parkrun Portable Installation Instructions

Prerequisites:

You will need:
- A Kingston MLWG2 wireless router
- A USB memory device
- A wired Internet connection
- A computer with WiFI and terminal emulation software (e.g. PuTTY)

This procedure is intended for people familiar with the UNIX shell. If this scares you, just mail me a Kingston MLWG2 and appropriate postage. I'll configure it and mail it back to you. Simple!

A short note, if you chose to do this with something other than an MLWG2, you're totally on your own. The software will work with other platforms but it will require custom kernel modules. Other types of mobile routers may not have enough flash memory for the software, or they may not be supported with OpenWRT.

I'm a competent UNIX admin with an MLWG2, c'mon, give me a shot!

As long as you understand that I'm not going to offer any kind of remote or phone support, here's the process flow:
- Prepare a USB stick with the upgrade software
- Boot and upgrade your MLWG2 to run OpenWRT
- Install the parkrun portable software
- Testing

Prepare the USB memory

1. Format your USB memory to be FAT32
2. Download the USB stick software from github
   https://github.com/lawrencebillson/parkrun/raw/master/tmp/usbstick.zip
3. Unzip the files into the root folder of your USB stick

Install OpenWRT on your MLWG2 & Install parkrun Software

1. Confirm that your MLWG2 is completely powered off (no LEDs lit) and that it is NOT connected to a wired network.
2. Insert the USB memory
3. Hold down the power button on your MLWG2 for at least 10 seconds until the blue lights come on

4. After waiting for the MLWG2 to boot, connect to the MLWG2-??? SSID from your WiFi computer
5. Connect via telnet to 192.168.201.254 username 'admin' password is blank.
6. From the command prompt execute the following commands:

```
mtd_write write /media/USB1/openwrt-15.05.1-ramips-mt7620-mlwg2-squashfs-sysupgrade.bin KernelA
mtd_write -r write /media/USB1/openwrt-15.05.1-ramips-mt7620-mlwg2-squashfs-sysupgrade.bin KernelB
```

7. The MLWG2 will reboot. Wait until the MLWG2 boots (2-3 minutes after the upgrade), connect to the OpenWRT SSID
8. If you don't see the OpenWRT SSID, the wireless LAN may be disabled. To fix this:
    a. Connect the Ethernet of your PC to that of the MLWG2
    b. Set your PC's IP address to be 192.168.1.20 , netmask 255.255.255.0, no need for a default gatway or DNS server
    c. Telnet 192.168.1.1
    d. Execute *passwd* - enter a good password
    e. Execute the following command
       ```
       cat /etc/config/wireless | grep -v disable > /etc/config/wireless; reboot
       ```
    f. Wait until the blue light stops flashing, connect to the OpenWRT SSID
9. Telnet to 192.168.1.1, you will be prompted with a root shell
10. Execute *passwd* - enter a good password (Skip this if you've already done it)
11. Connect the Ethernet interface to your wired Ethernet
12. Get an IP address - *udhcp -i br-lan*
13. Connect to your Internet network's SSID
14. Login to your router, determine the DHCP address that was given to the MLWG2
15. Login to the MLWG2 ssh root@<ip address given by your router>
16. Configure your device to use Google DNS - *echo nameserver 8.8.8.8 > /etc/resolv.conf*
17. Check you're on the Internet - *ping www.google.com* , let it run for a few seconds and press ^C, you should see respones from Google.
18. Execute *opkg update; opkg install wget*
19. Execute the automatic installer

```
wget --no-check-certificate -qO- http://github.com/lawrencebillson/parkrun/raw/master/tmp/installpkg.sh
| sh
```

20. It's no longer a Kingston MLWG2 - it's a parkrun portable - YAY!

Notes:
- The procedure for installing OpenWRT on the MLWG2 comes from here:
  https://drive.google.com/folderview?id=0B0CKgINyN0URflpRWFMyWUFQa1dsRUJldlpoZTAtNGlH
  STdJY041NGd2ZmRfSDRhNkNOSkU&usp=drive_web
- If this goes wrong, sorry but I can't offer phone support.