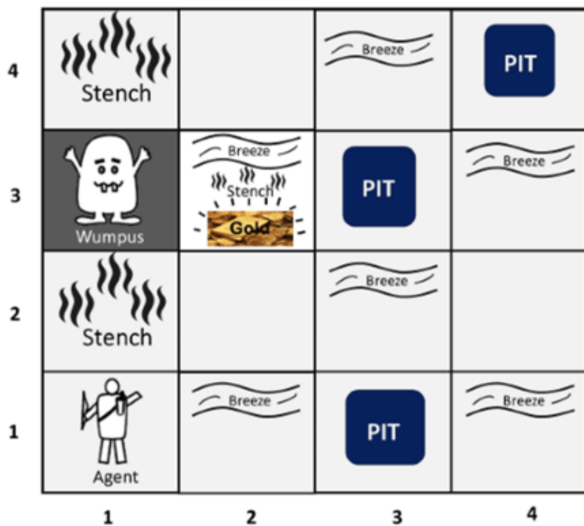# Wumpus World 2.0

1   Project Members

Zach Ellis
Errick Aliifua
Waseca Hodson

2   Basic Wumpus World

The Wumpus World game involves a cave with a 4x4 grid of connected rooms and an agent traveling through the rooms in search for a treasure and to then make it back out alive. In one of the rooms is a monster, called a Wumpus, who will kill the Agent. In three other rooms there are Pits that will also kill the agent. The rooms above, below, to the left, and to the right of the Wumpus will have a stench the agent can smell, and around the pits there will be a breeze that the agent can sense. The agent is equipped with one arrow that it can attempt to shoot into another room to try and kill the Wumpus.

3   Wumpus World Re-Imagined

For this project we reinvented the Wumpus World Game to be a cave of size 10x10 rooms containing three Wumpus monsters (instead of one) and nine pits (instead of three). There is still only one treasure, but agents are equipped with three arrows (instead of one). Agents can use their arrows to shoot other agents as well as the Wumpus.

Each agent will start in a different corner of the cave and are all trying to find the treasure and make it back to their starting position. However, each agent will be utilizing a different strategy.
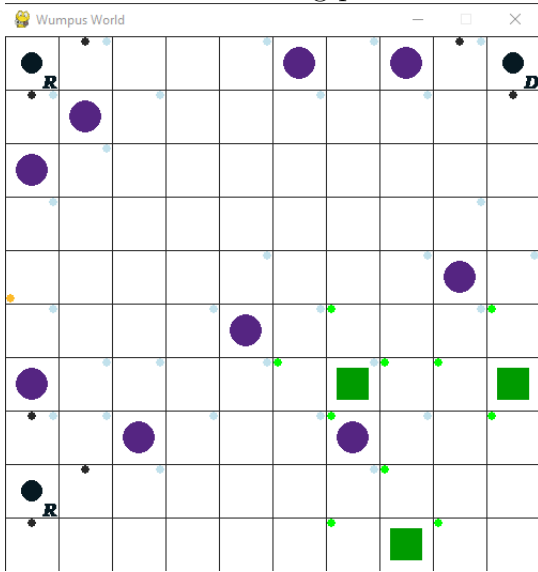
The three corner dots are the different competing agents, the large purple dots represent a pit, the large green dots represent the Wumpus, the smaller purple dots represent the breeze that surrounds a pit, the smaller green dots represent the stench that surrounds a Wumpus, and the yellow dot represent the treasure the agents are in search of.

4 Agent Strategies

Each group member implemented the logic for an agent, each agent is set to play with a different strategy style. The difference in strategies will come down to when an agent is presented with situations where the agent could prioritize finding the treasure, attacking an agent, or attacking a Wumpus. One agent, the aggressive agent, will prioritize attacking other agents over getting the treasure. Another agent will prioritize attacking the Wumpus first. The third agent, the least aggressive agent, will prioritize evading and finding the treasure over attacking.