Design Patterns and Software Development Process

Final Project – A Monopoly™ game

Objective of the project is to simulate a simplified version of the Monopoly™ game.

A set of players is given, each with name and initial position. Dice are rolled and players' positions on the game board will change.
The game is played on a circular game board, composed of 40 positions on the board, indexed from 0 to 39. If a player reaches position 39 and still needs to move forward, he'll continue from position 0. In other words, positions 38, 39, 0, 1, 2 are contiguous.

Each player rolls two dice and moves forward by a number of positions equal to the sum of the numbers told by the two dice.
A player turn ends after moving.
The same position can be occupied by more than one player.

If a player gets both dice with the same value, then he rolls the dice and moves again. If this happens three times in a row, the player goes to jail and ends his turn.

Jail can be only visited or be a situation the player is in. The board has a Visit Only / In Jail at position 10 and a Go To Jail at position 30.

If at the end of a basic move, the player lands on Go To Jail, then he immediately moves to the position Visit Only / In Jail and is in jail. His turn ends
If after moving, the player lands on Visit Only / In Jail, he is visiting only and is not in jail.

While the player is in jail, he still rolls the dice on his turn as usual, but does not move until either:
(a) he gets a both dice with the same value, or
(b) he fails to roll both dice with the same value for three times in a row (i.e. his previous two turns after moving to jail and his current turn).

If either (a) or (b) happens in the player's turn, then he moves forward by the sum of the dice rolled positions and his turn ends. He does not roll the dice again even if he has rolled a both dice with the same value.