# Project Proposal

**Description**

My term project’s name will be “Settlers of Catan,” and it will be a virtual version of the classic board game. It will be a two player game on one device which will feature several features that the current board game has.

**Competitive Analysis**

There have been a few projects online which represent the Settlers of Catan board games are. Some of them included features, like mouse tracking, which my version will not include. Instead, my version of the game will have a robber feature which is used to “steal” resources from other players. This feature will make the game more reflective of the actual experience of playing the board game. It will be able to move and players will also be able to see their development cards throughout the game and play them when they wish to.

**Structural Plan**

The final project will have classes for the different pieces (these classes will have information on how to place the pieces and if the pieces can be placed). There will also be a class for the board itself, and classes for the development cards.

**Algorithmic Plan**

The most complicated part of my term project will be working with the hex grid and finding a way to coordinate everything in order to ensure that the game can function correctly. I will be working with a grid which will label each tile with a number and then these numbers will be used to calculate the position and the data about the tile. I will also be using information I looked up on how to label these tiles.

**Timeline Plan**

For TP1, a board will be able to be created and the development of the classes will begin (specifically classes for the board pieces, and an outline of the classes for the players). Most of the rest of the time for TP1 will be spent planning a grid or dictionary to determine how to track the coordinates and the items in the coordinates. TP2 will have a game which will be able to check if moves are correct and implement moves. TP3 will have a fully functioning game with images and will also implement a working robber feature.

**Version Control Plan**

Because I cannot use github to back up my project, my project will be backed up using google drive. I will be sure to update my project after every time I work on it. It will be placed in our shared google drive folder.

**Module List**

I am only using tkinter!

**TP 2 Update**

Nothing has changed from TP1. TP3 will have a working robber feature (possibly(hopefully)), the ability to trade with other players and to do a 4 for 1 trade with the bank. Also, TP3 might have development cards, and it will have buttons rather than keyboard commands. If the keyboard commands are kept, they will look prettier and the game will use windows to do other commands. Also, there are some bugs with making some settlements snap to the grid around the center tile, and I need to add a catch if a player tries to make a settlement or a road that is off-limits / invalid. Additionally, the instructions screen and win screen will be made for TP3. For the instructions, I may not use a screen and instead have a pop-up text file with all of the instructions.

**TP 3 Update**

I decided against making a robber, but other than that, I think everything I wished to complete was completed!