

Network Programming (Net Centric Programming) – IT096IU

Term Project Description

Objectives:

To allow students to gain practical experience of the design, prototyping, testing, and evaluation stages of network application development.

To allow students to gain practical experience of using the TCP and UDP communications protocols at the programming level.

To strengthen the student's understanding of networking and communication issues by relating theory and practice.

This project allows one student only

Project Deliverables:

Source code and documentation must be submitted on blackboard before due. Zip all your files and name it Groupnumber_project.zip (ex: Group01_project.zip)

A demonstration session will be held at the end of the course. You will be asked to run through your program. Questions will be asked to verify your project source code

Fail to show up during the demonstration session or no demonstration at all will result in ZERO grading for the project

Due date:

8:00 on demo day

Demo: last lecture or lab session (TBA)

Project Task: Wonder Words

This simulates the game show "Wheel of Fortune" but in a real time racing format.

Programming languages requirements: Python, Web Socket. You can use TCP, UDP for communication. The game can be played using a web browser

Game play:

The list of words is kept in a JSON file format

Each word entry will be shown to clients: unmatched characters are shown as hyphens; space characters are shown as is, word description is always shown to players

When the game start, server will pick a random word from the list and send the unrevealed word along with the description to all players. Example: --- ----- (for Net Centric Programming) and its description above

The game starts only when all players are ready

The game is played in turns, each turn is 10 seconds and will be shown as a countdown timer in all players interface

All players can make a guess character. If his guess is wrong, he has to wait for the next turn

Upon receiving a guessed character from a player, server will try to check to see if the one is matched. If it matched, the partial revealed word will be send to all players. The one who has correctly guessed will receive a success message "Right guess" and 100 points x the number of appearances of the character in the word

Example: guessed character is "c" → --- C-----c ----- , player will receive 200 points

If the guessed character is unmatched, the error message "Wrong guess" is sent back to the player

The game continues until the word is fully revealed. Player score will be calculated and player will be notice win or loose with total score.

Documentation:

- Architecture
- Sequence diagram for main functions
- Instruction on how to deploy and run your project

Grading:

- 20% of the course grade
- Document and demo: 10 pts

- Bonuses: add a chat frame to the game, support global and private chat, player account, game room