Term Long Project
(40% of the final grade)
Year long project

• 1 - What?

• 2 - How?

• 3 – Expected outcome
What?

Design and implementation of:

- Selected simple application layer protocols
- A concrete application that uses the simple application layer protocols
What?

A Presence – based messaging application

A client-server application running on top of TCP or UDP, which creates a messaging session between a given number of users when they are online

- 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 exchange messages and exchange files
- The session initiator terminates the session
What?

John online

Create a messaging session

Application

Request Session creation

Session created: John, Alice, Bob

Alice

Bob

Charles

John Alice
How?

- Design and implement simple protocols for:
  - Publishing presence information (i.e. on-line / off-line status)
  - Initiating and terminating sessions
  - Exchanging files
  - Exchanging on-line messages
- The implementation should be done using socket programming
  - No existing application layer protocol should be re-used.
How?

- Recommended group size: 4 students / per group
- Groups of 3 students, 2 students and even 1 student are acceptable (although not recommended)
- Every group (independently of its size) should handle the whole project as defined – However:
  - Each group of 3 will have 5 points bonus
  - Each group of 2 will have 10 points bonus
  - Group of 1 will have 15 points bonus
- A group which will not submit the full expected outcome (i.e. report + demo) will get 0 point
Expected outcome 1: Report

- The project report (20 pages maximum) should include:
  - Which transport protocol did you use and why?
  - Protocols design (e.g. messages, rules):
    - Presence
    - File sharing
    - Session setup and termination
    - Messaging
  - Protocols implementation
    - Describe briefly the main parts of your implementation (classes, sequence diagrams,...)
  - Who did what
Expected outcome 2: Demo

- A live demo