**Tic-Tac-Toe Game**

This is a Windows Forms-based Tic-Tac-Toe game developed using C# in Visual Studio 2022. The project features a two-player turn-based system where the game starts with player **O**. Players take turns clicking on the grid to place their marks (X or O), and the game will declare the winner, tie, or reset for the next round.

**Features**

* **Two-player mode**: The game is played between two players (O and X).
* **Turn-based system**: Players alternate turns, starting with player **O**.
* **Game status tracking**: The current player is displayed and updated after each move.
* **Win/Tie detection**: The game detects wins or ties and announces the result via a message box.
* **Game reset**: After each game (win/tie), the board resets automatically for the next round.
* **Winner history**: Keeps a list of winners and ties for the session, with a count of games played.

**Project Structure**

**Components**

* **Windows Forms UI**: A simple UI made with Windows Forms, using PictureBox controls to represent the Tic-Tac-Toe grid.
* **Game Logic**: Managed by the GameFunctions class, which handles player turns, checking for wins or ties, and updating the game board.

**Files**

* **Form1.cs**:
  + Manages the main form where the game UI is implemented and integrates game logic.
  + Handles player moves and updates the game status (current player, winner, tie).
  + Implements event handlers for clicking the grid, resetting the game, and closing the application.
* **GameFunctions.cs**:
  + Handles core game logic, including tracking the current player, checking for wins, and detecting ties.
  + Optimized methods for win and tie detection:
    - EndGame(): Determines if a player has won by checking all rows, columns, and diagonals.
    - CheckTie(): Verifies if the board is fully occupied and declares a tie if no winner is found.
    - StartGame(): Manages the player's move, updates the game board, and switches turns.
* **Resources**: Contains images for Player X and Player O, used to visually distinguish between the two players on the grid.

**How to Run the Game**

1. **Clone the repository** to your local machine or download the ZIP file.

bash

Copy code

git clone https://github.com/yourusername/tic-tac-toe.git

1. Open the project in **Visual Studio 2022**.
2. Build and run the solution by pressing F5 or using the **Run** button in Visual Studio.
3. The game window will launch, and the game will start with player **O**.
4. Click on any empty box to place your symbol (O or X).
5. The game will declare a winner or tie after each round, and the board will reset for the next game.

**How the Game Works**

* The game uses a 3x3 grid of PictureBox controls to represent the Tic-Tac-Toe board.
* Players click on a box to place their symbol (X or O), which updates the box's image accordingly.
* **Win conditions**: The game checks all rows, columns, and diagonals for three identical symbols to declare a winner.
* **Tie conditions**: If all boxes are filled and no player has won, the game declares a tie.
* **Winner list**: The game maintains a list of winners and ties, displayed in the ListBox control.

**Reset and Close Buttons**

* **Reset Button**: Resets the game board manually and starts a new game.
* **Close Button**: Closes the application.

**Prerequisites**

* **Visual Studio 2022** with .NET Framework support
* Basic understanding of C# and Windows Forms

**Future Enhancements**

* Add single-player mode with AI.
* Improve the UI with more customization options (e.g., themes or player icons).
* Add sound effects or animations for a more engaging experience.
* Implement tracking statistics (e.g., win percentages for each player).

**License**

This project is licensed under the MIT License - see the LICENSE file for details