

Telecommunication Services Engineering (TSE) Lab

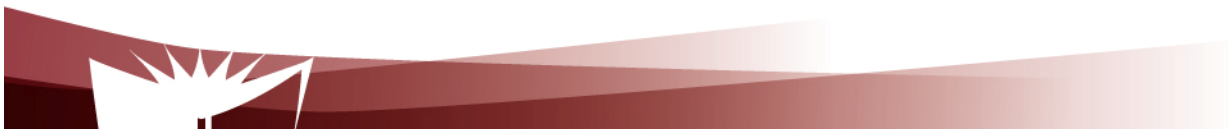


Elec 68661 - Fall 2011- Preview: Presence Based - Conferencing Applications

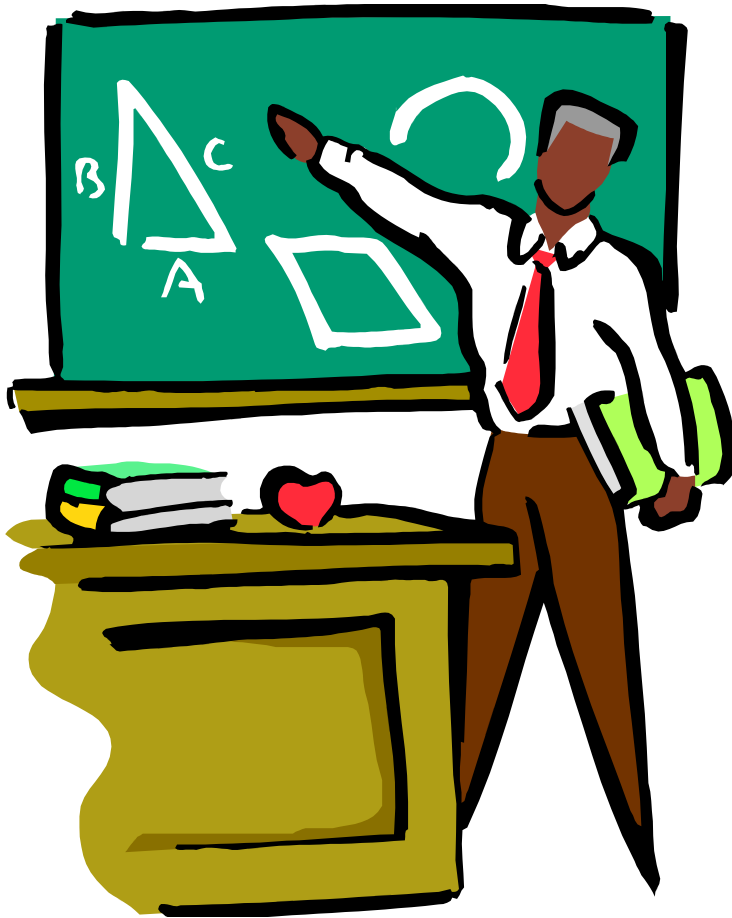
Roch Glitho, PhD

Associate Professor and Canada Research Chair, Concordia University, Montreal, Canada

<http://users.encs.concordia.ca/~glitho/>



Presence Based - Conferencing

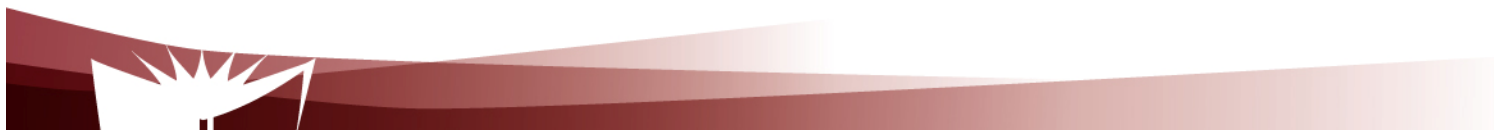


- 1 – Objectives
- 2. Overview
- 3 - Breaking it into phases/steps
- 4 - What needs to be done
- 5 – Groups
- 6. Expected output

Telecommunication Services Engineering (TSE) Lab

Objectives

- Design of simple application layer protocols
- TCP/UDP level programming (i.e. socket programming)
- Application layer freeware re-use and integration with other application layer protocols (i.e. SIP / RTP for conferencing)

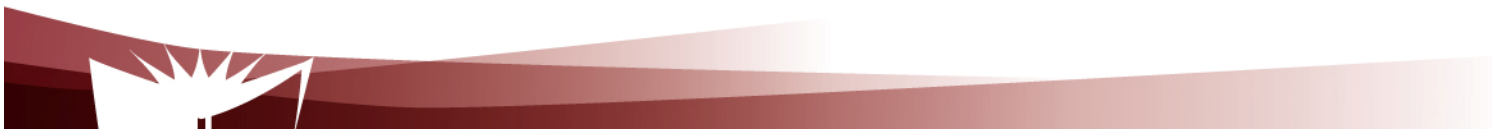


Telecommunication Services Engineering (TSE) Lab

Overview

Overview

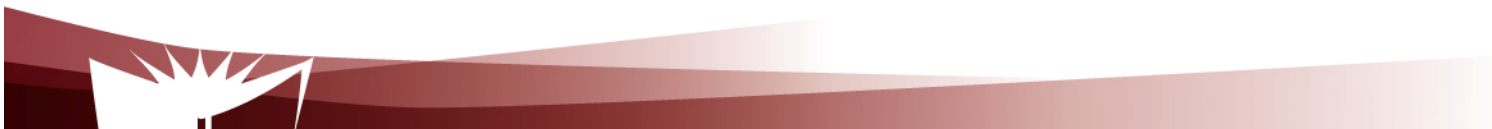
- A client / server application running on top of TCP/UDP which creates a conferencing application between a given number of users when they are on-line:
 - Interested users publish their presence to the application
 - The session initiator (client) sends an initiation request to the application (server), along with the preferred number of the users in the session
 - The application checks the number of available users
 - If the minimum number of users is available, the application initiates a session among them
 - When the session is initiated, the users can talk and exchange text messages
 - The session initiator terminates the session



