Vocational Training Development Institute

ICT Department

CS318 Dynamic Websites and Applications

Assignment 2 - Javascript Game

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Tic Tac Toe...Extreme was created to expand on and test the limits of this popular game. While creating the game, we faced several challenges and at a late stage in the development of this game, we had to scrap the main logic of the game and rebuild it avoiding the "pitfalls" encountered previously.

To make the game extreme, we decided to:

1. allow players to choose beyond the traditional 3 x 3 grid of tic tac toe
2. allow players to choose more than three consecutive similar boxes to score a point
3. allow players to score a point with boxes that overlap and in several directions

How the game works

The game works by first creating a grid of boxes that will be used to play the game. The amount of boxes used and the number of similar squares to win can be defined by the players; if no value is issued by the players then a default value is used. After the game starts, a player can select a box as desired, the selected box will then be coloured red or yellow. When the number of consecutive similar squares to win is reached a player scores 10 points or dollars. Players can play until there are no more moves.

Design of the game system

The game works by taking whatever square is clicked and checking different directions for consecutive similar squares:

- ✖ left to right
- ✖ up and down
- ✖ diagonally left and diagonally right

✖   diagonally right and diagonally left

After each direction is checked, another check is made to see if after checking, a winning combination was found.

Challenges faced

While developing this game, we faced several challenges listed below:

1. Creating an algorithm to find a winning combination proved to be difficult based on the strategy we decided to employ.

2. Implementing the algorithm was also difficult as we had to research and discover several features of javascript, HTML Document Object Model and Cascading Style Sheets.

3. Time limitations – the easter holidays proved very beneficial in developing this game.

4. Not using software testing techniques on our algorithm before adding it to the project proved to be the most disastrous part of our development process.

5. Beginning the development without a well thought out plan regarding what each function should and should not do also proved disastrous.

6. Creating functions that ended up doing more than one thing was also a bad idea.

7. Not recognizing that repeated code would work better in a function

We believe that our game performs well and within the scope that we had envisioned. We also believe that our functions, once sharpened could be used to traverse any 2 dimensional grid thrown at it.