

Social JLU: Towards Building Social Learning Networks

Hao Xu^{1,2, a}, YuTao Bie^{2, b}

¹College of Computer Science and Technology, Jilin University

Qianjin Street 2699, Changchun, 130012, China

²Center for Computer Fundamental Education, Jilin University

Qianjin Street 2699, Changchun, 130012, China

^aemail: xuhao@jlu.edu.cn, ^bemail: bieyt@jlu.edu.cn

Keywords: Education Management, Education Network, Social Networking Services, Social Education, E-learning, Social Learning Networks

Abstract. We live in a social and technology-driven world, and academic life is no different. Although there are several off-the-shelf social networking sites, such as Renren and Weibo, universities aim to create academic engagement networks that specifically foster communication and collaboration among students and faculties, and ultimately support advanced teaching and studying environment. In this paper, we propose some preliminary work on designs of Social JLU platform, which is a social network system being established in Jilin University, China for social learning.

Introduction

The ways in which we share information and acquire knowledge have been changed forever. With the advent of social web and mobile technologies, the traditional static websites are destined for obsolescence. Nevertheless, learning systems for education always falls behind new advanced modes of communication. In order to remain competitive in today's information environment, we have yet to seek new ways to not only enable a better learning environment, but also enable a social networking campus where we build a digital social community that fosters communication and collaboration among students and faculties. Such platform and network will effectively and efficiently support the academic lives of both students and faculties, with which they connect, collaborate, disseminate, share and contribute in the ways that they feel convenient and familiar with [1].

In this paper, we propose some preliminary work of design and implementation of an ongoing project, namely Social JLU. Basically, it provides an online platform that users can share study information and resources. Besides, the system will be equipped with Web 2.0 and Semantic Web technologies based on our previous research [2,3,4], such as creating study group, semantic tagging, entity management, semantic search and so forth. In the following sections, we will first review some state-of-the-art applications, and then discuss our system design, challenges and future work.

Related Work

While Renren, Weibo and QQ Zone are the most widely used social networks for our daily life in China, a handful of other networks have been proposed in universities specifically for providing safe and effective social learning services.

A. Goignon

Goignon [5] is one of the most popular social learning networks for higher education. It provides a suite of solutions for group collaboration, academic social networks, content management and network administration. Their key idea is to provide universities with the most advanced tools to extend learning and student engagement beyond the confines of current traditional course patterns. It already has several successful clients such as State University of New York (SUNY) Empire State

College School, University of Pennsylvania, etc.

B. Edmodo

Edmodo is a public platform that helps connect all learners with people and study resources, where teachers can also customize the classroom experience online. Its features include topic-based discussion, content sharing, comment posting and quiz builder. iPhone and Android apps have been available already.

C. Blackboard

Blackboard is an open-course website, in which they provide a free social network. Teachers can give online classes via Blackboard and share various materials and resources on the courses. Moreover, it offers performance and grade management functions for collaborative assignments of students.

D. EPals

EPals is a safe social learning platform which provides efficient communication and collaboration online environment. Its features include the ability to construct and organize study groups for classes, project-based learning, and communication with local and global communities based on a suite of Web 2.0 tools, e.g. blogs, wikis and homework dropboxes.

E. Gagle

Gagle is a charged platform for schools to provide online learning systems, collaboration utilities and monitoring tools. Students can utilize it to connect and collaborate with other peers for group discussion, webinars and collaborative homework, in which teachers can also support and contribute online.

System Design

In Social JLU project, we aim to provide our university with more interactive modalities that enable students and faculties connect, collaborate and learn beyond current static portals or course-centric systems.

A. Principle

There are 3C principles for Social JLU:

1) Connection

Connect users, both students and teachers, with other peers, academic communities and ubiquitous scientific resources.

2) Communication

Communicate via efficient and effective ways that users prefer and familiar with, such as social networks, microblogs, and mobile phone apps.

3) Collaboration

Collaborate with both local and global contributor to provide collaborative project-based assignments for learners, collaborative course-oriented construction for educators and collaborative environment for all contributors.

Integration is also one of the most crucial considerations of Social JLU. We have to easily integrate it into existing academic ecosystems grounded on 3C principles.

B. Function Design

We classify the function designs by different roles' perspectives.

