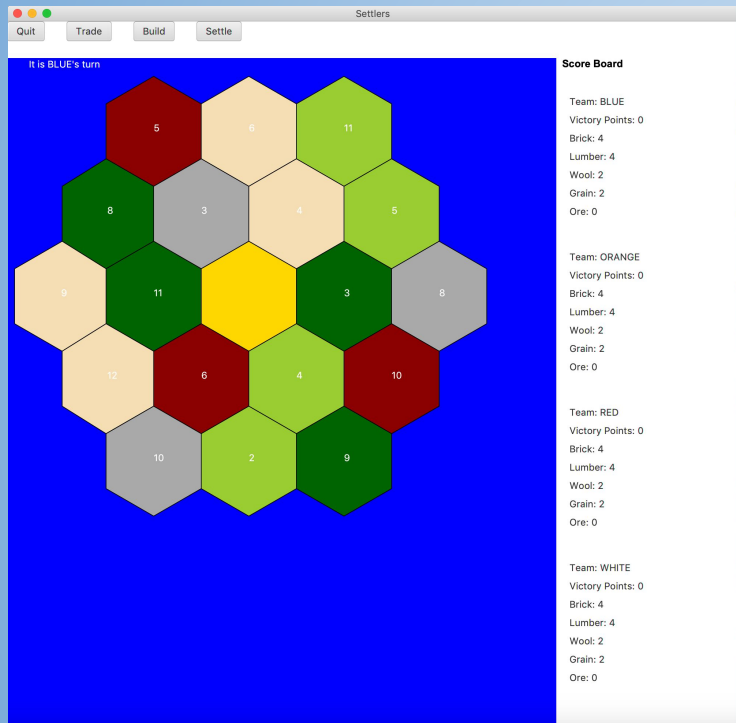


# USER GUIDE : SETTLERS

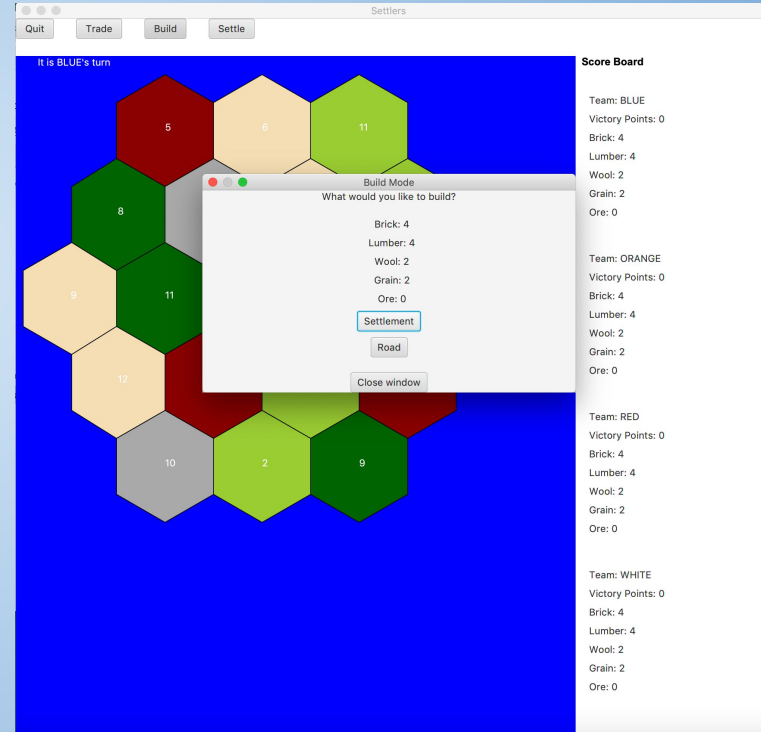
# Welcome



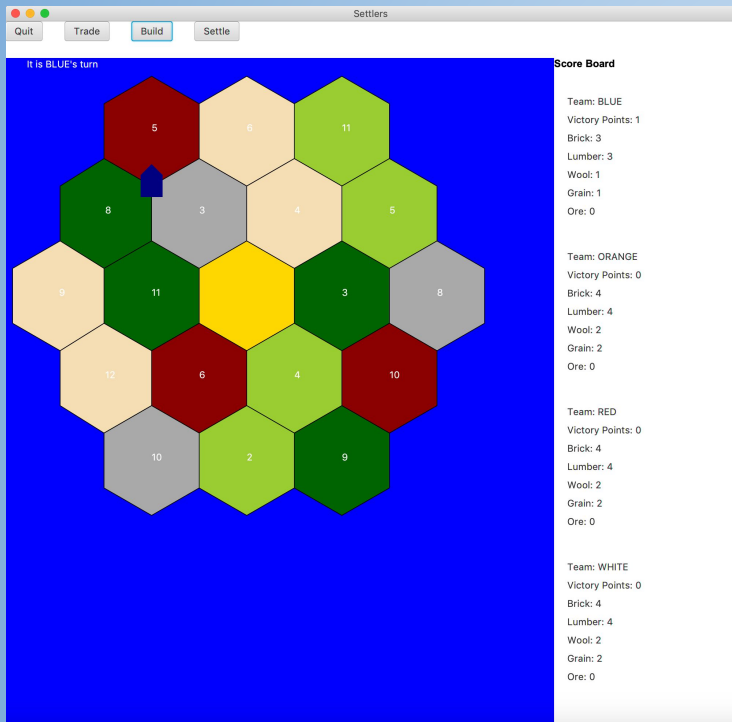
Welcome to my stripped down version of *Settlers of Catan*! On launch, users are greeted by a familiar hex board that is modelled after the default board in this classic game. On the right, you will see all the current stats of the game. On the top, you will see buttons for each of the three strategies.

# The Building Button

Player one (blue), press the “Build” button. You will notice that a new window pops up. In it, you will see what you can build given your current resources. Select “Settlement” to start!



