Internship FALL Quarter Report
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Preparing for my internship

My search for an appropriate internship site began in the early August this Summer. Besides collecting information from the speakers presented during the LDT brown bag meetings, a few of us had made arrangement and visited Stanford Learning Lab (SLL) and PBL lab. During our visit to SLL in mid August, we realized that it was in the midst of restructuring, a new Director will be appointed to the lab and two third of its employees will be leaving from date. Hence any internship opportunities at SLL will be differred after the FALL quarter. We were impressed by the projects developed by SLL and saw how they were relevant to LDT. One of their projects was Panfora. In fact, there had been LDT students working with SLL throughout the years. Our contact person was Harrianne Mills. She was very helpful but she also left SLL two weeks later. We did a learning agency profile for SLL after our visit.

PBL lab (please refer to Appendix for a brief description of PBL)

Through the arrangement by Deb, we visited PBL in mid August. It was a rewarding experience for me. I was impressed by the enthusiasm, confidence, and energy exhibited by Dr Renate Fruchter, the director of PBL, as well as the cutting edge technologies that are under development at PBL. It did not take me too long to decide to join the team since I thought the work at PBL is very relevant to LDT and it would be a great opportunity to learn how to carry out research and to work with Renate.
My work at PBL

Fall Quarter

As reported in my internship reflection #1, I contacted Renate during the Summer break and expressed my interest to work as an intern with PBL. We met slightly later to discuss about my research topic at PBL. She requested that I would submit a proposal about my work plan to her before our next meeting. We met again before the Fall quarter and settled our work agenda as well as the administrative procedures for my internship. My work at PBL is to devise a methodology to assess the learning effectiveness of the software RECALL that is under development at PBL; and how to extend the learning experience to mobile learners (please refer to Appendix for a brief description of RECALL).

We approached the problem through analyzing different scenarios that RECALL had been used by AEC Global Teamwork course (CEE222) (Appendix) in the past two years. Our approach was based on the Scenario-based design approach written by Carroll and Rosson. Before the end of Fall quarter, I had completed the analysis of four scenarios on using RECALL as a tool for brainstorming, explanation, teaching and mentor guiding.

Plan for the Winter and Spring

During this winter break, I will work on the analysis of the learning factors of these four scenarios and do some literature research on relevant study. We will meet before Christmas and finalize our assessment plan to be carried out during the Winter and Spring
Quarters. The subjects of our study will be the AEC students taking the two-quarter Global teamwork course (CEE222/122).

I will be working as course assistant for CEE222/122 during the Winter and Spring quarters. This will also give me a chance to study more about the methodology employed by the Global Teamwork program. How the teaching and learning is focused on problem-based, project-organized activities that produce a product for a client; and it re-engineers the processes that bring people from multiple disciplines together.

**Working with Dr Fruchter**

During the Fall quarter, Renate and I met every Tuesday to discuss about my work progress. Before the meeting, I would review a RECALL session and prepare the scenario and its claims analysis and submit to her before our meeting. Our discussion normally went on for about two hours and every discussion session was recorded using RECALL. I would review the discussion and revise my write-up after the discussion.

Thus far, the discussion sessions went well and were very productive. Typically in a session, I would present my analysis and Renate would question, suggest areas to look into, etc. Many new ideas were generated and new understanding was established during our discussion. I found Renate very support, keen to teach and extremely hardworking. I have learned a lot this quarter not only from the work aspects but also from observing how she approaches problems and her passions for works.
Working with the Team

I would have to say my experience at PBL is not limited to my research topic. I found the PBL team a resource of ideas and expertise.

The members

The team is made up of a mix of cross-disciplinary, diverse ethnicity Master and PhD students at Stanford as well as visiting students and fellows from other countries. The backgrounds of the members are engineering, social science, computer science and education. Members hail from all over the world -- England, Germany, Sweden, Australia, Japan, India, Malaysia, Singapore, Ecuador and the USA.

There are 14 members this year. 9 regular members (including me) and 5 other members. The nine of us work as teaching assistants, course assistants, interns or doing independent study with Renate. The other members are visiting Master’s students or fellows from Sweden, Germany and Japan. Each member has a specific research topic to work on. The majority of the members are developing software technologies. Basically, all work at PBL is to support the learning at A/E/C Global Teamwork Program.

Many of them were my informants while I was writing the RECALL scenarios since majority of the regular members had taken CEE222/122 either last year or earlier. All of them were very helpful and willing to share their experience with me.

The weekly brown bag meeting

The other opportunities for me to learn from my teammates were during the brown bag lunch meetings.
The team gathered for Brown Bag lunch meeting every Tuesday. During the meeting, Renate will lead the group to chat and exchange ideas/news informally for about half an hour. Then one or two of the members will make a brief and informal presentation about their work. These are usually very interactive, lively and heated discussions. So far, I enjoyed the good discussion and the chances to exchanging ideas with other team members. Through these presentations and discussions, I got to know many new technologies either under development by PBL members or at Stanford, e.g. wireless networking, iRoom, virtual meeting room, etc. I also got the chance to see the design perspectives from other disciplines (CS people and engineers), which makes me appreciate more the “learner centeredness” that LDT (as well as HCI) has been emphasizing.

A point to note is that I have conducted a study on the teamwork at PBL for my final project of Qualitative Research Method (Ed151x) (where I received unanimous consent from the team when I sought their permission to carry out this study on the team). From the study, I learned that PBL has been a highly competent team. The technologies developed and the work done at PBL are highly recognized by the University as well as other Universities and the industry. I found that the team members are hardworking, responsible, open, helpful, trusting, and non-competitive. In part, this is the personality and the effort of the individuals, but I also gathered that it is mainly Renate’s effort in building the share and trust culture of the team as well as her strong characters in influencing the members. As indicated in the findings, the members think that competency in his/her area of research, meeting Renate’s expectation and establish a
good working relationship with her are some important factors that help them to find his/her niche in the team.

**My work environment**

I was allocated to a student office at CIFE, sharing with three other members, and a computer has been assigned for me. I worked at the office every Tuesday afternoon and Thursday. I am pretty happy with the working environment. I am glad to have an office to do work and the helpful and friendly teammates to consult. In short, I am glad to be part of the team.

**PBL & LDT**

There has been LDTers working with Renate in the past 3 years. Renate has told me more than once that so far there is no LDTer that had disappointed her.

As reflected in my internship reflection #2, basically, most work at PBL has been related to Learning, Design and Technology. All software under development at PBL is to support the learning of CEE222 Global Teamwork Course. Formally or informally, the designer (also the programmer) has employed some design principles in their work. The approaches used are SBD and rapid prototyping. Perhaps, some of the students working on the projects might not be aware of the learning aspects, but Renate has been emphasizing that all the software were designed based on the needs to support the learning at CEE222.

I found that all my learning experience at LDT thus far has helped me to build a good foundation in understanding and analyzing RECALL, as well as in exchanging ideas and perspectives with my teammates. I found that the integrated experience from
Ed333a (learning perspectives as conceptual framework); CS147 (issues and theories of HCI); Ed229a&amp;b, and Ed106x (design principles and approaches) has helped me tremendously in this aspect. I also found that the skills and concepts acquire from Ed151x (qualitative research) as well as Ed334x will be useful while I’m conducting the assessment in the next quarter. Also the final project on teamwork at PBL that I did for Ed151x, it enabled me to know PBL and my teammates better, and really helped me to build a sense of belonging to PBL.

--- End of Fall Quarter Report --
Appendix –Global Teamwork Course, PBL lab, RECALL

Global Teamwork Course (CEE222/122)

It is a cross-disciplinary, collaborative, geographically distributed course offered over two academic quarters. It brings together students, faculties, and industry practitioners from the fields of Architecture, Engineering and Constructional management in a distributed learning environment that included universities from many countries. This year it has partners from Europe, Japan, Australia and the US. The mission is to educate the next generation of professionals on how to team up with professionals from other disciplines and, concurrently, use cutting edge information and collaboration technology to produce better and more economical products.

Starting out as an experimental course nine years ago, the course was later institutionalized and was integrated into the regular curriculum. Last year, it was established as part of a new master plan in the School of Civil Engineering.

The goal of PBL is to develop new collaborative technologies to support the A/E/C Global Teamwork Program.

PBL lab

The lab is an integral part of the two-quarter Global Teamwork Program (CEE222/122); it is the home of the students taking the two-quarter course as well as the test bed of the work under development by the PBL team. The team gathers at PBL lab for meetings. It was designed based on the concept of providing a structure for modeling and coaching. Some features of the lab are modular furniture, ISDN, wireless LAN (local area network), and Internet-2 links, the floor and wall perimeter has a grid of network and power sockets that enable connection of computers in any location of the learning space, all the PCs in the lab are equipped with videoconference tools and large touch screen SmartBoard.

RECALL™

RECALL™ is a learning and collaboration technology that facilitates transparent and cost effective capture, sharing, and reuse of knowledge in informal media, such as sketching, audio, and video. The process of publishing RECALL session on the web is immediate and hence allowing instant access and retrieval of information. It is a continuing project at PBL. Version 1.0 was developed 3 years ago.