1) Student User Perspective

- a) Build communities
- b) Form study/interesting groups
- c) Find tutors and mentors
- d) Join open discussions
- e) Participate in collaborative project
- f) Connect other peers
- g) Simplify access to information and resources
- h) Build personal profiles and network
- i) Ease of Contribute

j) Share personal favourites and annotations

2) Faculty User Perspective

a) Curriculum resource sharing

b) Ease of information update

c) Know their students better

d) Encourage interactions with students

e) Quiz and homework management

f) Create stronger lifelong relationships among students and faculties

g) Centralized resources

h) Informal learning spaces to support study groups, social classrooms, peer learning etc.

i) Foster broader learning experience beyond a limited set of courses

j) Communities for resource sharing and curriculum building

k) Networking sites to bring guest lecturers, mentors, potential employers and others in contact with students

l) Creating sustainable and cohesive academic network

C. Semantic Features

Social JLU will be featured with several semantic technologies as follows:

1) Semantic Patterns

Scientific Knowledge Objects (SKO) is a concept model for structuring scientific data by semantics [6, 7]. For example, a scientific paper can be always divided into certain logical parts, such as “Introduction”, “Background”, “Contribution”, “Discussion”, “References”, etc. Also, a courseware always has sections including “Overview”, “Concept”, “Skill”, “Practice”, “Quiz”, “Review”, and so forth. Such structures can be condensed into patterns for knowledge representation, which we called semantic patterns. Several previous work [8, 9, 10, 11, 12] can be reused for modeling, knowledge representation, pattern designs and implementation. Such patterns can be created by both automatically using semantic algorithms and manually using annotations, which will definitely facilitate knowledge search, dissemination, and reuse.

2) Semantic Annotations

Annotation is one of the most appealing features of Web 2.0. Using annotations, users can easily tag what they like or dislike and what they support or oppose. In the knowledge space, one of attracting implementation is that users can not only gain the target resource itself, but also along with others’ digestions. For a concrete example, when a teacher share a courseware or a reference list, every student will do the same thing, i.e. read, think, understand, and practice. Ideally, students can be shared not only the materials, but also the notes, study suggestions, and experiences from other peers. In such case, the traditional static study space will be updated to a dynamic and collaborative space. Semantic annotation is the best way to implement the idea we mentioned above.

Conclusion and Future Work

In this paper, we propose some high-level solution for Social JLU project, which will enable students and faculties to more effectively utilize school resources and provide new and easier means for students and faculties to communicate and collaborate. Our goal is to engage students in ways with which they are most familiar, using communication vehicles they prefer.

There are many strengths of our solution such as efficiency, structured courses, knowledge networking, and semantic features, while there are still several challenges we have to face, e.g. incentives. We need to take care of how to foster, but not force, collaboration by faculties and staffs. The detailed design and implementation work will be carried out soon as our future work.

Acknowledgement

This work was partially supported by the Computer Curriculum Reform Project of Ministry of Education of China.

References

- [1] Vala Afshar, “Educause: Enabling the Social Campus” Nov 7, 2012 <http://blogs.enterasys.com/educause-enabling-the-social-campus/>
- [2] Hao Xu, Managing Ubiquitous Scientific Knowledge on Semantic Web. Lecture Notes in Computer Science, Volume 6059, Springer, AST 2010, Miyazaki, Japan, 2010, pp.421-430
- [3] Hao Xu, New Format and Framework for Managing Scientific Knowledge, Lecture Notes in Computer Science, Volume 6485, Springer, FGIT 2010, Jeju Island, Korea, 2010, pp.290-293
- [4] Hao Xu, Changhai Zhang, Yang Ai, Ziwen Wang, Zhanshan Li, An Ontology-based Platform for Scientific Writing and Publishing, Lecture Notes in Computer Science, Volume 6485, Springer, FGIT 2010, Jeju Island, Korea, 2010, pp.267-271
- [5] GoingOn Networks, “Building the Social Campus”. Presentation, Aug 14, 2011 <http://www.slideshare.net/goingon/building-the-social-campus>
- [6] Hao Xu: Managing Ubiquitous Scientific Knowledge Objects: Theory and Applications, PhD Dissertation. Universal Academic Press, UK, ISBN: 978-1-908662-02-6, 2012
- [7] Hao Xu, Semantic Relationships of Scientific Discourses Proceedings of International Conference on Computer Applications and Applied Electronics (ICCAAE), Taiyuan, China, 2013
- [8] Hao Xu, A Pattern-Based Representation Approach for Online Discourses. Lecture Notes in Computer Science, Volume 6059, Springer, AST 2010, Miyazaki, Japan, 2010, pp.378-384
- [9] Hao Xu, A Semantic Pattern for Scientific Discourse Representation. Journal of Computational Information Systems. Volume 6(13), 2010, pp.4223-4228
- [10] Fausto Giunchiglia, Hao Xu, Aliaksandr Birukou, Ronald Chenu, Scientific Knowledge Object Patterns. EuroPLoP-2010, Germany, ACM International Conference Proceeding Series, 2011
- [11] Hao Xu, A Semantic Pattern Approach to Managing Scientific Publications. Lecture Notes in Computer Science, Volume 6059, Springer, AST 2010, Miyazaki, Japan, 2010, pp.431-434
- [12] Hao Xu, Changhai Zhang, Towards a Pattern-Based Approach for Scientific Writing and Publishing in Chinese. Lecture Notes in Computer Science, Volume 6102, Springer, ICADL 2010, Gold Coast, Australia, 2010, pp.264-265