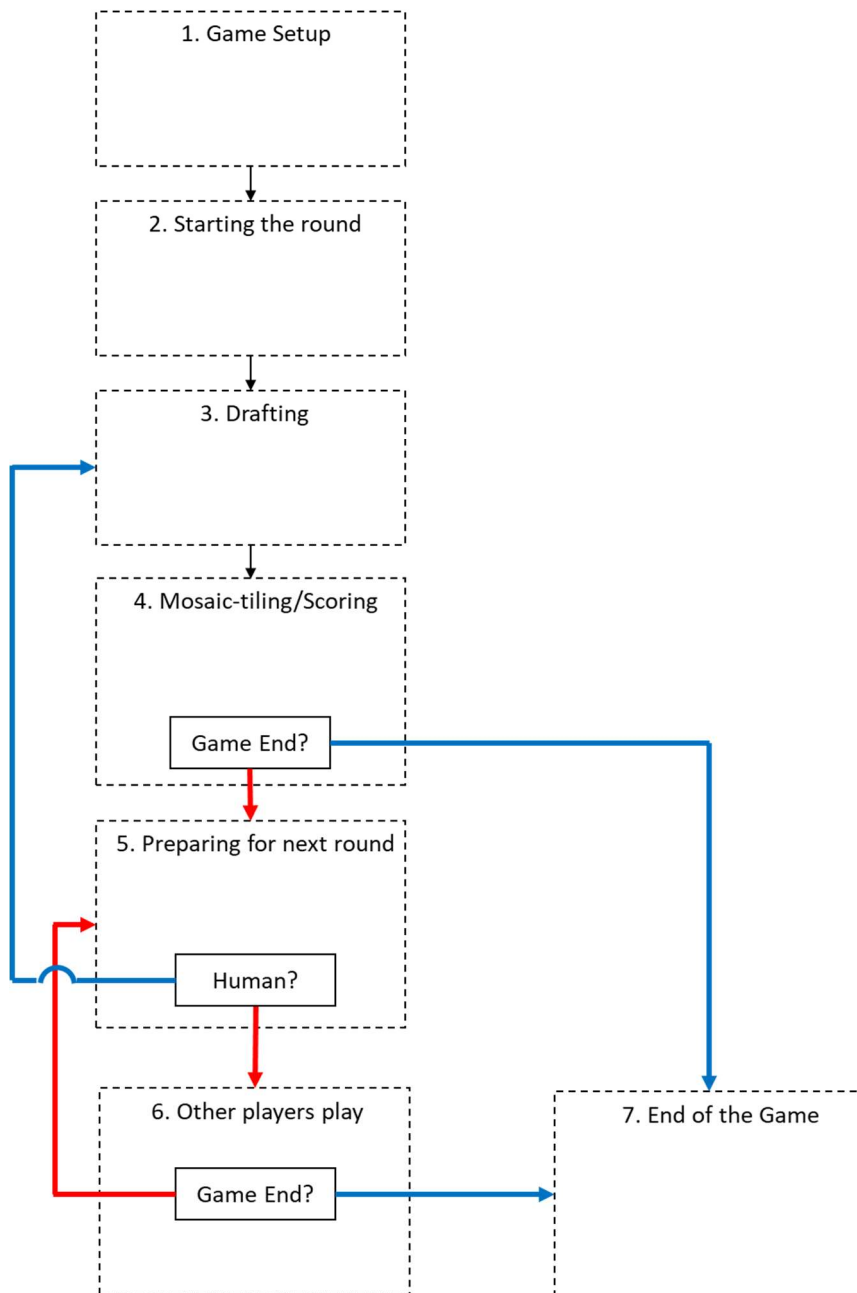# Skeleton (Block Diagram) of Azul Game
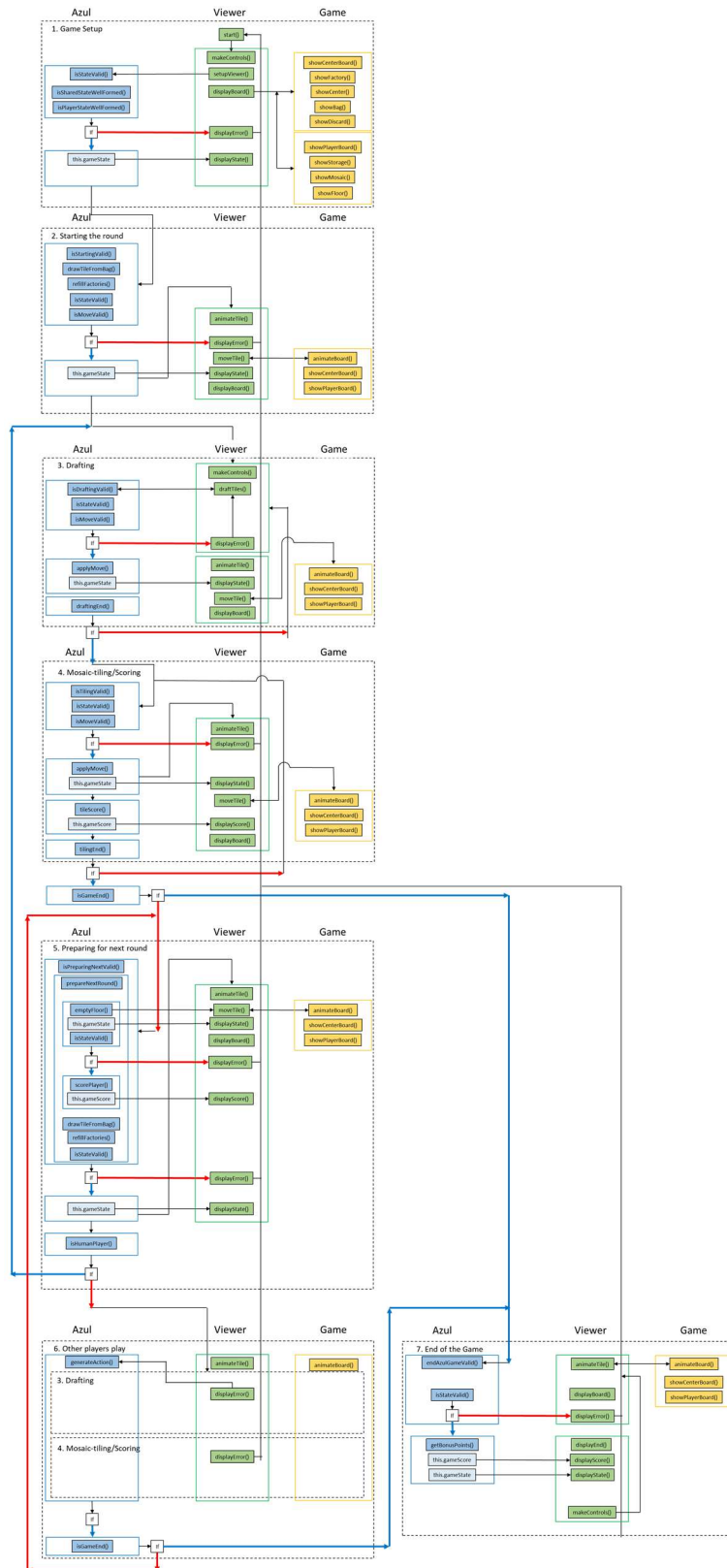
(Assignment 2, D2B)

