# Develoment Information System Model Selection Student to Continue Studies Master and Doctor Program (Case Study : International Office of Universitas Mercu Buana)

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***Abstract:*** *The development of Information Technology is very advance at this time, triggering developments in other fields, one of them in the field of education. Currently, Information Technology is not only viewed as a field of education, but more than that Information Technology began to be developed in order to assist the development of the field of education itself. Information Technology is expected to not only support the development of education alone, but more than that Information Technology is expected to provide solutions on existing educational and information problems. In the activities at Higher Education will definitely need information technology in daily needs. Universitas MercuBuananeed information technology to conduct competency exams for students who wish to pursue study in other countries. This competency exam consists of: selection of documents such as diploma, transcript, TOEFL, CV (Curriculum Vitae) and Letters of recommendation from some lecturers who have the same knowledge. International Office of the UniversitasMercuBuana in this case need help from Psychology Department of Universitas MercuBuana in binding test questions that will be given to students who want to continue study to other countries. In developing this system using method such as SDLC(System Development Life Cycle) and OOAD (Object Oriented Analysis Design) analysis. The results of this competency examination system research are expected to be efficient and effective and have a history of exam questions that have been in the previous archives and alsoUniversitas of MercuBuana can see the competence of students who want to continue their studies to other contries.*

*Keywords – Development Information Technology, Test, SDLC and OOAD*

## I. INTRODUCTION

The development of information technology is now very rapid with the internet technology has changed the way a company's perspective in running their business. Information is a vital need in the role of activities and decision-making that will affect the development of an organization. With the good information, complete, easy, reliable then the organization can win business competition. The delivery and storage and processing of information can be implemented much more efficiently and effectively, either in terms of resources, time, energy used or in other words computer-based information systems and internet technology can support the entire business activities of the company as a whole. Universitas MercuBuana is an educational institution that has used Information Technology media. Universitas Mercu Buana need its because very important for the recipients of information, especially in this modern era. In terms of the use of the system especially to the student, lecturers and all academic parties to be a good tool in the utilization of information technology. The current delivery of information must be supported by excellent computerized technology. The role of the system in Universitas MercuBuana will support all activities of interactive communication media process, such as the development of model of e-forum system of alumni of Universitas MercuBuana. Universitas MercuBuana will definitely need a media to conduct competency exams for students who wish to pursue study in other countries. This competency exam consists of: selection of documents such as diploma, transcript, TOEFL, CV (Curiculum Vitae) and Letters of recommendation from some lecturers who have the same knowledge background. International Office of UniversitasMercuBuana in this caseInterntional Office need some help to Psychology Department of UniversitasMercuBuanain binding test questions that will be given to students who want to continue study to other countries.

## II. RELATED WORK

Collaborative Search in Context Collaborative search is part of a search method known as social search. Social search refers broadly to a process of finding information widely with the help of online media. Traditionally search tools inside the web have been designed to be used on their own in search engines, for example designed to include multiple keywords with what is searched and then search engines will filter the word matching the entered search. All the content in the web can be used by everyone. Although it does not refer to a general search only, it can also search like Social Media Web Content [7].Discussing a database (DB) has the meaning of data collected in the storage data of the computer and the terminology of distributed explains that one computer will cooperate or send data to another computer. Each DB provides illustrations of 2 related data, is data structure and data content.

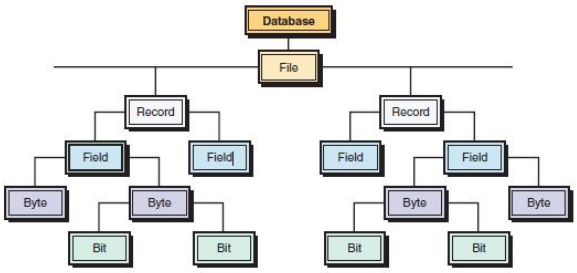



Fig. 1 Hierarchy of data for a computer-based file

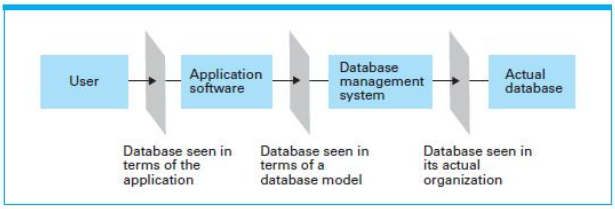



Fig. 2 The conseptual layers of a database management

When the DB is used to describe large amounts of data or explain complex data structures the potential for errors will be of concern as the size and complexity of the data gets larger, some vendors create software called DBMS (Data Base Management System). Where this software is used to manage all activities to data storage[9]. The special features of database applications involve more than one layer that are grouped into two major layers in the application and a layer of database management[5, 6].

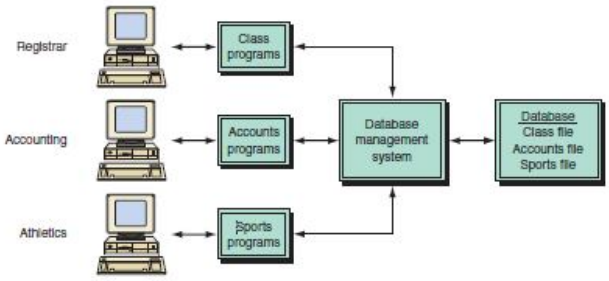
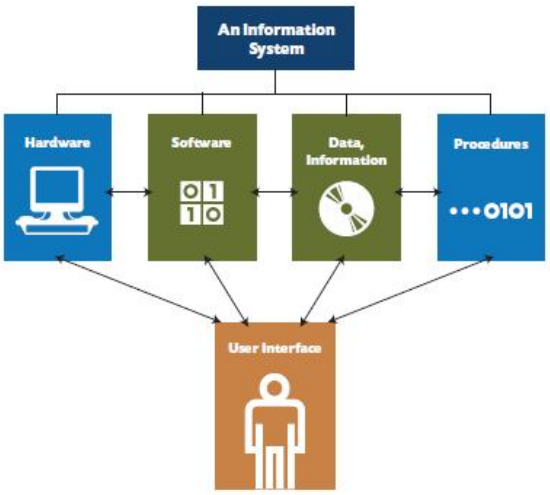



Fig. 3 The conseptual layers of a database management

HCI (Human Computer Interaction) is an interaction made by humans against the computer itself. Humans can interact with computers to perform activities or daily needs - days, where activities done by humans will be easier to do. With the computer all the information needed will be able to get obtained, therefore the computer is very helpful in everyday work[1, 3 and 8].

An information system aims to collect processand store data, perform data analysis and distribute objectively needs. The basic functions of




information systems such as [3]: input, process and output.

Fig. 4 *Information Systems and Information Technology: Core Concepts*

Learning Management System (LMS) is a unified software suite that is comprehensively integrated in features for the delivery and management of the course. LMS will automatically handle course catalog features, course submissions, ratings and quizzes. The features available in the LMS for educational institutions such as: (1) Management of user access rights, (2) Management courses, (3) Resource management, (4) Activity management, (5) Value management, (6) Value display, (7) Management of e-learning visualization, so that it can be accessed with a web browser [14].

