



De La Salle University – Dasmariñas

Aklatang Emilio Aguinaldo Image – based Augmented Reality

Android Mobile Application

An Undergraduate Special Problem Presented to

The Computer Studies Department

College of Science and Computer Studies

De La Salle University – Dasmariñas

In Partial Fulfillment of

the Requirement for the Degree

Bachelor of Science in Computer Science

Bhasa, Phaoroh – Amenhotep II M.

Bolivar, Bealyn J.

Erfe, Yasmin Lorraine V.

March 2014



Table of Contents

Acknowledgement	ii
Abstract	iii
Appendices	iv
List of Figures	v
Chapter 1 Introduction	1
1.1 Project Context	1
1.2 Purpose and Description	2
1.3 Objectives	4
1.3.1 General Objective	4
1.3.2 Specific Objectives	4
1.4 Scope and Limitations	5
Chapter 2 Related Literatures and Studies	7
2.1 Foreign Studies	7
2.2 Local Studies	10
Chapter 3 Theoretical Framework	14
3.1 Research Paradigm	14
3.2 Concept of the Study	18
3.2.1 Input Process Output	18
3.2.2 Use Case Diagram	20
3.3 Conceptual Operation	21
3.4 Conceptual Process	23
3.4.1 Software Requirements	23
3.4.2 Hardware Requirements	23
Chapter 4 Development of the Project	25



4.1 Project Development	25
4.1.1 Screenshots	25
4.2 Development Planning	29
4.2.1 Software Suited	29
4.2.2 Languages Used	30
4.3 Evaluation of the Study	30
4.3.1 Respondents of the Study	30
4.3.2 Research Instruments and Techniques	31
4.3.3 Data Gathering Procedure	31
4.3.4 Statistical treatment of data	31
<b>Chapter 5 Implementation Plans</b>	<b>35</b>
5.1 Plans for Implementation and Deployment	35
5.2 Installation Plans	35
5.3 Training Plans	36
5.4 Maintenance	36
5.5 System Requirements	36
5.5.1 Software Requirements	36
5.5.2 Hardware Requirements	37
5.5.3 Human Resource	37
<b>Chapter 6 Results and Discussion</b>	<b>39</b>
6.1 Interpretation of data from the survey conducted	39
<b>Chapter 7 Conclusion and Recommendation</b>	<b>49</b>
7.1 Conclusion	40
7.2 Recommendation	50



## ABSTRACT

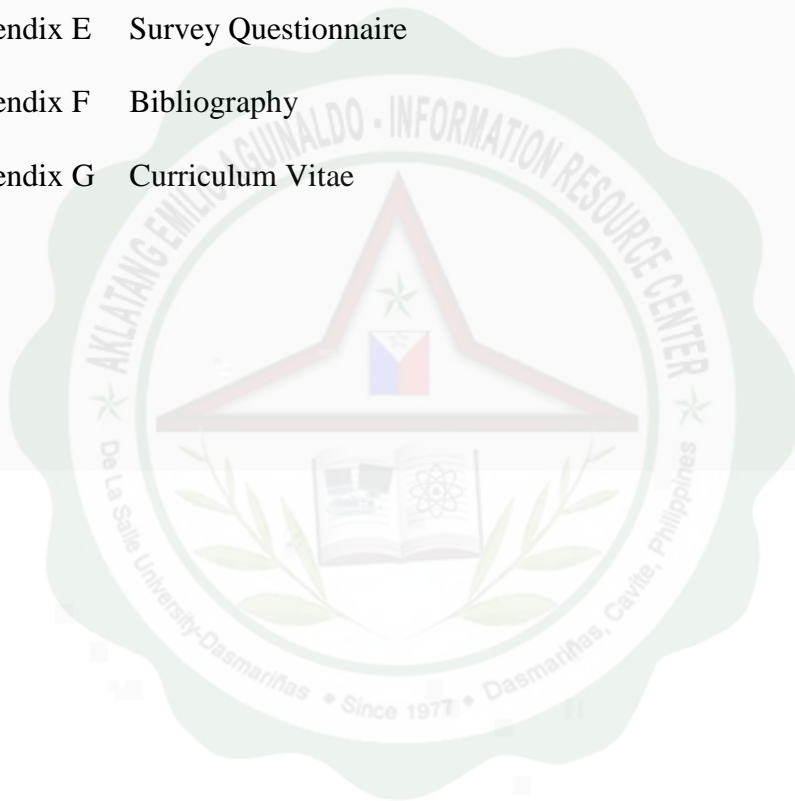
The Aklatang Emilio Aguinaldo – Augmented Reality or AEA-AR is an image-based augmented reality Android mobile application developed for the use of the Aklatang Emilio Aguinaldo library of the De La Salle University – Dasmariñas. It aids users in familiarizing and exploring the building and assist them in locating library resources in the different sections of the university library. It has four main features – Library Tour, Library Map, Search and Book AR.

The mobile application was developed using the Java programming language with the Eclipse IDE and used tools such as the Android SDK, Android Development Tools, and MetaioSDK. After development, the mobile application was evaluated by 60 respondents consisting of randomly selected students, faculties and library staffs. The result of the evaluation conducted through survey questionnaire implies that the proponents were able to fulfill its purpose with the system's output. Users find the mobile application satisfactory and helpful for the AEA library tour and beneficial for the students, library staff and other users.



**APPENDICES**

Appendix A	V-Model Diagram	51
Appendix B	IPO Diagram	52
Appendix C	Use Case Diagram	53
Appendix D	HIPO Diagram	54
Appendix E	Survey Questionnaire	55
Appendix F	Bibliography	56
Appendix G	Curriculum Vitae	57





**LIST OF FIGURES**

Figure 3.1	V-Model Diagram	14
Figure 3.2.1	IPO Diagram	18
Figure 3.2.2	Use Case Diagram	20
Figure 3.4	HIPO Diagram	21
Figure 6.1.1	Percentage of how pleasing the mobile application’s GUI is	39
Figure 6.1.2	Percentage of how clear and complete the application’s contents are	40
Figure 6.1.3	Percentage of how easy to understand the application’s user manual is	41
Figure 6.1.4	Percentage of how informative the mobile application is	42
Figure 6.1.5	Percentage of how user-friendly the mobile application is	43
Figure 6.1.6	Percentage of how helpful in familiarizing and touring inside the library premises the application is	44
Figure 6.1.7	Percentage of how helpful in searching and returning books easier the mobile application is	45
Figure 6.1.8	Percentage of how error-free while running the application is	46
Figure 6.1.9	Percentage of how effective for use in the library the application is	47