Telecommunication Services Engineering (TSE) Lab

Phase I

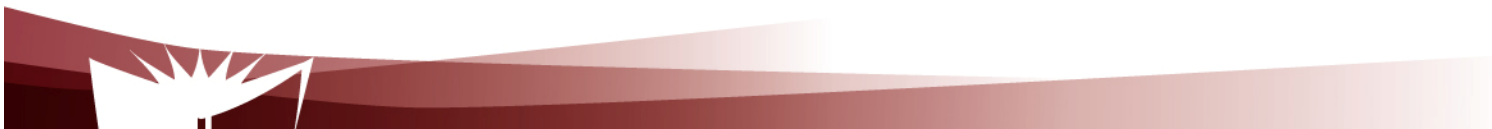
1. Interested users publish their presence (on-line/off-line) to the application
2. The conference initiator (client) sends an initiation request to the application (server), along with the preferred number of the users in the conference
3. The application checks the number of available users and informs the conference initiator.



Telecommunication Services Engineering (TSE) Lab

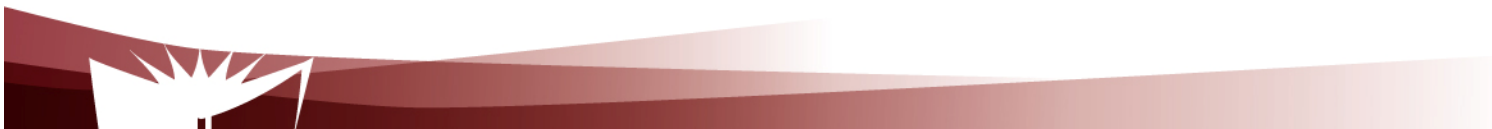
Phase II

1. If the minimum number of users is available, the application initiates a conference among them
2. When the conference is initiated, the users can talk
3. The conference initiator terminates the conference by sending a termination request to the server



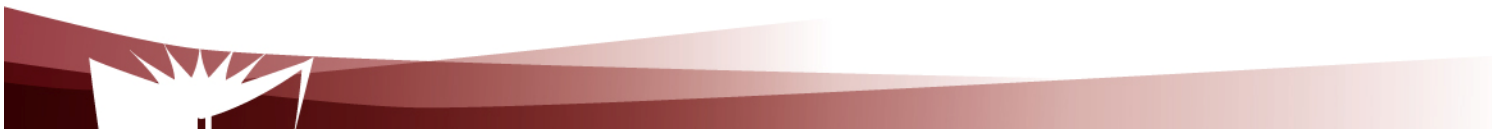
What needs to be done (Simple application layer protocol design)

- A simple application layer protocol running on top of TCP or UDP, and which enables the following:
 - Interested users publish their presence (on-line/off-line) to the application
 - The conference initiator (client) sends an initiation request to the application (server), along with the preferred number of the users in the conference
 - The application checks the number of available users and informs the conference initiator.
 - The conference initiator terminates the conference by sending a termination request to the server



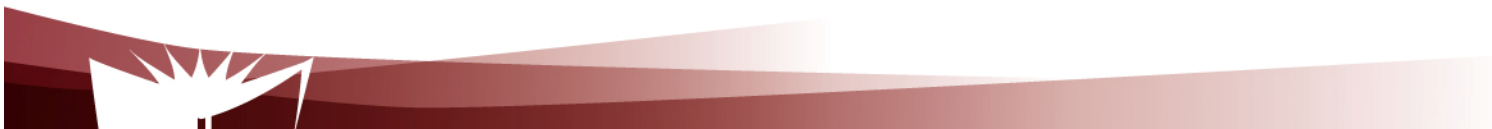
What needs to be done (Socket programming)

- Implement the previous protocol on top of TCP or UDP with sockets



What needs to be done (Application layer freeware)

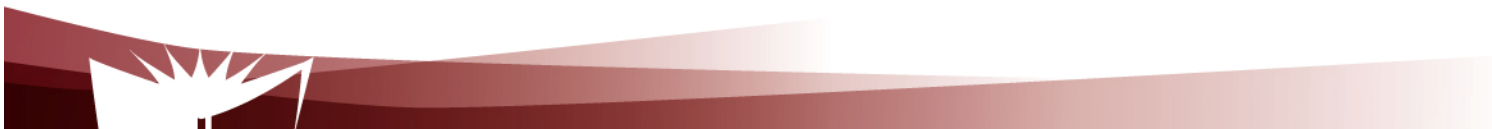
- Select appropriate application layer freeware (i.e. SIP / RTP) and use it as basis for conferencing application
- Integrate conferencing application with previous simple application layer protocol



Telecommunication Services Engineering (TSE) Lab

Groups

- The project should be done in group of 4
- However, groups of 3, 2 or 1 are accepted
- Each group should implement the whole functionality
- Bonus system for groups of less than 4
 - Group of 3: 5 points bonus
 - Group of 2: 10 points bonus
 - Group of 1 (with a good reason): 15 points bonus
 - Note:
 - No bonus will be granted if the demo does not work



Telecommunication Services Engineering (TSE) Lab

Expected output

- Live demo introduced by a short power point presentation (5 slides maximum)
- Report (20 pages maximum)

