



PROJECT REPORT
Automatic Fish Feeder Based on ATmega328
Microcontroller

Karolus Leta Wicaksono
15.K1.0051

Faculty of Computer Science
Soegijapranata Catholic University
2019

APPROVAL AND RATIFICATION PAGE

Automatic Fish Feeder Based on ATmega328 Microcontroller

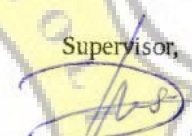
by

Karolus Leta Wicaksono – 15.K1.0051

This project report has been approved and ratified
by the Faculty of Computer Science on January, 3, 2019

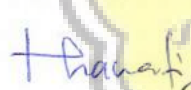
With approval,

Supervisor,


YB. Dwi Setianto, ST., M.Cs
NPP: 058.7.2017.021

Examiners,

1.)


Rosita Herawati, ST., MIT
NPP: 058.1.2004.263

2.)


Hironimus Leong, S.Kom., M.Kom
NPP: 058.1.2007.273

Dean of Faculty of Computer Science,


Erdhi Widyarto Nugroho, ST., MT
NPP: 058.1.2002.254

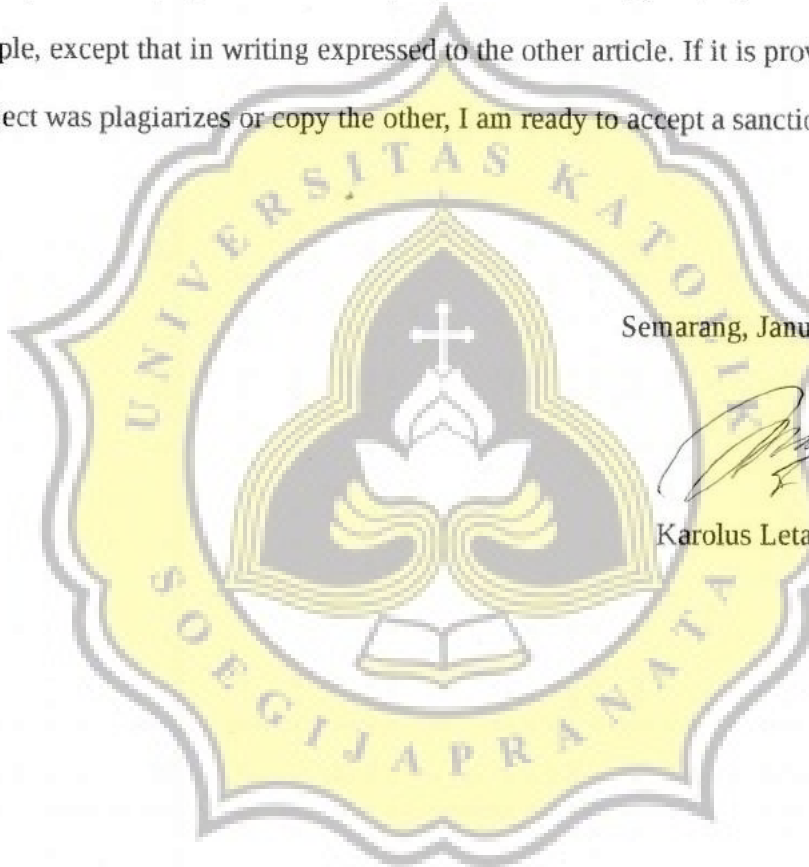
STATEMENT OF ORIGINALITY

I, the undersigned:

Name : Karolus Leta Wicaksono

ID : 15.K1.0051

Certify that this project was made by myself and not copy or plagiarize from other people, except that in writing expressed to the other article. If it is proven that this project was plagiarizes or copy the other, I am ready to accept a sanction.



Semarang, January, 3, 2019

A handwritten signature in black ink, appearing to read 'Karolus Leta Wicaksono', is written over the logo.

