

Tic-Tac-Toe Project

Description

Hello,

As part of my high school final-year project in the Computer Science and Digital Technologies specialization, I have developed the Tic-Tac-Toe game using Python, with the tkinter library for the graphical user interface.

This game allows two players to compete on a 3x3 grid.

Features

Launch the game:

Execute the `morpion.py` file to start the game.

Play:

- Click on the grid squares to play.
- Player 1 is represented by crosses (X) and Player 2 by circles (O).
- Status messages at the bottom of the window indicate whose turn it is and whether the game is over.

Restart a game:

Click the "**Relancer**" button to start a new game.

Close the game:

Click the "**Fermer**" button to exit the application.

Code Structure

Global variables:

- `tbl_grille`: A 3x3 array representing the current state of the grid.
- `nbr_cases_pleines`: Number of filled squares.
- `nbr_clic`: Number of clicks made.
- `joueur`: Current active player (1 or 2).
- `next_player`: Indicates whether the next player is allowed to play.
- `rep`: Indicates whether a game is in progress or has ended.

Main functions:

- `grille()`: Draws the game grid.
- `initialisation()`: Resets the grid and all global variables.
- `draw_cercle(x, y)`: Draws a circle at the specified (x, y) position.
- `evaluation(tbl_grille, joueuractif)`: Evaluates the game state to determine whether a player has won or if the game is a draw.
- `clicgauche(event)`: Handles mouse click events on the grid.

- `remplir_case(a, b, joueuractif)`: Fills a square with the symbol of the active player.