Author 1: John (Min Jae), Kim (u7269158)
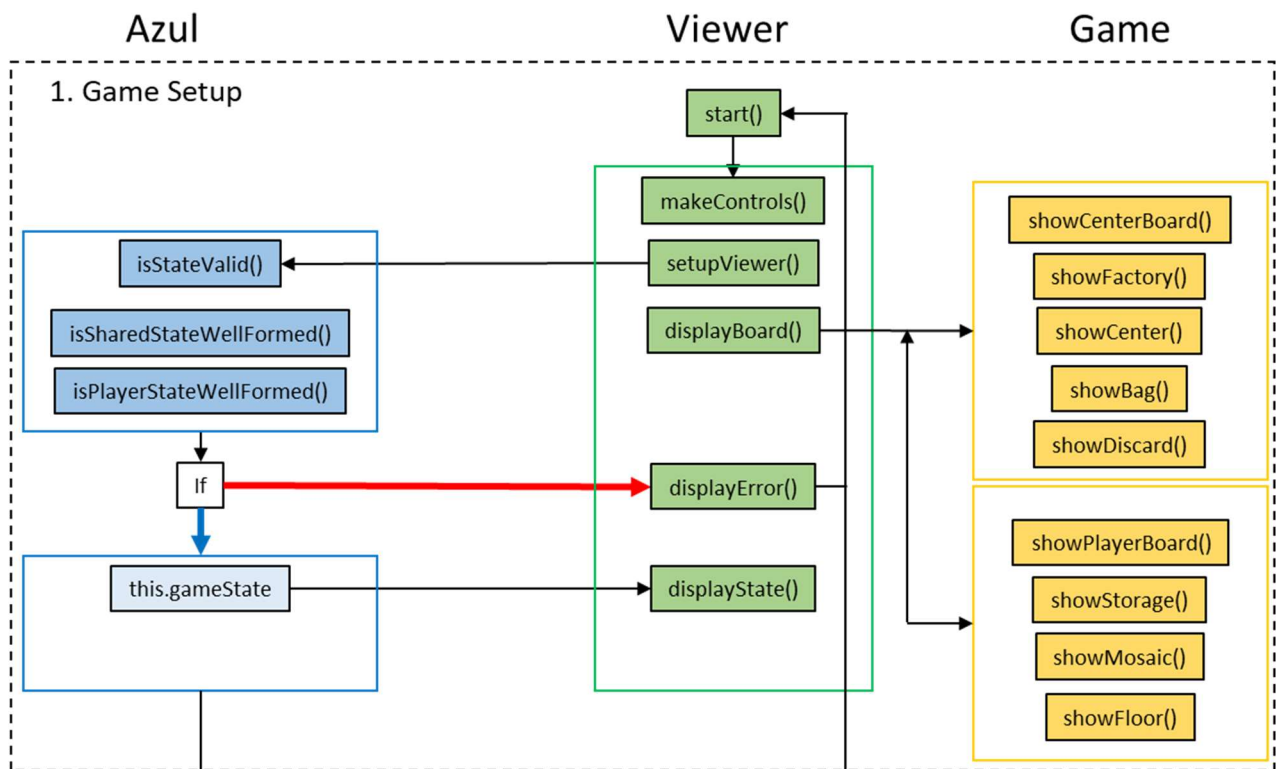
Author 2: Si bo, Hu (u7271125)

