Robotics and Embedded Systems
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Controlling an Ophthalmic Surgery Robot with Matlab & Simulink

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Abstract— this is the content of the abstract file

I. INTRODUCTION

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II. CONNECTING VREP WITH MATLAB (DANIEL)

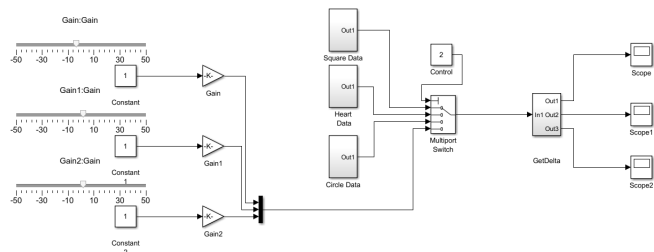this is the content of Daniel's file

III. INVERSE KINEMATICS (BOGDAN)

this is the content of Bogdan's file

IV. SIMULINK GUI FOR CONTROL (PHILLIP)

Given that it was our task to control the robot with matlab, simulink was deemed to be the perfect tool to create a small GUI for this project.

As we were required to be able to draw different shapes, this GUI contains a switch, which enables the user to choose from a heart, square, or circle shape. Additionally, there are three sliders corresponding to the X, Y, and Z axes, in case users would like to take matters into their own hands. See the figure below for reference.

V. CREATION OF SHAPES (TIMO)

this is the content of Timo's file

VI. GETTING THE NEEDLE TO THE ENTRY POINT OF THE EYE (MATTHIAS)

I hope this is what you were doing, I wasn't quite sure any more, because it wasn't listed in the ToDo...
this is the content of Matthias'file

VII. DIFFERENT ALGORITHM FOR ROBOT CONTROL (MIGUEL)

Same as Matthias ;)
this is the content of Miguel's file

ABBREVIATIONS AND ACRONYMS

Define abbreviations and acronyms - not sure if we need this?

APPENDIX

Appendixes should appear before the acknowledgment - keeping this section for god knows what...

ACKNOWLEDGMENT

Same...

I put the Master's Thesis in the bibliography, wasn't sure whether we needed anything else - maybe the Algorithm (that I think) Miguel worked on.

REFERENCES

[1] P. Gschirr, Control and Simulation of a Robotic Setup for Assisting Ophthalmic Surgery, Master Thesis at the Computer Science Department of the Technical University of Munich. Munich: 2014