Tic-Tac-Toe with AI – Product Backlog

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Project: Tic-Tac-Toe with minimax AI

High Priority Features:

- **Game board display;**
  Run the application, a 3x3 grid with empty cells appears in the window, and the window has the title “Tic-Tac-Toe”.
- **Player can place “X” mark;**
  Click an empty cell, a blue X appears on that cell, clicking again does nothing.
- **Win detection Columns/Rows;**
  Place three “X”s in a row or a column, horizontally and vertically, message displays “Player Wins!”.
  Check all rows and columns after each move.
- **Win detection Diagonals;**
  Place three “X”s diagonally, message displays “Player Wins!”.
- **Draw detection;**
  Fill all 9 cells without anyone winning, message displays “It’s a Draw!”.
- **Basic AI;**
  After player places “X” in a desired cell, AI places “O” on a different empty cell.
- **Minimax Algorithm implementation;**
  AI makes optimal moves, AI never loses (the player can only lose or draw). Also, AI blocks player to win immediately.
- **Turn indicator;**
  Top of window shows “Your Turn” when it is player’s turn, shows “AI is thinking...” when it is AI’s turn.
- **New Game button;**
  When the game ends, there should appear a New Game button below the window.

Medium Priority Features:

- **Visual feedback – colours;**
  The “X” should appear in blue, and the “O” mark should appear in red. Winning line cells get highlighted.
- **Game status messages;**
  Status label should change based on game’s state: “Your Turn”, “AI Wins”, “Draw”
- **Prevent invalid moves;**
  Try clicking on an occupied cell, nothing happens. Try clicking on a cell after the game ends, nothing happens.