1. Brief picture of Azul skeleton (block diagram)

2. Azul game skeleton (block diagram) with specific components (classes, methods, and field names)

# 3-1. Skeletons and descriptions of "1. Game Setup"

a. In Viewer class, user inputs information of games (players, etc) by button provided by software.

b. In Game class, Azul software plots board and tiles. Players share factories, center, bag, discard board. Player boards depends on the number of players.

c. In Azul class, validation of game state, user moves are checked. Tile movement and scores are calculated in this class.

## 3-2. Skeletons and descriptions of "2. Starting the round"
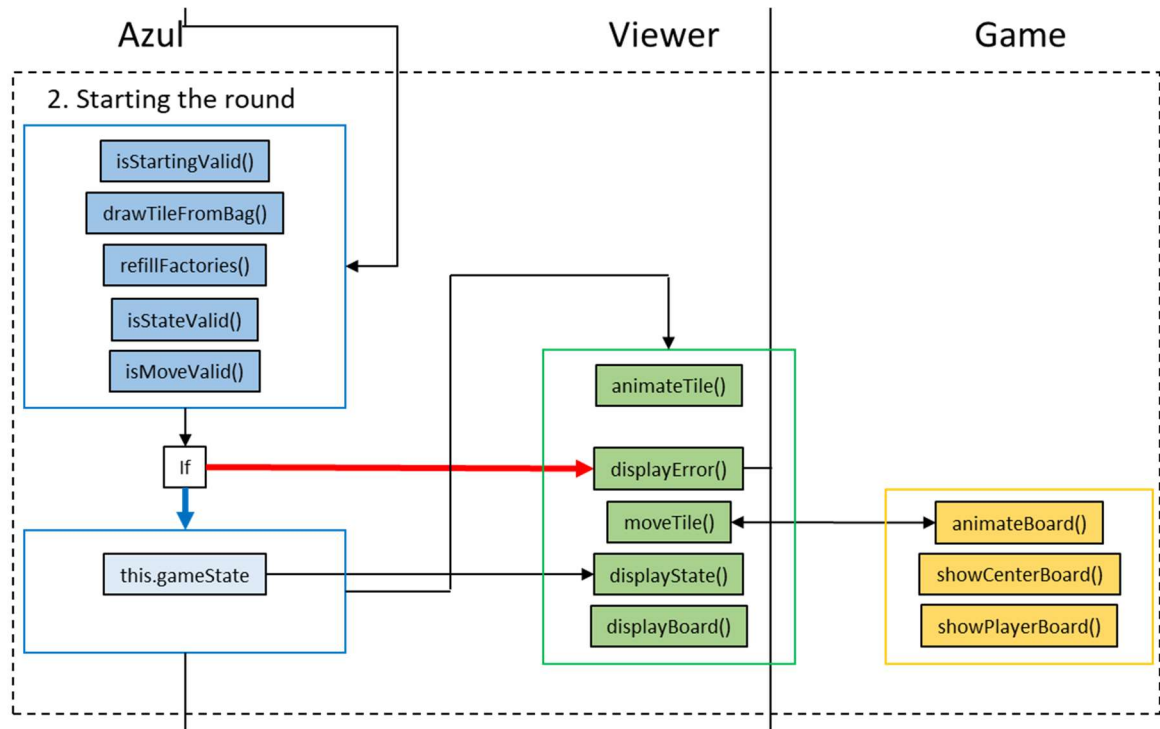
a. Before the round starts, tiles from bag are drawn and refills factories.

