

DUAL NOZZLE 3D PRINTER PARAMETER OPTIMIZATION

Written by

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

DUAL NOZZLE 3D PRINTER PARAMETER OPTIMIZATION

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The object of this thesis project is to design and create the mechanical design where it will have 2 nozzles and 2 tables instead of 1 and to double the productivity rate. This thesis uses 3D printer as its main prototype equipped with customized parts in it. The nozzles' movement are controlled by stepper motors, 3 in total. Each stepper motor controls X, Y and Z axis separately. Inside the compartment, there is a timing belt to move X axis's motor. This applies to Z and Y axis's motor movement. Each motor is programmed differently according to their tasks. The printer has its own program to conduct the preferred activities the user wants. The motherboard has 3 drivers and it sends signal with generated G-code and are passed on to the motor.

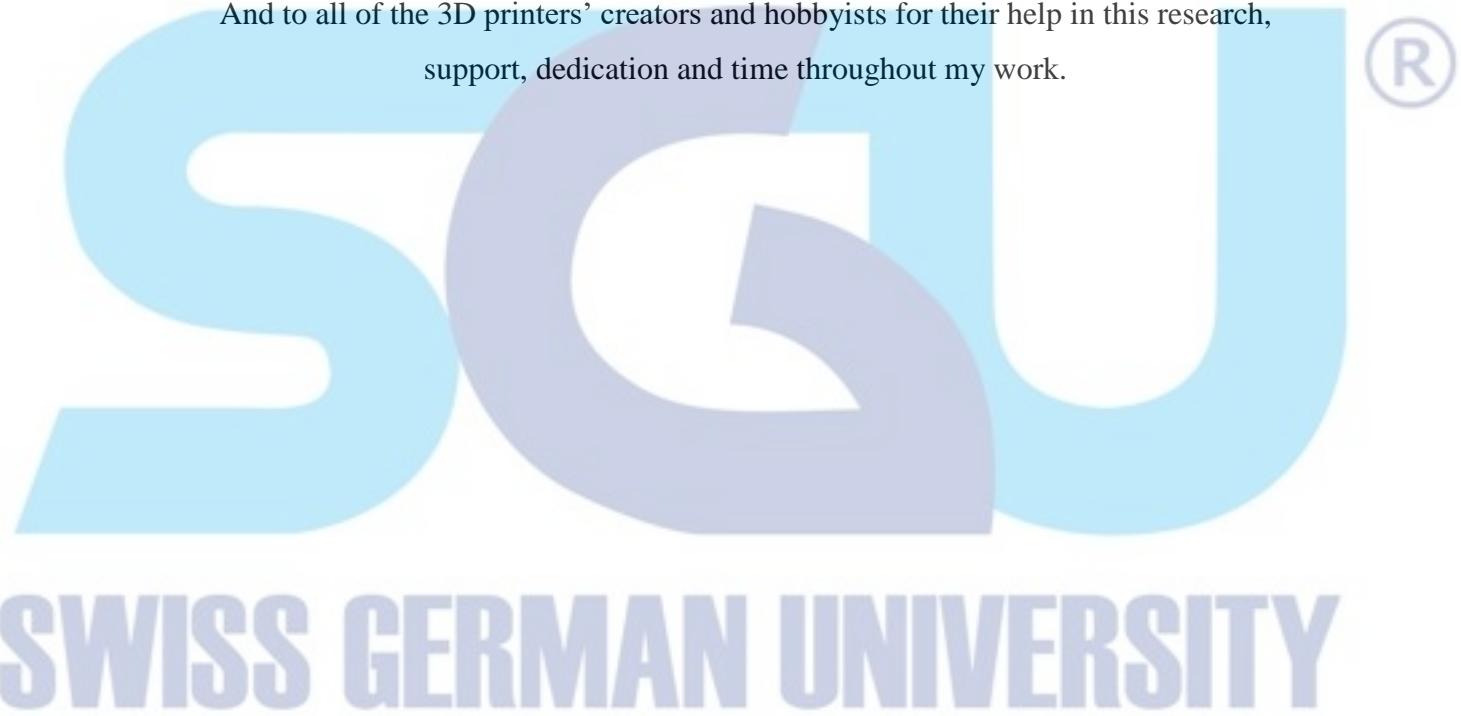
Keywords: 3D Printing, Arduino PID Controller, MATLAB, 3D Designing Software, Doraware Weistek

Immanuel Michael



DEDICATION

I dedicate this work for Jesus Christ,
For my family who supports me through this work,
My friends and teachers who have been supportive for me,
My beloved country, Indonesia,
And to all of the 3D printers' creators and hobbyists for their help in this research,
support, dedication and time throughout my work.



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