Creating Static Mount Points For USB Profiles (Linux)

If you run StepMania on Linux, you may want to create static mount points for USB-based profiles. Doing so will allow you associate a USB port on your PC with a specific player's memory card slot, as is common on arcade cabinets.

The process is **moderately technical** and assumes you are comfortable editing system files in Linux via the command line. If you are not comfortable with this, do not proceed.

Step 1 - Updating to StepMania 5.0.12

USB functionality only works properly in SM 5.0.12, so before anything else we will need to update to that version. As you may know, there is a script entitled *Update SM5* in the `Helpers` folder. *DO NOT USE THIS AS IS.* In its current state, the script is set up to pull from the master GitHub directory of SM5, which has since been relegated to SM 5.1.X. Simply Love is not currently compatible with SM 5.1.X, hence we do not want to install that version.

Luckily, we can easily update the script to pull from the older 5.0.X directory. Navigate to `SM5-extra/Misc Scripts` and open up the document *update-SM5.sh* with ArchLinux's native text editor, *gedit*. Near the very top of the document, note the line that reads:

```
git pull origin master
```

Change that to instead read:

```
# git pull origin master
git fetch
git checkout -b 5_0 origin/5_0
```

Adding the "#" symbol comments out that line, meaning it will not actually be used. We will keep it there for later though, since we may eventually want to update to SM 5.1.X in the future. :)

Now, all you need to do is connect your SM5 computer to the internet and run the *Update SM5* script. (For this step, I tethered an ethernet connection from my laptop after enabling "Internet Sharing" in Mac OS X's system preferences. Note that the internet connection needs to be in place *before* booting up your cabinet, so restart it now if necessary.)

Step 2 - Finding the USB port *by-path*

Since disk names `sda`, `sdb`, and so on are not deterministic, depending on the order in which devices are plugged, we can't use them to reliably identify players. Fortunately, Linux allows us to select a disk "by path," which amounts to defining a specific USB *port* as a given drive, which is typically what we want for USB profiles.

To find the correct device path, plug a single USB drive into the port you with to associate with PLAYER_1, then run the following command:

```
ls -l /dev/disk/by-path
```

This should give you output that looks something like:

```
/dev/disk/by-path/:
total 0
lrwxrwxrwx 1 root root  9 Jun  2 00:05 pci-0000:00:14.0-usb-0:10:1.0-scsi-0:0:0:0 -> ../../sdb
lrwxrwxrwx 1 root root 10 Jun  2 00:05 pci-0000:00:14.0-usb-0:10:1.0-scsi-0:0:0:0-part1 -> ../../sdb1
```

Copy this output to a text editor and repeat command with the USB stick plugged into the USB port you wish to associate with PLAYER_2. Copy that output as well.

Step 3 - Create *fstab* Entries

You will use part of the output from the previous step to create entries in `/etc/fstab`, the file which associates specific devices (in this case a USB port *by-path*) with named mount points that can be passed to StepMania. Enter the following in the command line:

```
sudo nano /etc/fstab     (password will be “sidewalktalk”)
```

This opens the *fstab* file in a simple text editor called Nano. You will notice there is some text already in the *fstab* file; do NOT delete that, leave it as is! Below that text, however, you will add the following entries (yours may differ slightly after the “pci-” section based on the copied text from Step 1):

```
/dev/disk/by-path/pci-0000:00:14.0-usb-0:10:1.0-scsi-0:0:0:0-part1  /mnt/player1 auto rw,user,noauto,noatime 0 0
/dev/disk/by-path/pci-0000:00:14.0-usb-0:10:1.0-scsi-0:0:0:0        /mnt/player1 auto rw,user,noauto,noatime 0 0
/dev/disk/by-path/pci-0000:00:14.0-usb-0:4:1.0-scsi-0:0:0:0-part1   /mnt/player2 auto rw,user,noauto,noatime 0 0
/dev/disk/by-path/pci-0000:00:14.0-usb-0:4:1.0-scsi-0:0:0:0         /mnt/player2 auto rw,user,noauto,noatime 0 0
```

Follow the on-screen commands to exit, saving the *fstab* file as you do so.

Note that depending on your Linux distribution, you may want/need to create your named mount points elsewhere than in `/mnt/`; some distros use `/media/` for this purpose. You can also create an empty directory anywhere in the filesystem to use as a custom mount point.

Step 4 - Creating the mount point directories, altering write permissions

Next, we need to ensure that the appropriate mount points exist in the filesystem and that StepMania will have the permission to write to them as needed. Enter the following in the command line:

```
sudo mkdir /mnt/player1     (once again, password will be “sidewalktalk”)
```

This creates an empty folder which functions as the PLAYER_1 static mount point. Next, we will change the read/write permissions of that folder so non-root users (aka the user “david” where SM5 is installed) can write to said directory. Enter the following in the command line:

```
sudo chmod 777 /mnt/player1     (if you haven't figured out the password by now, god help you)
```

Repeat this step for PLAYER_2 as well.

Step 5 - StepMania Preferences

Update your Preferences.ini (located in `/Content/Save`) file to include the following values:

```
MemoryCardOsMountPointP1=/mnt/player1
MemoryCardOsMountPointP2=/mnt/player2
MemoryCardProfiles=1
MemoryCardUsbBusP1=-1
MemoryCardUsbBusP2=-1
MemoryCardUsbLevelP1=-1
MemoryCardUsbLevelP2=-1
MemoryCardUsbPortP1=-1
MemoryCardUsbPortP2=-1
MemoryCards=1
```

You're all set! Memory card functionality should now work when you are playing StepMania 5. A few things to note:

- Your USB drive *must* be formatted as FAT32 Master Boot Record to work!
- If you are using a USB drive for the first time, SM5 will create the appropriate *StepMania 5* directory in the root of your USB drive. Inside here, there will be an *Editable.ini* file where you can set your display name and your high score tag. (Just like stock ITG would do with its *In The Groove 2* folder.)
- You *can* use a USB drive with one player while the other player is using a LocalProfile, but the USB drive must be plugged in before advancing past ScreenSelectProfile.
- If you plug in a USB drive *after* selecting a LocalProfile for yourself, score data and screenshots will get written to the LocalProfile folder and not to your USB drive.
- If you were previously using a LocalProfile and want to use a USB drive instead, you can simply transfer your profile folder's contents to an empty folder entitled *StepMania 5* in the root of your USB drive to continue where you left off.