

# LENSOO – Collaborative Learning and Social Networking Platform for Continuing Education

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## Abstract

*The landscape of e-learning continues to evolve with the advent of social networking technologies. There is a significant shift in learning paradigms. Active asynchronous learning with community and expert support is something that enterprises are looking at for training their employees, customers, and partners. Enterprises are embracing social media inspired organization models for cross-functional collaboration which in turn necessitates appropriate collaborative learning paradigms and frameworks.*

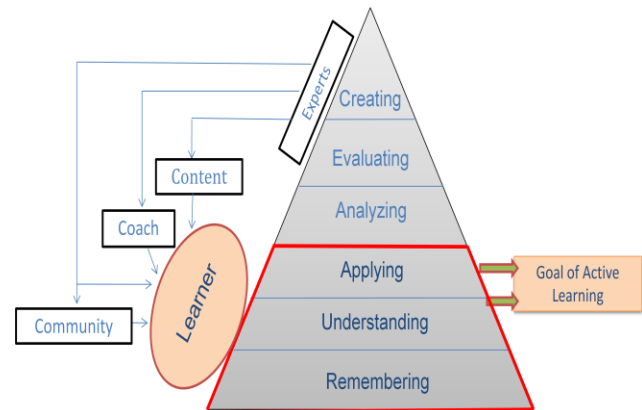
*The paper presents a new collaborative learning and social networking platform which supports both asynchronous and synchronous learning. Other features of the platform include automatic creation of learning communities, study groups, ask an expert, and social networking and collaboration.*

**Keywords:** e-learning, collaboration, active learning, social networking, learning marketplace, ask an expert, study group, and live sessions.

## 1. Active Learning

One of the significant advances in education is the pioneering work done in the 1950s by Bloom and others and the subsequent publication of Blooms Taxonomy of educational objectives which provides a classification of learning objectives [Bloom

1956]. The cognitive domain of the proposed taxonomy included a classification of levels of learning going from “knowledge” at the bottom of the pyramid to “evaluation” at the top. Higher the level greater the learning and application of knowledge gained. A modified version of this was proposed in 2001 [Anderson and Krathwohl 2001]. We use this model as a basis to show our perspective of “Active Learning” as depicted in Figure 1.



**Figure 1: Active Learning Perspective**

The learner has access to content, community, and experts (content experts as well as domain experts who are depicted as coach in Figure 1). From a continuing education perspective in the industry where the emphasis is on acquiring new job skills, the goal of active learning is the first three layers in Figure 1: Remembering, Understanding, and Applying. In essence what we emphasize is skills that are applied to a job/task. In today’s work environment, there is constant and accelerated evolution of new technologies, processes, and paradigms and it becomes imperative for workforce to focus on continuing education to keep themselves current and employable. In this context it is also imperative that they learn at a much rapid pace and this is where collaborative learning will make a significant positive impact in our opinion.

## 2. The Lensoo Platform

### Roles

The platform was visualized as a way to facilitate active learning. In addition, it was visualized as a marketplace where experts can monetize their knowledge and skills, and publishers can sell their content. In essence, the platform supports the following Roles:

- **Learner**  
Purchases courses in the marketplace and learns with support from community and experts
- **Expert**  
Content experts who are associated with a course and Domain experts who are associated with a subject domain. Learner has access to them while learning for a price. A publisher assigns experts to content while a domain expert is not tied to any course per se.
- **Instructor**  
Instructors are associated with live online classes. A publisher of content assigns instructors to live courses
- **Publisher**  
Anyone who wants to publish courses in the marketplace have to sign up as publisher. A publisher assigns content expert for a course when it is uploaded and sets the expert session price.

### Process

Everyone has to sign up as a member and by default every member gets the role of

“Learner”. There is a separate sign up for Experts and Publishers. Learners who wish to learn browse the marketplace and select a course. They review the data sheet before they purchase. This data sheet will have information about the course, the reviews, etc. Once purchased, the course is deposited in “Learners Vault”. It is a dashboard where learners keep track of all their courses.

