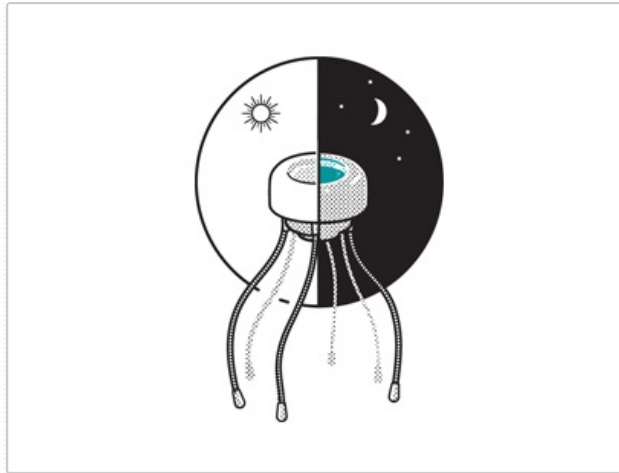Getting Started with Clyde

Afraid of the Dark

The Afraid of the Dark module is what makes Clyde simulate a sunset when it gets dark. All on its own. Whenever Clyde detects dusk, or conditions similar to dusk, the eye lamp will start a sequence that will extend daylight. It will first switch to a pale yellow, go through a series of reds and crimson, to end with a few indigos before switching off to night time and wait for another day.

To install it, you will have three easy steps to follow:
1. Install the module
2. Run wires down Clyde's leg
3. Connect the wires

The software necessary for the 'Afraid of the Dark' behaviour comes pre-installed on your Clyde.

What You Need

Before starting, make sure you have all of the following with you:

— Clyde

— Afraid of the Dark module

— black wire and red wires with sensor

— one of the green wires that come with Touchy-Feely, or any other wire that is noticeably thicker than the red or black one.

— small screwdriver, preferably the one that came with Clyde

— Afraid of the Dark instructions manual (although if you're reading this, you won't really need it)
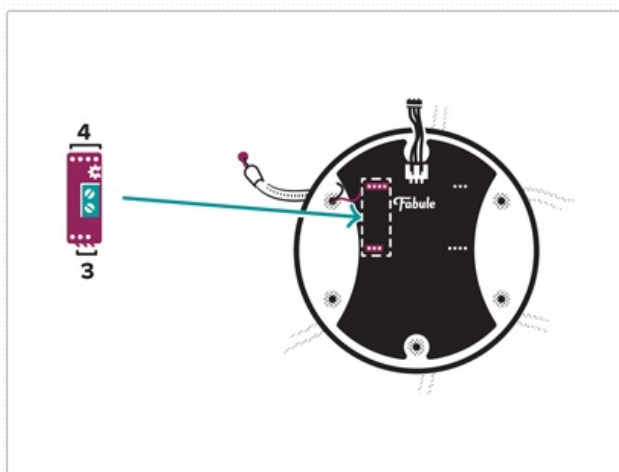
Installing the Module

If you've already installed Touchy Feely, then you know what's required to install a module. Nothing new is required. You can just go ahead and install it. If this is your first module installation, please read on.

Before doing anything to Clyde, do unplug it. It's much safer without electricity.

