Requirement Model for UUM
E- Alumni Club

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E- Alumni Club

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By

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Dedicated to,,,,,,,,

My Loving family

اهداً الى ,,,

عائلتي
Abstract

The twenty-first century have witnessed several major technological renaissances and many technological achievements as well, which led to a competition among many countries to adapt this trend. Malaysia had improved the infrastructure needed in the information and communication technology area, in order to provide the universities with the new technologies. Therefore the use of the technology becomes available inside the universities.

To develop the web-based E-Alumni Club, the study will use the methodology for this study is based on the general methodology in research design, because it is have the logical phases that used to develop a prototype for web-based E-Alumni Club that developed for the Alumni Centre in UUM. To help the student to be closely with graduates student with each other and giving advice and guidance to them by the universities and take advantage of their positions in the service of new graduates and provide feedback to the universities.

Finally, the system is tested and the result confirms that the proposed system is successful.
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CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter provides a description to the study. It contains the background of the study, significance of the study, problem statement, and research questions, objectives of the study and scope of the study and limitation of the study.

1.2 Background to the study

The rapid development of Internet technology World Wide Web in the past decade has dramatically increased to solve complicated problems in many fields such as organizations, companies and universities. Many of universities enhance their activities through the web. The web as a part of the internet application has changed the way of the transactions through developing web applications in order to facilities the activities (Sridharan, 2004).

According to Mclean Report (2007) a requirements model is “a representation, usually with both diagrams and text, of the problem or the solution” (McLean Report, 2007).
The contents of the thesis is for internal user only
References

Product Manager Java Technologies. www.novell.com

About.com (2008). Advantage of online fund raising retrieved October 5, 2008 from
http://privateschool.about.com/od/financial/qt/onlinefund.htm


http://www.answers.com/topic/alumn

Carvalho. (2004). Sequencing ICT in Post-Conflict/Low-Capacity Countries Undergoing
Decentralization
http://www1.worldbank.org/publicsector/decentralization/March2005Seminar/3Car
valho/Carvalho%20Draft%20Sequencing%20ICT%20in%20Post-
Conflict%20Countries%20Undergoing%20Decentralization.pdf

Anna University. (2008). Alumni Club retrieved October 1, 2008 from
http://alumniclub.in/


from http://ww2.zuv.uni-heidelberg.de/aaa/alumni/en/

Jacobson, I., & Ng, P.-W. (2004). Aspect-Oriented Software Development with Use Cases:
Addison Wesley Professional.


Servlets. (2008). Intro and Overview Customized Java EE Training. Developed and taught by well-known author and developer. At public venues or onsite at your location, Marty Hall.


