Universiti Teknologi MARA

GAMIFICATION IN WEB APPLICATION FOR DIRECT SELLING SALES MANAGERS

SITI SARAH BINTI OTHMAN

Thesis submitted in fulfilment of the requirements for Bachelor of Computer Science (Hons.) Faculty of Computer and Mathematical Sciences

January 2022

STUDENT DECLARATION

I certify that this thesis and the project to which it refers is the product of my own work and that any idea or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

SITI SARAH BINTI OTHMAN 2020985961

JANUARY 30, 2022

ABSTRACT

Gamification in Web Application for Direct Selling Sales Managers is a project development, the purpose of the development is to provide assists for company, to help overcome problems and increase the motivation of sales manager. The sales agent and admin also able to use the system, as for sales agent can purchase order in the system and admin can monitor the system so that the system run smoothly. Based on the literature review done, there are two problems are identified. The first problems are company with sales managers has difficulty to manage and keep track of its managers' sales performance where the performance is based upon the sales made by their subordinates' sales agents. Next, sales managers have low motivation due to lack of incentives to reward their performance. A set of objectives were identified for the project, which are to identify appropriate gamification elements in an application for sales manager, to develop a web application for sales manager that apply gamification elements and to evaluate and test the functionality of the web application for sales managers. After that, the methodology adopted by the system is the Waterfall Methodology, where only the first three phases are applied, requirements, design, and implementation. All three objectives successfully achieved during the development. The strength of this system will be the effective way to support the sales manager in manage the sales agent, motivate sales manager to increase their sales and makes the sales manager compete with other in a healthy way. There are several system limitations that can be improved in the future.

Keywords: Waterfall Methodology, web application, gamification, sales managers, direct selling

TABLE OF CONTENT

CONTENTS	PAGE
SUPERVISOR'S APPROVAL	ii
STUDENT'S DECLARATION	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
TABLE OF CONTENT	vi
LIST OF FIGURES	ix
LIST OF TABLES	xii
CHAPTER ONE	14
1.1 Introduction	14
1.2 Background of Study	14
1.3 Problem Statement	15
1.4 Research Question	17
1.5 Research Objectives	17
1.6 Scope	17
1.7 Significances	18
1.8 Conclusions	19
CHAPTER TWO	20
2.1 Introduction	20
2.2 Direct Selling	22
2.2.1 Single-level Marketing	22
2.2.2 Multi-level Marketing	23
2.3 Sales Agent	24
2.4 Sales Manager	25
2.4.1 Sales Manager Engagement and Motivation	26
2.5 Gamification	27
2.5.1 Rewards	28
2.5.2 Design Elements	28
2.5.3 Features	30
2.6 Related Works	31
2.6.1 Existing System	31

2.6.2 Comparison of Existing Application	34
2.7 Discussion	35
2.8 Summary	36
CHAPTER THREE	37
3.1 Introduction	37
3.2 Operational Framework	37
3.2.1 Planning	39
3.2.2 Information Gathering	40
3.2.3 Data Collection and Analysis	41
3.2.4 Design Phase	41
3.2.5 Implementation	42
3.3 System Methodology	43
3.3.1 Planning Phase	44
3.3.2 Analysis Phase	45
3.3.3 Design and Development Phase	46
3.3.4 Testing Phase	47
3.4 System Architecture	48
3.4.1 Gamification Design Elements	48
3.5 Software and Hardware Requirements	50
3.6 Conclusion	51
CHAPTER FOUR	52
4.1 Use Case Diagram	52
4.2 Flowchart	58
4.3 Storyboard	64
4.3.1 Sales Manager	64
4.3.2 Sales Agent	72
4.3.3 Admin	72
4.4 Project Development	73
4.4.1 User Login	73
4.4.2 Sales Manager	74
4.4.3 Sales Agent	85
4.3.4 Admin	95
4.5 Chapter Summary	103
CHAPTER FIVE	104
5.1 Unit Testing	104
5.1.1 Unit Testing: Sales Manager	104