

ASSIGNMENT

Course: Computer Network, Semester 1, 2022-2023

Objectives

Build a chat application according to the communication protocols defined by each group, using the TCP / IP protocols.

Application Description

- a) The application allows two or more users on different machines to chat with each other
- b) The chat client is built on the hybrid model between Client-Server and P2P models. The system has a central server for user registration and online user management, but clients chat directly to each other. (Students can refer to Napster for an illustration).
- c) One person has a list of friends retrieved from the central server. He/she can start some chats with different people at the same time. Each conversation is a P2P connection.
- d) Application allows file transfer during chats between clients through P2P connection.
- e) The application must use communication protocols already pre-defined by each group.

Working plan

Work in a team.

- Each group has up to 4 members.
- Phase 1 (First 2 weeks):
 - Define specific functions of the chat application
 - Define the communication protocols used for each function
- Phase 2 (Next 2 weeks)
 - Implement and refine the application according to the functions and protocols defined in Phase 1

Results

- a. Phase 1 (softcopy):
 - Submit the report file of the first phase to BKeL in the predefined section as announced on BKeL.
 - File format (pdf): ASS1_P1_<<Group_Name>>.pdf
 - This report includes:
 - Define and describe the functions of the application
 - Define the protocols used for each function

- b. Phase 2 (hard and softcopy):
- c. Submit the report file of the assignment to BKeL
- d. File format (.rar): ASS1_<<Group_name>>.rar
- e. This report includes:
 - Phase 1 content
 - Describe each specific function of the application
 - Detailed application design (architecture, class diagrams, main classes ...)
 - Validation (sanity test) and evaluation of actual result (performance)
 - Extension functions of the system in addition to the requirements specified in section 2
 - Participants' roles and responsibilities
 - Manual document
 - Source code (softcopy)
 - Application file (softcopy) compiled from source code

Evaluation

Assignment 1 is worth 15% of the course grade.

Deadline for submission

Dec 1st, 2022