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Development of Social Networking Site with Electronic Yearbook: A Pilot Study

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Abstract*: Communication between schools/universities and their graduates is important resource that contributes to the university specifically during accreditation. The members of accrediting team are task to look into the employment status of graduates of specific program offered in schools where they graduated. A graduate tracer is the key to gather related information to determine the quality and impact of an educational institution. This study aimed to develop a social networking site with electronic yearbook for Jose Rizal Memorial State University – Main Campus as means of communication that connects graduates, students for sharing personal data and any other significant information through posting, chatting, forum and blogs. It also provides faster browsing on electronic yearbook wherein , specific reports, and virtual chat rooms are also possible. The developmental research method was used in the study utilizing 30 evaluators evaluating the output of the software project to determine the usability, functionality and reliability of the developed web-based software. The software output was evaluated through ISO 9126 a guide for software quality assurance. The results showed a high level of efficiency in terms of usability, functionality and reliability.

Keywords: Social Networking Site; Electronic Yearbook, e-Graduate Tracer, Social Network, Web-based Year Book

I. INTRODUCTION

Most people hear the term social network, they probably think of online communication between people that is known recently in popularity. Sites like MySpace, Facebook and LinkedIn account as the top most visited websites in the whole world. A lot of users, specifically the fully wired net generations claimed that social network is the usual way of their lives just to keep in touch with friends, relatives, love ones and be updated on current events and many other engagements. A number of features of online social networks are widespread to each of more than three hundred social networking sites currently in the web. The most vital feature is the capability to provide and share personal profile and related information of users. This personal information page classically contain photos, some essential demographics information (name, age, sex, location) and additional virtual room for listing favourite movies, bands, TV shows, books and hobbies etc. Social networks on the internet in generally also let users post videos, music, photos, and personal blogs in the profile page. But the common features of online social networks are the ability to find and make friends with other site members. List of friends and group members also come into view as links in each profile page. As a result, visitors may be able to easily view online friends. Every social network on the web has different features and techniques in browsing and get in touch with friends. MySpace is the most open to all users to search and make contact with people transversely the entire network even to those distant members of a specific social network. Though members can only gain access to the full profile information of the other members upon the acceptance to become a friend with someone else in the web [1].

Mark Zuckerberg a student of psychology at Harvard University discovered Facebook including a number of social networking sites. Course match was one of his legacy allowing users to view other users taking his degree. He also developed a Facemash application wherein users could rate user's attractiveness. On February 2004, he also launched "facebook" in which its name was taken from the sheets of paper distributed to freshmen, profiling students and staff. Right after 24 hours, 1,200 Harvard students signed up. After a month, it hits over a half of the undergraduate population registered as facebook users. The network was extended to the other universities in Boston, Ivy League and all US universities. It became facebook.com on August 2005 right after purchasing the address of about $200,000. High schools from the United States of America signed up from September 2005, then it began to spread all over the world reaching universities of United Kingdom the following month [2].

LinkedIn, the most popular online social network for business professionals, allows user to search each and every site member, but they can only access the full profiles and contact information of the established contacts to people who have accepted an invitation to join the network (or having invited to join theirs). However users can be introduced through the list of user’s contacts to people who are two or three degrees away from the larger populace of LinkedIn network. [3].

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It is often asked by the accrediting team of state universities and colleges if Jose Rizal Memorial State University (JRMSU) and all its campuses have presently deploying a virtual space for alumni and students together with the faculty and staff as a way to keep in touch with each other. To find solutions to this query, a social networking site exclusively for people connected to JRMSU with the purpose of virtual communication for faculty, staff, alumni and students was realized. Population pools will not only be randomly selected JRMSUians but it caters almost 100% of JRMSU community. It also provides an electronic alumni yearbook of all the graduates within the university in each school year, since the graduates will be required to register upon graduation. The study intents to establish a continuing process of utilizing the cyber space for the entire JRMSU community.

The main objective of the study is to develop a social networking site with electronic alumni yearbook that provides faster communication through chatting, forums and blogs; faster browsing, quick loading of yearbook, fast and accurate reports related to alumni/students; and capable to generate a graduate tracer or related information of alumni specifically, their present work and any related information. It also aimed to assess the software quality assurance of the output as to usability, functionality and reliability.

