3D Printing for Mobile Robots

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Abstract

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Keywords: 3D Printing, Robotics, 3Doodler, Trajectory Controller

1 Introduction

$$\sum_{j=1}^{z} j = \frac{z(z+1)}{2} \tag{1}$$

$$\begin{aligned} x &\ll y_1 + \cdots + y_n && (2)\\ &\leq z && (3)\end{aligned}$$

2 System Overview

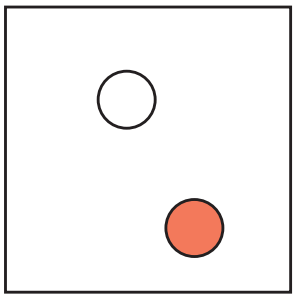

Figure 1: *Sample illustration.*

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3 Clamp Design

4 Arduino Interface

5 UI Design

6 Path Generation Algorithm

6.1 Constraint Generation

6.2 Heuristic Ordering

6.3 Polyline Conversion

7 YouBot Control

7.1 Arm Control

7.2 Base Control

8 YouBot Planning and Collision Avoidance

9 Results

10 Conclusion

10.1 Future Work

Acknowledgements

Mehmet Dogar and Robert Katzschmann, for suggestions for fixing the YouBot arm control when it wasn't working, which still didn't work.

11 References

To Cite: Ikeabot for example for hand tools for the YouBot.