**The Platform Directory**

Welcome back to Cypress Academy, WICED WiFi 101. In this video I will talk about the platform directory and show you the important files. The word platform is our name for a develop kit or development board. Each platform directory contains the “board support package” including the schematic, the wifi radio firmware, the make files required to build the project and finally, and most importantly the platform.h and platform.c … more on these files in a minute.

I will start by browsing the platforms directory and you can see a bunch of subdirectories including (BCM943340WCD1, BCM943362WCD4 and so on. Each directory represents one of the development kits that we support. The BCM at the start of the name means the older development kits that came from Broadcomm, the CYW means the newer kits which are being developed at Cypress. The numbers in general start with “9” meaning development kit plus the wifi part number plus some letters/number representing the type of board.

Here are a few of examples

BCM943807 WAE2\_1 …. A board to demonstrate streaming audio

A BCM94343WCD1 an 802.11 b/g/n and Bluetooth combo radio

A BCM943362WCD1 an 802.11 b/g n device

An Electric IMP board that Hugo Fines the CEO of IMP gave me. (which isn’t programmable in WICED .. but a really cool proprietary language that IMP Designed)

Now let’s look in the CYW943907AEVAL1F directory… the Board support package for our kit: First you can see there is a directory called “schematics” which contains… guess what… the schematics as a pdf and pictures of the top…. And bottom of the board.

Platform.h is a giant mapping slash alias file. It provides a standard set of names for you to interact with the hardware on the platform. All of the peripheral APIs in WICED take a name of the form wiced\_ something. If, for instance, you want to talk to a GPIO it will be named WICED\_GPIO\_Number…. But what is it actually connected to?

Lets take an example. On the 943907aeval1 there is an LED .. right here … labeled “LED1”. Where is it connected? Well, lets start with the schematic. Here on page 10 of the schematic I see the two user LEDS. The one at the top is labeled “LED\_1” and it says that it is attached to PWM\_3 ok… now, when I search for PWM\_3 I can see that it is attached to the RADIO module on Pin “A26” … OK.

Next, lets follow all of that in the platform.h file. You can open this file by double clicking it… It is just a normal C header file. At the top of the file there is a big comment, which is a table that shows you what is being mapped to what. A little ways down the table I see that WICED\_GPIO\_16 is connected to PWM\_3 and that is SIP Module A26 … ok that is good as it matches what we saw on the schematic. The last column also tells us that it also has the name WICED\_LED1 … that is cool. Finally when I search the file to nearly the bottom I see that WICED\_LED1 is just a #define for WICED\_GPIO\_16 … which matches what we saw in the comment table at the top.

The platform.c contains the actual structure definitions that you use to interact with WICED. For instance on this platform there are two I2C busses. If you search for I2C\_1 in platform.c you will find I2C\_1 which you can see is connected to WICED\_GPIO\_48/49 and I2C\_2 which you can see is connected to WICED\_GPIO\_50 and 51.

Then when I trace those back into platform.h and search for I2C\_1 I can see the same comments describing their connections.

The bottom line is that platform.c and platform.h are the critical files for understanding how you interact with your development kit. They are your keys to the kingdom.

In the next video we will build your first project… the blinking LED.

You can post your comments and questions in our Wifi developer community or as always you are welcome to email me at alan\_hawse@cypress.com or tweet me at @askioexpert with your comments, suggestions, criticisms and questions.