Game Test Plan

**Team:** 8, Neon Grid Studios

**Project:** Cyber-Yaga Vindicta

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**M4 Due Date:** 04/06/2025 (Using one grace day)

Milestone 1

## Movement Controls

| **Number** | **Action** | **Input** | **Expected Result** |
| --- | --- | --- | --- |
| 1 | Move up | Press “W” on keyboard | Character moves upward |
| 2 | Move down | Press “S” on keyboard | Character moves downward |
| 3 | Move left | Press “A” on keyboard | Character moves left |
| 4 | Move right | Press “D” on keyboard | Character moves right |
| 5 | Stop movement | Release all keys on keyboard | Character stops moving |
| 6 | Diagonal movement up + left | Press “W” + “A” on keyboard | Character moves diagonally up-left |
| 7 | Diagonal movement up + right | Press “W” + “D” on keyboard | Character moves diagonally up-right |
| 8 | Diagonal movement down + right | Press “S” + A” on keyboard | Character moves diagonally down-left |
| 9 | Diagonal movement down + left | Press “S” + “D” on keyboard | Character moves diagonally down-right |
| 10 | Continuous movement in any direction | Press and hold any listed combination of keys above on the keyboard. | Character keeps moving in the chosen direction |
| 11 | Opposing key press (Vertical) | Press and hold “W” + “S” on keyboard | Character does not move (preventing conflicting inputs) |
| 12 | Opposing key press (Horizontal) | Press and hold “A” + “D” on keyboard | Character does not move (preventing conflicting inputs) |

## Character Orientation

| **Number** | **Action** | **Input** | **Expected Result** |
| --- | --- | --- | --- |
| 13 | Rotate left | Move mouse cursor left of character | Character rotates to face left direction |
| 14 | Rotate right | Move mouse cursor right of character | Character rotates to face right direction |
| 15 | Rotate up | Move mouse cursor upward of character | Character rotates to face upward direction |
| 16 | Rotate down | Move mouse cursor downward of character | Character rotates to face downward direction |
| 17 | Moving + Rotating | Hold any listed combination of keys in previous section + move mouse in any listed direction | Character moves in chosen direction while facing mouse cursor |

## Shooting Mechanics

| **Number** | **Action** | **Input** | **Expected Result** |
| --- | --- | --- | --- |
| 18 | Shoot projectile | Left-click with mouse | Character shoots a projectile in direction of the mouse cursor |
| 19 | Continuous shooting | Hold left-click with mouse | Character continuously shoots projectile in direction of the mouse cursor |
| 20 | Fire rate | Rapidly left-click with mouse | Projectiles do not fire faster than intended limit |

## 

## Enemy Movement

| **Number** | **Action** | **Input** | **Expected Result** |
| --- | --- | --- | --- |
| 21 | Enemy spawn | N/A | Enemy spawns upon game start up |
| 22 | Enemy changes facing directions | Move playable character using input controls close enough to enemy (using previously mentioned player controls) | Enemy rotates to face playable character |
| 23 | Enemy aggro | Move playable character close enough to enemy (using previously mentioned player controls) | Enemy rotates to face playable character and shoots a projectile at the player, with slight randomized inaccuracy |

## Creative Elements

| **Number** | **Name** | **Input** | **Expected Result** |
| --- | --- | --- | --- |
| 24 | [8] Basic physics | 1. Move the player against a wall.  2. Move the player around the game space. | 1. The player will collide with the wall and the wall applies a normal vector velocity onto the player preventing them from passing through the wall.  2. The player’s current velocity has acceleration and deceleration, similar to real world physics. |
| 25 | [21] Camera Controls | N/A | Camera follows the player when moving. |
| 26 | [23] Audio feedback | 1. Press left-click with mouse to shoot  2. Player movement with previously mentioned controls  3. Use player movements to get in aggro range of enemy and have it shoot at player | 1. Gunshot audio when shooting  2. Footsteps audio when moving  3. Injured audio when player is hit by enemy projectile |
| 27 | [1] Rendering effects | 1. Get close to enemy and let them shoot you  2. N/A | 1. Screen will show a "glitch" chromatic aberration effect  2. There's a saturation and vignette permanently applied around the player |

Milestone 2

## New Keyboard Controls

| **Number** | **Task** | **Input** | **Expected Result** |
| --- | --- | --- | --- |
| 1 | Reload Gun | Press “R” on keyboard | If ammo is depleted, the player can now shoot more projectiles. Also, a reloading sound is played. |
| 2 | Restart Level | Press “P” on keyboard | Player will respawn in the starting position, all projectiles will be deleted, and enemies will respawn. |
| 3 | Dash | Press Space on keyboard | Player will dash in the direction of the cursor and a whooshing sound will play. |

