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Research paper



Analysis of e-learning system in the presence of social requirement

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Abstract

Integration of the social network with e-learning systems is essential. Integration focuses more on a strategy that uses the benefits of social interactions and techniques in the development of e-learning systems. This approach cannot focus on finding the feature of e-learning components only, but will be useful and interactive solutions for e-learning organizations. This paper therefore seeks to propose a new social e - learning system model by integrating a social network into the e - learning system. The e-learning system incorporating social network systems is a significant advantage to increase user interaction and to measure not only the number of communications, but also the interaction meaning of the feature among users. In addition, we proposed the integration of the e-learning model in an educational organization with social and cultural learning. We proposed the integration of the e - learning model in an educational organization with social and cultural learning.

Keywords: *CMS; E-Learning Systems; LMS; Social Network Systems.*

1. Introduction

E - learning systems and social networks have grown rapidly nowadays. Many applications for e - learning and social networking systems have given users more information and interactions such as Wiki, blogs, Facebook, e - learning systems, etc. [1]. Hanus discusses in his research paper that educational institutions have adopted more social software for educators, including wikis, blogs, social networking and social bookmarking to meet their emerging educational needs. Although there is no distinction in the e - learning system between users, either students or teachers, in which all users are responsible for selecting suitable materials to obtain the desired knowledge [2]. Social software has a similar definition in the core features that include are to collaboration, interaction, and facilitation among users. Using collaboration between Social software and e-learning system will shift the educational system to represents a more dynamic, social, personalized, open, emergent, and knowledge model [5]. Integration of e-learning with Social Network will provide learners with the abilities to direct their problem-solving process, build connections with a wide variety of people, knowledge, interact and collaborate with other users [6].

Educational institutions deal mainly independently with the learning management system (LMS) and social software and Internet companies. The main advantages of this implementation are economic educational institutions; moreover, flexibility and openness are not necessary for additional investments. In this way, connections and information are isolated in different systems, the lack of a specific functional design and user interface for educational purposes and the unsustainability of the service provided by Internet companies for social software. These disadvantages will bring the barrier for students and teachers in particular to users [7]. Educational institutions should take into account these problems by providing social systems with an integrated e-learning system. This integration can support interaction and collaboration between learning and teaching [8-9]. This paper proposed an e-learning model that integrates social software with the learning management system to increase interaction and collaboration in teaching learning. The model provides each user with a facilitated room. This room helps users interact with others and collaborate. The facilitated user room includes a network of courses, social networks and knowledge. Course connection is the main purpose of the model to connect them to their social network. Therefore, during the learning process, users can build their facilitated space [11-12].

2. Related works

Several types of research have studied the measurement and analysis of communication systems for the sharing of knowledge between e - learning users. In addition to comparing social learning systems and e - learning systems, [10]. The integration of e-learning systems with social networks was proposed by Jernej and its supporting software was displayed. This integration concerns a low level of interaction between users. Jernej's study focuses on a direct relationship in e-learning systems, such as the relationship between learning content and user communication. Jernej approach is concerned with increasing interaction between users in e-learning systems. To achieve their goals use social networks environments with e-learning systems. During the integration process the approach used coom system, this leads to difficulty of use.

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Father more, this approach does not achieve integration between traditional and e-learning [3].
Zhao et al. develop an interactive and collaborative e-learning system platform. This approach integrates features of social systems in an e-learning management system. In this approach, a user can use a personal social network to build and expand it for e-learning. The drawback of this approach is a limitation of the social system only, such as blogs and forums [4].
Gila Kurtz proposed the effect of integrating facebook with the e-learning system, especially the course system. This integration allows the user to discuss and exchange knowledge through system integrations. The result of this integration system shows that Facebook helps improve the interaction between learners and contributes effectively between students and frequent communication with the instructor. [7].
Martinez et al. [5] proposed an integrated social network with interaction classroom inside it. The e-learning activities relationship inside the integration system such as discussions, solving doubts, sharing information and creating products become an essential feature for the integration system.

2.1. Anatomy of the e-learning system

Anatomy of the e - learning system from the point of view of the developer showing that the system has three categories. Figure 1 shows the relationship between the three categories.

1) Learning Management System (LMS): LMS is designed to help with training and learning management, monitoring and evaluation. This separates and isolates educational activities from each other. LMS does not concentrate on content.