Experts are members who sign up as experts in their specialty. When a publisher uploads content, he can specify any of these experts as “Content Experts”. When learners seek expert help, they will have an opportunity to review the expert’s rating, charges etc. before they select them. The “Experts Vault” is a dashboard that allows experts to keep track of the courses that they are assigned to as experts

Publishers are those members who sign up for this role in order to publish their courses. They have the option of either publishing in the open marketplace or make it a ‘private’ course to which they invite learners. In the process of uploading their content for private audience, they also specify the email addresses of the participants and the Lensoo back end system will automatically send out invitation to those email addresses. The publishers also specify the experts associated with the content along with the expert session price.

### Community and Collaboration

Our vision is to build a go to place for collaborative learning and formation of learning communities. Toward this goal, we have developed a set of features that allows for creation of learning communities. In addition, Lensoo allows users to form their own collaboration with others, either for searching for individual members or browsing for members in the various learning categories. Once users form these connections they are shown in an integrated

“Chat” window. For the purpose of this paper, we will focus on our concept of “Group” that allows for automatic creation of learning communities.

## Group

Group fundamentally signifies a learning community. Every learning category in the marketplace has its own group created automatically in the community. When a learner purchase a course in the marketplace, that results in them being added to the learning community associated with the subject area. The learners will have an option of opting out of the group through their dashboard. Additionally, the group feature could be used by users of the lensoo community to start their interests based groups.

## The Learners Window

The Learners Window reflects our vision and is depicted in Figure 2.

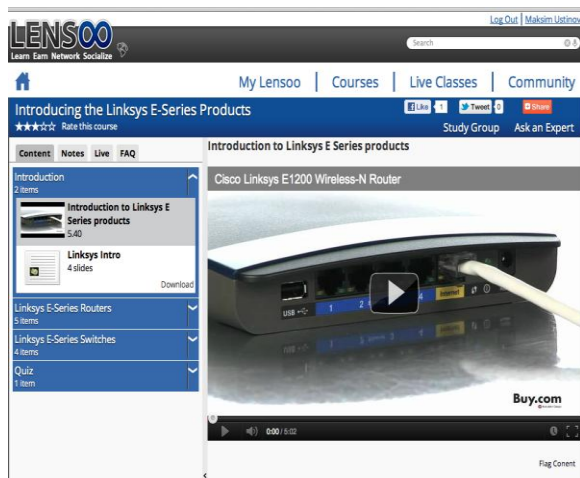


Figure 2: Learners Window

Key design features that distinguish Lensoo from other systems are the integration of “Notes”, “FAQ” (Frequently Asked Questions), “Study Group”, and “Ask an Expert” into one learners window. The “notes” feature allows learners to take notes

while viewing the contents. These notes are time stamped and when a learner clicks on them it will take them to the module where the notes were taken. The FAQ allows for inclusion of additional material related to content for the benefit of learner. The “Study Group” consists of only those who subscription is current. It provides a mechanism for learners to engage in active interactive discussion while learning and these discussions are persistent as they are saved in the learners vault. The Ask-an-Expert feature allows a learner to select from a list of experts associated with course/subject domain. It opens a live online session with integrated audio and video, a shared, interactive white board, and a chat window. This allows for active discussion between the learners and experts.

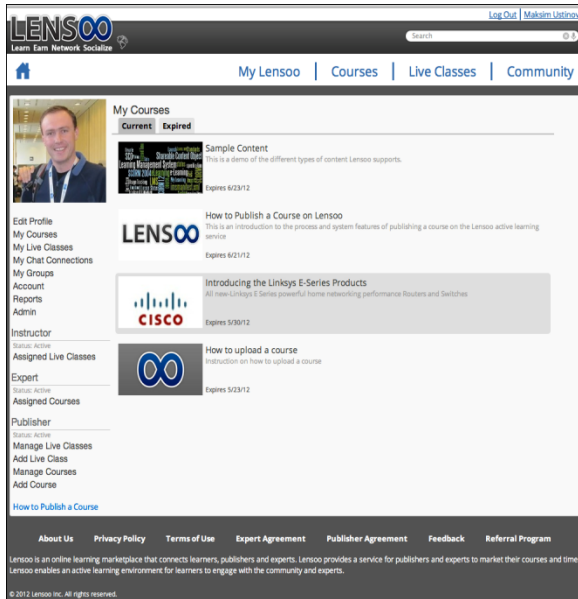
Integrated into the learners window is the concept of ‘Live Sessions’”. If the publishers schedule live sessions as part of the content upload process, the upcoming live sessions will show up in this window. In essence, the learner’s window provides both synchronous and asynchronous learning. This is where the Lensoo platform demonstrates simplicity as well as elegance in active learning through collaboration.

