System Programming (MEEC/MEAer)

Project Task for the completion of the project

This document lists a possible ordering of the task necessary for the completion of the project.

1 – Implementation of a simple client/server with the following functionalities:

- The server should read the board size and bricks positions from the file
- Connections of multiple clients.
    - o   The client should only receive the board size
- The clients will read the movement of the characters and send them to the server
- The server will receive the movements of the various characters and forward them to all connected clients without verification of the occupancy of places

Here, students should define the communication protocol for the client connections, and for the movement of the characters.

The student should for the list/array of clients.

2 – Extension of the simple client/server with the following functionalities:

- The server receives the movements of the various characters and stores the location of such characters in a data structure
- Connections of multiple clients.
    - o   When a client connects the server should assign random places to the characters
    - o   The client should receive the bricks and other clients' characters positions

The student should define the data structure for the board (bricks, characters)

3 – Implementation of the client disconnect

4 – Implementation the following movement rules

- Bricks and bounces (section 2.6)
- Simple interactions with other characters (sections 2.11.1 .. 2.11.3)

5 – Implementation the synchronization on the access to the board/characters data structures

6 – Implementation of maximum movement speed (section 2.6)

7 – Implementation of the inactivity jump (section 2.7)

8 – Implementation of the fruits (section 2.8)

- Placement of random fruits
- Character eating fruits
- Superpowered pacmen

9 – Monster <-> pacmen interactions (section 2.11.4 / 2.11.5)

10 – Game score board (section 2.12)

- Accounting of eats
- Communication of score to clients
- Presenting of board on the client

During the implementation of the communication protocols, students should guaranteed that all messages are valid and correct.

This is not an exhaustive list of the functionalities to implement.

Students should read with care the project assignment