National University of Computer & Emerging Sciences

Department of Computer Science

Operating System Lab

SEMESTER PROJECT

Implementation of Tic-Tac-Toe game (Two Player)

Rules of the Game

- The game is to be played between two people (in this program between HUMAN and COMPUTER).
- One of the players chooses 'O' and the other 'X' to mark their respective cells.
- The game starts with one of the players and the game ends when one of the players has one whole row/ column/ diagonal filled with his/her respective character ('O' or 'X').
 - 1. If no one wins, then the game is said to be draw.

0	X	0
0	X	X
X	0	X

Implementation

- 1. Implement the game using Named Pipes to make it Double Player Game,
- 2. Both Players will play game on separate terminals.
- 3. Use Threads to calculate background things (Time Taken by player to complete his/her Turn)
- 4. Use Separate Process to Calculate Score
- 5. Use Thread to Save High Score in File
- 6. Use Pipes to share data between processes.
- 7. Use synchronization techniques(at least 1) between processes.

What more can be done in the program?

Use of Graphics, Background music, Input from Mouse can be plus point but it is not necessary.

Winning Strategy – An Interesting Fact

If both the players play optimally then it is destined that you will never lose ("although the match can still be drawn"). It doesn't matter whether you play first or second.In another ways – " Two expert players will always draw ". Isn't this interesting?

Note: Implementation of game without operating system concepts is not acceptable and zero marks will be given.