Robotic Arm pPlotter (RAP)

Abstract:-

Robotic arm plotter (RAP) is capable of plotting a graph or an image. Its light weight and easy to install design makes it a good replacement to the conventional CNC plotters. Our design enables the RAP to plot effectively in vertical as well as in horizontal alignment.

Technical details:

The robotic arm gives 3 degrees of freedom to the marker connected at the tip of the arm. Two servos assist the arm movement in a plane (assume the plan to be in XY axis), while the servo attached to the tip of the arm help in movement of the marker in Z direction. Which decides whether the marker makes a marking or not.

The two servos attached to the base of the plotter are used to control the angles α and β, and using appropriate relations the plotter arm can reach anywhere in the given plane.

An android app which enable the user to interface with RAP converts the user input images and graphs to G-code, which basically is X-Y coordinate measures of the input image. Using the G-code as input RAP plots the given graph.

Estimate:

PVC pipe 2m : Rs.100

Screws : Rs.20

IC : Rs.15

Receiver : Rs.175

Total : Rs.310