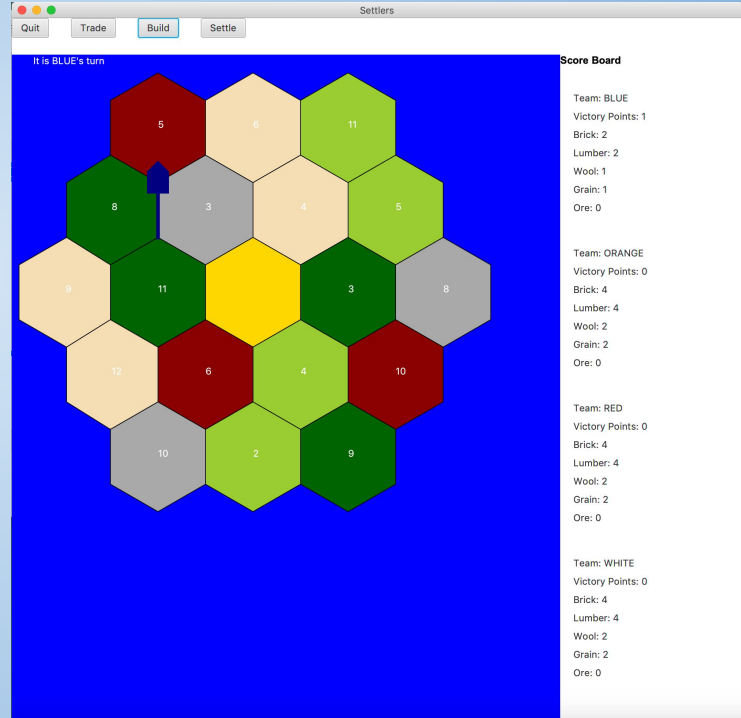
# Building a Settlement



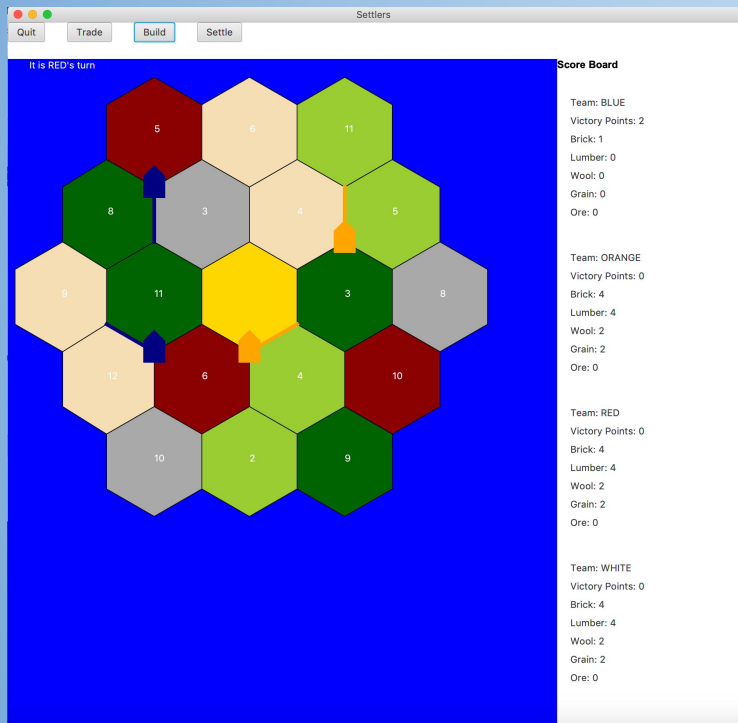
You can now place your settlement on any vertex of the board! Every settlement gives you one victory point. First player to 5 wins! As the board gets crowded, remember that settlements must be placed least two edges apart. When the roll on an adjacent hex is called, your settlement will receive the corresponding resource. Once, you've placed your first settlement, press the build button again, but build a road this time