## 3. Lensoo User Experience in Pictures

The pictures below show the key screens for a variety of features available to users of the platform. A detailed overview of these can be found at <http://www.lensoo.com>.

### Learner

Figure 3 depicts a learner’s vault where a learner keeps track of all his learning. In addition, they keep track of their chat connections and the learning groups that they belong to.



**Figure 3: Learners Vault**

## Publisher

Figure 4 depicts the content upload interface for a publisher. Any user who wants to upload content in the marketplace has to sign up as a publisher. The content can be either “public” (shown in the marketplace) or “private” (visible to only invited users). In addition, this is the interface through which a publisher uploads content files, sets the price for a course, assigns experts and their price, and uploads FAQ and Quiz if any.

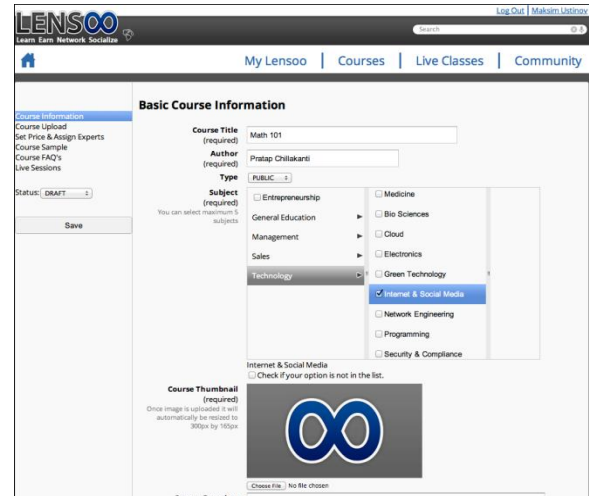
## Community

Figure 5 depicts the “Forums” feature of Community. Here users can participate in discussion forums associated with learning categories.

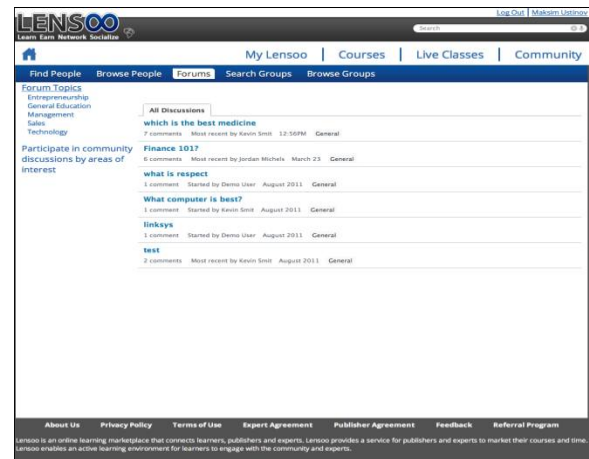
## Groups

Figure 6 depicts the groups feature. Here one can see the members of the group and participate in group discussions and collaboration. One unique element of this feature is the “always on” live session that group members could join. This feature also

enables virtual project team rooms where they can share documents and collaborate.



**Figure 4: Content Upload Interface**



**Figure 5: Community Forums**

## Live Class

The unique element of this feature is the integrated study group during the entire run of a live class with multiple sessions as depicted in Figure 7.

## Ask an Expert

Figure 8 depicts a live session with an expert. In the learner’s window when a user clicks on “Ask and Expert”, it will lead to this session with an expert.

