

“Current & Past Research Activities”

Shaikh, Faisal K
Assistant Professor
Department of CS&SW Engg.
Mehran UET, Jamshoro
shaikh@muet.edu.pk
www.muet.edu.pk/cssw/faculty/~shaikh

❑ Short research work:

- “Visualization of Actor Life Lines”, Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL, USA (Jun 2001 - Sep 2001)

❑ Paper(s) published in Research Journals

- “**e-Learning**: A Virtual Environment for Cooperative Distance and Affordable Online Education”, MURJET, Volume 22, Number 1, pp 57-64, January, 2003.

Abstract

Our system is designed to be multi-user, distributed, scalable and cooperative. The goal is to integrate collaboration in a virtual classroom over shared resources by using a common browser enabled with a Java Virtual Machine. The collaboration can be during a lesson, using the inherent chatting facility in the Virtual Lecture Hall.

❑ Editorships

- Edited a book entitled “Data Communications”, Naseem Book Depot, Hyderabad, Pakistan.

❑ Postgraduate Research Students

1. “Analysis of Traffic patterns in IP Video Conferencing”

Researchers: Mr Azizullah Jamali (Master’s Scholar)

Project Aims:

The project is aimed to analyse the traffic patterns in both the IP and ISDN environment and suggest the possible solution for congestion control and give the statistics for video and voice packet lost.

Expected submission date for Master’s Thesis: November 2004

2. “Computerized Attendance System (CAS)”

Researchers: Mr Durrani (Master’s Scholar)

Project Aims:

Computerized Attendance System (CAS) is a program to provide flexibility for teachers as well as for the students. Usually it a difficult task for the teachers to take the attendance of students and maintain in the register. On the other hand students are also worried to know their attendance of each subject. To fulfil the requirements of teachers and students CAS is the most suitable answer.

On the trial basis this application is developed in Java Servlets & JSP. Later On, whole application will be converted to JSP.
The thesis focuses on the development of system according to the Software Engineering Standards.

Expected submission date for Master's Thesis: November 2004

- Undergraduate Research Students

1. "IP based Video Conferencing"

Researchers: Farhan Karim Shaikh 01CS46 (Group Leader)
Sunil Kumar 01CS21
Junaid Iqbal 01CS03
Shyam Kumar 01-2KCS30
Abdul Manan 01CS25

Project Aims:

The overall objective of this Thesis/Project is to explore the feasibility of creating video conferencing application using Java's latest multimedia technology, Java Media Framework, and explores the work over H.323 or SIP protocols. The scope of the project is to deploy the project at the university level, and connect various Engineering departments of Mehran UET.

Expected submission date for Bachelor's Thesis: January 2005

2. "iPortals"

Researchers: Mr. Adnan Rab 01SW22
Mr. Chang 01SW20

Project Aims:

The thesis targets the development of Information Portal for Mehran UET for the betterment of students and teachers. The work will be focused on applying proper Software Engineering Techniques, models and ways for the development of mature model. The system will be distributed and incremental in nature. First work will be done on Online Testing System and than moved towards the development of Teachers Repositories. Further modules can be done and integrated with the system.

Expected submission date for Bachelor's Thesis: January 2005

3. “Location based services using SMS”

Researchers: Mr. Ali Talpur 01ES14

Project Aims:

The idea and motivation come from the killer application usage in different areas of work. The theme of work is to integrate the GPS system with the mobile system and sends the SMS message to the centre. Application can be utilized in many different scenarios. We will be implementing the system for Fleet Management. As soon as the vehicle is moving away from the selected route the SMS message will be transmitted to the centre seamlessly indicating the position of vehicle.

Expected submission date for Bachelor’s Thesis: January 2005

4. “Enterprise solution to cope with Intruder Detection”

Researchers: Mr. Abdul Qadir Memon 2KCS14

Project Aims:

Intruder Detection is the major problem for enterprises and they attack seamlessly and the network manager has to keep him or herself alive 24 hours to handle such problems. Network manager has to look for logs and than terminate the intruder from system. The thesis suggest the way by which some hardware will be attached to the system which will be monitoring the logs and if found some intruder detection than inform the network manager by beeping and showing the IP address of Intruder, upon that manager can take actions.

Submission date for Bachelor’s Thesis: January 2003

□ Thesis Work:

Master of Engineering (Communication Systems & Networks)

Title: Smart Voice Messaging using Cellular Networks

Abstract:

Two different types of messaging applications are available: text and voice paging. Voice messaging has some advantages, in most applications, over conventional data only messaging: voice communicates messages most naturally, is easiest for message sender to use might identify sender, and voice tone can convey urgency (or lack of).

As cellular networks reach into more and more locations world wide, the need to cost effectively interconnect these cellular nodes exists, and to reduce the operational bandwidth.

Our thesis proposal aims towards the reduction of operational bandwidth by compressing the voice and suppressing the signals which don’t carry information,— such as when the user is not talking— at user mobile phone,

then transmit the voice message on data channel to the central server. Message headers are then pushed to a recipient's mobile device.

Bachelors of Engineering (Computer Systems)

Title: e-Learning

Abstract:

Our Thesis/project is oriented toward the design of a distributed and cooperative distance learning system, called **e-Learning,Inc**, that provides a virtual representation of a traditional classroom.

e-Learning implements a virtual classroom where group participants (teacher and students) access a common workspace on the Internet using a simple interface. **e-Learning** allows to form a virtual classroom where members can share material guided by the teacher. Didactic material consists of Main topic, Sub topics, their Description, and images. **e-Learning** provides instruments to let group participants read the shared resources, as well as chat with each other.

Our idea is to propose to use the same system, **e-Learning**, in different educational contexts:

- To allow a teacher and several students to have an interactive lesson, when they are not located in the same place, or they are in the same computer lab.
- To allow a teacher to help students on-line (chatting).
- To allow a teacher to author his/her course.
- To allow teachers to collaborate on-line to the authoring process.

Our system provides a multi user, integrated, scalable and distributed environment utilizing complete Java Technology ie Java Servlets, Java Server Pages, Applets; that allows cooperation among members of a virtual classroom by a Simple interface.

❑ Other

- External Examiners
 - BE Computer Systems Engineering, Quaid-e-Awam University, Nawabshah (2003-2004)
- Courses Taught:

In my current position I have taught various courses which are mainly related with Networks, Data Communications, Object Oriented Programming, Image Processing and Web Development some of them are given below:

 - Wireless Communication
 - Computer Communication and Networking.
www.faisalkarim.20m.com/muet/ccnw
CCNA Track with hands on practical using CISCO equipment.
 - Object Oriented Programming.
Java. (www.shaikh.150m.com/muet/ooop)
 - Web Design and Development
JSP and ASP (www.shaikh.150m.com/me/batch02/wdd)