setup

1. Open a Unity project
2. Set up the build
   - Go to File -> Build Settings. Select Android. (If it still says "Open Download", make sure you restarted Unity after installing the Unity Android Build editor package.)
   - Click the "Player Settings" button. Under "Other Settings", set the bundle identifier to something like "com.Mike.SuperFunApp". See slides.

3. Hit "Build And Run" under the build window.
4. Unity will ask for the location of the SDK the first time you run a build. Point it towards the SDK folder (e.g. the folder one level up from the "tools" folder).
5. Celebrate! (Or see troubleshooting below.)

Troubleshooting

- There are a lot of things that were installed, so the first debugging step is to reboot & reconnect. Disconnect the tablet, close Unity. Reconnect the tablet and restart Unity.
- If that doesn't work, you may need to reboot your computer.
- Some Android devices require OEM drivers to work. For the fire tablet, try the download here. Reboot your computer.
- Google is your friend! If these don't solve the problem, try googling any errors or messages you are getting. You can also check the Amazon setup guide.

Unity 5 Remote

We've just gone through the process for building an app that can run on device. That's the process you'll want to go through for deploying an app to a device (or the Google Play store), but that's not the best process for development.

Unity Remote is an Android/iOS app that allows us to run our app on our device while still using our computer to see the console, tweak things in the inspector, etc. This is incredibly helpful for development.

1. Allow installation from unknown sources. Settings -> Security -> Apps from Unknown Sources. See slides.
2. Download Unity Remote. If you are on a Amazon tablet, go to my download link on your tablet and install it: here or at http://tiny.cc/unity-remote. On regular Android, you can get the app from the Google Play store.
3. Open a Unity project.
4. Go to Edit -> Project Settings -> Editor. Set "Device" to "Any Android Device."
5. Open up the Unity Remote 5 app on your device. Then hit play in Unity on your computer.

Again, if it doesn't work - disconnect, restart Unity and reconnect your device.

Note: this is NOT the same as running the app on a device natively. The code is still running on your computer. Sensor information is being streamed over the USB cable. The resolution & graphics will look better when you build & run!

Distributing The App

You have a couple of options for distributing the apk file that is built by Unity:

1. Grab the apk file and send/host it directly. Throw it in email it, put it on Google Drive and share a public link, upload it to your site, etc. Whoever receives the apk can install it as long as they have turned on "unknown sources." See more here,
2. Google Play Store. This is the go to location for "official" android apps. Follow this guide to get started. There's a one-time $25 registration fee.
3. Amazon Appstore. This is Amazon's app store. It is the go to place for Amazon's android devices, but it can also be accessed from non-Amazon devices. Follow this guide to get started. There is no fee for the Amazon Appstore.