# Building a Road

Place your road on an edge that is next to your new settlement. Place another settlement and another road. Press the “Settle” button to end your turn and continue the game.



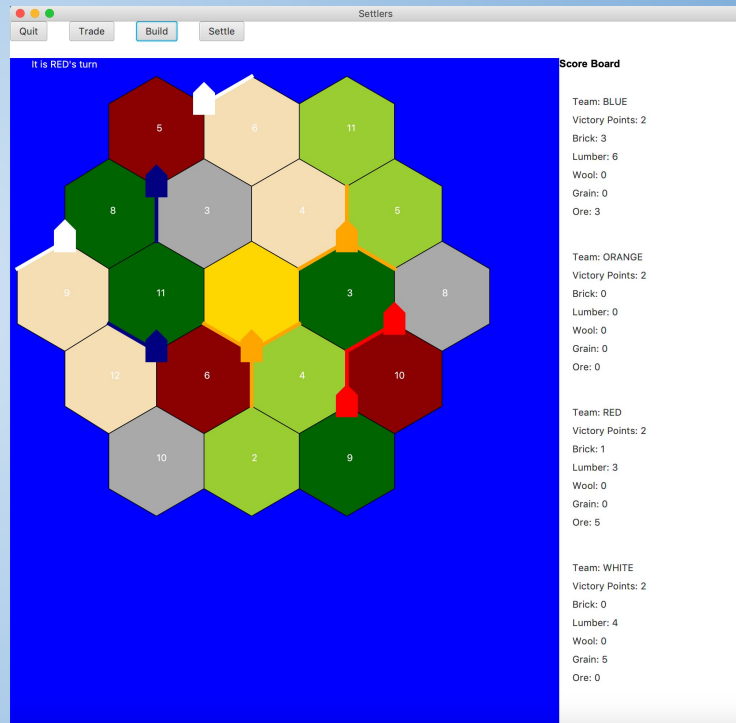
# Bots



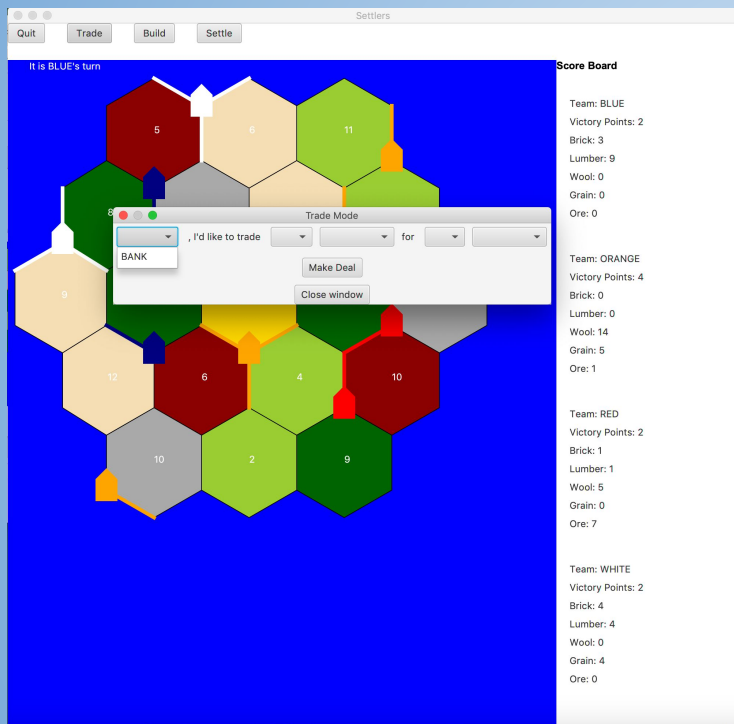
Don't be alarmed by the catan bots' quick moves! It only reveals how impatient they are. Underneath the GUI, these bots weight the edges according to high rolls, the value of brick at this round, and other features about the current game. Next, they traverse the graph to find a minimum spanning tree and try to recreate that path with the resources they have.

# Other Agents

You're not alone on this island. Along with the orange and white bots, you share the land with Player 2 (red). Once the game gets going, you will also notice that your basket starts leaking resources. If you are carrying too much, then you are a prime target for robbers. Note: In the original game, players could rob their neighbors on roll 7. In this implementation, robbers are non-playable characters



# The Trade Button



As the game progresses, you may find yourself short of a needed resource. You can always trade four of a kind for any one resource with the bank. Click the “Trade” button to try it out!

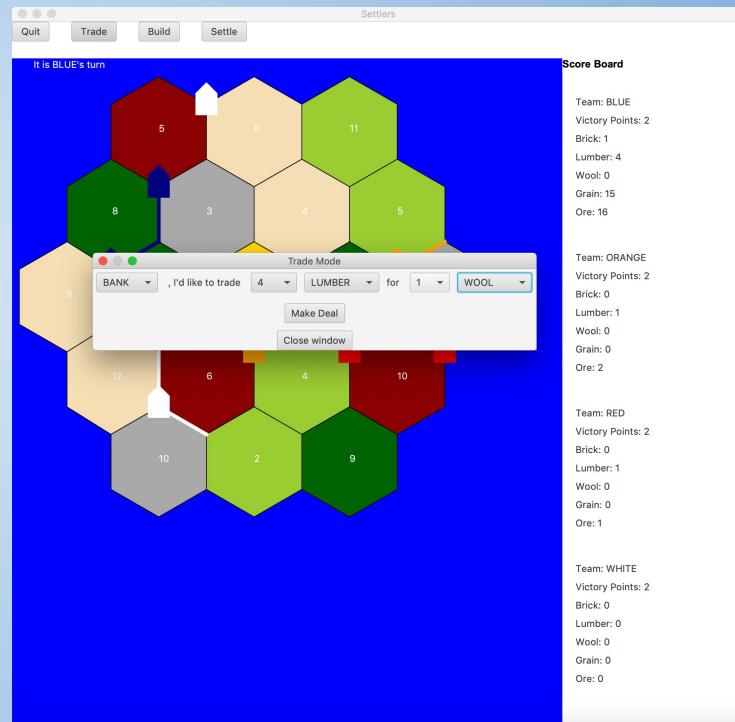
Note: Trading between players was a big part of the original game. However, this feature was excluded from this implementation. Also, there are no harbors for 2-of-a-kind trades.



