In the simulation we will have three basic types of tiles: green, blue, and red. There will also be six special tiles: green\_event, blue\_event, red\_event, starting, exit, and Fire\_of\_Eidolon.  These tiles will be laid out in a random pattern, and the players will start on the starting tile.

Each of the basic tiles will have a corresponding color token that can be obtained from them.  The cost to obtain this token will be different depending on the player's specialization. Once the token is obtained from the tile, the tile can no longer give a token.

If a player brings six tokens of a color to its corresponding event tile (i.e. six green tokens to the green\_event tile) then the event tile will be considered broken. If all three event tiles are broken the Fire\_of\_Eidolon will be able to be obtained from its respective tile.  If any player who possesses the Fire\_of\_Eidolon reaches the Exit tile the game will be considered won.

In between each preset movement cost

Send motion planning professor an email regarding final project

(small conference paper)

Drones and unmanned robots are becoming more involved in modern warfare. One of this will be able to find paths to targets, sometimes even dangerous targets that may hit back. Other times it will be finding a way to escape being hunted.

Monster Labyrinth:

(2 states) Grid: Grid or realism

(3 states) Multiple Sacrifices: one, multiple, or none.

(2 states) Sacrifice: moving or none.

(2 states) Labyrinth: ever-changing or static

(3 states) Exit for Minotaur: one, multiple, or none.

(3 states) Exit for Sacrifice: one, multiple, or none.

(2 states) Hero: Sacrifice is a Hero or not (Hero being defined as it seeks the minotaur. If the minotaur moves into the hero’s space first the hero is killed. If the hero moves into the minotaur’s space first the hero wins)

(2 states) Thread: leaving trail from the hero’s location (visited) that the minotaur can track or none.

(3 states) Monster: Minotaur (ground only), Harpy (includes a 3D flying element (put a limit on height for practical reasons)), or swamp monster (includes a swimming element(put a limit on depth for practical reasons)) (additional cost to get to flying but can see spaces below and pass over water, additional cost to swimming but cannot be seen from spaces above)

(2 states) Sacrifice: sandals (ground only) or Herme’s shoes (includes 3D flying element (put a limit on height for practical reasons)) (additional cost to get to flying but can see spaces below and can pass over water)

(10 variables: 5184 combinations)

Scenario 1:

You are a Minotaur trapped in the famous Labyrinth. A sacrifice has been tied up and placed somewhere in the Labyrinth. Find it and feed.

Scenario 2:

You are a Minotaur trapped in the famous Labyrinth. A sacrifice is running around somewhere in the Labyrinth trying to find the only exit. Find it and feed or escape the Labyrinth yourself.

Scenario 3:

You are a Minotaur trapped in the famous ever-changing Labyrinth. A hero is running around somewhere in the Labyrinth trying to kill you. They possess a magical thread that tells them where they have been, but you can also see it. Find them and kill them first or escape the Labyrinth.

Scenario 4:

You are a Harpy trapped in the famous ever-changing Labyrinth. A hero is running around somewhere in the Labyrinth trying to kill you. They possess Herme’s shoes allowing them to fly as well. Find them and kill them first or escape the Labyrinth.

Scenario 5:

You are trapped in the famous ever-changing Labyrinth as a sacrifice to the swamp monster. You possess Herme’s shoes allowing them to fly. Escape the Labyrinth before you are eaten by the swamp monster.