

Enhancing Educational Learning with Social Network Platform

Ambrose A. Azeta, Ibukun O. Eweoya and Samuel Ojumah

Department of Computer and Information Sciences, Covenant University, Ota

ambrose.azeta@covenantuniversity.edu.ng, ibukun.eweoya@covenantuniversity.edu.ng, sojumah@gmail.com

Abstract—In the world today, education has shown to be a major contributing factor to human and national development. The educational system developed in the last century has moved from traditional system to e-learning on static web and recently to dynamic web. With the advent of social network on the Internet, interaction has been encouraged round the world and the method of connecting everyone in the world is now so easy. Although there are various platforms that exist as social network, few of them integrate learning functionalities as a service. This paper provides a social network platform to enhance educational learning. The social network was designed using Unified modeling Language (UML) and implemented using open source software primarily to connect students and lecturer. The system extends the integration in the classroom further and thus, makes the learning process effective.

Keywords—E-learning; Online learning; Social Networks and UML;

I. INTRODUCTION

Education is one of the contributing factors for national development. Developing a social network for learning is a big step towards improving the educational system that leverage on the Internet. Social interactions and cultural influences around a community have a major effect on the design. Also, there is much emphasis on conversation within an open community in order to promote learning and knowledge. Stakeholders in education have realized that social platforms have the ability to promote active learning and collaboration.

Social networking is a resourceful, intelligent and interactive automation of connecting people for effective knowledge dissemination [1]. Teaching and learning of the jet age take place on social media including Wikipedia, Youtube, and Facebook thereby encouraging knowledge sharing and feedback [2]. Most of these social sites existed on the Internet since 1980s. Twitter came into limelight in 2006 and revolutionized e-learning with mobile equipment suitably delivering collaborative teaching and learning [3].

Shortcomings in the traditional classroom learning are bridged by social networks, giving students the opportunity to utilize new networks of collaborative learning, based on interests not catered for in their immediate educational environment [4].

According to global statistics, social networking sites have turned out to be the biggest platform on the Internet with millions of people using them daily for different purposes including learning but there are just a few of them that organizes learning process as is done with the traditional learning systems. Also, learning should be people-centric but most of these e-learning services we have today in our world are more content-centered than they are people-oriented. This is a huge challenge as these services do not provide a way for the major players in the learning process to be actively involved, as research shows that people learn more among themselves while interacting than they do individually.

In traditional learning design, the source of knowledge is from the instructor. The design of the learning process is basically teacher centered and all the interactions occur from teacher to student and not between the students. In the system provided in this study, the students are designed to be passive listeners. There is also a need for organized systems of learning that provide a way for easy access to areas of interests by connecting the people that carry these knowledge and transferring information in a more effective way that will drive people towards learning. In the academia, some faculty still prefer the teaching restricted to the four walls of a classroom but the geometrically increasing classroom has become a learning barrier. Provision of classrooms to accommodate the increasing number of students are insufficient [5].

The system reported in this study was designed to provide a platform that increases effective social connections and interactions. The system makes the learning process more appealing for students. This paper provides a social network-based educational learning system that promotes and enhance learning by leveraging on web technologies.

In the remaining part of the paper, section two contains literature review, followed by UML modeling and design architecture in section three. Section four describes the system implementation. The conclusion of the paper is contained in section five.

II. LITERATURE REVIEW

Several systems exist that are used for elearning in the open source domain and some others are proprietary ([6] [7][8]).

Moodle: Moodle is an Open Source software that has become very popular among institutions around the world. Moodle is a tool for creating online dynamic web sites for students. Moodle contains features that allow it to scale to very large deployments for teachers and students. It can also be used for a primary school or an education hobbyist. Many institutions use model as their platform to conduct fully online courses, while some use it simply to augment face-to-face courses.

Sakai: Sakai is a software for community that exists to enhance teaching, learning, and research. The global community comes together to define needs of academic users, create software tools, share best practices and pool knowledge and resources in support of this goal. Sakai is a community of academic institutions, commercial organizations and individuals who work together to develop a common, free, community source, and educational software platform and is distributed under the Educational Community License [10].

Blackboard: Blackboard is a software platform that is used to design learning and educational system for enterprise or school groups and is a global leader in enterprise technology and innovative. The Blackboard Learning System, a learning platform for higher education, and professional education institutions is the major software used to provide services which is also used for businesses and government organizations.

