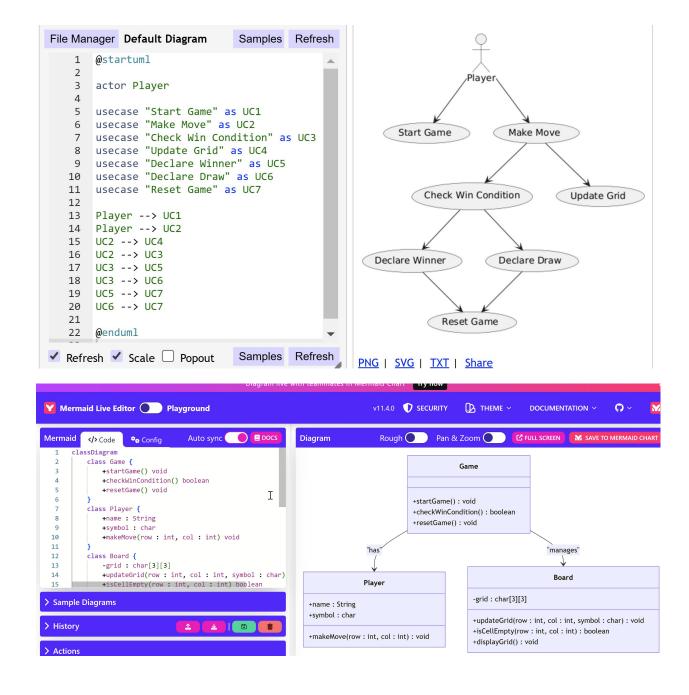
## Minimum Requirements for a Tic-Tac-Toe Game

- 1. The game must allow two players to participate.
- 2. Players take turns marking their symbols (X or O) on a 3x3 grid.
- 3. The game must determine when a player wins by forming a row, column, or diagonal of their symbols.
- 4. If the grid is filled without a winner, the game ends in a draw.
- 5. The system should display the current state of the grid after each move.
- 6. The game should reset to allow a new match once it ends.
- 7. The system must validate that players can only mark unoccupied cells.



### Pros and cons of OOAD

#### **Advantages**

# Focuses on data rather than the procedures as in Structured Analysis.

The principles of encapsulation and data hiding help the developer to develop systems that cannot be tampered by other parts of the system.

The principles of encapsulation and data hiding help the developer to develop systems that cannot be tampered by other parts of the system.

It allows effective management of software complexity by the virtue of modularity.

It can be upgraded from small to large systems at a greater ease than in systems following structured analysis.

#### **Disadvantages**

Functionality is restricted within objects. This may pose a problem for systems which are intrinsically procedural or computational in nature.

It cannot identify which objects would generate an optimal system design.

The object-oriented models do not easily show the communications between the objects in the system.

All the interfaces between the objects cannot be represented in a single diagram.