Specifications document

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Objective

Create a computer version of Settlers of Catan for 3-4 human players (with an option for play against computers if we have the time)

Background

Catan is a board game played by 3-infinite people limited by the size of the standard board to 4. (may work on extended or customizable board if we have time) players will be able to create towns/cities, roads, and development cards to race to 10 victory points (or 12 with four players). For a complete rule set, go to [www.catan.com/files/downloads/soc\_rv\_rules\_091907.pdf](http://www.catan.com/files/downloads/soc_rv_rules_091907.pdf)

Specifications

1: players will be stored in their respective class. The class will store:

* Players build color
* each player’s respective resources
* number of victory points
* number of development cards
* number of knights
* whether they have the largest army
* whether they have the longest road

2: classes to store the board state:

* nodes for roads and towns
* town nodes store whether they are empty, a town, or a city
* cities store their resources provided
* cities store whether or not they have a harbor, and if so, which type
* towns can tell whether or not they can be upgraded to cities
* roads and cities both store their owners

3: creation of the board itself:

-the board will be build with 26 hexagonal tiles (more if we have time to make a more complex board)

-the board will create town and road nodes, then add and randomize the tiles

4: the tiles will store the resources they give, the rolls that cause them to give resources, and whether or not they have the robber on them

5: the roads and towns will store the data necessary to verify that the rules of the game are being followed (adjacent towns and roads, current build level of the road or town, etc.)

6: the start menu will:

-allow for choosing number of players

-allow for choosing board (if we get to building more complex boards)

-contain an option to view the rules of the game

-have a button to start the game once number of players has been selected

7: the trade menu will allow players to trade with the bank or with other players, and also to view their resource cards

8: the build menu will allow players to use their resource to buy towns, cities, and roads

9: the development card menu will allow players to use, buy, or view their development cards

Project Team and Division of Labor

Justin – building the game

Ian - building the game

Robbie – putting together the UI, as well as some work on the rest of the game.