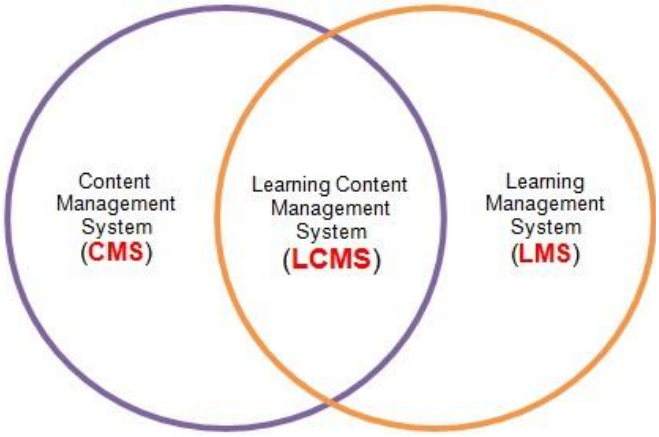


Fig. 2.1: E-Learning Categories.

2) Content management systems (CMS is a software tool that allows the user to publish, create and edit e - learning content. CMS aims to provide a user interface for the creation and modification of e - learning content.
3) LCMS: The Learning Content Management System is designed to help educational organisations, by creating an unlimited number of courses, process and practice e - learning systems. LCMS uses CMS strength to integrate LMS as shown in Figure 1.

3. Proposed model (SRLCMS)

The structure of e-learning depends on traditional education systems (CMS) and social networks known as social requirements. In the paper, we proposed a model for the integration of traditional education systems (CMS) and social networks with a learning management system called the Learning Content Management System for Social Requirements (SRLCMS). Figure 2 shows the proposed model for Social integration requirement with Learning Content Management System.

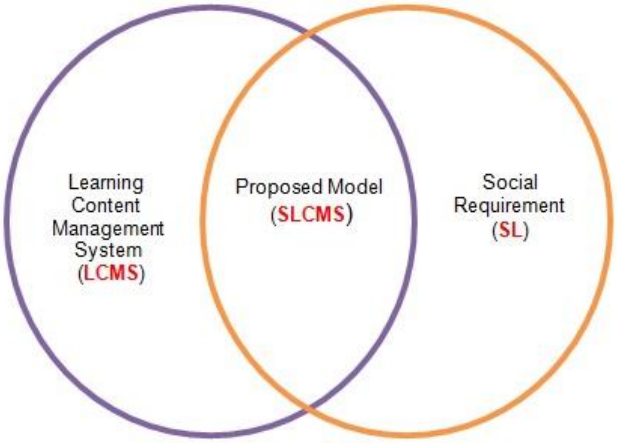


Fig. 3.1: LIC, Initial Model.

This model will benefit from the existing components of the open source system. Building an integrated, collaborative and interactive electronic education system. The design of the SRLCMS model in two steps: Step one integrates the components of e-learning with traditional components of education systems. The second step, as shown in Figure 3, combines e-learning systems with social networking components.

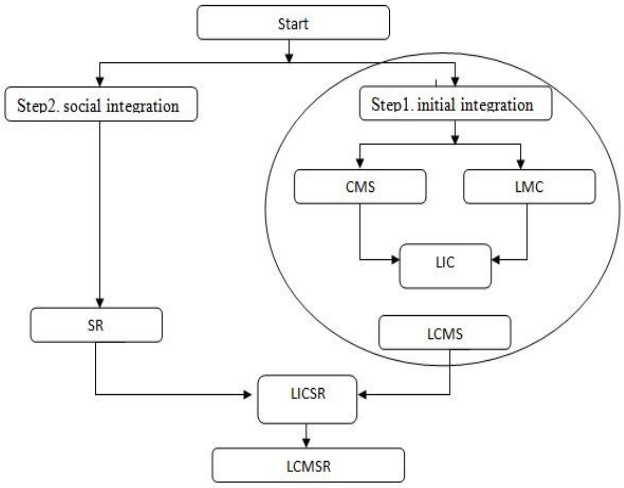


Fig. 3.2: Integration Step.

The proposed SRLCMS model consists of two steps during configure as shown in Figure 3
Initial step of integration: This step integrates components of the learning management system with the components of the course management systems. SRLCMS can give meaning to an e-learning and social network relationship. First step of integration, using two open source systems (software applications), LMS and CMS. A new model Learning Integration Course (LIC) has been integrated, enabling users who have been authenticated with CMS to access LMS via a link on the page without needing CMS re - authentication. The Course Management System (CMS) contains the rich features for software education, student and teacher registration courses in the classroom, as well as the existence of a CMS integration block that would simplify the integration process using any LMS version.
The approach is taken in this paper as follows:
Create a first model (LIC) ; this model integrated courses with e - learning systems in order to create an e - learning environment similar to the traditional learning environment in educational institutions. The result of the LIC model was the following:

1) All studies and experimental results show that the proposed model creates minimum time educational materials within the LMS.

