

## **Use Case 5: Place a Piece**

### **Primary Actor:**

- **Player**

### **Stakeholders and Interests:**

- **Player:** Wants to place a stone on the board according to the dice combination they rolled.
- **Other Players:** Interested in fair gameplay and the strategic placement of pieces.
- **System:** Ensures the stone is placed in a valid location according to the game's rules.

### **Preconditions:**

- A game is in session.
- The player takes their turn
- The player has rolled the dice and has a valid combination of dice that allows a stone placement on the board.
- The player has at least one stone left to place on the board.

### **Success Guarantee (Postconditions):**

- A stone is placed on the board in a valid square according to the combination of the dice.
- Turn of the first player ends, and the turn for the next player begins.

### **Main Success Scenario:**

1. The Player selects a valid square from the board based on the combination achieved from their dice roll.
2. The system checks whether the selected square is valid or not (i.e., not already occupied by another stone)
3. If the square is free, the player places a stone on the square.
4. The system updates the board with the newly placed stone.
5. Turn of the player ends, and the turn of the next player begins.

### **Alternative Flows:**

#### **1. Occupied Square**

- If a square chosen by the player is occupied, the player must select another square to place their stone on. If no valid square is available, the turn ends, and the flow resumes from Step 5 (ending the turn)

#### **2. No valid combination:**

- If there is no valid combination left to achieve from the dice roll, the player must give up their turn to the next player without placing a stone on the board. The flow resumes from Step 5 (ending the turn and passing it to the next player).

### **Exceptions:**

#### **1. Invalid Move Attempt:**

- If an invalid square is chosen by the player to place a stone, the system must inform the player and let them select a valid square. If there is none, the player's turn ends.

#### **2. No stones left for player**

- The turn of the player is skipped, and the next player proceeds with their turn instead if the player has no stones remaining.

### **Special Requirements:**

1. The system must ensure all the dice combinations adhere to the rules of possible combinations before allowing stone placement(s).
2. Players must be informed right away if the square they attempt to place a stone on is occupied.
3. The system should assist players in their placement choices by highlighting valid and occupied squares.

### **Open Issues:**

1. Should there be a visual or audio signal to indicate the differences between a correct and incorrect stone placement by players?
2. Should there be a time constraint on making a placement decision to maintain the pace of the game?