PROJECT PROPOSAL

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* **Project Description** [5 pts]:

Catan Online Multiplayer. It is a PC port of the board game Settlers of Catan that supports online multiplayer.

* **Competitive Analysis** [5 pts]:

The Official Catan Online game: Catan Universe only supports free multiplayer with 2 other human players. Addition features sit behind a paywall in addition to high price tag for the main game. Furthermore, it has a realistic design to simulate a real board game experience, which, in my opinion, results in a clunky user interface.

* **Structural Plan** [5 pts]:

The game will be split into the server and the main client that runs the game. The main client will import from separate files that are split by board game parts: the board, the pieces, and the mechanism. The board and pieces are going to be stored as instances of different classes, in an additional file for all the classes.

* **Algorithmic Plan** [5 pts]:

The most complex part of this project is the massive amounts of playable parts in the boardgame and the smooth transfer of information between players.

This will be managed by using Sockets and Classes to manage the communication and pieces. All of the playable pieces: Tiles, Settlements, Cities, Roads, Resource Cards, Dice, and Dev Cards will be stored inside the Classes.

All commands sent to the server will be done in helper functions to unify the messages and minimize the need to create separate messages for similar events. Furthermore, all conditionals will be calculated in the local computer, thus instead of making all computers in the network to compute the same thing redundantly, each move made by a singular PC will not be sent to others until it is confirmed to be a legal move.

* **Timeline Plan** [5 pts]:

A complete basic UI by TP1. All moves that you can make in the game coded by Monday the 24th. And a functioning turn based game that is essentially the working game by TP2.

Beyond TP2, a working trade system for the game, and the addition of ports and development cards will be implemented by the TP3 deadline.

* **Version Control Plan** [5 pts]:

The code will be backed up by Mac’s built in Time Machine updated to the iCloud. A new version folder with the duplicated files from the previous version will be made after every TP meeting, and all work will be done in the most updated version folder.

TP2 Updates:

None

TP3 Updates:

Out of all the post TP2 additions, only trading is implemented. Some placements of buttons were shifted around for aesthetic reasons.

Citations:

Socket Base Code from <https://kdchin.gitbooks.io/sockets-module-manual/> by kdchin

Tkinter Run code from 15112 course website: <http://www.cs.cmu.edu/~112/notes/notes-animations-part2.html>