To install the board, you will have to open up Clyde but don't worry, Clyde doesn't bite.Grab Clyde's head, and give it a slight counter-clockwise twist, then gently pull upwards to disengage the top part of the head. It will stay attached by a small wire, and that's fine. If it becomes unplugged, it's easy to replug it.
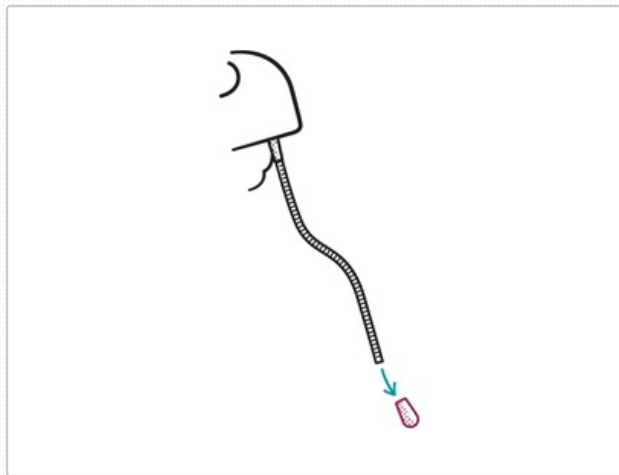
On the main Clyde board, which you should see now that Clyde is opened up, there are two places where you can add modules, which we will refer to as module docks. There is only one way to insert a module into a dock. A dock has one end with four pin slots, and one with three pin slots. Clyde modules come with corresponding pins, four on one end, three on the other end.
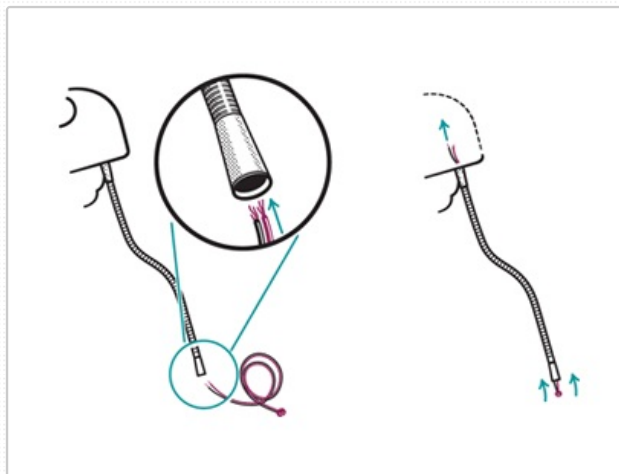
The Afraid of the Dark module is the smaller of the two modules. The module is identified by name near the end that has four pins. The print is tiny, so you may need a magnifying glass to read it (sorry about that). The module can go into either dock. Our drawings show it in the left dock, but the two docks are interchangeable. Insert the pins into their designated slots, and you can't go wrong. Push all seven pins in, carefully. Clyde is sturdy but it's still electronics. Take the time to do a visual inspection. All seven pins should be in neatly. Do note that there is a misleading information in the drawing here. The green screw header should have been drawn to the left of the module instead of the right. As long as your seven pins are in properly, you do not have to worry.

Installing the Wires

Two wires, a red and a black, are in the module box. They are attached at one end to a light sensor and the other end is left stripped of the encasing. You will have to pass those wires through one of Clyde's legs and that can be quite a challenge.

Start with something easy, which is to remove Clyde's boot from one of the legs. Set it aside for now, safely. You will see that Clyde's leg is hollow. Straighten the leg as much as you can. If you have a knitter nearby, you may use a 2.25mm straight knitting needle (that would be a size 1 US).
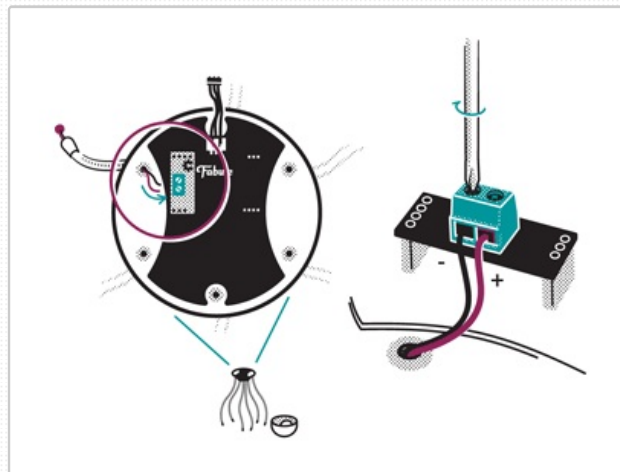

An early adopter came up with a neat trick that should simplify your life. Use one of the green wires that come with Touchy-Feely. Starting from Clyde's head, thread that thick wire through the leg until it emerges by approximately five centimeters. Loop the red and black wires around the green one. Use the stripped ends that are NOT hooked to the light sensor. Loop the green wire back and twist it tightly. Twist the red and black wires together. You will end up with two loops, the green on one side going into the leg, and the red and black dangling outside the leg. Pinch the two loops to make them as slim as
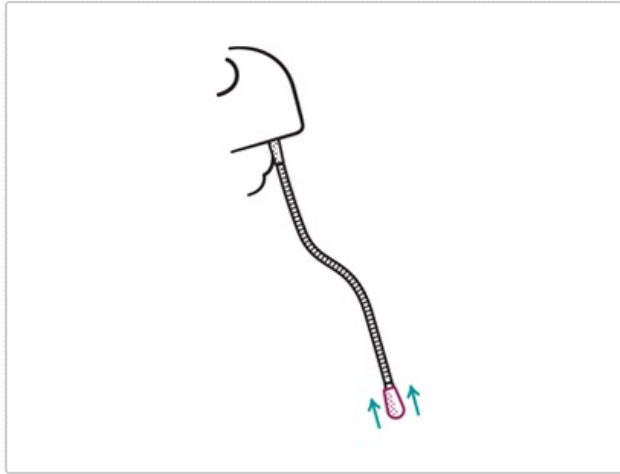
possible. Now pull the green wire back out of the leg. It will pull in the red and black wires with it. Once the red and black wires emerge from the leg, you can undo the loops. Make sure you do not pull the light sensor into the leg. It should hand outside the leg just a little bit.