b. If drawing is valid, Viewer GUI animates tile movements.

c. Once tiles are all moved, Game GUI displays final state of boards.

# 3-3. Skeletons and descriptions of "3. Drafting"
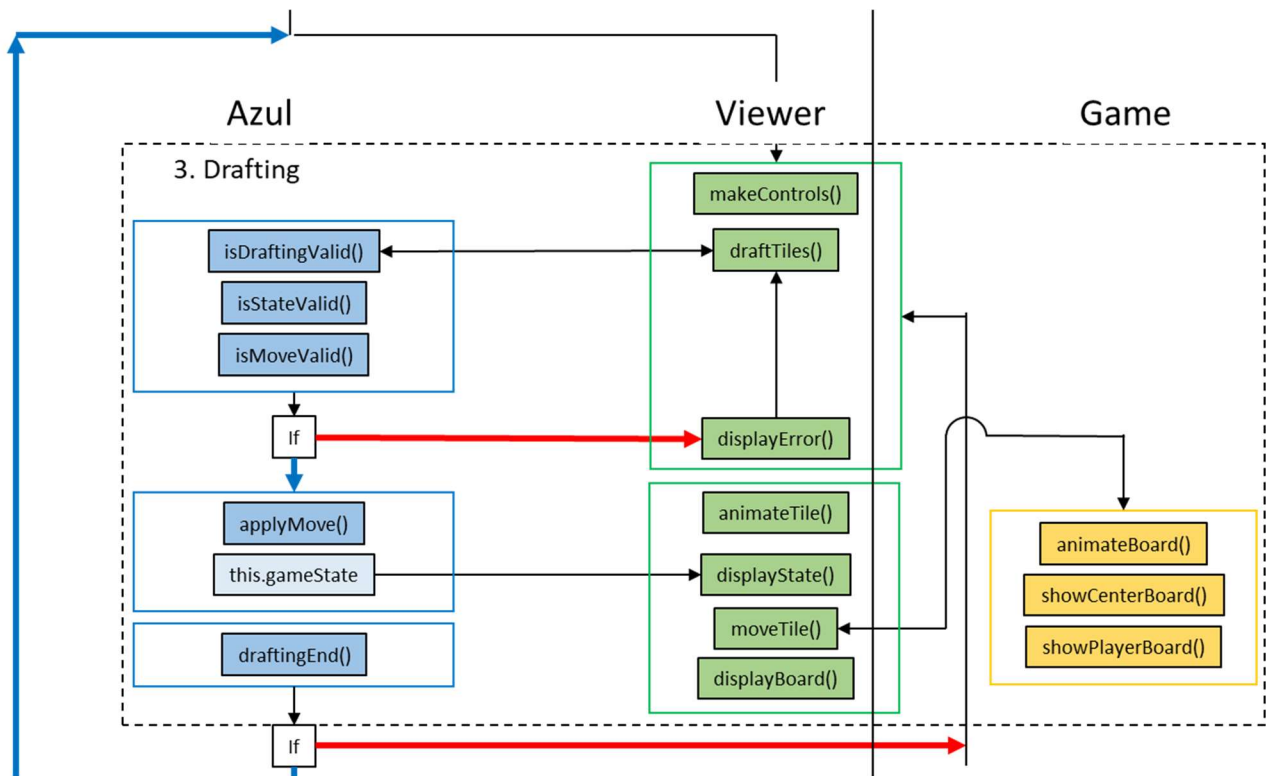
a. Viewer GUI receives user input to draft tile from factories. Place their tiles to storage.

b. Each user's movements are validated. If the movement is not valid, user order is not proceeded and needs to draft the tils again.

c. Each user's movement is animated in Viewer GUI and final state of board is displayed in Game GUI.

d. If the user ends drafting, proceed to next phase.

3-4. Skeletons and descriptions of "4. Mosaic-tiling/Scoring"
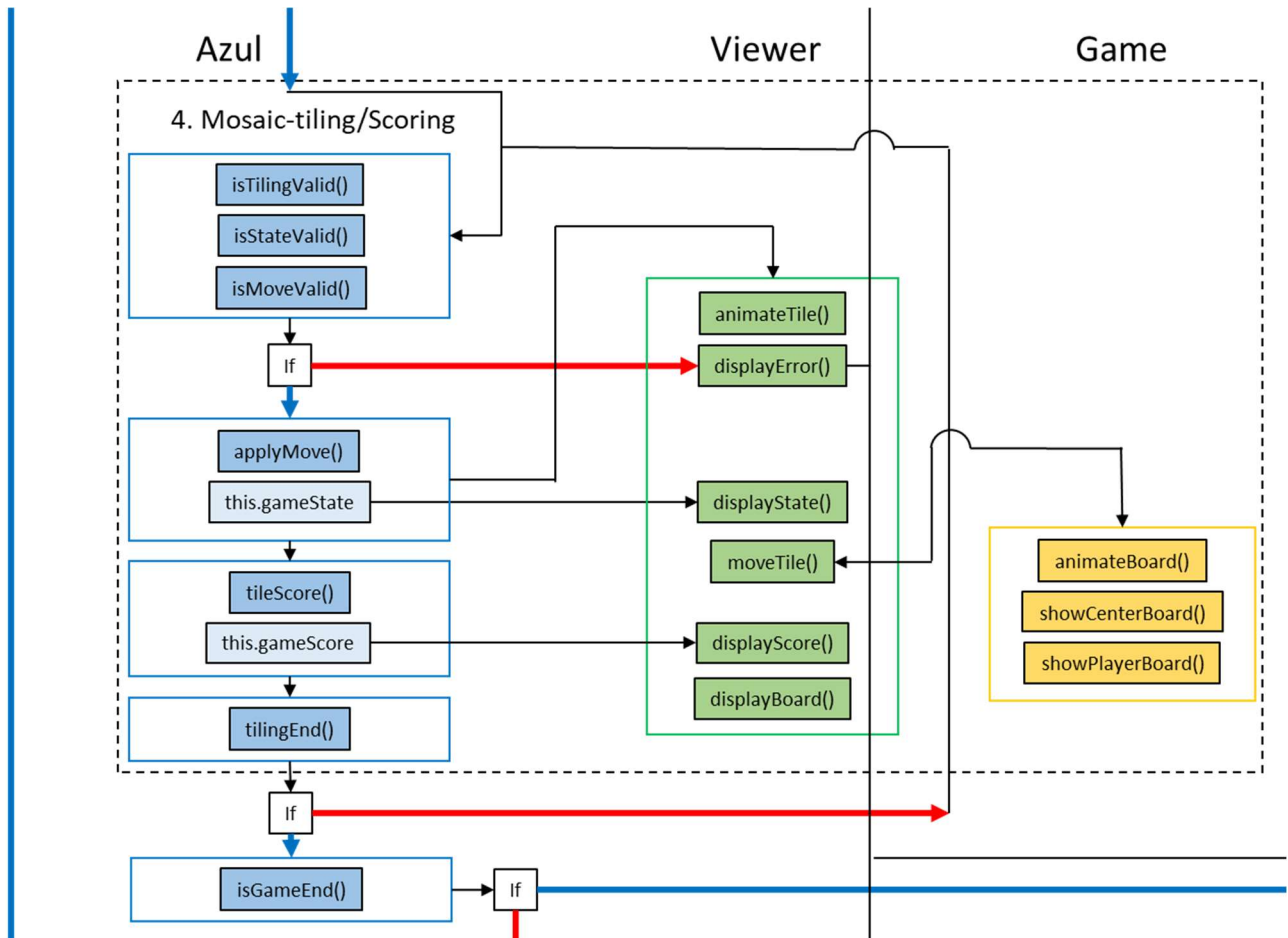
a. Azul software moves tile if user have any valid score.

b. When tiles are moved, Viewer GUI shows the movement. Final state of board is displayed in Game GUI.

c. If there are no tiling to score, and the tiling and find out if the game is ended.

d. If game ended, go to phase "7. End of the Game" or else go to "5. Preparing for next round"

## 3-5. Skeletons and descriptions of "5. Preparing for next round"
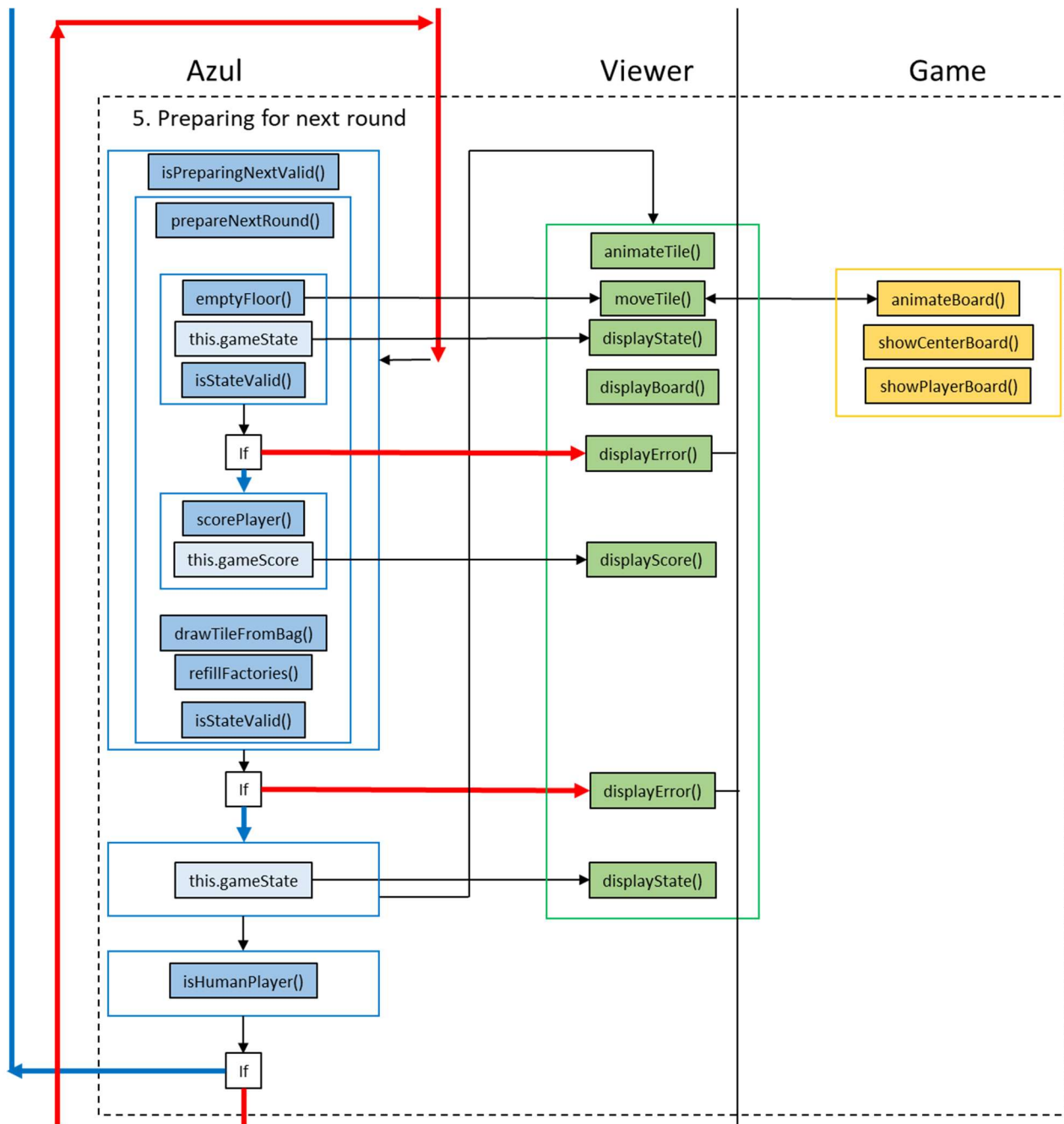
a. Azul software moves empty all floors and calculate scores of players. Draw tile from bag and refill them to factories again.

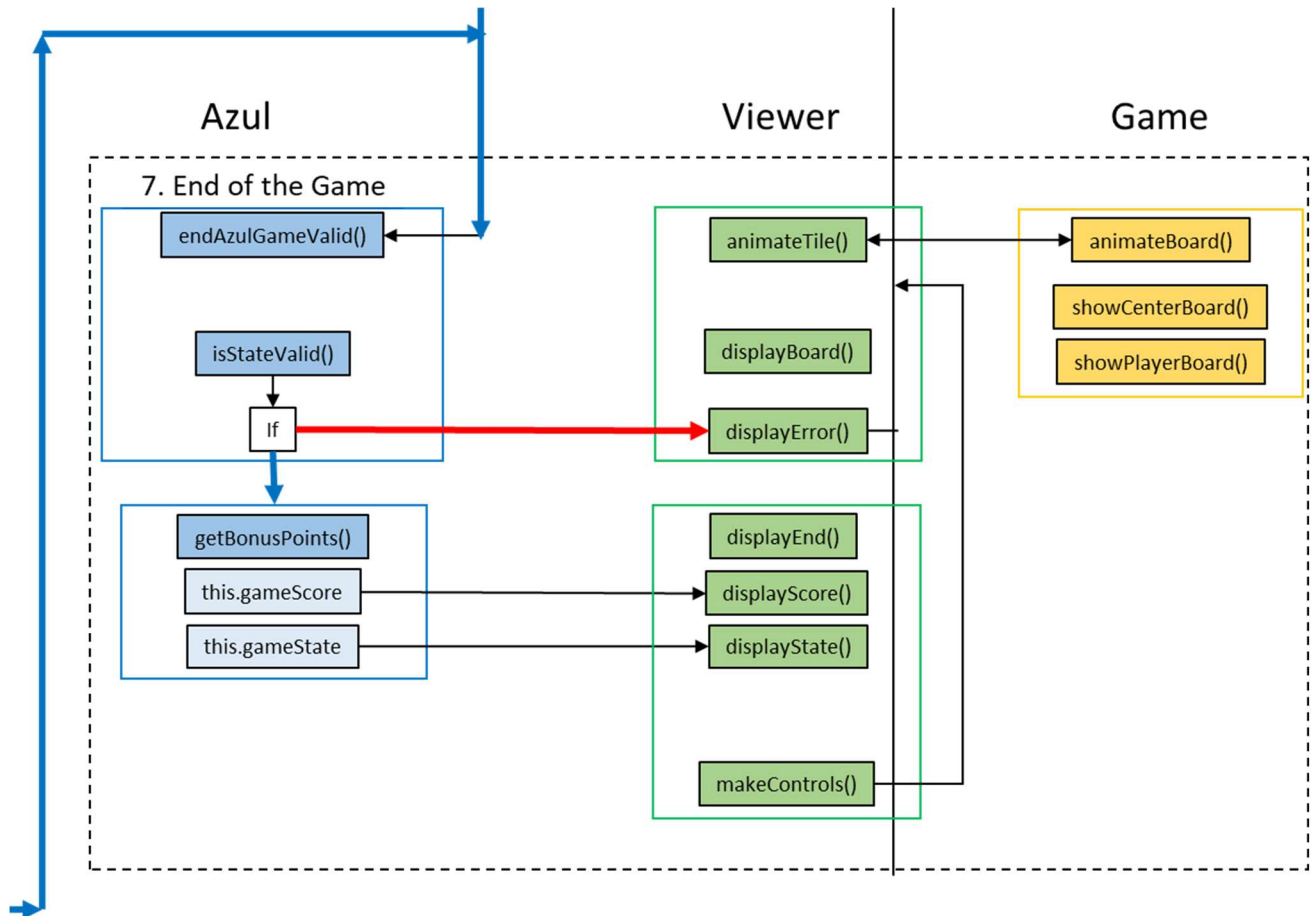b. Viewer GUI and Game GUI shows tile movements and boards of the final state.

c. Find out if next player is Human for computer. If next player is human go to phase "3. Drafting" if next player is computer go to phase "6. Other players play"

3-6. Skeletons and descriptions of "6. Other players play"
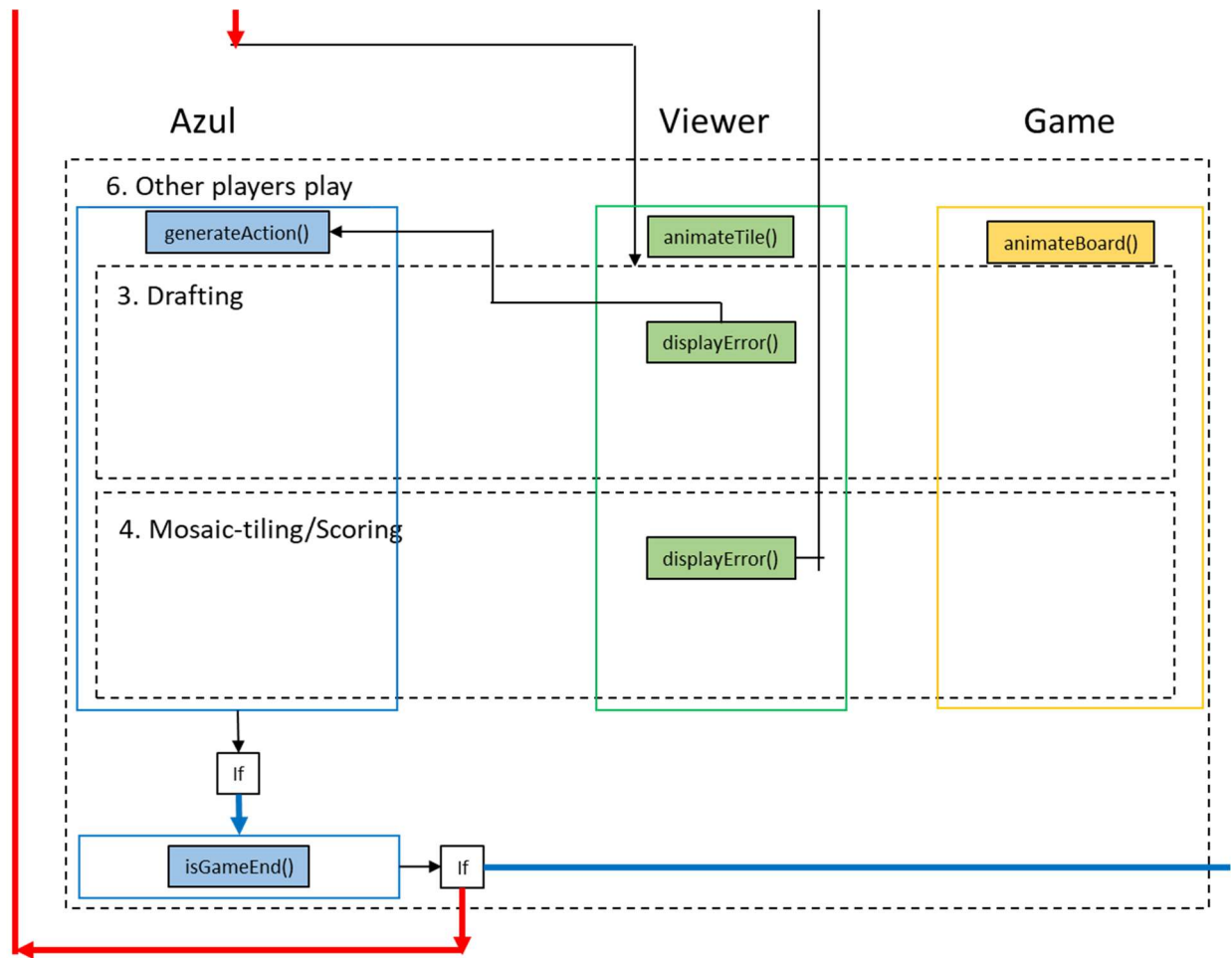
a. Basically repeat "3. Drafting" and "4. Mosaic-tiling/Scoring" without user input.

b. Viewer GUI and Game GUI shows tile movements and boards of the final state.

c. If game ended, go to phase "7. End of the Game" or else go to "5. Preparing for next round"

3-7. Skeletons and descriptions of "7. End of the Game"

a. If the game ended, check validity of the game state. Calculate bonus points the player.

b. Viewer GUI and Game GUI shows tile movements and boards of the final state.

c. Viewer GUI shows winner and game is ended. User need to pick whether to restart the game or exit.