Our solution: We will attach a fire extinguisher to a robot and program it to follow a line, navigating between and putting out each fire.

To understand what this robotic system might look like in our situation, hit the green “Try the Game” button in the bottom left corner to control the line following robot manually. Think about the decisions that you are making and the information that you are using to make those decisions while controlling the robot, as any code that you write to automate the robot will need to use similar information to make similar decisions.

After playing the game, note how difficult it was navigating through the smoke at the end. Without clear vision, it is hard for us to control the robot manually. Manual controls also open up the opportunity for human error. Humans are more prone to unexpected or unintentional errors compared with robust programs.

To avoid these issues, we will be creating a program to control the robot automatically. After uploading our code, it will be able to navigate through the warehouse by following the line and identifying and extinguishing any fires that it encounters without any further input from a human, like us.

Continue to the next page to find out how we will be creating this solution!