The result of the study will help the institution in tracing the outcome of the students/alumni in terms of their educational qualification on the job they landed for evaluating the standard of the institution's quality education. The alumni tracer is very significant in evaluating the schools vision and mission achievement. Student-Alumni relationship is one of the outcomes of this study since they can stay connected with each other during the school period and as well as after graduation to share information on working trends and job opportunities. The human resource personnel can be benefited also on this study since the product of the institution can be their future employees. The companies can open the website and choose among the site members that meet the quality and competency of the employee they need based on the posted information of the student/alumni.

II. METHODS

The researchers utilized the developmental research method, which is a systematic study of designing, developing, and evaluating computer programs, processes, and products that meet the criteria of internal consistency and effectiveness.

Data Gathering: The researchers made some research about the different studies from the internet about the system features and conducted survey on what information demographic information need for the students/alumni.

Designing: The software was design to include two modules one for the social network and the other is for the electronic yearbook. The design is conceptualized to provide current information of the student's activities, announcements and graduates' whereabouts.

Coding: Actual programming or coding was done through the use of PHP language, specifically in the creation of the website and SQL was used for the database.

Testing and Evaluation: There were 30 users who participated in testing the system. Fifteen are randomly selected students of the university, 10 alumni and 5 IT instructors. All of them were from JRMSU main campus, evaluated the overall quality of the system. The users were asked to rate statements using the five-point Likert-type scale. It was evaluated based on the ISO standard software quality assessment.

III.PROJECT DESCRIPTION

The system is controlled mainly of the computer server which is connected to the internet. It has a database that holds all the accounts of the members of the social networking site. It can be accessed both from PC and from android supported gadget.

Figure 1 shows the design of the system with the features it contains. It is supported with the different multimedia linkage like instagram, youtube, and a lot more to make the system not just for text formatted information but also for entertainment like post. Forum is available to all members for an open-up discussion on different topics concerning them. There is also a tab for events wherein ongoing and upcoming programs of the school and even the activities of the off-school members will be posted to invite the members on the said event. Job corner is opened so that companies can add job opportunities if available and also alumni who knows job openings can post directly to give avenue of the student/alumni or job seekers.



Fig 1. Project Design

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IV. RESULTS AND DISCUSSIONS

The user login interface found in figure 1 is the first screen to be viewed in accessing the JRMSU Alumni social networking site. This requires the user to be a registered member. The user needs to click on the signup button if not yet registered. Registration page will then be furnished by the user to create a profile of every graduate student of JRMSU as an Alumni member. Once the registration is confirmed by the program administrator the user can click on the login button. Log-in requires two fields such as user name and password which were saved in the system's database. If username and password are accepted it then connects to the homepage of JRMSU social networking site.



Fig 2. Sample User's Login Interface

Figure 3 is the user's interface used by the JRMSU students/alumni in staying connected with other graduates and to keep them updated on the different happenings inside the JRMSU environment. The program interface is composed of four tabs such as home, happenings, profile and log-out tab. Home tab shows the shout-outs of the registered user which is also shown with the other users. It serves as the current status of the user. The happenings tab tells on the past events, present and upcoming activities. The user can also publish their own invitations which can be viewed by all members of the group. Profile tab consists of the information of each user. Pictures and photo albums can also be viewed on this tab as a compilation of the user's picture. Users can search on members

