Circuit 3C: Motion Alarm

Time to take your distance sensor project to the next level. Let's imagine you want to stop your cat from prowling around your countertop. This circuit uses light, sound and motion to scare away your cat when it is detected by the distance sensor. Using a servo motor, you can add a moving pop-up to animate your alarm.

NEW CONCEPTS

MECHANISMS: This circuit gets really fun when you start to use your servo to animate the world around you. To do this, you'll need to connect your servo to some physical mechanisms. Tape and hot glue are easy ways to connect things to your servo. You can also loop a paper clip through the small holes in the servo arm to serve as a linkage.

Linkage rods are found on many RC airplanes, which use servo motors to control the ailerons, elevators and rudder.

ASSEMBLY

If you have opted for the extra materials, use the following instructions to create the moving pop-up for your motion alarm.

1. Attach the servo mount of your choice. The motor mounts also come with screws to secure the mount to the motor. Once you are finished with this circuit, you may choose to add a screw to make for a more robust mechanism. It is recommended you upload your code and test the mechanism before screwing it down.

2. Use needle-nose pliers to bend the paper clip straight. Bend about 1 inch of the paper clip 90 degrees. Then bend the other end so it's about 1/8 inch long. Repeat this bend once more, making a hook shape. You should now have a linkage rod that looks something like this: