Developing an E-Forum to Universitas Mercu Buana Alumni’s to Improve Effective Communication and Educative by Technology Multimedia Acceptance Model

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Abstract—The development of Information Technology today is fuelling the use of Information Technology which is very brush and very easy to use. In the development of Information Technology becomes a good tool in connecting giver and receiver of information. The development of Information Technology today is not only used by the company alone, but various universities use Information Technology as an effective means of delivering information to its users. Application of good Information Technology will produce a good information also for the recipient. Application of Information Technology within the scope of Higher Education is the Universitas Mercu Buana. Universitas Mercu Buana has a very good and big role in providing information for the recipient. In this case the Universitas Mercu Buana also rely on Information Technology to run activities within the scope of Higher Education. Information Technology to be developed by the Universitas Mercu Buana is by making the model of e-forum alumni system which is expected to be an effective and efficient communication tool. The method used in this e-forum is by using TMAM method (Technology Multimedia Acceptance Model) where this method combines from 2 methods namely TAM (Technology Acceptance Model) and MDLC (Multimedia Development Life Cycle) and the analysis used is OOAD (Object Oriented Analysis Design).

Keywords—TMAM, e forum, OOAD, MDLC, Information System

I. INTRODUCTION

Information technology progress is very supportive in the dissemination of information, the information can be used by the users as a means of communicating. Supported by internet and WWW (World Wide Web) which has many mafaat in communication.

Social networking is a global phenomenon that occurs today, because it is built using web 2.0 and the advantage of using web 2.0 is as a means of building collaborative-based communication [11]. Utilization of information technology used as a social media must support some activities such as e-mail, discussion forum and others.

Collaborative learning technology focuses on the purpose and orientation of an interactive communication medium. There are other types or models of communication media used, for example is google application. With google application users can upload multiple files such as documents, forms and others, so with this model the delivery of information becomes better [10].

Web 2.0 supports the delivery of information such as messaging (e-mail), forums, social networks, virtual learning and web conferencing. With the media can be done a learning method called virtual knowledge learning and knowledge sharing [9].
If alumni are integrated with existing career system in Universitas Mercu Buana, this will increase the added value for alumni in obtaining information and easy access to dream company and for UMB in fostering further cooperation with industry.

II. LITERATURE REVIEW
Information System and Information Technology: Core Concepts. An information system aims to collect, process, store data, perform data analysis and distribute objectively needs. The basic functions of information systems are as follows [3]:

1. Input
2. Process
3. Output

![Diagram of an Information System](image)

Figure 1. Information Systems and Information Technology: Core Concepts

Data and Software Application Concept
Business software application is a computer program that supports a specific job or a business process. Apps can support a job of a department or division of a functional area [3, 15, 16].

![Diagram of Information Systems](image)

Figure 2 Information systems classified according to type of support

IT Infrastructures, Cloud Computing and Services
Cloud Computing evolves from virtualization to a more flexible approach in the Information Technology infrastructure and can lower costs. The types of virtualization are Storage Virtualization, Network Virtualization, Hardware Virtualization. The goal of cloud computing is to optimize Information Technology infrastructure becomes very important and also with the cloud computing becomes a goal for a company to survive and develop storage media.

Web Social Media
By building internet technology, online learning provides a new method for teachers in delivering all information. Teachers can also conduct classroom discussions with students using internet technology. Online learning
also supports the activity of exchanging information and knowledge to its users. There are four stages done in building an interactive communication, the stage is [8]:

a. The first stage: determining the topic of the discussion, the teacher will illustrate the content of the discussion, provide procedures on managing the discussions and the results of the discussion.

b. The second stage: the teacher will upload (upload) the material, and the students are asked by the teacher to respond to the material contained in the system. And there is a process of interaction between teachers and students as well as students and students.

c. Third stage: the teacher will produce a transient summary of the discussions that have been made by teachers and students. Tahap keempat: hasil diskusi tersebut akan dijelaskan lebih lanjut dikelas, dimana guru akan selalu memberikan masukan yang bermanfaat kepada siswa yang sudah melakukan diskusi didalam sistem. Media sosial pada zaman ini menjadi sarana yang paling efektif dan efisien dalam menyebarkan informasi. Beberapa media sosial ini dapat berupa web system maupun desktop system.

![Figure 3 Stages of collaboration-based communication](image)

**Virtual Communities and Social Networking Services**

Online or virtual communities this community gives someone to interact with others using social media.

<table>
<thead>
<tr>
<th>No</th>
<th>Types of Online Communities</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td><strong>Associations.</strong> Many associations have a Web presence. These range from Parent-Teacher Associations (PTAs) to professional associations. An example of this type of community is the Australian Record Industry Association (aria.com.au).</td>
</tr>
<tr>
<td>2</td>
<td><strong>Ethnic communities.</strong> Many communities are country or language specific. An example of such a site is elsitio.com, which provides content for Spanish- and Portuguese-speaking audiences, mainly in Latin America and the United States. A number of sites, including china.com, mymailhk.</td>
</tr>
<tr>
<td>3</td>
<td><strong>Gender communities.</strong> ivillage.com is a large community that focuses on women’s interests, while askmen.com is an online community that caters to men.</td>
</tr>
<tr>
<td>4</td>
<td><strong>Affinity portals.</strong> These are communities organized by interest, such as hobbies, vocations, political parties, unions ([e.g., edmunds.com (cars), democraticunderground.org (politics)]), and so on. Many communities are organized around a technical topic (e.g., a database) or a product (e.g., BlackBerry smartphones). A major subcategory here is medical- and health-related sites like webmd.com. According to Johnson and Ambrose, almost 30 percent of the 90 million members who participated in communities in 2005 were in this category.</td>
</tr>
<tr>
<td>5</td>
<td><strong>Young people—teens and people in their early twenties.</strong> Many companies see unusual opportunities here. Alloy Digital has created a number of Web sites in this space—including alloy.com, gurl.com, teen.com, takkle.com, and channelone.com—which it claims reach over 30 million young people every month.</td>
</tr>
<tr>
<td>6</td>
<td><strong>B2B online communities.</strong> B2B exchanges support community programs such as technical discussion forums, blogs, interactive Webcasts, user-created product reviews, virtual conferences and meetings.</td>
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</tbody>
</table>
Social networking commonly referred to as a network of friends. Social network services are usually web-based, equipped with various features for users to communicate and interact with each other. Examples of popular social networking sites today include Facebook and twitter [5]. The concept of discussion of information technology-based media is asynchronous, because there is an interaction between actors and other actors (users).

**Figure 4 Overview of Social Media**

**User Generated Content (UGC)**
User Generated Content is content generated from users or users themselves. This round has long started, popular sites are now also rely on UGC to always be an up-to-date site. The site owner makes only necessary improvements or changes. While information updates and all interactions within the site are derived from the active participation of its users, so people are always and constantly interested in visiting the site. The various UGCs are as follows [5]: Blogs, WIKIS, Social Network Sites.

**Multimedia User Interface Design**
Multimedia design should be able to overcome the inherent problem in an interface design such as defining user requirements. There are some concerns about multimedia design, which are as follows [1]:
- Matching the media to the message
- Managing users’ attention
- Interaction and navigation

**MDLC (Multimedia Development Life Cycle)**

**TAM (Technology Acceptance Model)**
The first TAMs introduced by Dennis are used to see if the new system is acceptable to the users, because with the acceptance of a new system by the users, there is an interrelated relationship between users and the system [14]. The
The main concepts in TAM consist of PU (Perceived Usefulness) and PEU (Perceived Ease of Use). PU provides information on "the extent to which users believe that using the system can improve its performance". The PEU provides information on "convenience to users using the system" [15].

**Figure 5. TAM Model**

**III. RESEARCH METHOD**

TMAM (Tecnology Multimedia Acceptance Model) adalah gabungan antara metode TAM dan MDLC.