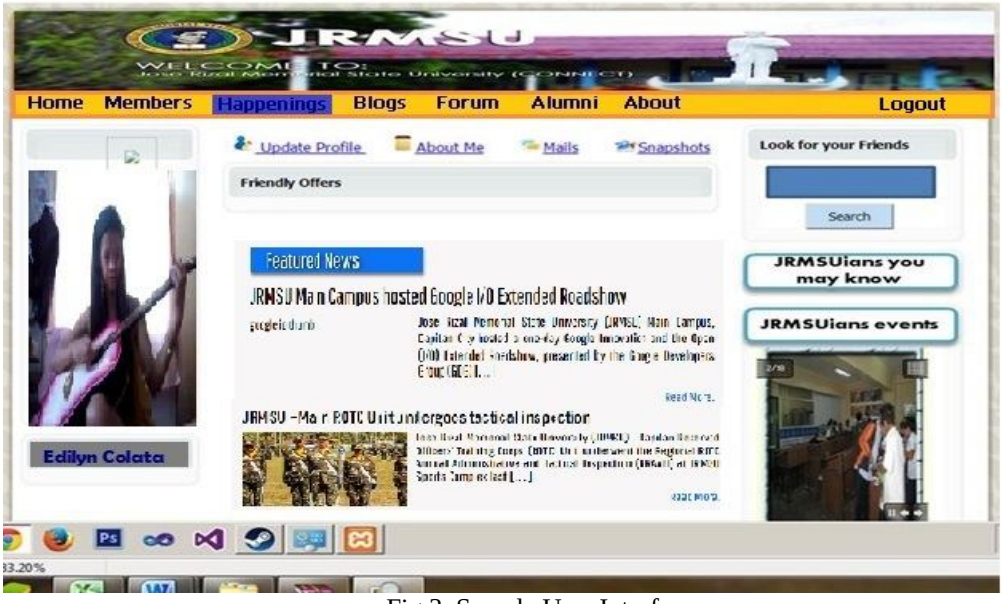


Fig 3. Sample User Interface

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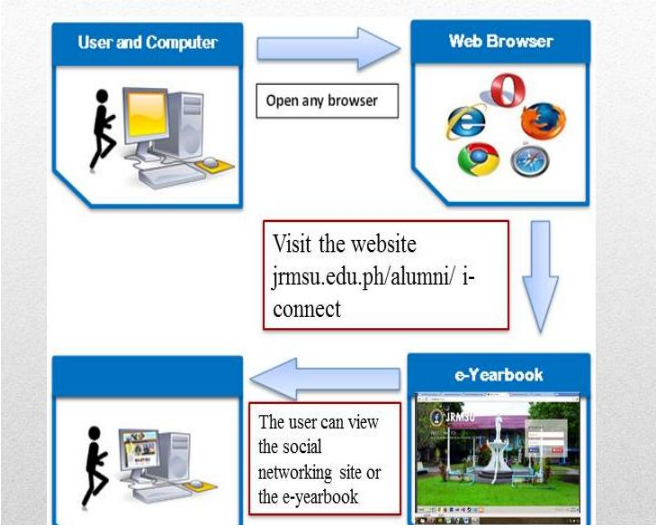


Fig 4. System Flow of Electronic Yearbook

Figure 4 shows the system flow of the electronic yearbook. Before the user can view the e-Yearbook the user have to run or execute any internet browser such as internet explorer, opera browser, Mozilla Firefox, My browser, Netscape navigator, Torch and Google Chrome browser. Right after opening the web browser, the user visit the website in order to view the environment and interfaces of different web pages in the website or just hit the button at the main page of JRMSU social networking web interface. Then, the whole webpage of e-yearbook displays its different options, menus, command buttons, mission and vision of the institution, background images with labels and viewing photos and course details, specific year of graduation with the list of names appeared therein and searching specific name or id number of student/alumnus.
user at any given interface [7][8].

TABLE II
EVALUATION OF SOFTWARE QUALITY FACTOR AS TO USABILITY

Criteria	AWV	Description
User friendly program	4.30	Very Much Usable
Quick driven program	4.43	Very Much Usable
Simple manipulation features	4.53	Very Much Usable
Learn ability of the software	4.47	Very Much Usable
Attractiveness	4.07	Much Usable
Total Mean	4.36	Very Much Usable

AWV is the Average weighted value

Table I shows the results of evaluation on the software quality in terms of usability. It showed that the social networking and electronic yearbook of JRMSU is user friendly internet-based software that provides user a graphical user interface environment that has a usable features namely users' registration, chatting with registered users according to groups/batch and also provides graphical data through images representing individual picture of alumni. It was rated very much usable on its user friendliness showing a high degree of performance on its button driven interface. It also provides quick-driven options in viewing and searching schoolmates, communicating with them through forums by group, which indicates that the web-based software is very fast and satisfies the needs of users. It has a very simple design interface in manipulating the entire environment and easy to manage. The system design

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enables the user to gain knowledge in operating its interface quickly and easily understood to the user. The software is also eye-catching and a well designed web pages that catch the attention of users leading to positive impressions with the design.

The total mean has a qualitative description is very much usable, which illustrates that the total usability of the software is highly observed since almost all of the system functions are clearly understood to almost all of the users. The system architecture has a good quality attribute represented in different web-pages. Thus, the system has well-designed and attractive web pages with the used of menus, buttons and color combinations.

