

TABLE OF CONTENTS

ABSTRACT	ii
VALIDITY SHEET	v
ORIGINALITY STATEMENT SHEET	vi
PREFACE	vii
TABLE OF CONTENTS	viii
LIST OF TABLES.....	xi
LIST OF FIGURES.....	xiii
LIST OF ABBREVIATIONS.....	xx
LIST OF TERMS	xxi
LIST OF APPENDIX.....	xxiii
CHAPTER I INTRODUCTION	1
I.1 Background	1
I.2 Formulation of the Problem	5
I.3 Goal of the Final Project	5
I.4 Benefits of the Final Project.....	6
I.5 Outline of Chapters	6
CHAPTER II THEORITICAL BASIS	9
II.1 Literature	9
II.1.1 Management Information System	9
II.1.2 Asset Management	9
II.1.3 Computerized Maintenance Management System.....	10
II.1.4 Unified Modelling Language	11
II.1.5 SDLC	13
II.2 Selection of Theory/Model/Design Framework.....	17
II.2.1 Reasons for Method Selection	17

II.2.2	Previous Research	20
CHAPTER III	SYSTEMATIC PROBLEM SOLVING	21
III.1	Problem Solving Systematic Design	21
III.1.1	Preliminary Stage	26
III.1.2	Data Collecting Stage.....	26
III.1.3	System Designing Stage.....	27
III.1.4	Testing Stage	27
III.1.5	Validation Stage	28
III.1.6	Analysis and Evaluation Stage.....	28
III.1.7	Closing Stage	29
III.2	Identification of Integrated System.....	29
III.3	Limitation and Assumption	29
CHAPTER IV	INTEGRATED SYSTEM DESIGNING	31
IV.1	Data Collection.....	31
IV.1.1	Primary Data	31
IV.1.2	Secondary Data	32
IV.1.3	Stakeholders Identification.....	32
IV.1.4	Business Process Identification.....	33
IV.1.5	Assets in Faculty of Industrial Engineering Indentification	35
IV.2	Data Processing.....	39
IV.2.1	User Requirements Identification	39
IV.3	Unified Modelling Language	43
IV.3.1	Class Diagram	44
IV.3.2	Use Case Diagram.....	45
IV.3.3	Activity Diagram.....	53
IV.3.4	Sequence Diagram	119

IV.3.5	Mockup Design	154
IV.4	Scrum	168
IV.4.1	Product Backlog	168
IV.4.2	Sprint Planning	172
IV.4.3	Sprint Backlog	172
IV.4.4	Sprint Execution	174
IV.4.5	Sprint Review	179
IV.4.6	Sprint Retrospective	183
CHAPTER V	ANALYSIS AND DESIGN RESULTS	185
V.1	Verification and Validation	185
V.1.1	Verification	185
V.1.2	Validation	197
V.2	Result Analysis	206
V.2.1	System Condition	206
V.2.2	System Advantages and Disadvantages	207
V.2.3	Implementation Plan	208
CHAPTER VI	CONCLUSION AND RECOMMENDATIONS	213
VI.1	Conclusion	213
VI.2	Suggestion and recommendations	214
REFERENCES	215