Spike 04 outcomes

Name: Blink an LED with the esp8266

Goals:
Be able to write and upload code confidently to the esp8266.

Personnel:
Primary – Luke Secondary - Adam

Technologies, Tools, and Resources used:

- https://github.com/geekscape/nodemcu_esp8266Ant 2
- http://www.esp8266.com/viewtopic.php?f=21&t=1143Eclipse 3.2
- http://esp8266.ru/esplorer/
- ESP8266-1 chip
- Serial to usb FTDI
- Breadboard
- LED

Tasks undertaken:

1. Connected the ESP8266 GPIO_2 to an LED, and the other LED Pin to ground.
2. Verified lua firmware is running, as follows;
    a. Open lualoader or esplorer software (a serial com communication method).
    b. Issue command "=node.heap()" <- this is a lua command, if the return was a number indicating the heap size (eg. 23152), then lua firmware is successful installed
        i. If the output is ERROR, then the lua firmware is not installed.
3. Using LuaLoder, uploaded the script onto the ESP8266,as follows;
    a. Open the file "led_blink_lua.lua" and copy the contents to clipboard
    b. Click paste text in the lualoader software (it will access clipboard)
    c. Each line will paste into the serial command line and execute. Wait for the last line to execute. The esp8266 will reset and the output as per figure %%% should be observed.
    d. The line under "NodeMCU ~version information~ specifies the;
        i. Mode : 1 = station, 2 = access point, 3 = both
        ii. Device IP address. (Note this down for later use)
4. Using ESPlorer, uploaded the scrip onto the ESP8266 as follows;
    a. File -> open – select script
    b. Save to ESP
    c. Do file
        i. The led should blink now, but it was not. This was fixed by switching the led around (ground is shorter pin).

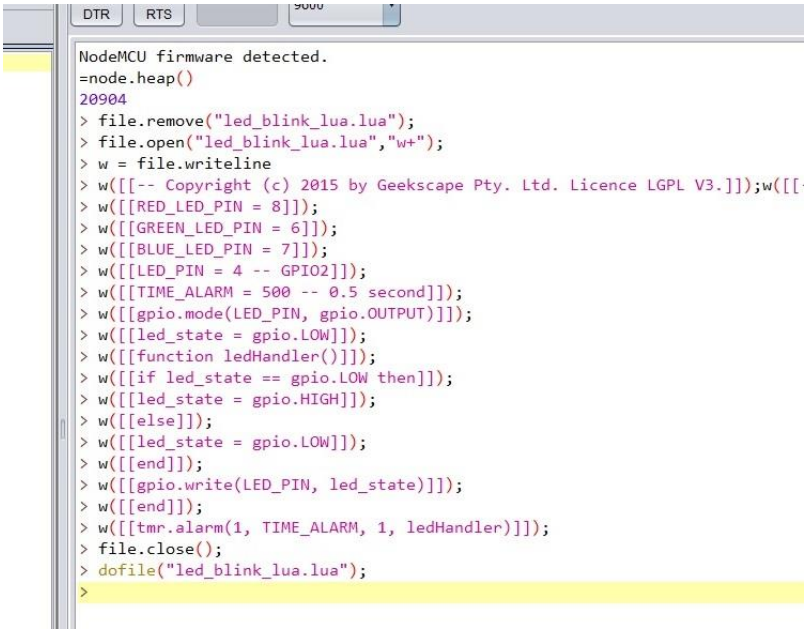

Figure 1

Figure 1 shows the expected output when flashing the supplied script using esplorer.

What we found out:

- The shorter pin on the LED is ground.
- If using 'LuaLoader', aAfter the esp8266 resets for any reason, an error message "Communication error – check board rate" will display in the console, however it should be ignored. This is caused by, during boot the esp8266 sends out junk and the lualoader (and potentially other IDEs misinterpret this as a bad baud rate.
- The Lua NodeMCU tool chain is documented at the site https://github.com/nodemcu/nodemcu-firmware/wiki/nodemcu_api_en

Open issues/risks

- The nodeMCU documentation may go down
    - Made local backup.