Online Learning Center: A Way of Collaboration among International Programs

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Introduction

Collaboration among colleges and universities can greatly be enhanced with the use of web-based applications. One area of collaboration is students' success. Learning centers has proven to be a valuable asset to assist students. However, not all colleges and universities around the world have the resources to support a learning center. Online learning centers could provide an innovative mean for colleges and universities to share the knowledge and talent of their faculty members and to serve and assist their students' population.

Online learning centers have been used by some universities to supplement its distance learning programs.[1,2,3] Companies have also been using online learning centers to provide services to their employees or their clients.[4,5] These learning centers, however, has a focus of providing web-based courses, online books, and public forums.

The Online Programming Learning Center

The author established an Online Learning Center that currently serves the field of Computer Programming (The Online Programming Learning Center).[6] The Online Programming Learning Center is a web-based application that was developed through one of the projects of the Center for Information Technology and Community Development (CITCD) at the College of Applied Science.[7] It was first created to supplement the operation of the walk-in learning center after realizing that more students are utilizing the wireless network of the university and are doing their projects and homework away from the department labs. The idea behind this application was to provide a tool for students to find assistance and help even if they are doing their work outside department labs.

The walk-in learning center (Programming Learning Center or PLC)[8] is staffed by junior and senior students and is available to assist students in their programming projects and/or homework. However, students have to physically come to the center to receive assistance. With the existence of wired and wireless network on the university campus, more and more students are acquiring laptops and personal computers. This enables students to work on their projects and homework any where on the university campus and even in their homes. It will be cumbersome for those students to physically come to the walk-in center to ask question or find help. The Online learning center application

provides students with 24/7 access to assistance. They can ask questions and they also have access to the knowledge base generated by questions and answers submitted by their peers.

The application enables students to ask questions in any area of computer programming. These questions will then be viewed and answered by faculty members or student helpers who are working as staff in the Programming Learning Center.[8] The goal of this application is to offer students the ability to ask questions and receive answers without leaving their study area (wherever that is!).

The online learning center has two interfaces; a client interface and an administrator interface. The client interface is used to submit new questions and browse or search the accumulated knowledge base. Figure 1 shows the main client interface for the online learning center. Any student who has access to the internet can access the online learning center, ask questions and browse the answers. Students can also provide feedback by clicking on the feedback link.
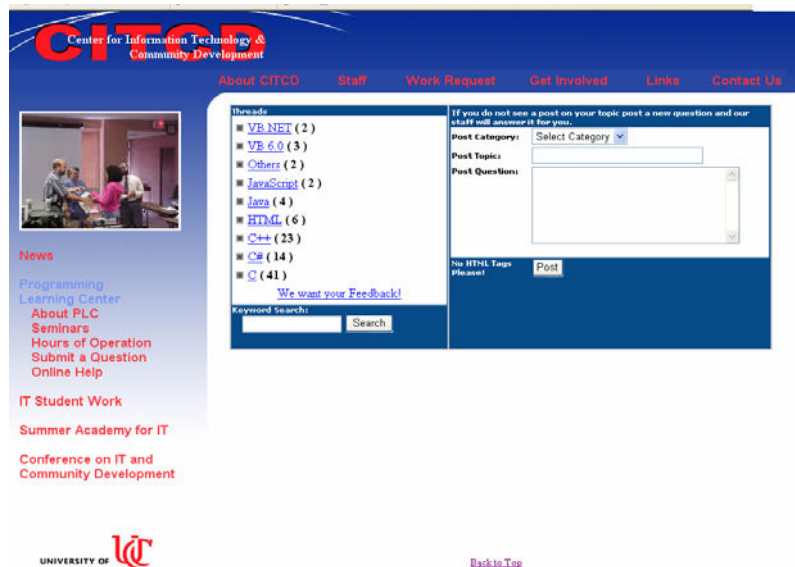

