



**WEB APPLICATION GUITAR TUNING USING MACHINE
LEARNING WITH ML5.JS**

UNDERGRADUATE THESIS

**Submitted as one of the requirements to obtain
Sarjana Komputer (S. Kom)**

By

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March 2023**

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that was submitted by Muhammad Abrar Zakialmer majoring in Information Technology from the Computer Science was assessed and approved to have passed the Oral Examination on March 16th, 2023

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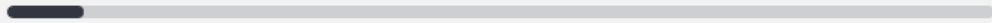
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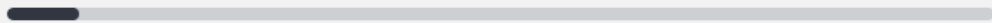
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ABSTRACT

The field of machine learning has grown rapidly in recent years and is now widely used to identify patterns in data and make predictions or decisions. In today's fast-paced world, musicians are constantly looking for ways to improve their skills and performance. However, tuning a guitar can be a difficult and time-consuming task, depending on the musician's ears to detect the right note. With modern technology, machine learning algorithms can automate this process, simplifying guitar tuning. Tuning a guitar is a complex process of determining the frequencies of the strings and tuning them to the correct pitch. Standard, Alternate, and Custom Tuning are the three most popular guitar tuning styles, each with their own set of challenges. Using waterfall model method can be more precise to make this project come true. With help from ml5.js library this project can access the microphone and do pitch detection so this project will be running as expected. The result obtained from this study are creation of web-based application of tuning guitar by implement waterfall model method, Fast Fourier Transform Algorithm, and ml5.js library. The name of this project will be "G-Tune"

DEDICATION

I dedicated this final project to Allah swt. And my family

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I would like to express my thanks and appreciation to those who supported and assisted me during the final project period. With great respect and respect, I would like to express my gratitude to:

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TABLE OF CONTENTS

ABSTRACT.....	i
DEDICATION.....	ii
ACKNOWLEDGEMENT.....	iii
TABLE OF CONTENTS.....	iv
LIST OF TABLES.....	viii
LIST OF FIGURES.....	ix
1 CHAPTER I INTRODUCTION.....	1
1.1 Background.....	1
1.2 Problem Statement.....	1
1.3 Objectives.....	2
1.4 Scope and Limitations.....	2
1.4.1 Scope.....	2
1.4.2 Limitations.....	2
1.5 Project Methodology.....	3
1.6 Final Project Outline.....	4
2 CHAPTER II LITERATURE REVIEW.....	6
2.1 Web Application.....	6
2.2 Guitar Tuning.....	7
2.3 Machine Learning in ml5.js.....	7
2.4 Fast Fourier Transform (FFT) Algorithm.....	8
2.5 Related Work.....	11
2.5.1 GuitaTuna by Yousician.....	11
2.5.2 Tuner-online.com.....	12
2.5.3 Related Work Comparison.....	12

3	CHAPTER III SYSTEM ANALYSIS.....	13
3.1	System Overview	13
3.2	Function Analysis.....	13
3.3	Use Case Diagram.....	14
3.4	Use Case Narrative.....	14
3.5	Swim Lane Diagram.....	20
3.5.1	Swim Lane Diagram for Main Menu Page	20
3.5.2	Swim Lane Diagram for Default Tuning Guitar Page	21
3.5.3	Swim Lane Diagram for Alternative Tuning Guitar Page	21
3.5.4	Swim Lane Diagram for Customize Tuning Guitar Page	21
3.5.5	Swim Lane Diagram for Learn Guitar Page.....	22
3.5.6	Swim Lane Diagram for Transpose Tuning Guitar Page.....	22
3.6	Hardware and Software Requirement	23
3.6.1	Hardware Requirement	23
3.6.2	Software Requirement.....	23
4	CHAPTER IV SYSTEM DESIGN.....	25
4.1	User Interface Design.....	25
4.1.1	Homepage.....	25
4.1.2	Learn Page.....	26
4.1.3	Tuning Page.....	26
4.1.4	Default Tuning Page.....	27
4.1.5	Alternative Tuning Page.....	28
4.1.6	Custom Tuning Page	28
4.1.7	Transpose Tuning Page	29
4.2	Class Diagram	29
5	CHAPTER V SYSTEM IMPLEMENTATION.....	30
5.1	User Interface	30

5.1.1	Home Page	30
5.1.2	Learn Page.....	31
5.1.3	Tuning Page.....	31
5.1.4	Default Tuning Page.....	32
5.1.5	Alternative Tuning Page.....	32
5.1.6	Customize Tuning Page	33
5.1.7	Transpose Tuning Page	33
5.2	Application Details.....	34
5.2.1	Home Page	35
5.2.2	Learn Page.....	37
5.2.3	Tuning Page.....	38
5.2.4	Default Tuning Page.....	39
5.2.5	Alternative Tuning Page.....	44
5.2.6	Custom Tuning Page	45
5.2.7	Transpose Tuning Page	46
6	CHAPTER VI SYSTEM TESTING.....	47
6.1	Testing Environment.....	47
6.2	Testing Scenario.....	47
6.2.1	HomePage Testing Scenario	47
6.2.2	Learn Page Testing Scenario.....	49
6.2.3	Tuning Page Testing Scenario.....	50
6.2.4	Default Tuning Page Testing Scenario.....	52
6.2.5	Alternative Tuning Page Testing Scenario.....	54
6.2.6	Customize Tuning Page Testing Scenario	56
6.2.7	Transpose Tuning Page Testing Scenario	58
7	CHAPTER VII CONCLUSION AND FUTURE WORKS	61
7.1	Conclusion.....	61

