

REQUIREMENTS:

Windows 10 Laptop with Shapes program installed
Arduino Nano
Arduino Nano Cable
USB Webcam
José the Robot Arm
7v power source
12v power source

SETUP:

1. Connect the Arduino Nano to José the Robot Arm
2. Connect the 7v and 12v power sources to the labeled inputs and turn them on
3. Connect the Arduino to the laptop
4. Connect the Webcam to the laptop
5. Determine the COM port of the Arduino and adjust the program to match
6. Start the Shapes program
7. Center Webcam over blank paper
8. Hit capture button to grab background frame
9. Load shapes onto paper without moving anything else
10. Hit the Find Shapes Button
11. Watch José the Robot Arm run

CLEANUP:

1. Close the program
2. Turn off the power supplies
3. Unplug the Arduino from the laptop
4. Unplug the Webcam from the laptop
5. Unplug the power supplies from the labeled inputs
6. Unplug the Arduino from José the Robot Arm

KNOWN BUGS:

Running the program without an Arduino attached, and the correct COM port selected will cause crashing.

Closing the program without clicking Find Shapes will cause crashing.

Clicking Find Shapes without clicking Capture will cause crashing.

Not being nice to José the Robot Arm will hurt his feelings.

7v power supply must be able to provide 5 amps continuous and 12v power supply must be able to provide 0.5 amps continuous.

Running José the Robot Arm without active cooling on the motor controllers will cause overheating and may result in fires.