Figure 1: The student interface to the online learning center

Questions are sorted by category depending on the programming language. For example, to browse all accumulated knowledge base for all questions related to the C++ language, one would click on the C++ category and the category will expand based on the topic of the question as shown in figure 2.
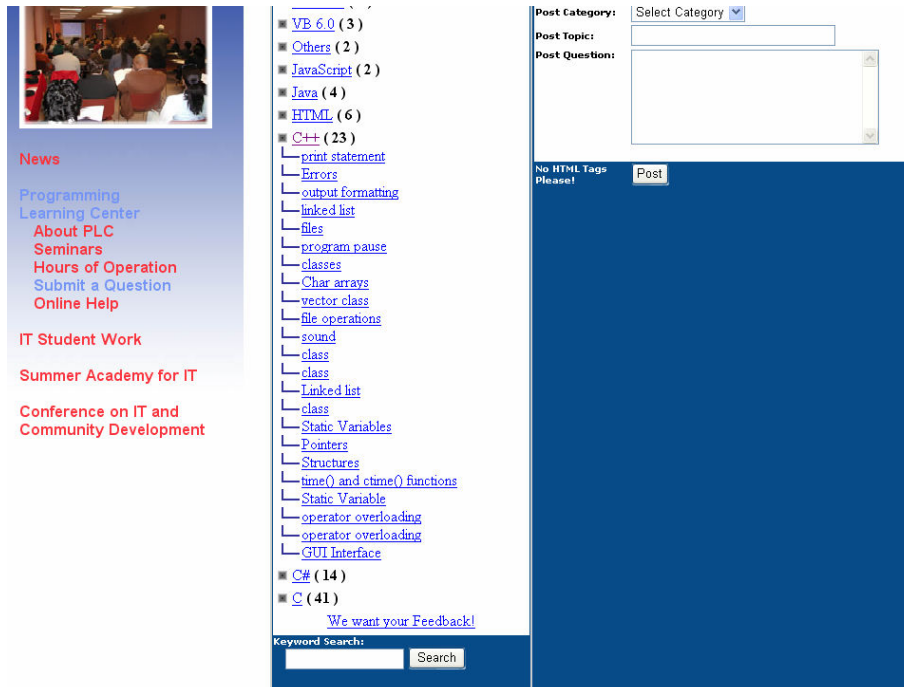
Figure 2: The student interface when browsing the C++ category

Students can also search the knowledge base using keyword search. The application will display all questions related to this keyword ordered by the question topic as shown in figure 3.
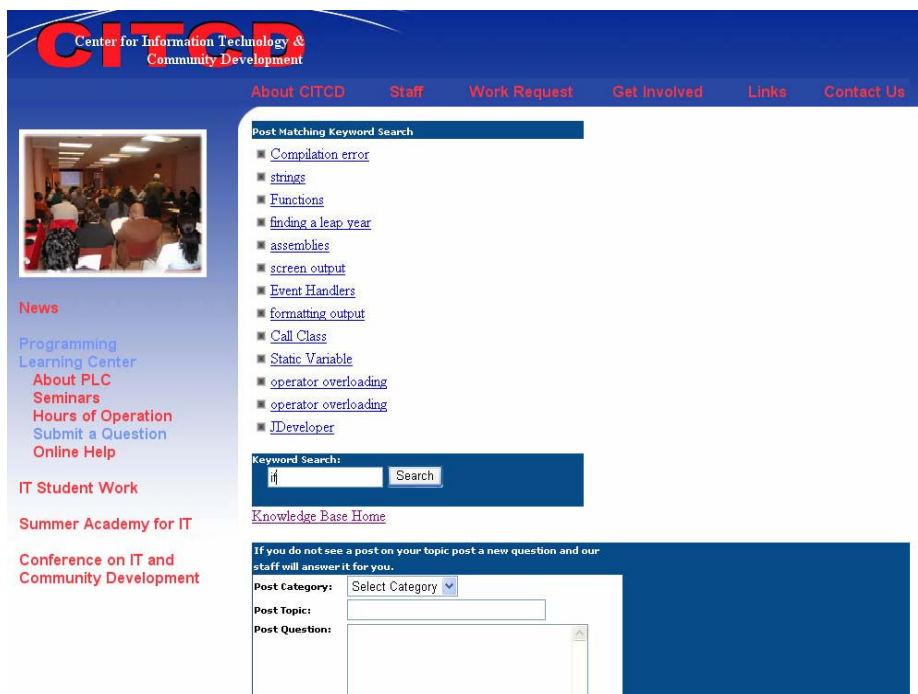

Figure 3: The student interface when searching for the keyword "if"