Pearson eCollege: Offers various services, including Pearson LearningStudio, a learning management system and cloud computing for educators. It is for higher education.
Selling points: Offers customization options, social learning and options for distance learning.

Lore: Lore is an online platform used for school courses allowing teachers and students to manage their work and share information.

MyEdu: MyEdu comprises Web applications for educational purposes. These applications include class schedules, a Grade Point Average (GPA) calculator among others.

GoingOn.com: This is an online academic interface to support teacher-student networks. It provides services such as online classrooms, forums and research sharing.

Instruction Canvas: Canvas is a learning management system that provides many services to track student progress. Examples of these services includes online quizzes and assignment submission.

According to [8], social learning tools offer schools and corporations the opportunity to build communities of interest, to manage and capture informal learning, and to provide mentoring and coaching. These tools are being rapidly adopted not just because of their popularity but also because of the value they provide. McIntosh described several social

Networks for eLearning and Distance Education, as well as social Networks for Teachers.

Quite a number of studies focused attention on the investigation and impact of social networking on the engagement of students in the act of learning. According to [5], Facebook, Youtube and Wikipedia are mostly used by students based on resources and collaboration capabilities. The work in [9] compared social network sites (SNS) and course management systems (CMS). In contrast to SNS, it was reported in the findings that CMS such as Sakai, Blackboard and Moodle are detailed but the collaboration and pedagogy of SNSs are better.

According to [10], content generation, sharing, interaction and collaboration are paramount to Online Social Networks (OSN) for effective teaching and learning. The work in [11] reveals the efficiency of Social Networking via Facebook course delivery in a U.S. Mid-Atlantic minority-serving university concentrating on students' acceptability and content. More so, the work in [12] explores students' e-learning rating, benefits and social networks platforms construction.

It can be seen from the previous works that most of the existing studies on social network for e-learning platform are based on investigation and survey. Moreso, the number of elearning-based social network sites are not enough when compared with the increasing individuals and organisations patronising social media [13], [14]. The contributions of this paper is a system to enhance learning using social media.

III. UML MODELLING AND DESIGN ARCHITECTURE

The activity diagram of Fig. 1 shows the processes involved in sending messages from lecturers to students.

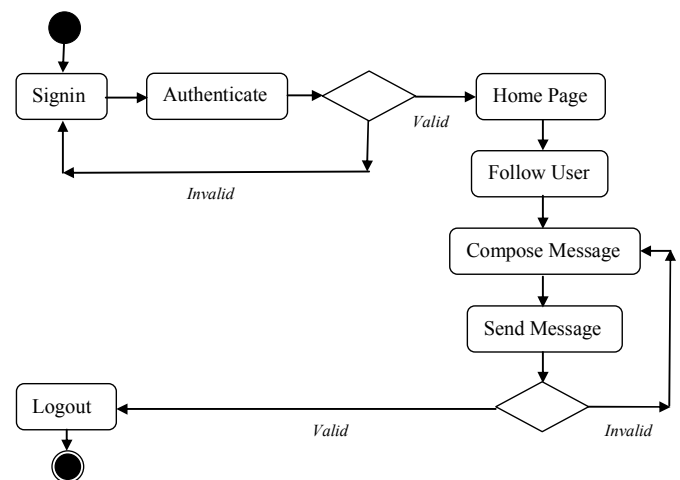


Fig. 1 Activity diagram for sending messages

Unified Modelling Language (UML) has been used to represent the flow of information in some modules of the system. It starts with login through authentication to send messages. The various classes of the social network of the system are shown in Fig. 2. It has seven class diagrams – users, profile, message, lecturer, student, registration and post.

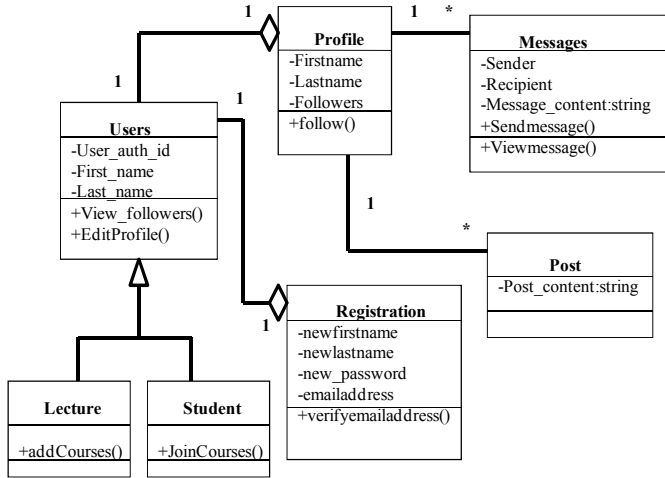


Fig. 2. Class diagram for the social network

IV. SYSTEMS IMPLEMENTATION

The social network application was developed with HTML as the front end, PHP as server side programming language, and MySQL as database. CodeIgniter framework was used to bootstrapped the application in order to speed up the development process. Bootstrap from twitter also set a base