## Required Elements

| **Number** | **Task** | **Input** | **Expected Result** |
| --- | --- | --- | --- |
| 1 | Improved game AI via Decision Trees | Use movement controls to move near an enemy. | Once within range, the enemy will lock on to the player, begin searching for the player, or shoot at the player. |
| 2 | Sprite Animations:  1. Muzzle Flash  2. Particles Off Walls  3. Blood Splatter | 1. Press left click on mouse.  2. Press left click on mouse and aim at a wall.  3. Shoot an enemy or get shot by an enemy. | 1. A light will briefly flash and emit from the end of the gun.  2. Particles will emit from the wall when hit by a projectile.  3. A blood splatter will emit from yourself if shot or the enemy that is shot. |
| 3 | Sprite & Background Assets | 1. Get killed by an enemy projectile.  2. N/A  3. Shoot and kill an enemy  4. Get hit by an enemy projectile.  5. Get hit by an enemy projectile. | 1. Injured grunt sound will play.  2. Music plays on game startup.  3. Where the enemy died, there will now be a static sprite of a dead enemy.  4. Health bar will update with new depleted health.  5. A damage indicator will flash on the screen in the direction of the enemy that shot the damaging projectile. |
| 4 | Mesh-Based Collision Detection | Shoot the wall and/or walk into the wall. | The bullet/player will be blocked by the wall. |
| 5 | Gameplay Tutorial | N/A | Upon starting the game, the player will see the game instructions on either side of the screen. |
| 6 | FPS Counter | N/A | FPS and ms latency are displayed in the game window title next to the executable name. |

## 

## Creative Elements

| **Number** | **Feature** | **Input** | **Expected Result** |
| --- | --- | --- | --- |
| 1 | [7] 2D Dynamic Shadows - Advanced Feature | N/A | Walls cast shadows onto the map. |

Milestone 3

## Title Screen

| **Number** | **Feature** | **Input** | **Expected Result** |
| --- | --- | --- | --- |
| 1 | Title screen | N/A | Upon start up, a title screen will appear. |
| 2 | Start button | Press left-click with mouse on “Start” text | The title screen will disappear and the game will appear. |
| 3 | Quit button | Press left-click with mouse on “Quit” text | The console will close and the program will stop running. |

## 

## New Controls

| **Number** | **Feature** | **Input** | **Expected Result** |
| --- | --- | --- | --- |
| 1 | Throw guns | Press right click on mouse | A gun texture will be thrown in the direction of the cursor. Throwing the gun will cause the player to be unable to shoot (since they no longer have a gun). Additionally, hitting an enemy with the thrown gun will cause them to die. You can pick up a gun (see pick-up-ables) to gain a gun back. |
| 2 | Player Melee | Press LEFT SHIFT or press F on the keyboard | A “blade swipe” animation and audio sound will play. Pressing the melee when close to an enemy and within the melee area of effect will kill the enemy. Melee is bound to a cooldown. |

## New In-Game Features

| **Number** | **Feature** | **Input** | **Expected Result** |
| --- | --- | --- | --- |
| 1 | In-game FPS | N/A | In the top right corner of the screen, the FPS will be shown. |
| 2 | Ammo counter | Left-click to shoot | Ammo counter in the bottom left above health bar will count number of bullets left before player must reload |
| 3 | Pick-up-able ammo | Left click to shoot and kill an enemy | Dead enemies will drop ammo (as seen as gun textures on the ground) that the player can walk over to pick up more ammo. |
| 4 | Dash invulnerability outline | Press Space on keyboard to dash | A teal colored outline will appear around the player and a trailing ghost effect. |
| 5 | Pick-up-able med-packs | Become injured by an enemy | Med-packs (red boxes with white crosses on them) will appear in rooms. Upon walking over them, the player will be healed which is reflected in an updated health bar. A revitalization sound will also play. |
| 6 | Fullscreen | N/A | Game is now in fullscreen instead of windowed. |
| 7 | New tutorial instructions | Walk player up the map | A few new instructions have been added:  1. “Pick up health packs to heal”  2. “Use dash to dodge bullets” |
| 8 | New weapons | Left click to shoot on 2nd level and 3rd level | The weapon for the 2nd level is shotgun and fires slower and is a different texture.  The weapon for 3rd level is an SMG and fires faster and is a different texture.   Both have new audio. |

## Creative Elements

| **Number** | **Feature** | **Input** | **Expected Result** |
| --- | --- | --- | --- |
| 1 | [6] 2.5 (3D) Lighting (Advanced feature) | Walk to tiles lit up by light that have normal map attached to them | Light should reflect differently in the grooves of the floor, wall and props according to its individualized normal map |
| 2 | [15] Advanced decision-making (Advanced feature) | Walk towards an enemy, then try to run away from the enemy. | Enemies will become aggroed and then pathfind towards the player. Enemies will follow you around corners and will continue to pathfind towards you as long as they have line of sight. When line of sight is lost, enemies will pathfind to your last known location. |

Milestone 4

## Cinematics and Art

| **Number** | **Feature** | **Input** | **Expected Result** |
| --- | --- | --- | --- |
| 1 | New Title Screen | Run the game | Upon start up, the title screen will pop up and it will be different from the previous milestone |
| 2 | Cinematic | Press “start” on the title screen | A series of frames will appear in sequence that tells a story. |
| 3 | Skip Cinematic | Press space during the cinematic | The cinematic will stop playing and instead will skip to an intro scene. |
| 4 | Level Transitions | Beat a level | A level title transition appears momentarily as the next level starts |
| 5 | Game end screen | Beat level 4 | