Proposed design :

Main Game

GetStackPane(GUI)

Board

GetTileBoard

GetTilePane

GameManager

DataStructure

Tiles

Tiles'

Node(tree)

PlayerOne

Score

Input State

ComputerPlayer
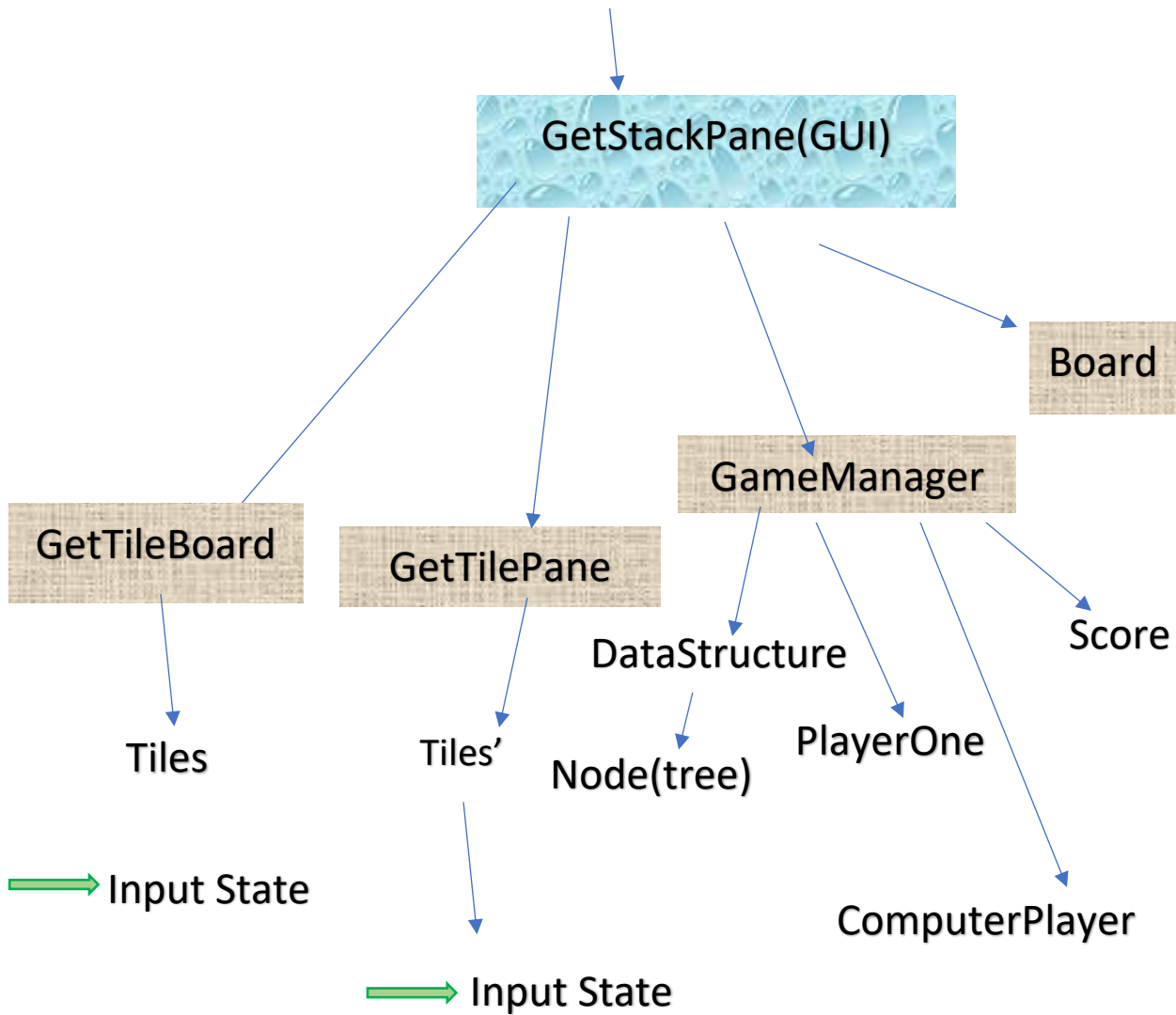
Input State

Description:

1. Main Game Loop: The main game loop gets the user input and keeps updating the graphics with that input.
2. GetStackPane: this creates pane all tiles, buttons, and labels.
   This is bridge between the GetTileBoard, the GetTilePane and, GameManager.
3. GetTilePane: GetTilePane extends StackPane which creates the human tile/tray in the board based on the information from the game board to GetStackPane. It gets updated with every mouse click on human tray when its human turn to play. User only can provide the input to the program through clicks on the tile.
4. GetTileBoard: This extends the StackPane which creates the board tile.
5. GameManager: This sets up the distribution of scrabble letters to human and computer. It checks for the best of computer and legality of computer and human moves. It has methods to calculate score for each of the player and store the scores.
6. Board: This reads the board pass the two-d array to the MainClass.
7. PlayerOne: This stores the human tray and is used for human move. This sets up the input obtained from the GameManager and provides the information to the MainClass to get trays displayed.
8. ComputerPlayer: This stores the computer tray. GameManager has access to update its variable based on the number of tray was used for the best move.
9. DataStructure: This reads the dictionary and pass it the Node object to get trie data structure.
10. Node: This method sets up the data structure of dictionary and provide features to get possible word for computer moves and also, to check if a word exists or not in the dictionary.
11. Score: This class holds the letters in the bag available for the game and also maps each letter to its score.