Connecting the Wires

Unscrew the two screws that are in the green header. Plug the red wire into the header spot that's closest to the four pins, and the black wire into the other one. The drawing shows the opposite unfortunately. However if you look closely onto the module you will notice a tiny little + sign where the red wire is supposed to go. Follow the + sign and you can't go wrong. The metal from the wires should make contact with the metal in the screw-top header. Screw the wires in place. Tug on each wire slightly. They should not come out of the header. Light Sensor

The light sensor should be just outside of the leg. You should put the silicone boot back on to protect the sensor. It will cover the light sensor but it will not impede its functionality. Make sure the sensor-carrying leg points upwards as the sensor needs a clear reading of the ambient lighting conditions. A sensor pointing downwards will have issues with shadows. From now on, Clyde will no longer stand on that leg.
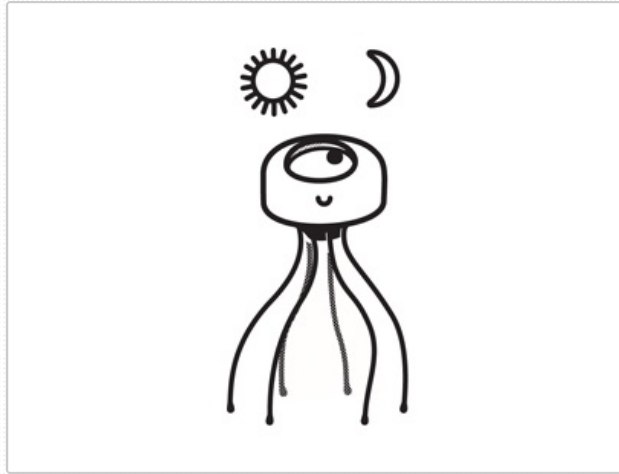
You're done with the hardware part! Congratulations! Do close Clyde up. We're done with surgery for now. Plug it back in and turn it on.

Moment of Truth!

Let's trick Clyde into sunsetting to see if the installation is working.

1. Ensure that Clyde is calibrated. (the ambient light in the eye should turn teal just after you plug Clyde in)
2. Make sure the raised foot (or is it now a hand?) sees daylight. Any source of **external** light will do. In short, you can't be in a room that's already dark or the module will not trigger. Clyde's task lamp will not do. Should you be in a dark room, you can use a cell phone, or even your computer screen, just shine those electronic photons right onto the sensor for a couple of seconds. Exposure to light must last a few seconds at least.
3. Cover up the light sensor with your hand. The sensor must be completely in the dark. Again, that should be for a couple of seconds. You should then see the sunset sequence start.
4. If you don't see the sunset after a few tries, visit the Common Pitfalls section for suggestions.

Behaviour Explanation

The "Afraid of the Dark" module is a bit tricky to explain but it does what it's supposed to do. In short, when Clyde gets left in the dusk, it will turn on the ambient light in its eye, and give a short sunset sequence, starting with a pale yellow, going through a series of reds, followed by deeper and deeper blues to eventually turn off after approximately twenty minutes. The sunset will eventually end, and night will fall. Clyde will then wait patiently in the dark for the next day. Obviously you can still use Clyde as a lamp after the sunset sequence is done but there will not be another Clyde sunset until Clyde detects that its surrounding environment is in bright light again. At that time, Clyde will start watching for another dusk before triggering a sunset again.

Should you ever want to trick Clyde into another sunset without waiting for the next day, you can do so by flooding the light sensor with light for a few seconds, and then covering it with your hand to plunge it into darkness for a few seconds, just like we did above in "Moment of Truth".

Common Pitfalls

1. Task Lamp
If the task lamp (the white lamp directed towards the desk) is on, the sunset will not start, regardless of other conditions. Basically if the task lamp is on, Clyde already knows it's not in the dark yet. Please note that you cannot use the task lamp to reset the sunset cycle either. Clyde knows it's cheating.

2. Light sensor leg
If the light sensor leg points downwards, you are diminishing your chances of getting a sunset. The light sensor will have a hard time sensing light, and a change to darkness. Position the leg towards the best external light possible.

3. Light sensor
Ensure the sensor has not been pulled into the leg. While it can't go all the way in, if it's too close to the tip of the leg, there may be shadows that will not let the sensor work properly.

4. Wires
If you've never seen a Clyde sunset, and can't trigger one, maybe there's a problem with the wires.

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