

# TABLE OF CONTENTS

APPROVAL PAGE .....	i
STATEMENT OF ORIGINALITY .....	ii
STATEMENT OF ORIGINALITY .....	iii
STATEMENT OF ORIGINALITY .....	iv
STATEMENT OF ORIGINALITY .....	v
ABSTRAK .....	vi
ABSTRACT .....	vii
PREFACE .....	viii
ACKNOWLEDGMENT .....	ix
TABLE OF CONTENTS .....	x
LIST OF IMAGES .....	xiii
LIST OF TABLES .....	xv
LIST OF ABBREVIATIONS .....	xvi
CHAPTER 1 PROPOSAL IDEAS .....	1
1.1 General Description of Problem .....	1
1.1.1 Background Problem .....	1
1.1.2 General Analysis .....	2
1.1.3 Capstone's Purpose .....	3
1.2 Analysis of Existing Solutions .....	3
1.2.1 STIFIn .....	3
1.2.2 Enneagram .....	4
1.2.3 MBTI .....	5
CHAPTER 2 SOLUTION SPECIFICATIONS AND LIMITATIONS .....	7
2.1 Basis for Determining Specifications .....	7
2.2 Limitation and Specification .....	9

2.2.1	Limitation and Specification Product .....	9
2.2.2	Specification .....	9
2.3	Specification Verification and Measurements .....	11
2.3.1	Machine learning model accuracy measurement with datasets. ....	11
2.3.2	Accuracy measurement of the GPT machine learning model. ....	11
2.3.3	Machine learning model accuracy measurement with the same dataset as the GPT machine learning model. ....	12
2.3.4	Verification of Specifications .....	12
2.4	Conclusion .....	13
CHAPTER 3	SOLUTION PLAN DESIGN .....	14
3.1	Alternative Proposed Solution .....	14
3.1.1	GPT-3.5-Turbo-0125 .....	14
3.1.2	XGBoost .....	14
3.1.3	Gradient Boosting .....	14
3.1.4	CatBoost.....	15
3.2	Analysis and Solution Selection .....	15
3.3	Design of the Selected Solution.....	18
3.3.1	Entity Relationship Diagram Psyche App .....	18
3.3.2	Unified Modeling Language (UML) .....	21
3.3.3	Flowchart .....	23
3.3.4	Pseudocode .....	26
3.4	Budget and Schedule.....	29
CHAPTER 4	IMPLEMENTATION.....	31
4.1	General Description of Implementation.....	31
4.1.1	PSYCHE Web App.....	31
4.1.2	Machine Learning Model.....	31
4.2	Implementation Details .....	32

4.2.1	Web Application .....	32
4.2.2	Machine Learning Model.....	37
4.3	Operating Procedure .....	57
CHAPTER 5	TESTING AND CONCLUSIONS .....	59
5.1	Common Test Scenario.....	59
5.2	Test Detail.....	59
5.2.1	GPT Model Accuracy Testing on Initial Dataset.....	60
5.2.2	Machine Learning Model Accuracy Testing on Initial Dataset.....	62
5.2.3	Testing Machine Learning Model Accuracy on Larger Datasets .....	62
5.3	Analysis of Test Results.....	63
5.3.1	Analysis of Psyche Web Application Testing Results.....	63
5.3.2	GPT Model Accuracy Testing on Initial Dataset.....	64
5.3.3	Machine Learning Model Accuracy Testing on Initial Dataset.....	65
5.3.4	Testing Machine Learning Model Accuracy on Larger Datasets .....	65
5.4	Testing Web Applications.....	66
5.4.1	Main Functionality Tests .....	66
5.4.2	Staging Phase Testing .....	69
5.4.3	Results of Staging Stage Testing .....	73
5.5	Conclusion .....	75
BIBLIOGRAPHY.....		77
ATTACHMENT .....		81