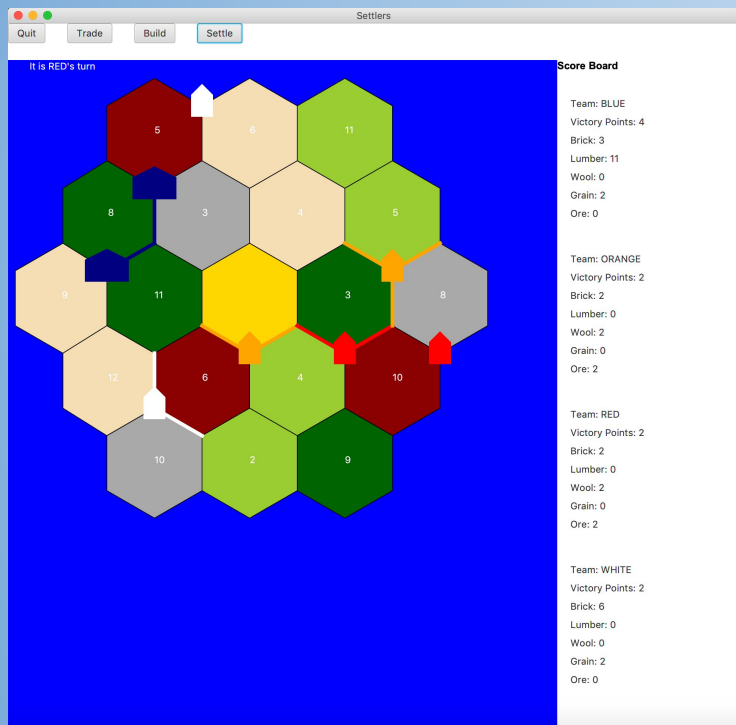
# Trading with the Bank

To trade with bank, simply complete the sentence with the drop down menus.

You need at least four of a kind to make the bank trade. If you have more than four of a kind, only four will be spent, despite what the menu says. Bots can also trade with the bank. They prioritize getting brick and lumber in the beginning of the game, and ore and grain towards the end of the game.



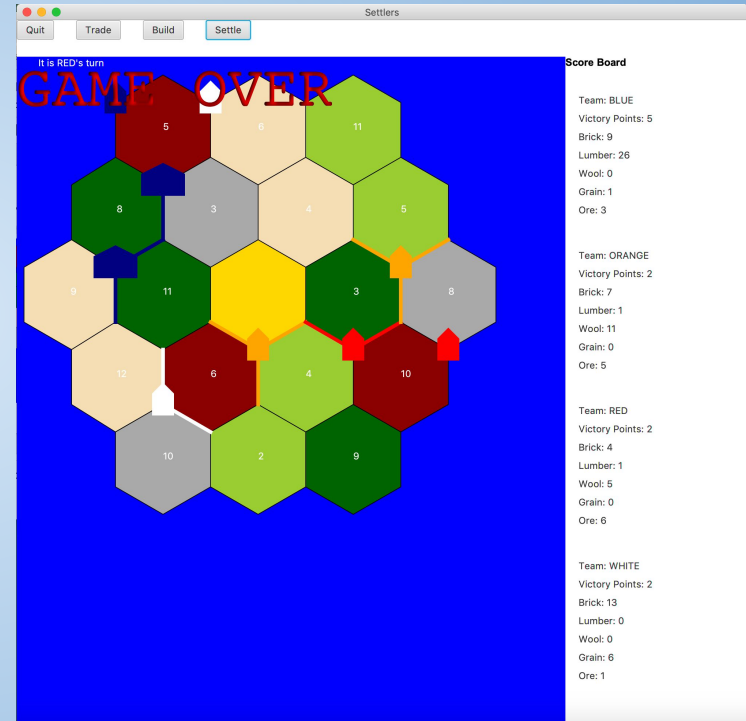
# Cities



As the game progresses, you should build cities. These super settlements not only give you an extra victory point, but also double the number of resources you receive on that vertex. After you get enough ore and grain, select “City” from the build menu, and place a city on any of your currently held settlements.

# Game Over

Once a player reaches five victory points and settles, “GAME OVER”.  
Hope you enjoy!



# Limitations

Those of you who have played the original game will notice that some features are missing. I believe that I made the current app modular enough to easily implement some of these things if I had more time:

1. Trading with other players: I built the GUI for how trading generally works but only made trading with the bank possible. I imagine that trading with human players could be easily done with what I currently have, but trading with bots might be challenging. I also didn't implement harbors which allow players to make 2-for-1 deals with the bank
2. Robber: Currently, the robber robs players with too many resources. In the original game, in addition to that feature, the current player can place the robber on a hex and rob adjacent players. That hex is unfruitful until the robber is moved.
3. Longest Road: There's no Longest Road card, which gives players an extra 2 victory points. Hence, there's no incentive to build roads in my implementation. I also made it such that roads must be attached to settlements. If I wanted to implement longest road, I should let users attach roads to other roads instead of restricting them to build adjacent to a settlement.
4. Development cards: There's another strategy that wasn't included. Players could buy development cards which could be anything from free resources to a victory point.
5. Randomized board: In the real game, experienced players can choose to randomize their board, but there is a specific way to organize the hexes and their rolls so that the game plays nicely.