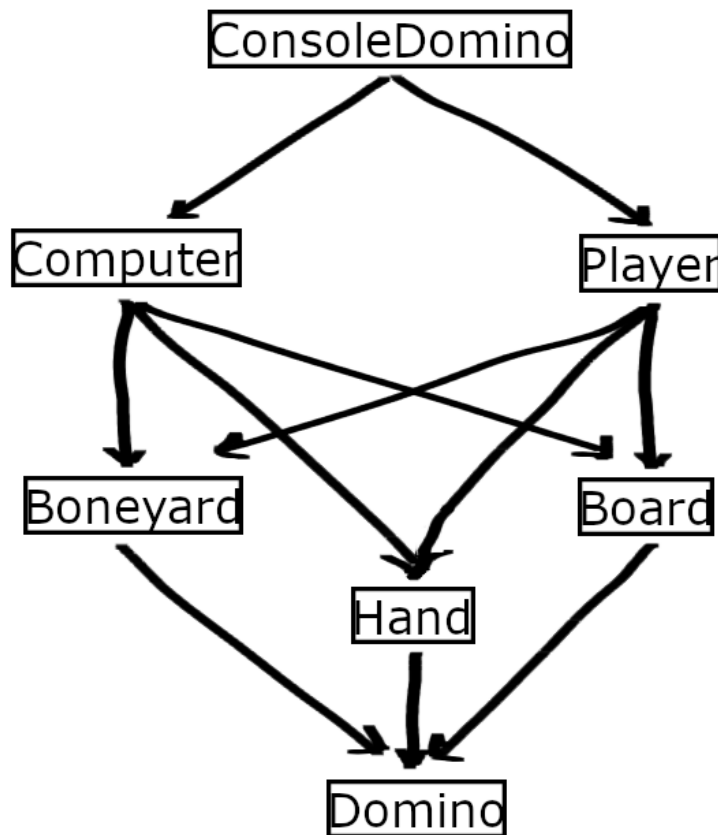Dominoes Design Document

ConsoleDomino - Manages the computer and player turns.
Player - The player has a hand, a copy of the play area, and a copy of the boneyard. The player will play the first domino and then play off the edges to build out the line. Valid plays are checked and if the player runs out of valid plays, he can get dominoes from the boneyard using the draw button.
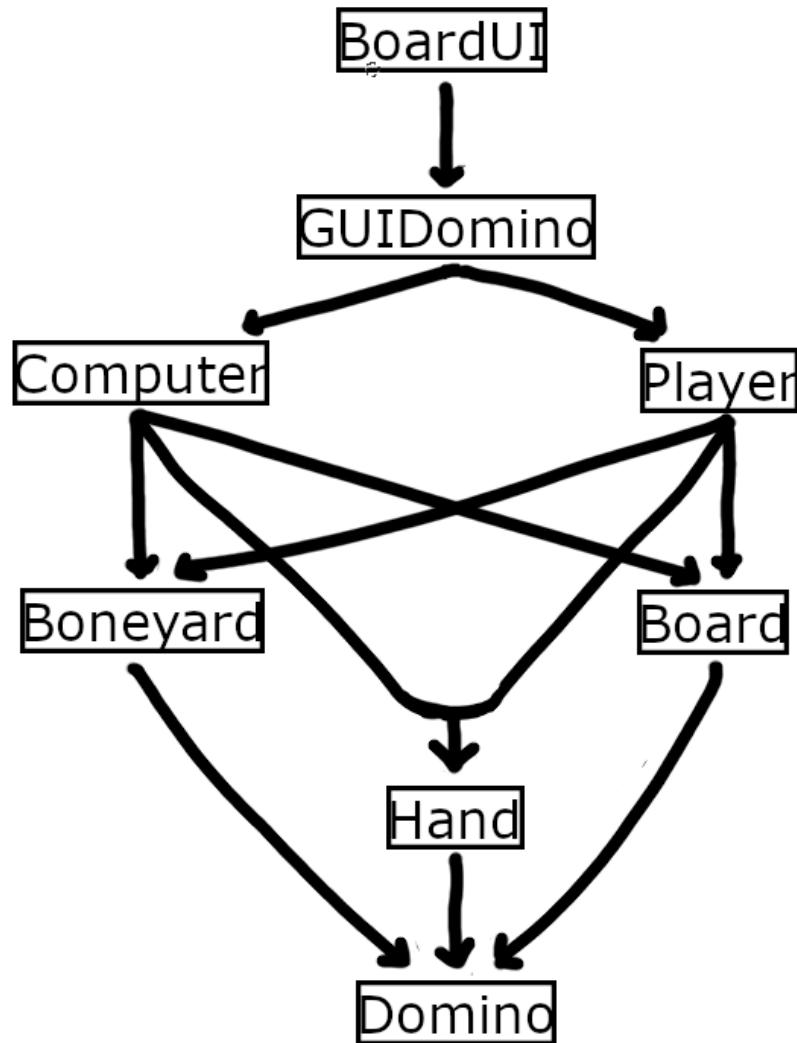Computer - The computer has a hand, a copy of the play area, and a copy of the boneyard. The computer will play after the player and it uses ai to follow the same logic the player is using. Like the player, the computer also draws from the boneyard when he has no valid plays left.
Boneyard - The boneyard has 28 randomized dominoes. The dominoes are shuffled and 7 are dealt to the player and computer when the game starts.
Board - The played dominoes will be displayed here. It will update every time a domino is played.
Hand - Contains the computers and players dominoes.
Domino - An object with a left and right value. All the objects have access to Domino.

BoardUI - Exists only to add a title screen for the GUI game

GUIDomino - Manages the computer and player turns. Also has most of the GUI effects.

Player - the player has a hand, a copy of the play area, and a copy of the boneyard. The player will play the first domino and then play off the edges to build out the line. Valid plays are checked and if the player runs out of valid plays, he can get dominoes from the boneyard using the draw button.

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Domino - An object with a left and right value. All the objects have access to Domino.

How dominoes is played:

At the start of the game, all dominoes are placed face down on the table and shuffled to form the boneyard. Each player selects seven dominoes from the boneyard and places them on their side of the table, perpendicular to the long edge so that their opponent cannot see them.

One player starts the game by playing a domino face-up on the table, also known as "downing" the domino. From this point on, the players take turns playing a single domino that matches the configuration on the table. The dominoes are placed to form two parallel rows shifted by half a domino, with adjacent dominoes on different rows having the same value in the overlapping halves. A blank domino can be used as a wild card and matches any value next to it.

If a player has a domino that can extend the line of play in either direction, they must play it and their turn ends. If a player does not have a domino that matches the line of play, they must draw a domino from the boneyard and continue to do so until they can play a matching domino or the boneyard is empty. If a player has a domino that can extend the line of play, they cannot draw from the boneyard.

If the boneyard is empty and the player cannot play a domino to extend the line of play, their turn ends. The game ends when the boneyard is empty and either one player plays their last domino or both players have taken a turn without playing a domino.

At the end of the game, the dots on each player's remaining dominoes are counted, and the player with the lower total wins. If both players have the same number of dots, the player who played the last domino wins.