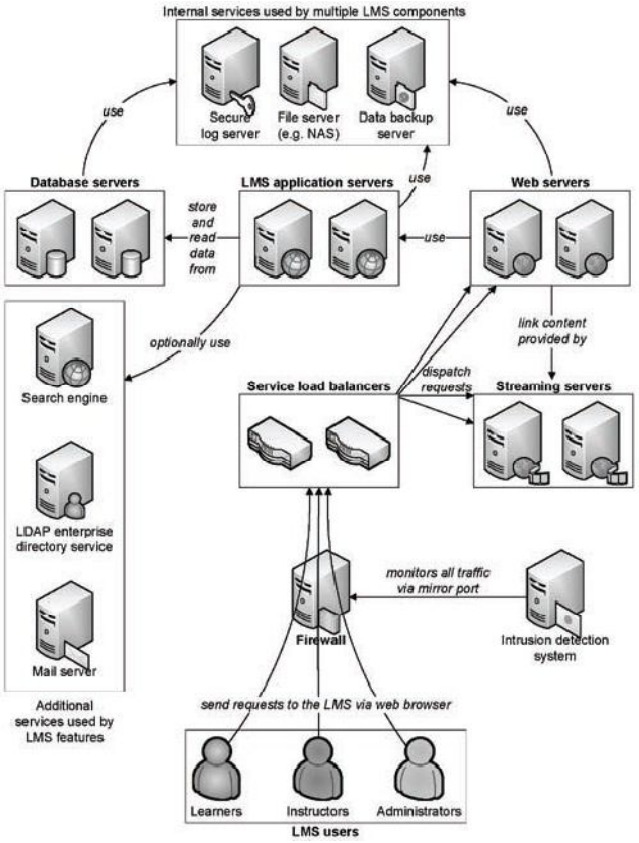



Fig. 5Components Of A Typical Learning Management System Infrastructure

SDLC (System Development Life Cycle) is a process that describes how Information System can support business need, design from system, design it and distribute it to users delivering it to users).The design and development of systems using SDLC (System Development Life Cycle) usually have 4 stages, the stages are: planning (planning), analysis (analysis), design (Design) and implementation (implementation).

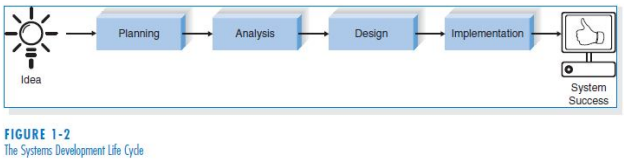
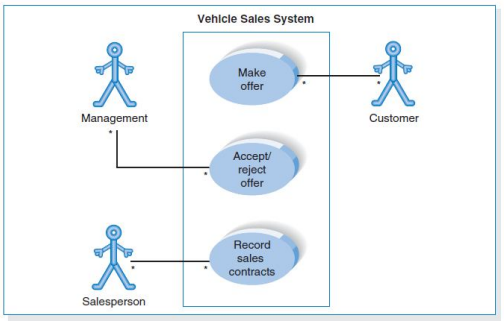



FIGURE 1-2
The Systems Development Life Cycle

Fig. 6 The System Development Life Cycle

Use Case Diagram illustrates the very simple path of the main function in the system and gives the number of actors (users) involved in the system, where the purpose of the actor is to interact with other actors.

Fig. 7 Use Case Diagram for Vehicle Sales System



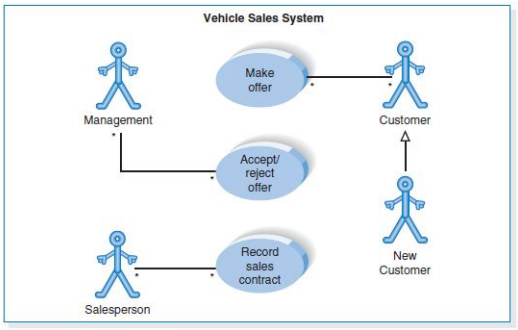




Fig. 8 Use Case Diagram With Specialized Actor

Online Pre Induction Course (OPIC) describes the e-teaching and e-learning activities that have an approach to improve the learning process. This learning provides many opportunities for students to develop effective learning models and students will have many insights [9].Online interaction (online-based interaction) in learning has two distinct levels, such as [11]: A. Interaction with content Interaction with this content means the interaction of students with media that contains information, this information is submitted by teachers to the students through online media such as the delivery of exam information, tasks, learning materials. B. Interaction with the instructor (teacher) Interactionwith the instructor is students can communicate with instructor by using media e-mail or forum.

## III. METHOD

This research will be conducted for one year at Universitas MercuBuana. This activity manages student selection test data which want to continue study to other countries. The method used is SDLC (System Development Life Cycle). In the SDLC there are several stages: Planning, Analysis, Designand Implementation.The first stage will be done in building the student selection test model which to continue study to other countries by doing the planning, the planning is collecting all data - data about business process that exist in student selection test. The stages before the students do the selection test is the student have to register, after the registration, students will get the account, the account is used by students to enter into the selection test system. The second stage is the student must upload some documents, if the uploaded document meets the requirements, then the student is only allowed to pass the selection test that the test date will be informed.

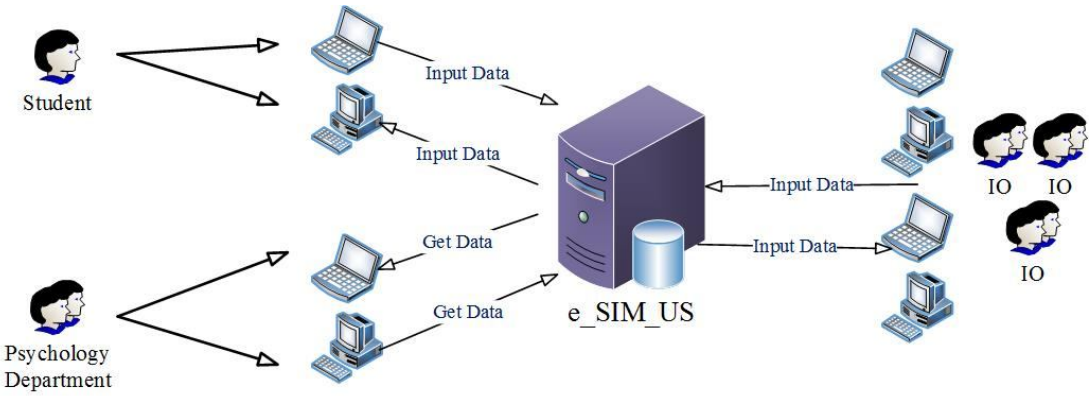



Fig. 10Conceptual Model of System

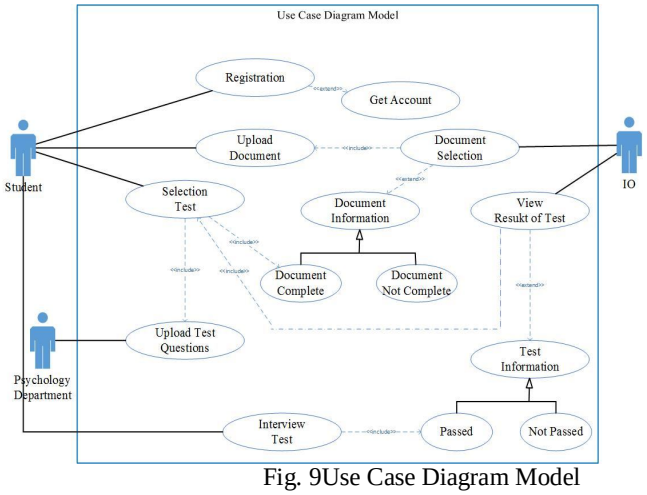



Fig. 9Use Case Diagram Model

The firstly, Student must registration process, after registration student will get account, account is used to login or enter into system, in system student could do upload document, after document has been upload inside system, IO (International Office) Will perform a document examination, if the document has completed then the next step is the selection process of student, if student selection test is passed, then the student could continue the next step, is the interview. This interview was conducted by students and IO.

## IV. RESULT AND DISCUSSION

Results of this research that has been done obtained the results of an Information System Selection Model, as for the results of the Selection


System Selection Information System application are as follows:

Fig. 11Login System

Students before going to inside system firstly have to login (input username and password), if login successfull then students could see all content inside system.

Fig. 12 View Test Selection


In this Fig. 12, we get information there is 3 models test selection: Indonesian Language, Math and English. Every question test there is time to writing the question. After student finished, then student will get results of test.

From the results of research, obtained some conclusions such as:

1. Designa student selection test system to continue studying to other countries is web-based, thus the results of this web-based system will be effective and efficient in terms of usage
2. The way in which this web-based system becomes effective is the interaction for all actors (International Office (IO), Psychology Department and students)

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