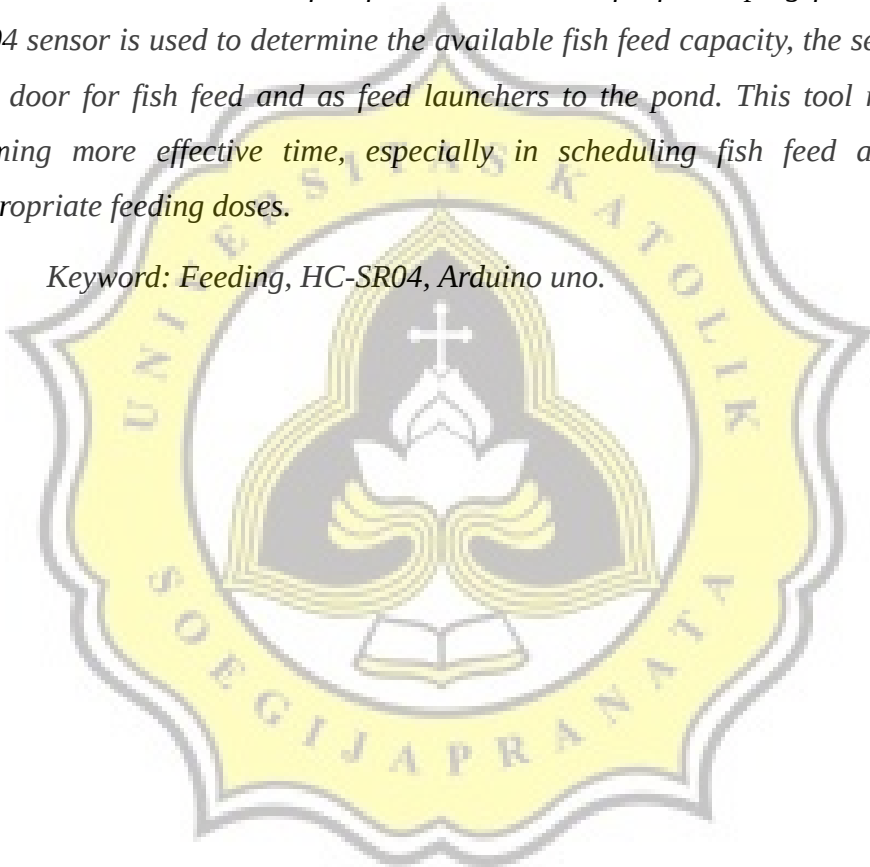
Karolus Leta Wicaksono
15.K1.0051

ABSTRACT

Feeding is one of the important thing in the case of fish cultivation and harvesting. Nowadays, in general feeding is still depending on direct human help, so that people now just found a new technique to feed fish, runs and operates the tools automatically regarding to time and schedule that is provided or based on operation time of period they wanted and how much they want to feed.

Make an automatic fish feeder that are useful for helping fish farm. HC-SR04 sensor is used to determine the available fish feed capacity, the servo as the exit door for fish feed and as feed launchers to the pond. This tool makes fish farming more effective time, especially in scheduling fish feed along with appropriate feeding doses.

Keyword: Feeding, HC-SR04, Arduino uno.



PREFACE

Making an automatic fish feeding tool uses a servo motor as an exit and fish feed launcher. This project was made because of the manual scheduling and manual dose setting of fish feeding.



TABLE OF CONTENTS

| | |
|--|-----------|
| COVER..... | i |
| APPROVAL AND RATIFICATION PAGE..... | ii |
| STATEMENT OF ORIGINALITY..... | iii |
| ABSTRACT..... | iv |
| PREFACE..... | v |
| TABLE OF CONTENTS..... | vi |
| ILLUSTRATION INDEX..... | vii |
| INDEX OF TABLES..... | viii |
| CHAPTER 1 INTRODUCTION..... | 1 |
| 1.1Background..... | 1 |
| 1.2Scope..... | 2 |
| 1.3Objective..... | 2 |
| CHAPTER 2 LITERATURE STUDY..... | 3 |
| CHAPTER 3 RESEARCH METHODOLOGY..... | 6 |
| CHAPTER 4 DESIGN ANALYSIS..... | 8 |
| 4.1Analysis..... | 8 |
| 4.2Design..... | 8 |
| CHAPTER 5 IMPLEMENTATION AND TESTING..... | 13 |
| 5.1Implementation..... | 13 |
| 5.2Testing..... | 16 |
| CHAPTER 6 CONCLUSION..... | 20 |
| REFERENCES..... | |
| APPENDIX..... | A |

