Instructions for building a Media Library Box

What you need:

You will need a TP-Link TP-MR3040 3G/4G Wi-Fi Hotspot or a TP-Link TP-MR13U 3G/4G Wi-Fi Hotspot
You will need a flash drive formatted as FAT32
SanDisk Cruzer line from 4GB to 128GB or Leef Surge low profile USB drive. (USB 3.0 performs best)

Installation:

1. Download the firmware update that applies to your router.
   Pay special attention to the Version # of the hardware, as some of these have a v1 and v2 where the hardware changes and a different firmware is needed. Version numbers can be found under the battery once the back is removed.

   MR3040 - Version 1 firmware
   http://librarybox.us/v2/openwrt-ar71xx-generic-tl-mr3040-v1-squashfs-factory.bin
   MD5 Hash: 40BC4E9C85E3497065067EA523641FF0
   MR3040 - Version 2 firmware
   http://librarybox.us/v2/openwrt-ar71xx-generic-tl-mr3040-v2-squashfs-factory.bin
   MD5 Hash: F0BE4D92916CFDE5FD8046EFFA9090D2
   MR13U – Version 1 firmware
   http://librarybox.us/v2.1/openwrt-ar71xx-generic-tl-mr13u-v1-squashfs-factory.bin
   MD5 Hash: AC4A3ED14F09AB561FF749B3168F0876

2. Download the LibraryBox v2.1 Install folder (as zip file)
   http://librarybox.us/v2.1/install_librarybox.zip
   MD5 Hash: 2FEF90C5382AE86DEF82C1AB3A0B348E

3. Unzip the install_librarybox.zip file, so that you are left with an install folder, and copy both the install folder AND the firmware file onto your FAT 32 formatted USB stick. The only things on your USB drive should be a folder called "install" copied from the unzipped install_librarybox.zip file and the firmware.

4. Plug the FAT 32 formatted USB drive into the router's USB port.

5. Make sure you have a copy of the MR3040 firmware on your local computer

6. If the router has a selection switch for mode (like the MR3020) ensure that it's set to WISP.

7. Connect the router via Ethernet cable to your computer, connect it to a power source. If you are on a laptop, you may have to temporarily disable Wi-Fi to make sure that your computer connects directly to the router over Ethernet.

8. Open a web browser, and type the address below that matches your router type into the address bar. http://192.168.0.1 for MR3040
   (http://192.168.1.1 for MR13U)
9. Enter the default username & password (admin & admin).

10. Navigate to System Tools > Firmware Upgrade and select the OpenWRT firmware that you downloaded in step 1.

11. After the upgrade completes, the router will restart. Do not unplug the router or disconnect the ethernet cable during the firmware flash. The entire process of building your LibraryBox will take approximately 10 minutes. Walk away, go have a cup of coffee.
    Step I is done. That's it...after about 20 minutes of LEDs flashing, you should have a working LibraryBox. The speed depends on the USB drive. The install is done when the lights are no longer changing and you can see the SSID "LibraryBox - Free Content!" being broadcast. Once you have a running LibraryBox, you can power down the router, unplug the USB drive, plug it into your computer, and throw content into the /LibraryBox/Shared directory...anything you place here will show up alphabetically to be downloaded.

At this point, you have a working LibraryBox. The problem is that it isn't protected in any way, anyone that knows the IP address (192.168.1.1) can simply telnet in and do what they wish.
In order to secure your LibraryBox, you need to set a password.

1. Reboot your LibraryBox (power-cycle the router) and let it boot up.

2. Connect to the LibraryBox SSID with your computer, and telnet into it:

   telnet 192.168.1.1 (Or use Putty on a Windows Computer)

3. Run the LibraryBox advance setup script:

   box_init_setup.sh

That will launch a script that will walk you through setting up FTP access.

4. Choose 1 for Setting Password and Enable SSH.

5. Choose a strong password. After you set the password, you will log into the LibraryBox via SSH like this:

   ssh root@192.168.1.1 (Or use Putty on a Windows Computer)

6. Choose 2 for Setting Time & Date

7. You've now got a working, secure LibraryBox!

Now you can customize your implementation with the added directory management of h5ai for pretty directory listings.

1. Download the h5ai-setup.zip file which includes 2 files – h5ai-installer.tar and install_h5ai.sh
   https://github.com/kirkdwilson/LibraryBox-h5ai-Interface

   You will use the 0.24.1 version

2. Plug in the USB to the Library Box and power it on
3. SSH into the Library Box at 192.168.1.1
4. Run the following commands:
   cd /mnt/usb/
   chmod 755 install_h5ai.sh
   sh install_h5ai.sh

   This will also re-run the box_init_setup.sh at the end. If you need to make changes do so. Otherwise, exit. After exiting the installer will delete the install_h5ai.sh script and tar files so that they are not re-run
5. After the Library Box has been restarted browse the shared folders to confirm the changes and that h5ai is working.

If you want to update the LibraryBox to the modified Media Library Box with additional locals and a more generic look/feel us the:

https://github.com/kirkdwilson/LibraryBox-HTML-Pages

repository and use the files there to modify, about.html, index.html and stats.html as well as copy the locales and css and img directories. This will make customization a bit easier if you want to change the look and feel.

Now you're finished. You can head over to the Administration and configuration guide for further information.

How do I recover a lost password or a 'bricked' unit?

Using a tool that can reach the reset button through the hole next to the USB port, power the unit on and wait 5 seconds. Press and hold the reset button for 3 seconds.

Telnet into the box at 192.168.1.1 (your host will have to be setup for 192.168.1.2 or equivalent as no DHCP will be running)

At the command prompt run:

```
/etc/init.d/boot start
mount /dev/sda1/mnt
cd /mnt
ls
```

You should see a directory listing of the contents of the USB. On the USB memory stick should be the openwrt bin file like:

Openwrt-ar71xx-generic-tl-mr3040-v2-……bin
Or
TL-MR3040-V2-FW0.0.3-stripped.bin (the original TP-Link 3040 firmware)

Then write the firmware to the flash memory by typing at the command prompt:

```
mtd write –r FIRMWARE-FILE-NAME firmware
```

Replacing FIRMWARE-FILE-NAME with the correct firmware you want to write.

After the write is complete the unit will reboot and the new firmware will be run. You will have to re-install or re-run the box_init_setup.sh