ISO 9126 stated that the software quality factor on usability testing determines the how easy the systems functions be understood, which relates to mental models of the user in interacting with the software or a machine. It helps user to lessen its learning effort consumed for them to be trained. Thus, the ability of the software to be easily manipulated and controlled by the user in any given environment [4].

TABLE II
EVALUATION OF SOFTWARE QUALITY FACTOR AS TO FUNCTIONALITY

Criteria	AWV	Description
Faster communication with chatting and forums	4.30	Very Much Functional
Faster browsing of pictures with the use of thumbnails and generating reports related to alumni information	4.27	Very Much Functional
The software complies the end-user needs	4.23	Very Much Functional
the software meets the desired design specification	4.40	Very Much Functional
Total Mean	4.30	Very Much Functional

AWV is the Average weighted value

The result of evaluation of the software quality assurance as to functionality is shown in Table II. The “JRMSU Social Networking and electronic yearbook software is very much capable and it functions very well, it also performs faster communication through chatting/forums between alumnus, which has a rating of 4.30 or “very much functional”. It illustrates that the software is very fast in terms of responding specific action specifically in responding users’ request or replying chats and forums. The system is also efficient for the user on its capability to execute faster on browsing of pictures in electronic yearbook interface using thumbnails and generating reports related to alumni information easier and faster. The web-based software really complied the end-users’ need since it performs all functions as expected by the software evaluators during the project testing. The proposed system evidently meets the desired design and the required specification is realized since it serves as the virtual room for alumni specifically those who graduated in the institution and working abroad or living far away from school.

The overall descriptive rating is “Very Much Functional” or 4.30, which means that the overall functionality of the system highly satisfies the needs of the end users and it functions correctly according to the design specifications specifically on the core application functions namely: loading pictures in electronic yearbook interface, faster loading of virtual chat rooms and forums.

Functionality testing is performed to validate that the designed automated application that operates correctly according to the specifications of design. It is also the ability of a computer program to generate features that meets the desired user’s needs during operation under stated conditions [4].

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TABLE II
EVALUATION OF SOFTWARE QUALITY FACTOR AS TO RELIABILITY

Criteria	AWV	Description
Error tolerance	4.37	Very Much Reliable
Understandability of output	4.13	Much Reliable
Completeness of the system	4.40	Very Much Reliable
Appropriateness of the information provided by the system	4.40	Very Much Reliable
Total Mean	4.33	Very Much Reliable

AWV is the Average weighted value

Table 3 shows the results of the evaluation based on reliability of the proposed system. Error Tolerance has a rating of 4.37 or Very Much Reliable, which means that the system is able to handle errors that may arise during runtime. 43.33 percent of the evaluators strongly agreed that the system is very much reliable while a half of the evaluators strongly agreed to be much reliable. Errors are handled by the system with its error trapping routine. The system is capable of handling such situations that arose during the execution. The understandability of output has an average weighted value of 4.13 or "Very Reliable". This means that the users were able to understand the results, input procedures and reports generated by the software. Completeness of the System earned a rating of 4.40 or "Very Much Reliable", which indicates that all of the features and functions of the software that can be found in the software are complete. It is able to display the desired output needed in the system. Lastly is the "Appropriateness of the Information provided by the system" gained the average weighted value of 4.40 or "Very Much Reliable", which is indicative that the proposed design is able to show the suitable and important information that is needed and understood to the users.

The total mean has a rating of 4.33 or "Very Much Reliable". It indicates that the overall assessment of the users with regards to the reliability of the software is highly dependable and stable specifically on the appropriateness of information provided by the system, which got the highest rating. Furthermore, the software project is almost complete and bears error trapping routines for the correctness of the desired result.

Reliability is defined as the capability of the software in performing the required functions for a specified period of time and the number of operations [5].