2) The preliminary results show that the proposed model is more precise in creating educational content in the LMS.
3) The proposed model demonstrates the efficiency of students and teachers distribution in the course.
4) Set up a hundred percent classroom within the LMS that matches the CMS. Where materials, sections, schools and users (students, teachers) are included.

The social Integration Step: this step integrating system components resulting from the first step with social networking components. In step, will be a building model (LICS) running on the exchange of information between LCMS and social requirements (SR). To achieve an integrated e-learning system by using what has been achieved in the first step (initial integration). In the second step (social integration), study social requirements and select the best social elements. This enables us to achieve integration (integration, the first step with social needs).

The second model (LICS) created by using e-learning system components with the social requirements. The LICS model comes with an integration status of interaction and cooperation in the educational process. In order to achieve this object, we use the facebook system in the educational process side by side with the e - learning system. LICS uses a set of facebooks such as groups (group features), events, messages and chat.

4. Implementation framework

In this section, we use a Moodle (opens source learning management system) and Facebook as a case study to test the proposed SRLCMS model. Integrating social activities in the LMS Moodle allowed Facebook services to be accessed. We set up a mechanism that works to transfer data from the Moodle system to Facebook by combining the two features of the operations by unifying the database that works on each system. Figure 4 shows the LCMS in the Moodle system in the left before the integration. On the right after combination with Facebook.



Fig. 5.1: Integration System.

Figure 5 shows the merging frameworks mechanism by analyzing the two systems. The model frameworks (LICS) works on the linkage systems. The frameworks are configured through the analysis of the Moodle system and Facebook through access to programming structure and the available working screens. This model considers a partial system mechanism. For example, we find the Facebook properties and the particular screen input, review, and entry data for student member on Facebook (with permission from the user). While in the Moodle system we analyze the process of the special screens in the system from the input, review, and entry data. Then we come out with the specific ERD for the new model framework mechanism. Table. 1 shows the similarity in construction, each of the e-learning management system (Moodle) and social requirement Facebook. The new model represents an integration relationship between the learning management system and social requirement. The data combined by the two systems through sending it from the learning system to a social system. Algorithm 1 shows the step of building the model framework.

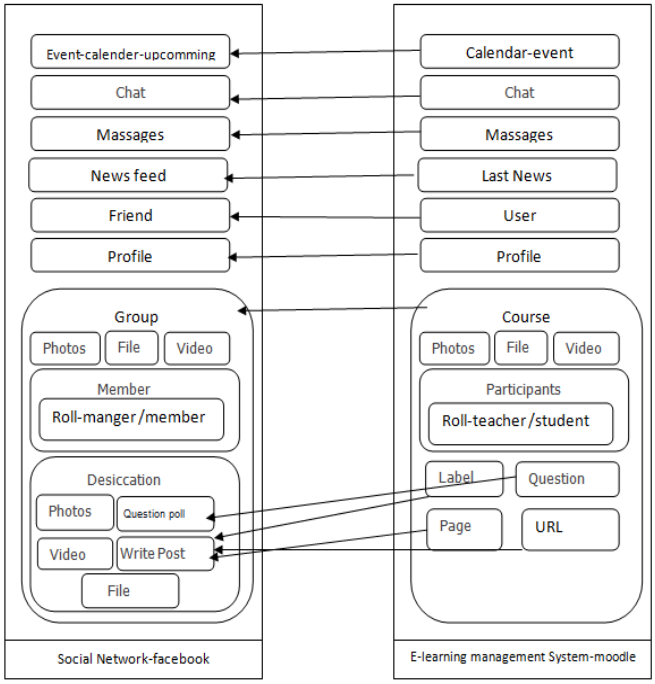


Fig. 5.2: Integration Frameworks.

The Algorithm 1: (LICS)

1) Alg_ LICS ()
2) Mc list components in collection (M)
3) Fc list components in collection (F)
4) Cm content components in collection (M)
5) Cf content components in collection (F)
6) For each components (Mc) in collection (M)
7) If Mc == Fc
   - For each content (Cm) in collection (M)
   - If Cm == Cf
   - Cm update Fc
   - Else
   - Add Cm to Fc
   - end if
   - next content
8) end if
9) next components
10) End Alg_ LICS

Steps to apply of Algorithm (LICS):

Step 1: Take the input of LMS (Moodle) and SR (facebook).

