Piccolo cnc drawing robot

Piccolo is a mini cnc robot that allows you to draw on flat surfaces. The robot can be programmed via Arduino or via a visual coding software such as mBlock.

Introduction

Piccolo is a mini cnc robot that allows you to draw on flat surfaces. The robot can be programmed via Arduino or via a visual coding software such as mBlock.

Materials

Instructions on how to create a replica of the piccolo robot, including a list of parts, are available here.

Tools

laser cutter, general purpose DIY tools, computer

Step 1 - Create your own piccolo robot

Instructions on how to create a replica of the piccolo robot are available here.

The robot is functional even without the z-axis. Assembling the z-axis is in fact quite complex, and the result is not a lot different than a piccolo robot with only x and y axis.

The design of the piccolo parts is available here in .svg format, which we believe is the most convenient of all.

Finally, note that, for the laser cutting of the piccolo robot, you may use mdf or another type of wood exclusively. Acrylic is in fact a lot more expensive than wood, and the robot works well even with all parts being made out of mdf or similar material.
Step 2 - Program the piccolo robot

You can program the piccolo robot to have it draw simple shapes (squares, rectangles) or text.
To program the piccolo robot you may use mBlock. Download mBlock here.
On mBlock, the code to control piccolo may look something like this:

![mBlock code interface](image)

Notes and references

This tutorial was produced as part of the FabEdu project, co-financed by the Erasmus + Programme of the European Union.
Project number: 2017-1-FR02-KA205-012767
The content of this publication does not reflect the official opinion of the European Union. Responsibility for the information and views expressed therein lies entirely with the author(s).