for the frontend of the application and this was able to prevent encountering various front-end design issues faced by developers that starts development from scratch.

Messaging system: The messaging system enables users to send and receive messages privately without sharing such content in a post to be seen by the users on the network.

Sign in Page: The sign in page contains two fields: Email and Password; and requires users to authenticate their ids before access can be granted to the application.

Profile Page: The profile page contains all details of a user including the course of study, level, program and all details for both students and lecturers (see Fig. 4).

Edit Profile Page: The edit profile page enable users to edit their profiles and other information relating to them. Using fields, users can change profile pictures and other personal information.

Search page: The search page of the user interface contains the results displayed after a user searches for other users using a search term that could either be a first name, last name or both. The search results are displayed and sent to the browser containing information about each user.

Home Page: The home page is the first page after a user is authenticated to use the application and it contains information ranging from posts to connections of a user and the network (see Fig. 3).

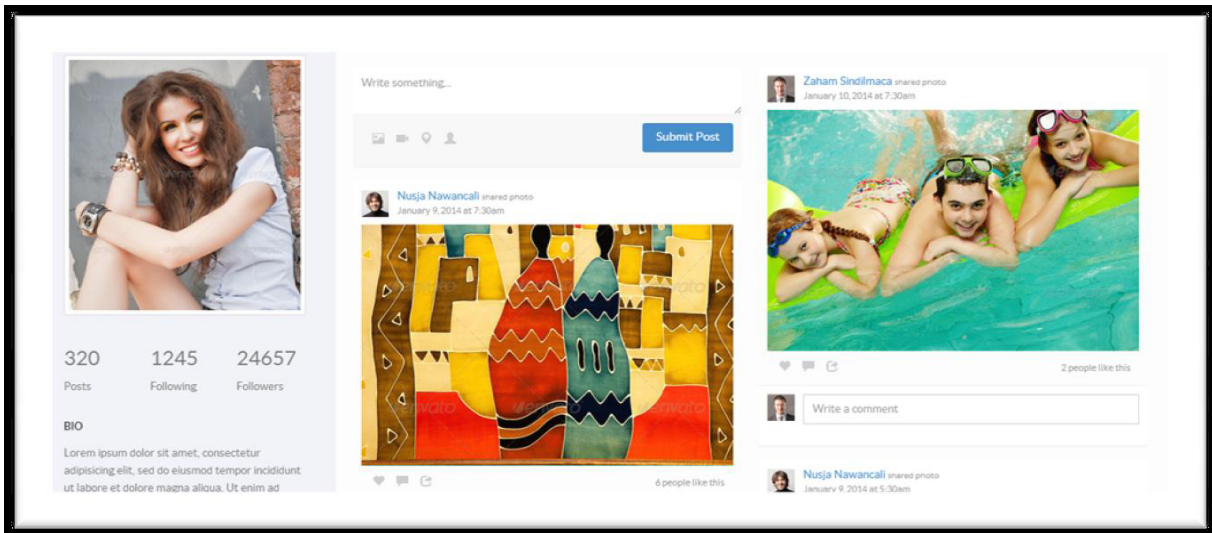


Fig 3. The Home page

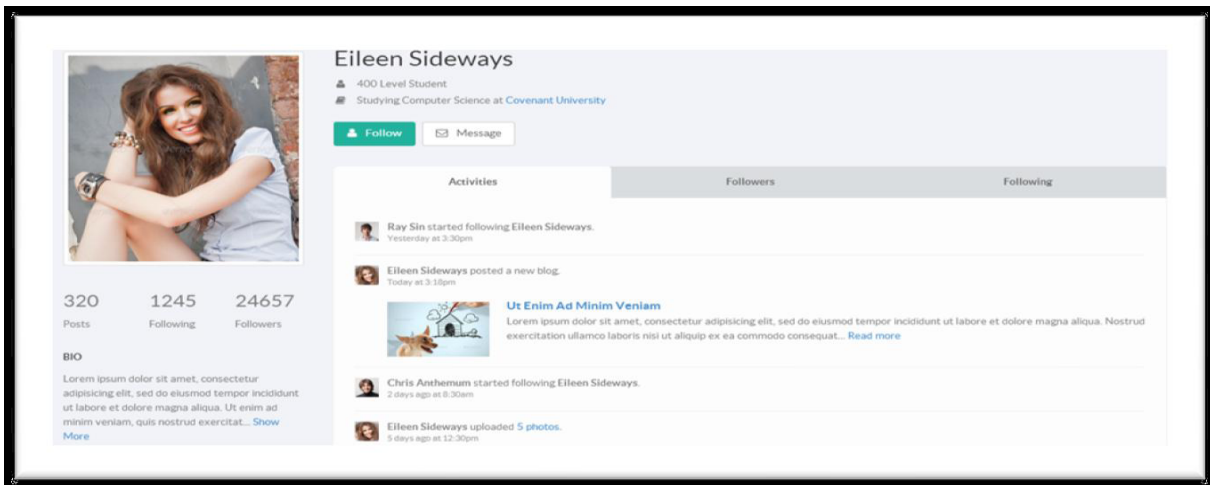


Fig 4. The Profile page

V. CONCLUSION

Over the years, there has been a rapid increase in the number of users of social networks. The social network for educational learning provided in this study is considered as a paradigm shift from the traditional e-learning system by integrating educational services with social networks to enhance learning. The system helps students and lecturers who are the main actors in the learning process to connect, share and interact by modeling offline communities. The system provides an environment that increases effective social connections and interactions. It makes learning process more appealing for students.

REFERENCES

- [1] N. Buzzetto-More, "Transformation in teaching: Social media strategies in higher education," *Understanding social media*, Santa Rosa, CA: Informing Science Press, 2012, pp. 1-18.
- [2] J. Jelena, R. Chiong, "Social networking, teaching, and learning," *Interdisciplinary Journal of Information, Knowledge, and Management* Vol. 7, 2012, pp. 39-43.
- [3] S. H. Ellen, "Evaluating social networking tools for distance learning," *TCC*, 2009, pp. 92-100.
- [4] P. Pollara, and J. Zhu, "Social networking and education: using Facebook as an edu-social space," *Society for Information Technology & Teacher Education*, 2011, pp. 3330-3338.
- [5] Y. Liu, "Social media tools as a learning resource," *Journal of Educational Technology Development and Exchange*, 3(1), pp. 101-114, 2010.
- [6] EducationDive (2014), "7 Blackboard competitors with online learning solutions", Built for the teachers.
- [7] Wikipedia, the free encyclopedia, 2014.
- [8] McIntosh D. (2014), "Vendors of Learning Management and E-learning Products", For Trimeritus eLearning Solutions Inc. Learning Management Vendors, Oct. 2014.
- [9] P. B. Kevin, L. B. Holcomb, and B. V. Smith, "The use of alternative social networking sites in higher educational settings: A case study of the e-learning benefits of Ning in education," *Journal of Interactive Online Learning*, vol. 9 (2), 2010, pp. 151-170.
- [10] H. Suraya, C. Shanton and K. Sherah, "Identifying the use of online social networking in higher education," *ASCILITE*, Auckland, 2009, pp. 419-422.
- [11] A.B. Nicole, "Social networking in undergraduate education," *Interdisciplinary Journal of Information, Knowledge, and Management* Vol. 7, 2012, pp. 63-90.
- [12] I. Liccardi et al., "The role of social networks in students' learning experiences," *Working group reports on Innovation and technology in computer science education (ITiCSE-WGR)*, vol. 39, issue 4, 2007, pp. 224-237.
- [13] C. Redecker, K. Ala-Mutka and Y. Punie, *Learning 2.0 - "The impact of social media on learning in Europe," IPTS learning 2.0 Policy Brief*, Institute for Prospective Technological Studies, European Commission Joint Research Centre, 2010.
- [14] A. S. Weber, (2012), "Considerations for social network site (SNS) use in education", *International Journal of Digital Information and Wireless Communications (IJDIWC)* 2(4): 37-52. The Society of Digital Information and Wireless Communications, 2012 (ISSN: 2225-658X).