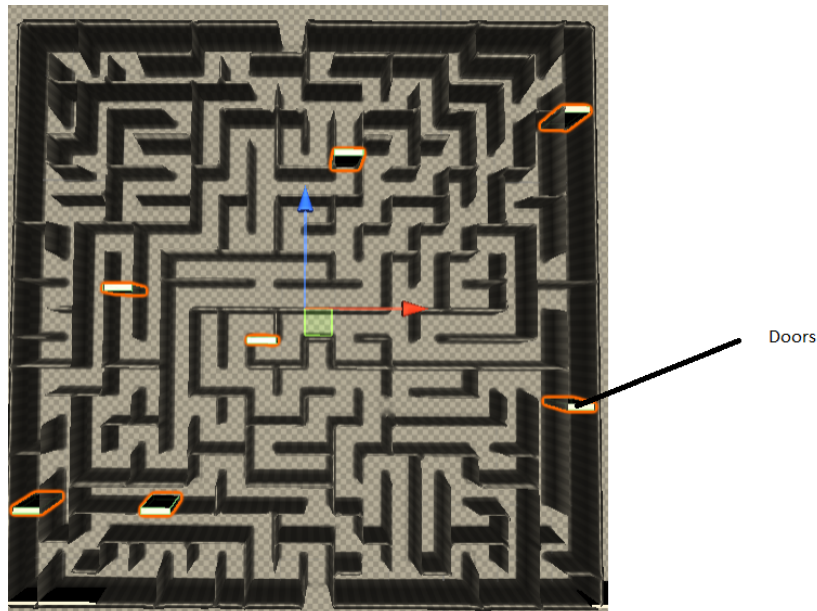# TDD - Smart AI

## Maze -

Made from an online maze generator and then just applied to a terrain brush, nice and easy.



Doors controlled by buttons which exist as child objects of the door.  When the door trigger is contacted by the character it finds the buttons in the children, then sets it as the destination. If multiple buttons present it chooses one at random. Contacting the button's trigger makes the door open.

Agents find their way through the maze using Unity's NavMesh. They find all objects labeled treasure, then choose one at random. They then calculate the direction toward that treasure and randomly choose a point between 1m ahead and the treasure. This becomes their destination. Then if they reach that destination but haven't gotten to the treasure yet, they recalculate.  They also recalculate if they become stuck and stop moving.
The recalculation check has been placed into a coroutine which happens once every second. The reason for this is that when they were checking every frame, once they stopped moving they often just kept recalculating, and never started moving again.  Becoming paralysed with indecision.

Area modifiers
- There are sandy areas which cost significantly more than other areas, all agents can pass sand, but may choose not to due to its cost.
- There are a few pits which require off mesh links to jump across.

- 3 zones which apply to different agents, blue/water which only the blue/pirate agent can pass, red/lava which only the red/sorcerer agent can pass, and green/spiky which only the green/knight agent can pass.

Hitting escape brings up the pause menu, allowing the scene to be reset or to quit out.