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| Evan McConnell 20080222 |
| Game Design Document |
| Game Design Practicum |

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# Player-Based Mechanics

* Navigation –
  + The player should be able to move around using WASD. Using a top-down facing camera with no rotation, the A and D buttons should move the player left and right respectively, while W and S should move them up and down. (RQ\_PBM\_1)
* Using weapons or other objects –
  + There should be items to be used in the game, such as keys to be collected and possible power up items to be decided upon at a later point. (RQ\_PBM\_1)
* Interacting with objects –
  + There should be doors at the end of each level, which can only be opened with the press of a button once a key is obtained from within the level. (RQ\_PBM\_2)
* Object inventory –
  + The player should be able to store a key or item once they pick it up and this should be visible on the player’s HUD. (RQ\_PBM\_3)
* Interacting with other characters–
  + In between levels there should be a small room the player must pass through which contains a single NPC that should talk to the player and supply the player with new abilities and items, should they be available. (RQ\_PBM\_4)
* Attributes –
  + There should be a lives system. (RQ\_PBM\_2)
    - The player should have a limited number of lives with which to complete each level.
    - Upon running out of lives, the game ends.
    - The player can replenish lives between levels.
* Line of sight –
  + The player should always be looking in the direction of the cursor, which should be visible on screen. (RQ\_PBM\_3)
  + Only objects in the player’s line of sight should be visible. (RQ\_PBM\_5)
* Proximity-Based Hearing–
  + If an enemy is nearby and also outside of the player’s field of view, the player should be able to hear the enemy. The player should not be able to tell the enemies exact location through this, but the enemy’s presence should be made known. (RQ\_PBM\_5)

# NPCs

* Navigation –
  + Certain NPCs should be able to navigate the levels. They should follow strict pre-set patrol routes using NavMeshs. (RQ\_NPC\_1)
* Artificial Intelligence –
  + Friendly NPCs should interact with the player through triggers that initiate dialogue. (RQ\_NPC\_2)
  + The enemy NPCs should be able to detect the player when they enter the enemy’s line of sight, possibly through triggers and once they have detected the player they should switch from a patrolling state to a state of pursuit.
    - When in this state of pursuit, the enemy’s should chase after the player.
      * If an enemy comes into contact with the player, a life should be deducted from the player and they are sent back to the last checkpoint. If the player has no more lives, the game ends and they are presented with a ‘Game Over’ screen. (RQ\_NPC\_3)
      * While being pursued, a countdown timer should be displayed to the player. Once this reaches zero, all enemies should return to their original patrols. Entering an enemy’s line of sight while being pursued should reset the timer. (RQ\_NPC\_4)
* Interacting with Other Characters –
  + There should be a pop-up dialogue system which the NPC can use to converse with the player.
    - The player should not be able to respond to what the NPC says, they should simply be locked out of movement and their field of view should also be locked while in dialogue. (RQ\_NPC\_3)
    - The dialogue text should appear on screen in a text box. It should scroll on to screen a paragraph at a time, with the player being prompted to press a key before the next paragraph begins. (RQ\_NPC\_3)

Objects

* Key –
  + In each level, there should be keys to be collected by the player before they can proceed on. (RQ\_OBJ\_1)

# Game AI

* Spawn Objects –
  + The layout of each level should be procedurally generated, consisting of a 3x3 grid of rooms.
    - Each room should contain a number of guards and possibly 1 key. (RQ\_AI\_1)
    - There should be an Exit door in a room other than the one the player enters into. (RQ\_AI\_2)
* Difficulty –
  + The difficulty level should be changeable from the Main Menu, before the game starts. (RQ\_AI\_3)
  + There should be two levels of difficulty, easy and hard.
    - Increasing the difficulty should result in more keys needed before progressing and possibly more enemies spawning. (RQ\_AI\_4)