

**DESIGN AND CONSTRUCTION OF AN AUTOMATIC STACKING
MECHANISM FOR SPOON AND FORK**

By

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BACHELOR'S DEGREE
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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

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Automation is greatly developed and used to change the human's workload in this time and era. Many big Industries is implementing the use of automation, the implementation includes mechanical system, electrical system, and computer system to run it automatically. This thesis project is specifically concerning stacking process of the eating utensils. So it performed to minimizing the human labor in order to reduce human error during the stacking process. At present, there is no particular machine is conducted for this specific task. A stacking arm and moving table including the tray are especially designed to satisfy the task. The arm uses stepper motor as an actuator to fill the tray in one row, on the other hand the moving table will move the tray in the perpendicular axis to the arm, so it is assigned to change a row. The moving table is actuated using servo motor with the help of linear guide. The movement of both actuator is controlled by a Programmable Logic Controller.

Keywords: Stacking mechanism, filling mechanism, Programmable Logic Controller, Servomechanism, Stepper mechanism, Positioning.



DEDICATION

I dedicate this work for Jesus Christ,

For my family who supports me through this work,

My friends and lecturers who have been supportive for me,

My beloved country, Indonesia.



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TABLE OF CONTENTS

| | |
|-----------------------------------------------|----|
| STATEMENT BY THE AUTHOR..... | 2 |
| ABSTRACT..... | 3 |
| DEDICATION..... | 5 |
| ACKNOWLEDGEMENTS..... | 6 |
| TABLE OF CONTENTS..... | 7 |
| LIST OF FIGURES..... | 10 |
| TABLE OF FIGURES..... | 11 |
| CHAPTER 1 – INTRODUCTION..... | 12 |
| 1.1. Background..... | 12 |
| 1.2. Research Problems..... | 12 |
| 1.3. Objectives..... | 12 |
| 1.4. Significance of Study..... | 13 |
| 1.5. Thesis Scope..... | 13 |
| 1.6. Thesis Limitations..... | 13 |
| 1.7. Thesis Organization..... | 13 |
| CHAPTER 2 – LITERATURE REVIEW..... | 15 |
| 2.1. SolidWorks..... | 15 |
| 2.2. Material Selection..... | 15 |
| 2.2.1. Food Grade Material..... | 16 |
| 2.3. Electric Motor..... | 16 |
| 2.3.1. Servo Motor..... | 16 |
| 2.3.2. Stepper Motor..... | 18 |
| 2.4. Programmable Logic Controller (PLC)..... | 19 |
| 2.5. Sensor..... | 20 |
| 2.5.1. Proximity Sensor..... | 20 |
| CHAPTER 3 – METHODOLOGY..... | 24 |
| 3.1. Transfer Process Explanation..... | 24 |
| 3.2. Design and System Overview..... | 25 |
| 3.3. Mechanical Construction..... | 26 |
| 3.3.1. Tray..... | 26 |
| 3.3.2. Stacking Mechanism..... | 33 |
| 3.4. Components Selection..... | 36 |
| 3.4.1. Material Selection..... | 36 |
| 3.4.2. Motor Selection..... | 37 |

| | |
|---------------------------------------------------------|----|
| 3.4.3. Sensor Selection..... | 39 |
| 3.5. Electrical Connection | 41 |
| 3.5.1. Programmable Logic Controller (PLC) | 41 |
| 3.5.2. Servo Drives and Servo Motor | 41 |
| 3.5.3. Stepper Drives and Stepper Motor..... | 42 |
| 3.6. Program Design..... | 42 |
| 3.6.1. Servo Motor and Stepper Motor Calibration | 43 |
| 3.6.2. State Machine Diagram..... | 44 |
| CHAPTER 4 – RESULTS AND DISCUSSIONS | 48 |
| 4.1. Actual Machine | 48 |
| 4.2. Data Analysis | 48 |
| 4.2.1. Actual Radius Measurement..... | 48 |
| 4.2.2. Repeatability of Homing Position Coordinate..... | 52 |
| 4.2.3. Tray Filling Analysis | 53 |
| CHAPTER 5 – CONCLUSSION AND RECOMMENDATIONS..... | 56 |
| 5.1. Conclusion..... | 56 |
| 5.2. Recommendations | 56 |
| GLOSSARY | 57 |
| REFERENCES | 58 |
| APPENDIX A – TECHNICAL DRAWING..... | 59 |
| A.1. Tray Design Overview | 59 |
| A.2. Tray Part_01 | 60 |
| A.3. Tray Part_02..... | 61 |
| A.4. Tray Part_03..... | 62 |
| A.5. Tray Part_04..... | 63 |
| A.6. Tray Part_05..... | 64 |
| A.7. Tray PP Rod | 65 |
| A.8. Base Structure | 66 |
| A.9. Stacking Guide Overview | 67 |
| A.10. Stacking Arm Base | 68 |
| A.11. Stacking Arm Guide | 69 |
| A.12. Coupling | 70 |
| A.13. Stacking Guide Top Base | 71 |
| A.14. Stacking Guide Top_01 | 72 |
| A.15. Stacking Guide Top_02..... | 73 |
| A.16. Stacking Guide Bottom Base..... | 74 |
| A.17. Stacking Guide Bottom_01 | 75 |

| | | |
|---------------------------------------|---------------------------------------------------------|----|
| A.18. | Stacking Guide Bottom_02 | 76 |
| A.19. | Slot for Angle Lock | 77 |
| A.20. | Homing Sensor Bracket..... | 78 |
| A.21. | Moving Table Overview..... | 79 |
| A.22. | Linear Guide Spacer | 80 |
| A.23. | Moving Table Plate | 81 |
| A.24. | Belt Clamp..... | 82 |
| A.25. | Bracket for Timing Pulley | 83 |
| A.26. | Shaft..... | 84 |
| A.27. | Limit Sensor Bracket..... | 85 |
| A.28. | Limit and Homing Sensor Bracket | 86 |
| APPENDIX B – ELECTRICAL DRAWING | | 87 |
| B.1. | PLC Power Supply and Input Module | 87 |
| B.2. | PLC Output Module | 88 |
| B.3. | PLC I/O Pin Allocation | 89 |
| APPENDIX C – DATASHEET..... | | 90 |
| C.1. | Programmable Logic Controller Siemens S7 – 1200..... | 90 |
| C.2. | Capacitive Proximity Sensor CR18-8DP | 91 |
| C.3. | Inductive Proximity Sensor PR08-2DP and PR08-2DP2 | 93 |
| C.4. | Stepper Drive Toshiba TB6600..... | 95 |
| APPENDIX D – BILL OF MATERIAL | | 96 |
| CURRICULUM VITAE..... | | 97 |



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