

# Game Proposal - Title TBD

## Group:

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## Concept:

This is a local multiplayer browser game for two players. One player controls the game using WASD keys, and the other uses the arrow keys. In the center of the page is a window for displaying the rendered game content, and there is a box to either side of it that supports displaying colored text, one for each player. The game generates a random symmetric system of 2D tunnels and places a vehicle in the center that the player will control. The game then generates a random sequence of directions that the players must input using their corresponding controls. These sequences are displayed in the boxes to the side of the game window using unicode arrow characters (← → ↑ ↓), or possibly symbols from Font Awesome. The first player to successfully follow these inputs will gain the ability to control the vehicle with their controls. The other player, meanwhile, is given a new set of directions to input, and upon successfully following them is given control of the vehicle. The first player then gets the opportunity to take back control in kind. Each player's goal is to drive to one end of the map. While one is driving toward their end, the other is trying to take back control so they can drive in the opposite direction. A player wins the game when they reach their end of the map.

## The Control Mechanic:

To make the transfer of control more interesting, if a player finishes their sequence particularly quickly, they can get extra time while they have control, where their opponent cannot begin taking back control until that time has elapsed. Additionally, if a player hits a wrong input in their takeback sequence, they will have to restart it with an additional instruction added to the end.

## Implementation:

Physics and collisions will be handled by Matter.js, a free Javascript physics engine. The map will be generated by using a combination of Perlin noise and marching squares to create a 2D system of tunnels and caves (subject to change anticipating technical issues). The game will be rendered using an SVG, or an HTML5 Canvas as a backup.