

Homework 2 - Tic-Tac-Toe Game Use Cases

CSCI 360

In this set of assignments, you will design the software for the “Tic-Tac-Toe” with the following functional requirements:

1. The system is a full tic tac toe game for either two players or one player against the computer.
2. The system may run on a single computing device (standard computer or mobile device) or on multiple devices connected across a network.
3. Tic Tac Toe is a two player game that either has a winner and loser or a tie outcome.
4. The rules are simple. The system supports a set of individual game contests. A random selection is made for which player goes first (such as flipping a coin). The winner of the most recent game usually starts the next if the players want to continue.
5. The system keeps track of the number of games each player has won in the set of games (and the number of ties). This record may be for a single session of games or for multiple sessions across some time period.
6. The system optionally supports keeping track of multiple players and ranking them according to most wins. The system must have some type of graphical interface and show the game markers as the game progresses.
7. The system must automatically check (and prevent) illegal moves and tell when and who the winner is (or that the game is a draw with no winner).
8. The system supports two human players and one player against the computer. The computer is expected to play a reasonably good game. One option is to have the computer learn how to play as it gains experience. Simple learning algorithms using heuristics are possible for this game.
9. Consider trying to make the game play and think about the game the way you do. Optionally the system should support multiple levels or kinds of computer based game playing (e.g. levels or styles of play). The system is to have a modular design and allow for easy expansion at a later date. For example multiple user interfaces and different kinds of devices should be easily addable options in the future (if not done in the current system).

Source: <http://people.cs.luc.edu/whonig/comp-474/course-materials/system-projects/TicTacToeFNSv1.pdf>

For the first homework, you will need to write in “casual format” at least 3 use cases for the tic-tac-toe game.

Rubric for HW2