Step 2: read the moodle components from set of components collection.

Step 3: Compared the moodle components with facebook components.

Step 4: if components moodle equal components facebook, add content components moodle to components facebook.

Step 5: Repeat step 3 and 4, to content moodle end.

Table 1: Feature Analysis for Moodle and Facebook

Event	
Facebook	**Moodle**
Event title	Event title
Description	Description
Date	Date
Time	Time
Type of event	Type of event
Chat &Massages	
Facebook	**Moodle**
Send to	Send to
Type of massage	Type of massage
Date	Date
Time	Time
News feed / Last news	
Facebook –News feed	**Moodle - Last news**
name of news	name of news
text of news	text of news
Attachment	Attachment
Date	Date
Time	Time
Profile	
Facebook	**Moodle**
Name / Mobile phone	**Name** / Mobile phone
Username / Country	Username / country
Email	Email
Password	Password
Description	Description
Picture	picture
Course / group	
Facebook – group	**Moodle - Course**
Name	**Name (Full Name** - short name)
Members (admin-member)	User (admin-teacher-student)
Privacy 1. **Public**: Anyone can see the group, its members and their posts 2. **Closed**: Anyone can find the group and see who's in it. Only members can see posts. 3. **Secret**: Only members can find the group and see posts.	Availability 1. **Public(teacher roll)**: Anyone can see the group, its members and their posts 2. **Closed(student roll)**: Anyone can find the group and see who's in it. Only members can see posts. 3. **Privet**: Only members can find the group and see posts.
Favorites	Category
Tools	Tools
Photos, file, video, desiccation	Photos, file, video, topic

5. Case study

This case study conducted at Zarqa University. The objective of this case study to test the Model and find out the effect of using social communication in education. Furthermore, this study aimed to identify the reasons why the use of social interaction and the disclosure of the positive outcomes resulting from the use of social networking sites. In order, to achieve this goal the study relied on the use of social survey method. For data collection we use the questionnaire. The sample of this study includes 520 students randomly. We allow the student to enter our new system which connects Moodle with Facebook. The student starts to use the Integration system for their courses and write down their comments. The result of this study concludes the following:

- Impact of social media on the e-learning: The study find that 63.5% of the sample influence by social media to the positive. 36.5% of the user is not influenced by social media as shown in table 2. The study concluded the use of social communication in the educational process is positively affect the academic learning process.
- Cooperation and interaction: 68.67% of the sample shows positive cooperation and interaction with the new model. 31.33% of the sample indicates that cooperation and interaction do not affect the e-learning process.

Table 2: Measure A Use Of Social Communication in Education

Measure		
Measure the impact of social media on the user		
Response	Average	Total
Yes	63.5	659
No	36.5	380
Measure of cooperation and interaction		
Response	Average	Total
Yes	68.66667	2142
No	31.33333	974
Measure time of use		
Response	Average	Total
Several times a day	70%	366
Once a day	15%	78
Once a week	18%	3
Sometimes	11%	58
Response	Average	Total
Less than 10 minutes	22%	112
Between 11 and 30 minutes	30%	157
Between 31 minutes and 1 hour	21%	108
More than 1 hour	28%	143

- Time: The daily use of the system measures the timing rate. The conclusion of the sample study shows that 70% of the sample used the Integration system daily several times a day, 15% used an Integration system one-time a day, 3% of the sample used the Integration system once a week. The rest of the percentage shows that 11% used the system from time to time (cannot specify). The details of time used by the system indicate that by directing question, 22% used the Integrating system every (less than) 10 minutes, 30% between 11 to 30 minutes, 21% between 31 1 hour, 28% more than an hour.

6. Conclusion

In this paper, we have discussed the growth of social network requirement and integration it with E-learning systems research. Researchers focus on analyzing the content of both systems. However this paper proposed model (LIC) for integration course management system and learning management system, a relationship to go beyond that by providing synchronize and efficiently manage accounts, users, courses, and distribution for improvement on social network measurement. Proposed an integration System with LIC model (SRLCMS) is achieved the goal. The proposed model increases the value of used the learning management system by improving time and Accuracy. The model brings great benefit knowledgeable communication to the social network. We have interaction on the E-learning system and social systems. The new approach is integrated, interactive and achieved cooperation in the educational process. Our method achieves their objective by using social requirements (social networks) and course management system (traditional education). The new approach shows that the approach has an impact of using social media with e-learning, the cooperation and integration are affect the educational process in addition to increase the timing use of e-learning systems.

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