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Final Project Proposal

The board game Settlers of Catan is a fun way to spend a few hours with some friends, but the game takes hours and much of the time is spent setting up. It would be great to have a way to save the game and easily stop and start playing.

For my project, I’d like to recreate this board game in C++. A graphic display of the game can be achieved using the SDL library. This library can display images on a screen outside of the terminal window. I’ve spent some time messing around with it and was able to make the image on the next page. File I/O could be used to store settings for the game and to save/load games. Currently I have a separate class to handle all the SDL related functions since this is largely code I’m heavily referencing. The rest of the project will be split into players, a game controller, and tile classes. The player class will keep track of resources and buildings the players have. The game controller class will manage how actions impact the game (rolls, moving the knight, building limitations). The tile class will store simple information like what resource is there, the number on it, and the players who’ve built there. This class will be small, so it maybe possible to use a simple structure instead. Main will handle all the player input directly and relay it into the classes. I think the easiest way to have players interact is through text options on the console, but SDL has an event subsystem that allows for mouse and keyboard input so if there’s extra time I may try to incorporate that as well.

The challenges I see in this project are going to be separating functions between the classes effectively. A lot of the functions overlap and could fit into more than one place, so organization will be important. I also think it will be difficult to manage the order that things happen in. A player could choose to take their turn in any order, so leaving that functionality available could be challenging.