7.2 Future Works.....	61
REFERENCES	62

LIST OF TABLES

Table 2.1 Table of Related Work Comparison	12
Table 3.1 Table of Function Description	14
Table 3.2 Use Case Narrative for “Access Main Page” Use Case.....	15
Table 3.3 Use Case Narrative for “Default Tuning Guitar” Use Case	16
Table 3.4 Use Case Narrative for “Alternative Tuning Guitar” Use Case	17
Table 3.5 Use Case Narrative for “Customize Tuning Guitar” Use Case	18
Table 3.6 Use Case Narrative for “Learn Guitar” Use Case.....	19
Table 3.7 Use Case Narrative for “Learn Guitar” Use Case.....	20
Table 6.1 Table of HomePage Testing Scenario	48
Table 6.2 Table of Learn Page Testing Scenario	49
Table 6.3 Table of Tuning Page Testing Scenario.....	50
Table 6.4 Table of Default Tuning Page Testing Scenario.....	53
Table 6.5 Table of Alternative Tuning Page Testing Scenario.....	54
Table 6.6 Table of Customize Tuning Page Testing Scenario.....	56
Table 6.7 Table of Transpose Tuning Page Testing Scenario	59

LIST OF FIGURES

<i>Figure 1.1 Waterfall Model Method Phase</i>	3
<i>Figure 2.1 Process of FFT Algorithm</i>	9
<i>Figure 2.2 Process of FFT Algorithm [5]</i>	9
<i>Figure 2.3 Process of FFT Algorithm [6]</i>	11
<i>Figure 2.3 GuitaTuna by Yousician</i>	12
<i>Figure 2.4 tuner-online.com</i>	12
<i>Figure 3.1 Use Case Diagram</i>	14
<i>Figure 3.2 Swim Lane Diagram of Main Menu Page</i>	21
<i>Figure 3.3 Swim Lane Diagram of Main Menu Page</i>	21
<i>Figure 3.4 Swim Lane Diagram of Main Menu Page</i>	21
<i>Figure 3.5 Swim Lane Diagram of Main Menu Page</i>	22
<i>Figure 3.6 Swim Lane Diagram of Main Menu Page</i>	22
<i>Figure 3.7 Swim Lane Diagram of Main Menu Page</i>	22
<i>Figure 4.1 Wirefram Design of Home Page</i>	25
<i>Figure 4.2 Wirefram Design of Learn Page</i>	26
<i>Figure 4.3 Wirefram Design of Tuning Page</i>	26
<i>Figure 4.4 Wirefram Design of Default Tuning Page</i>	27
<i>Figure 4.5 Wirefram Design of Alternative Tuning Page</i>	28
<i>Figure 4.6 Wirefram Design of Custom Tuning Page</i>	28
<i>Figure 4.7 Wirefram Design of Transpose Tuning Page</i>	29
<i>Figure 4.7 Class Diagram of The Application</i>	29
<i>Figure 5.1 User Interface of Home Page</i>	30
<i>Figure 5.2 User Interface of Learn Page</i>	31
<i>Figure 5.3 User Interface of Tuning Page</i>	31
<i>Figure 5.4 User Interface of Default Tuning Page</i>	32
<i>Figure 5.5 User Interface of Alternative Tuning Page</i>	33
<i>Figure 5.6 User Interface of Customize Tuning Page</i>	33
<i>Figure 5.6 User Interface of Customize Tuning Page</i>	34
<i>Figure 5.7 Source Code of Home Page</i>	35
<i>Figure 5.8 Source Code of Home Page CSS</i>	36
<i>Figure 5.9 Source Code of Learn Page</i> <i>Figure 5.10 Learn Page CSS</i>	37
<i>Figure 5.11 Source Code of TuningPage</i>	38

<i>Figure 5.12 Source Code of Default Tuning Page</i>	39
<i>Figure 5.13 JavaScript of Default Tuning</i>	40
<i>Figure 5.14 JavaScript of Default Tuning</i>	40
<i>Figure 5.15 JavaScript of Default Tuning</i>	41
<i>Figure 5.16 JavaScript of Default Tuning</i>	41
<i>Figure 5.17 JavaScript of Default Tuning</i>	42
<i>Figure 5.18 JavaScript of Default Tuning</i>	43
<i>Figure 6.5 Testing Scenario of can access the Tuning Page – Scenario 1.1</i> ...	51
<i>Figure 6.6 Testing Scenario of can click the Default Tuning – Scenario 1.2</i> ..	51
<i>Figure 6.7 Testing Scenario of can click the Alternative Tuning – Scenario 1.3</i>	52
<i>Figure 6.8 Testing Scenario of can click the Custom Tuning – Scenario 1.2</i> ..	52
<i>Figure 6.9 Testing Scenario of can access the Default Tuning Page – Scenario 1.1</i>	53
<i>Figure 6.10 Testing Scenario of can capture the frequency – Scenario 1.2</i>	54
<i>Figure 6.11 Testing Scenario of can access the Alternative Tuning Page – Scenario 1.1</i>	55
<i>Figure 6.12 Testing Scenario of can access the dropDown Menu– Scenario 1.2</i>	55
<i>Figure 6.13 Testing Scenario of can capture the frequency – Scenario 1.3</i>	56
<i>Figure 6.14 Testing Scenario of can access the Customize Tuning Page– Scenario 1.1</i>	57
<i>Figure 6.15 Testing Scenario of can access the dropDown Menu– Scenario 1.2</i>	57
<i>Figure 6.16 Testing Scenario of can capture the frequency – Scenario 1.3</i>	58
<i>Figure 6.17 Testing Scenario of can access the Transpose Tuning Page– Scenario 1.1</i>	59
<i>Figure 6.18 Testing Scenario of can access the dropDown Menu– Scenario 1.2</i>	59
<i>Figure 6.19 Testing Scenario of can capture the frequency – Scenario 1.3</i>	60