When a student selects a question, the application displays the question and the available answer as shown in figure 4.
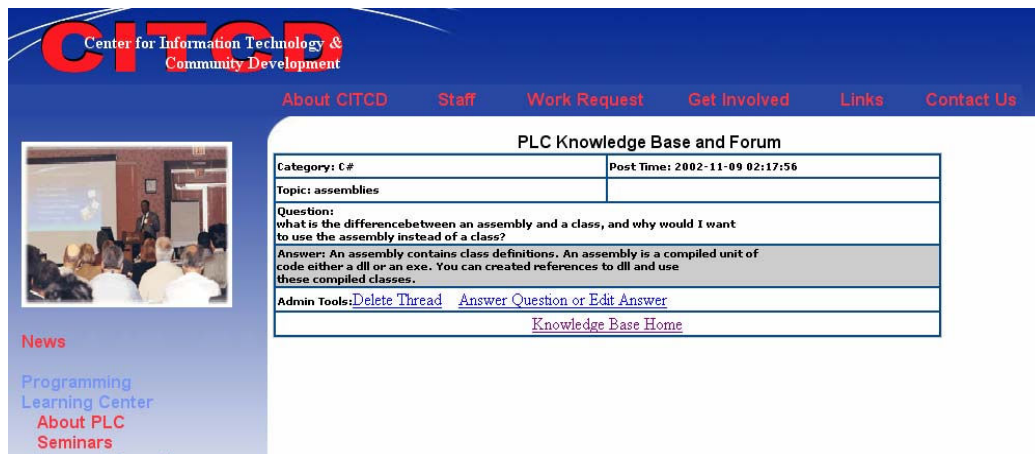

Figure 4: The student interface displaying an answer to a question

The administrator interface which is accessible by the staff of the learning center provides a control panel to answer questions, edit answers, view feedback and add new administrators as shown in figure 5.
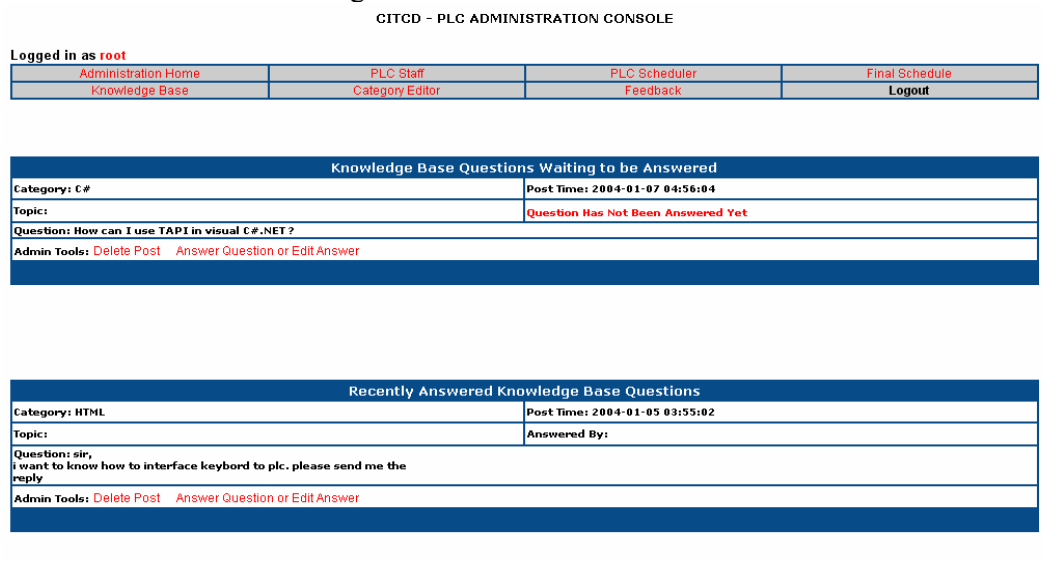

Figure 5: The instructor's interface to the online learning center

Proposed Collaboration among International Programs

The online learning center can provide a great tool for collaboration among institutions around the world. This can be applied to the area of computer programming or other areas in engineering education. Students from the participating institutions will have access to the application where they can browse and search the knowledge base and they can also ask their own questions. Instructors from the different institutions will alternate on answering these questions. This collaboration is unique in that it provides students from different institutions access to knowledge base accumulated through the shared experiences of these institutions without much cost.

Since the application is fully accessible and manageable through the World Wide Web, the location of students or faculty is of no significance. As it stands now, it provides a good starting point for collaboration between faculty members from different institutions around the world. Faculty members can be the instructors and can answer questions and students from different institutions will have an opportunity to ask questions from any where at any time.

The application could further be enhanced to allow students to comment on the answer and have a thread of follow up comments to the original question and answer.

In conclusion, the online learning center can provide a useful forum for students and faculty at different institutions around the world to cooperate and exchange information and experience at a minimum or no cost.

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