# Minesweeper Bonus Features Implementation Documentation  
  
## Early Submission - 3pts

## Safe First Turn (2pts)

Location: https://github.com/xukunzh/Xukun-Zhang-Lingyun-Xiao-project2/blob/main/src/context/MinesweeperContext.jsx

Implemented in `revealCell` function, which checks `isFirstClick` and regenerates the board if a mine is clicked on the first turn, ensuring the first click is always safe.

## Saved Data (4pts)

Location: https://github.com/xukunzh/Xukun-Zhang-Lingyun-Xiao-project2/blob/main/src/context/MinesweeperContext.jsx

Implemented using:

- `saveGameData` function: Saves current game state to localStorage

- `loadPreviousGameData` function: Loads saved game state from localStorage

## Flag Bomb Function (3pts)

Location: https://github.com/xukunzh/Xukun-Zhang-Lingyun-Xiao-project2/blob/main/src/context/MinesweeperContext.jsx

Implemented using:

- `toggleFlag` function: Handles flag placement and removal

- `flagCount` state: Tracks total flags placed

- `updateCorrectCountOfFlagsOnMines` function: Tracks correctly placed flags

## Auto Clear (5pts)

Location: https://github.com/xukunzh/Xukun-Zhang-Lingyun-Xiao-project2/blob/main/src/context/MinesweeperContext.jsx

Implemented in `revealCell` function using recursive `revealSurrounding` helper function to automatically clear adjacent empty cells.