# Capstone Planning Document – Minotaur’s Maze

## Description:

This project will be a throwback to one of my favorite projects in the Nanodegree program, the maze.

The experience will place the user at the entrance to a large maze, where the user must complete a series of puzzles, fighting off the minotaur’s minions, and escaping the minotaur. Upon completion of the maze, the user will be allowed to complete it again, to catch all collectibles.

## Requirements:

The capstone requires completion of various achievements. Plans are summarized below.

1. Fundamentals
   1. Scale Achievement
      1. During a selection of the puzzles, the user will have to activate a “zapping device” that shrinks the user to a size small enough to allow them to pass through certain portions of the maze (as an alternate path).
   2. Animation Achievement
      1. Doors/puzzle objects will be animated. Along the minotaur and its minions.
   3. Lighting Achievement
      1. Realtime/Baked lighting will be used.
   4. Locomotion Achievement
      1. The Vive-Teleporter package will be used for locomotion in-game.
   5. Physics Achievement
      1. Physics will be required to complete some of the puzzles, similar to the Rube Goldberg Project
   6. Video Player Achievement
      1. A secret room will have videos from previous projects.
2. Completeness
   1. Gamification Achievement
      1. Each puzzle completed earns a higher score. The higher score will be doubled if each path is completed during the second pass through the maze (the “master level”).
   2. Diegetic UI Achievement
      1. The scene will be designed to be intuitive to navigate. Objects in the maze will be simple and straight-forward to operate.
   3. Alternative Storyline Achievement
      1. Two paths will be available to the user. The user will have the opportunity to use both in the 2nd level.
   4. AI Achievement
      1. The minotaur and its minions will chase the player.
   5. 3d Modeling Achievement
      1. Homemade models from previous projects will be used.
   6. Photogrammetry Achievement
      1. Photogrammetry will be used to make some of the in-game collectibles.
3. Challenges
   1. Compute Shader Achievement
      1. A compute shader will be used for the “zapping device”
   2. App Store Achievement
      1. This will be put on Steam Greenlight.

## Assets Required:

To expedite the development, 3rd party assets and models will be used. These include:

1. Vive-teleporter <https://github.com/Flafla2/Vive-Teleporter>
2. Minotaur Model <https://www.cgtrader.com/free-3d-models/character/fantasy/minotaur-cda47223-1a94-4f7d-bc2b-82344547726d>
3. The VR Samples Asset Pack <https://www.assetstore.unity3d.com/en/#!/content/51519>
4. Various sound packs - TBD