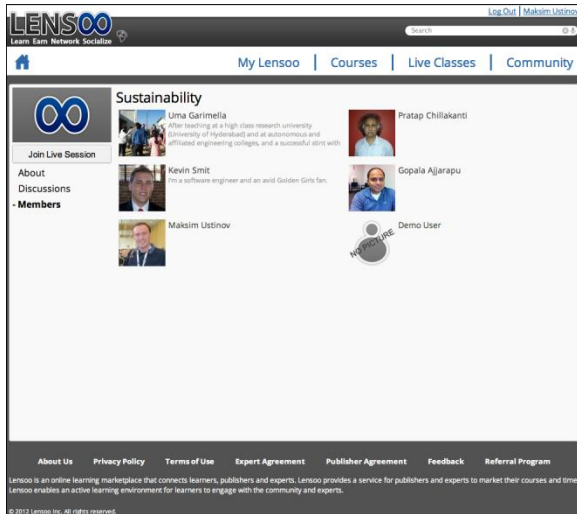


Figure 6: Groups with Live Session

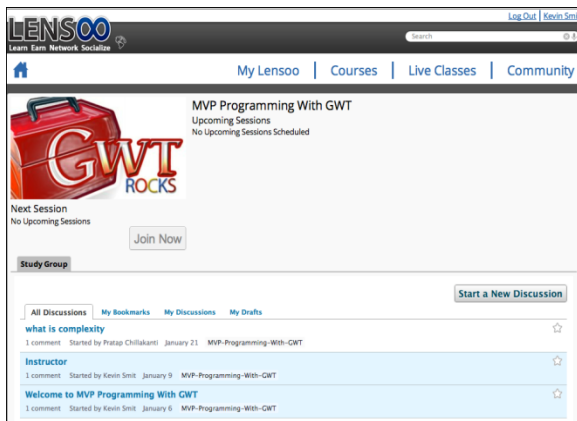


Figure 7: Live Class with Study Group

#### 4. Comparative Analysis

As part of our effort in the design and development of Lensoo collaborative learning platform, we have investigated other platform including open source learning focused platforms. Figure 9 (on page 6) shows a snapshot of feature comparison between our platform and other platforms. We believe that we were able to capture the essence of collaborative learning in a simple and elegant platform.



Figure 8: Live Session with an Expert

#### 5. Conclusions & Further Research

The platform presented here is in the context of our ongoing research in transdisciplinary collaboration. Today's social media driven enterprise systems can essentially be characterized as transdisciplinary systems at an abstract level [Chillakanti 2011, Ertas 2010]. Collaborative learning is an integral component of any transdisciplinary effort in research and development. These transdisciplinary teams must be all trained in a common set of processes, methods, and tools in order to establish a common terminology among all participants.

#### References:

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Table 1: Comparative Analysis

	Lensoo	Adobe Connect	Moodle	Blackboard	Microsoft SharePoint	
<b>Learner</b>						
	Self-paced learning	Yes	Yes	Yes	Yes	
	Integrated Study Group	Yes	No	Yes	Yes	
	Learner's Vault	Yes	No	Yes	No	
	Personal Dashboard	Yes	No	Yes	Yes	
	Learning Community	Yes	Yes-on adobe site	No		
	Integrated Assessments	Yes	Yes	Yes	Yes	
	Forums	Yes	No	Yes	Discussion groups	Discussion forums
Rate and review	Yes		No	No	Can rate files, articles, documents; not instructors.	
<b>Expert</b>						
	Signup of experts to support learner	Yes	No	No	No	No
	Virtual live multimedia session with Learners	Yes	No	Yes	No	No
	Expertise monetizable?	Yes	No	No	No	No
	Rated by community?	Yes	No	No	No	No
	Expert dashboard	Yes	No	No	No	No
	Collaborating with others	Yes	No	No	No	No
<b>Publisher</b>	Self Service Course Upload	Yes	Yes	Yes	No	Yes
	Set course price	Yes		Yes	No	No
	Specify experts for courses	Yes	No	No	No	No
	Collaborate with other publishers	Yes		No	No	No
	Schedule live online classes	Yes	Yes	Yes	No	No
	Assign instructors to a live online class	Yes		Yes	No	No
	Scheduling private courses	Yes		Yes	No	No
	Scheduling private online classes	Yes		Yes	No	No