V. CONCLUSIONS

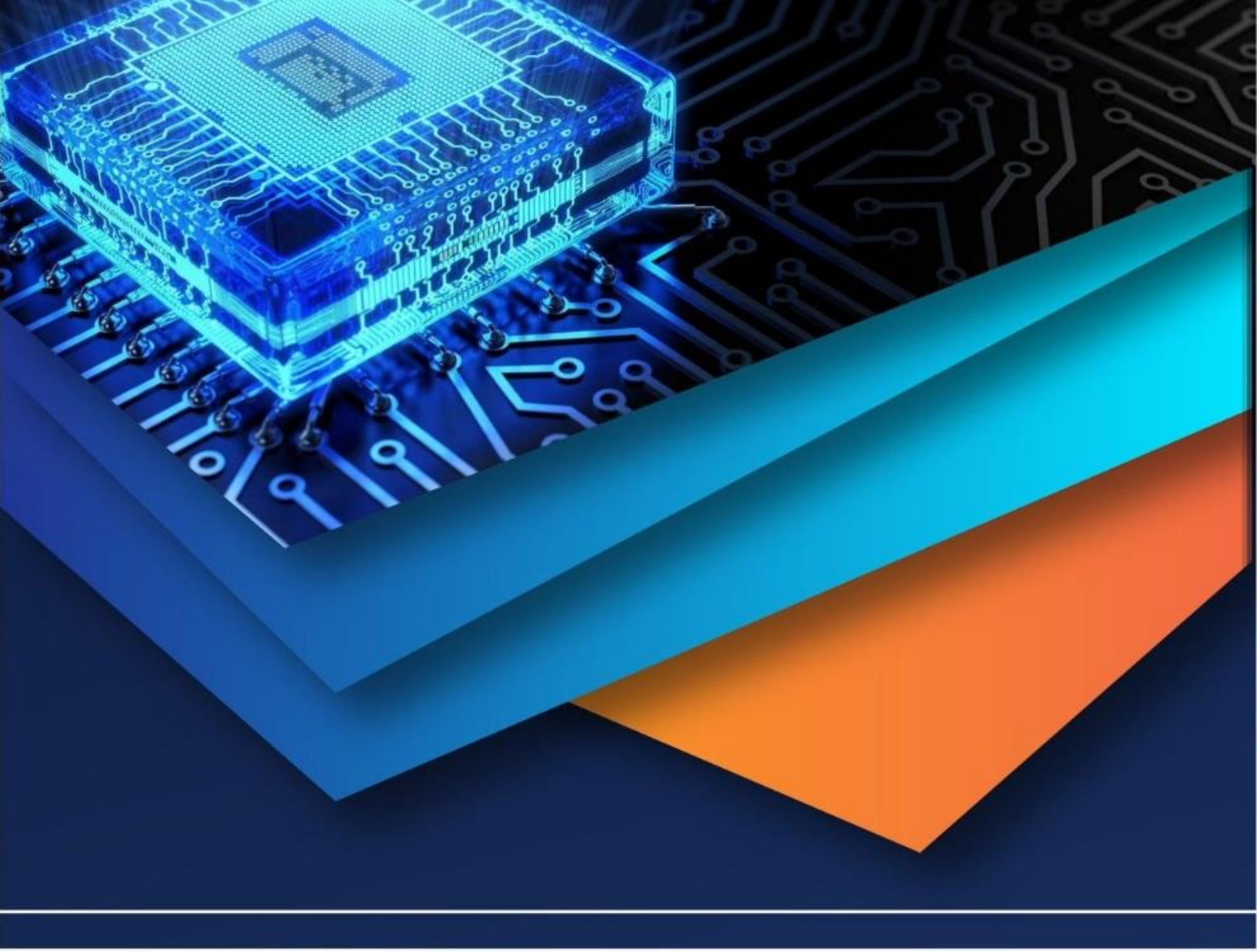
Based on the results of the study, it is concluded that the JRMSU Social Networking with Electronic Alumni Yearbook solution system provides the following namely: faster communication through chatting, forums and blogs; faster browsing and loading different web pages; quick loading of yearbook according to specified year of graduation, fast accurate reports related to alumni and even those who are still presently studying, faster loading of the virtual chat rooms/ forums and many other add on. This also allows the school administration specifically the office of alumni in generating a graduate tracer or related information of alumni specifically, their present work, current educational attainment if they pursued other courses/programs its either related or not to their college degree, scholarships availed after graduation, comments and suggestions related to curriculum in a specific course they took in order to realign the current curriculum that fits the demand of industries outside the university. The system serves as information hub specifically to some private and public entities for the purpose of verifying the accuracy of graduate information. The overall level of usability, functionality and reliability were very high in which the users were giving positive responses as basis for the acceptance of the software for its realization. The developed software is also very much precise in processing data and providing the desired result as expected by the users. It is also accurate since the system has an error trapping routines to minimize faults during operation. Thus, the system has a high level of efficiency in providing functional features for the users' handiness.

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