**Design Documentation**

**Game Mechanics**

*Level Generation*

As the game progresses, game objects are generated at random when the player reaches the stairs triggering the generation of a new level. Besides the player which is controlled by the user, the game objects being generated include gold, stairs, sword, and an enemy. With each level having a static grid of 16X16 blocks, each object placed adheres to a position on the grid with (0,0) as the middle. The x and y position of all the game objects are created at random from a range of -7 to 7.

The amount of gold spawned is equal to the current level a player is on. Each gold picked up adds 75 points to the player’s final score and is stored in the player prefs object. When loading a new level, all the current gold is destroyed and new ones are created.

An object “stairs” is spawned every level. When a new level is reached, the current stairs is destroyed and a new one is created.

Throughout the game only one enemy exists and has an “isActive” variable which determines if its is displayed or not. When it’s health is depleted, the enemy is set to notActive and is moved off the screen. When the level is reset, it is then randomly moved to a place on the grid.

A sword is is spawned every 5 levels and placed randomly on the grid. If the player collides/picks up a sword or a new level is reached, the sword is destroyed.

*Movement*

Enemy and Player move on a 16X16 grid with each block having a measurement of 0.5. When a key input is pressedthe player is translated accordingly on the grid. If a player attempts to move onto an enemy position, an attack function is called which subtracts health from both the player and enemy. The amount subtracted, called AttackPower, is statically set within the object.

**Navigation and Controls**

*Title Menu*

On the title menu, there is a START button, an EXIT button, and a text box. You can type the desired name of your player into the text box or you can leave it blank. Once you click on START, the game enters the game loop with the desired name (or simply Rogue if the field was left blank). The EXIT button exits the game if possible.

*Game Loop*

Arrow Keys – Move

Space – Wait

K – Suicide (-30 health)

There are four things you can interact with in the game loop. Aside from walking back and forth on blank space, you can pick up gold, pick up swords, attack enemies, and walk down stairs. All of these actions are activated by attempting to move onto the object you wish to interact with. The loop ends when your health reaches zero. Whenever you walk down a set of stairs, you gain 2 current health and 1 max health. If a turn passes where you do not move and the enemy is directly next to you, the enemy will attack you and deal damage to you.

*High Scores*

The outcome of your game loop play-through is displayed here. It displays your score, the name of your rogue, and the past top ten rogues by score (including yours if you apply). The only two options here are to press space to loop back to the title menu and play again or press return and exit the game.

TEAM MEMBER 1: TM

TEAM MEMBER 2: AN

TEAM MEMBER 3: WG

TEAM MEMBER 4: AT