

“Robotic sketcher”

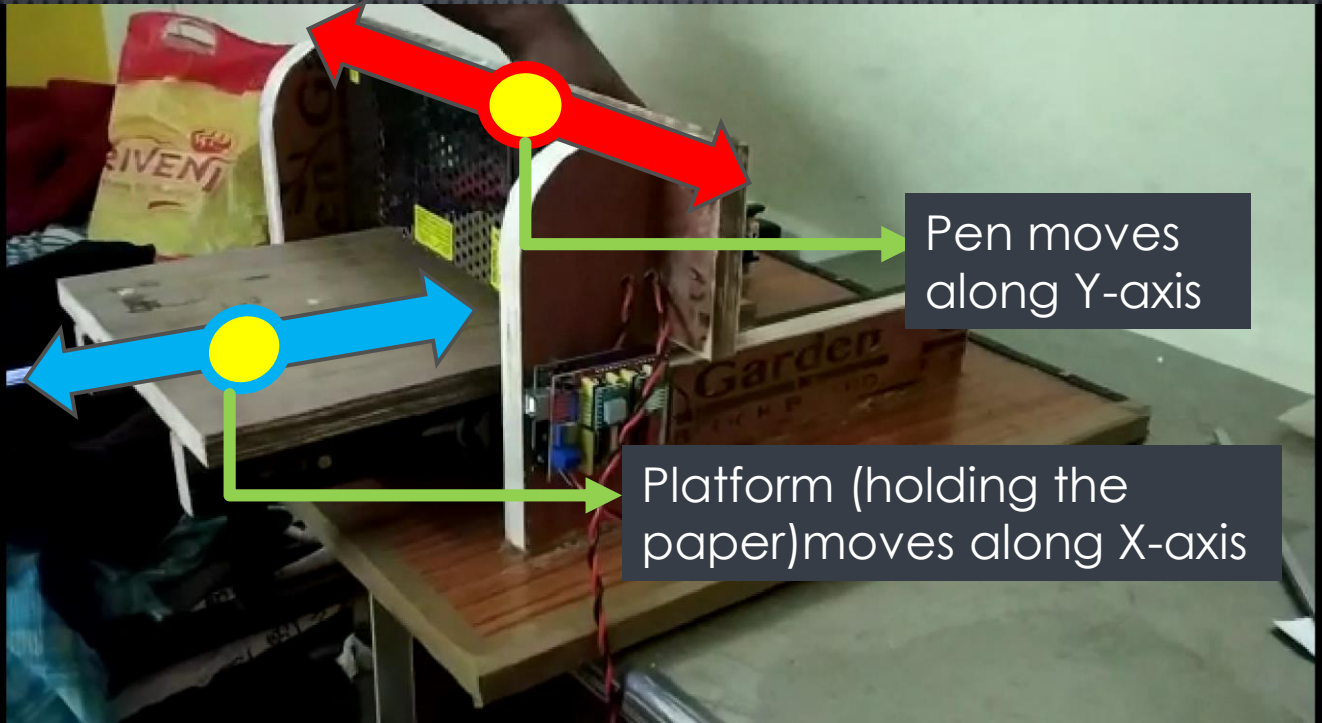
The idea behind this project is that we use a processing unit(funky name for the computer used in the project 😊), which captures a scene using a camera interface, then converts the captured image to a line diagram, which is then converted to a “.gcode” file. This .gcode file is executed using a “grbl-Controller” to draw the image on paper.

This project uses a “2 axis system”, which is typical of all the various CNC machines, to draw on sheet of paper using pen.

The drawing system is based on an Arduino UNO. Which is loaded with the grbl library to make it able to communicate with the grbl-controller software installed on the processing unit(funky-ly named PC). The two axes(X and Y) used to scribe over paper are moved by 2 “Nema-17” motors with micro stepping enabled. The trigger for scribing is controlled by a normal servo motor(allocated as a Z axes mover).

Present Status:

The scribing mechanism is more or less done and is undergoing debugging to fix alignment problems associated with the Hand-done assembly



Various components comprising the software aspect of the project are already taken care of but the automation of various steps is, however, yet to be seen.

Overall the project is approximately 80% close to completion

Further Improvements:

We intend to use the recently achieved facility for 3D printing to convert this prototype sketcher(which is rather bulky and contains many flaws associated with hand crafted parts) into a more compact, more practical machine.