Sprint 7

1) Summary data	
Team number	37
Sprint technical lead(s)	Nichlas Pihl
Sprint start date	28/04-2021
Sprint end date	29/04-2021

2) Individual key contributions	
Team member	**Key contribution(s)**
Nichlas Pihl	All of it

3) User stories / task cards
This sprint is to setup a rudimentary AI to play against the player. The AI should be capable of very basic playing.

4) Requirements analysis
Based on the specification, it's clear the AI doesn't need to be infallible. As such, a very basic AI will be implemented, which will be able to play the game, although not very well. This AI needs to be able to recognize which cards it has, and which cards it *knows* others don't have. It should not take anyone else's guesses into account, as bluffing and multiple cards is very hard to account for. When guessing, the AI should avoid guessing for cards it already knows aren't in the murder pack, like the ones it has or the ones it has guessed for. When moving, the AI should pick a room randomly from the ones it thinks are in play, and then move to it using an algorithm similar to A*.

5) Design
The AI should be contained within the player class. Every time a move is required, the GameState will call the AI's methods.

6) Test plan and evidence of testing
No unit testing is planned, systematic testing will take place during coding.

7) Summary of sprint
The AI for the game has been completed, and is fully functional and capable of basic deduction. The AI is capable of pathfinding to any place on the board, and will choose destinations intelligently. It guesses randomly for any cards it doesn't know aren't in the murder pile, "knowing" being defined as any cards the AI either has on its own hand or has been given by others after asking for it. The AI does not care what others guess for, as that would leave it open for exploiting by the player. As such, the AI presents a cap on how long a game can last, as the AI will *eventually* figure it out. In AIvsAI games, this usually took between 2 and 3 minutes a game.