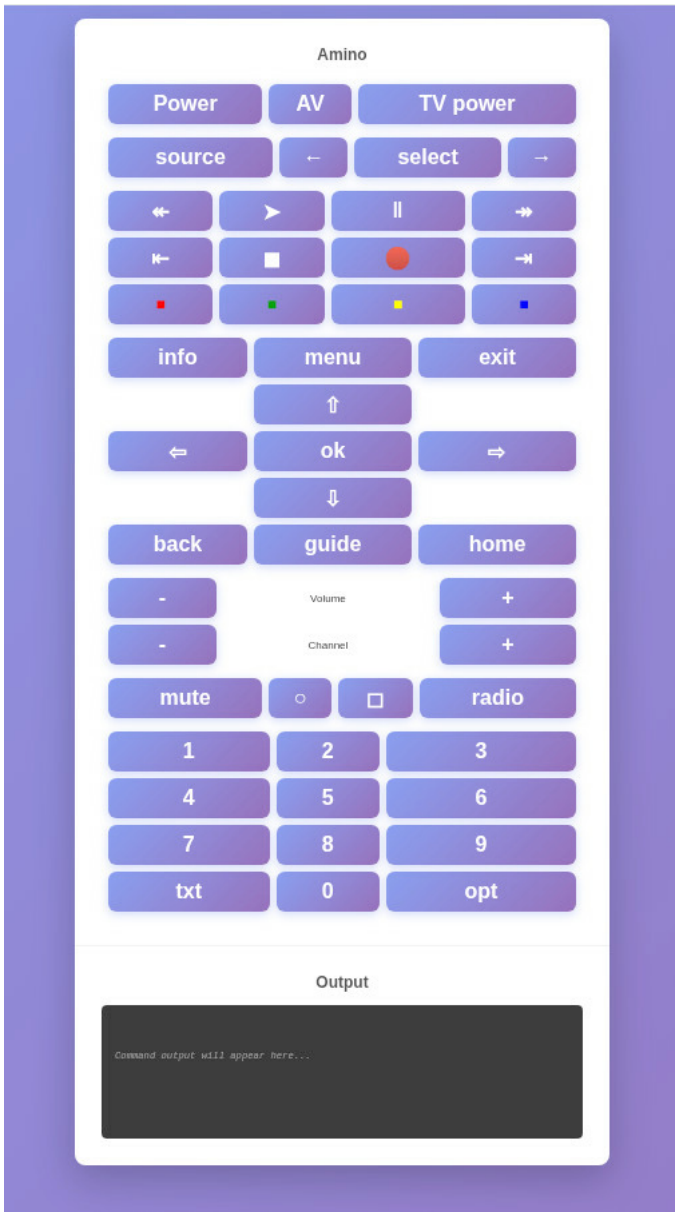

1. Intro

Remotectl is a set of scripts that allow the cloning of multiple remote controls on a single Raspberry Pi with Anavi IR pHAT. The scripts use the raw receive and send from the `lircd` so it should work with other IR receivers/transmitters as well.

The server is meant to run on a closed network and has no security at all.

1.1 Setup

Install the LIRCD-package. Although we're note using the `lircd`, the package contains some support programs etc. that we will be using.

```
sudo apt install lircd
```

Next, make sure that the receiver and sender devices are available. For the Anavi pHAT, that means you'll need the add the following lines to `/boot/firmware/config.txt`

```
#LIRC
dtoverlay=gpio-ir-tx,gpio_pin=17
dtoverlay=gpio-ir,gpio_pin=18
```

and reboot.

Next start the server.

```
perl server.pl
```

At this point, there are no remotes available. When you have cloned a remote, it will be available under *servername:3000/remotename.html.* You might restart if the server crashes like:

```
while : ; do
    perl server.pl
done
```

or even use `systemd` to restart it again.

2. Cloning a remote
There are three steps in cloning a remote:

- create a keys file
- record the codes from the remote
- make available

2.1 The keys file
The keys file is a description of the remote, the physical lay-out of the keys. The filename must have the extension `keys.` Each line contains a name of a key or a formatting command for the web page. An example:

```
power
av
-> tv__power_
===
rewind
play
pause
forward
---
previous
stop
record
next
```

For the recording, only the name of the keys are used. In this case that would be power, av rewind, play, pause, forward previous, stop, record and next.

The formatting lines are used when a webpage is generated for this remote. Formatting lines can be:

command	example	meaning
->	-> tv__power_	Use a bitton that belongs to another remot control; here: the "power" button from the remote "tv"
===	===	The next row may have a different number of buttons
– – –	– – –	Start a new row with the same number of buttons
#	# volume	Use this text instead of a button; a single # on a line gives an empty space
##	## Amino	Print this text over the full width of the remote

When generating the web page, certain key names will be replaced by a symbol:

blue	â
channeldown	⇓
chan_down	⇓
channelup	⇑
chan_up	⇑
circle	â¯
down	â¼
forward	â¶â¶
green	â
left	â
next	â¥
pause	â
play	â¶
previous	â¤
rec	â
record	â
red	â
rewind	ââ
right	â¶
scanback	ââ
scanforward	â¶â¶
skipback	â¤
skipforward	â¥
stop	â
up	â²
volumedown	â¼
volume_down	â¼
volumeup	â²
volume_up	â²
yellow	â

2.2 Recording the remote

The script `record_ir_auto.sh` records the keys from the remote. The argument is the name of the remote. So:

```
bash record_ir_auto.sh amino
```

will record the keys for the amino remote control. The script will look for `amino.keys` in the current directory, and will create a file per button `amino__power_.ir`, `amino__av_.ir` and so on in the current directory.

Be carefull with ambient light. Ideal would be to have a dark surrounding.

The script gives a lot of feedback. It should be clear if the recording is successful. If things go wrong, just restart.

2.3 Make available

The files with the data about the keys must be in a sub-directory `ir` of the server directory.

```
mkdir -p ir
mv *.ir ir
```

Next, generate an HTML-file. The key file is used for this as well.

```
make_html.bash amino
```

will make a web page `amino.html` with a basic set-up for the remote. If you want to change the layout, add texts you can do so.