House-Automation Systems

You can build your own house-automation system with the help of Melissa. In order to build a small-scale replica as a proof of concept for a house-automation system, you can connect LEDs via a breadboard to the general-purpose input output (GPIO) pins, write a Python script to control the LEDs, and hook it up with Melissa.

Or, if you are like me and prefer not to work with electronics, feel free to purchase a USB-controlled RGB LED stick such as blink(1) (http://blink1.thingm.com). It has built-in integration for USB firmware and can be controlled via a Python script. You just have to plug it into the USB, and then you can control the LEDs via the command line and a Python script. To install the blink(1) command-line tool, enter the following commands on your terminal:

```
$ git clone https://github.com/todbot/blink1.git
$ cd blink1/commandline
$ make
$ sudo make install
```

This installs the blink(1) command-line tool on your system and adds `blink1-tool` to your path. Enter the following command on your terminal to see the various flags you can use to operate the device, as well as some examples:

```
$ blink1-tool
```

Here is the output this command gave me when I entered it in the terminal:

```
Tanays-MacBook-Air:~ tanay$ blink1-tool
Usage:
  blink1-tool <cmd> [options]
where <cmd> is one of:
  --list                       List connected blink(1) devices
  --rgb=<red>,<green>,<blue>   Fade to RGB value
  --rgb=[#]RRGGBB              Fade to RGB value, as hex color code
  --hsb=<hue>,<sat>,<bri>      Fade to HSB value
  --blink <numtimes>           Blink on/off (use --rgb to blink a color)
  --flash <numtimes>           Flash on/off (same as blink)
  --on | --white               Turn blink(1) full-on white
  --off                        Turn blink(1) off
  --red                        Turn blink(1) red
  --green                      Turn blink(1) green
  --blue                       Turn blink(1) blue
  --cyan                       Turn blink(1) cyan (green + blue)
  --magenta                    Turn blink(1) magenta (red + blue)
  --yellow                     Turn blink(1) yellow (red + green)
  --rgbread                    Read last RGB color sent (post gamma-correction)
  --setpattline <pos>          Write pattern RGB val at pos (--rgb/hsb to set)
```