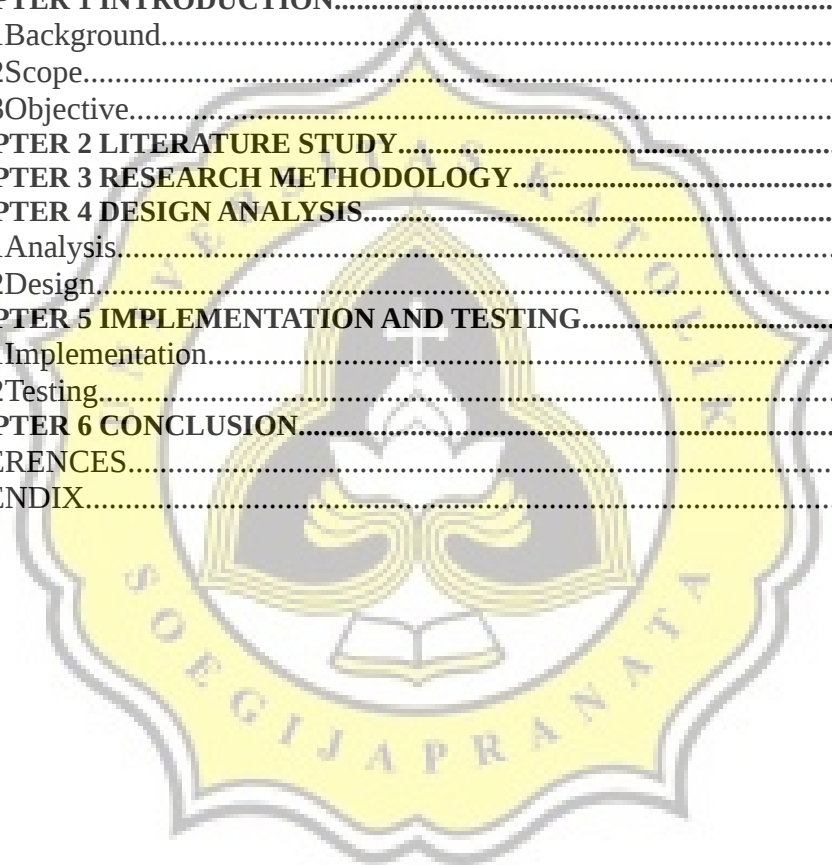


ILLUSTRATION INDEX

| | |
|---|----|
| Illustration 4.1: Automatic Fish Feed Scheme..... | 8 |
| Illustration 4.2: Wiring Design of Automatic Fish Feeder..... | 9 |
| Illustration 4.3: Tools for the automatic fish feeder design..... | 9 |
| Illustration 4.4: Flowchart..... | 11 |
| Illustration 5.1: Automatic fish feeder..... | 13 |
| Illustration 5.2: Testing of RTC (Real Time Clock)..... | 16 |



INDEX OF TABLES

| | |
|---|----|
| Table 5.1: HC-SR04 Sensor Testing Table..... | 16 |
| Table 5.2: Mechanical Testing Table Open Valve Cover with Delay Value..... | 17 |
| Table 5.3: Mechanical Testing Table with Pressure from Feed Conditions..... | 18 |
| Table 5.4: Mechanical Testing Table with Pressure from Feed Conditions..... | 18 |
| Table 5.5: Mechanical Testing Table with Pressure from Feed Conditions..... | 18 |
| Table 5.6: Automatic Fish Feeder Testing Table, November 25, 2018..... | 19 |
| Table 5.7: Automatic Fish Feeder Testing Table, November 26, 2018..... | 19 |
| Table 5.8: Automatic Fish Feeder Testing Table, November 27, 2018..... | 19 |