In the design of e-forum model alumni of Universitas Mercu Buana is the interaction conducted by fellow alumni of Universitas Mercu Buana. The actors involved in designing this e-forum are: Alumni of Universitas Mercu Buana, DirMAWa (Director of Student Affairs), Study Program.

**Figure 6 TMAM Model**

**Figure 7 Use Case Diagram Model e-forum**
The three actors can be integrated with other actors, while the activities performed by the three actors are:

a. Following the forum, the forum can be followed by Alumni UMB, DirMaWa or study program. In this forum the communication interaction takes place between the actors.

b. Uploading files and downloading files, this activity is providing useful information for alumni and the campus of Universitas Mercu Buana (UMB)

c. Following Video Conference - This activity is not much different from the forum, but its advantages are between alumni, DirMaWa and Study Program can interact with video conference.

d. Reading the News, this activity is the delivery of information to the users, the task of DirMaWa is to provide information to the user.

e. Filling in the Questionnaire, This activity is to see and assess how well e-forum models are designed to establish interactive communication among users. The questionnaires were filled by section DirMaWa then alumni and Study Program can fill out the questionnaire.

The design of e-forum model design is this:

![Design model of e-forum](image)

Figure 8 Design model of e-forum

Obtaining Content Material is the process for collecting everything that is needed in a project. About the material to be submitted, then multimedia files such as audio, video, and images will be included in the presentation of the multimedia project. Multimedia files such as audio, video and images will be able to enter if this e-forum model has been applied in the form of an alumni e-forum system of Universitas Mercu Buana. Assembly is the time for a multimedia project to be produced. The materials as well as multimedia files that have been obtained then assembled and arranged according to the design. In this process is needed expert skills in order to get good results. After the results of the finished multimedia project, it is necessary to test. Trials are conducted by applying the results of the multimedia project to minor learning. Next is the duplication and dissemination of the results to the user. Multimedia needs to be packaged properly in accordance with the media spread extents, whether through CD / DVD, download, or other media. The results of research that has been done obtained a system called E-Forum Alumni Universitas Mercu Buana To Improve Effective Communication and Educative. Where this system can already be applied in establish communication between alumni of Universitas Mercu Buana. Display of this system as follows:

![Login Users](image)

Figure 9 Login Users
For alumni of the Universitas Mercu Buana (UMB) students if they do not already have an account, they can enter their username and password with Student Identification Number (NIM) and can change the account in the system. As for the study program, admin (DirMaWa) has created an account for use in e-forum.

![Figure 10 Home of alumni and Prodi](image)

![Figure 11 Alumni and prodi uploading file](image)
Figure 12 Message from e-forum system

Figure 13 Friend Search and Friendship Confirmation

Figure 14 Home of admin
Results from system testing that has been done. This information provides information, that e-forum that has been made already can be used UMB in establish communication for users.

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<thead>
<tr>
<th>No</th>
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<th>Activities</th>
<th>Information</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Admin</td>
<td>Content of e-forum</td>
<td>All of content have been worked and every link integrated with other links.</td>
</tr>
<tr>
<td>2</td>
<td>Alumni and Prodi</td>
<td>Content of e-forum</td>
<td>All of content have been worked and every link integrated with other links.</td>
</tr>
</tbody>
</table>

**IV. CONCLUSIONS**

The e-forum application for alumni is designed on a web-based basis, thus the results of this web-based system will be effective and efficient in terms of usage. The way in which this web-based system becomes effective is by the interaction of all actors. With the existence of this system the benefits that are received by the institution or institution are as a means of quality development.

For further development can be done some improvements as follows:

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<tr>
<th>No</th>
<th>Year</th>
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<tbody>
<tr>
<td>1</td>
<td>2019</td>
<td>Created Model Based Applications android to make it easier for its users.</td>
</tr>
<tr>
<td>2</td>
<td>2020</td>
<td>Created Based Applications android to make it easier for its users.</td>
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REFERENCES


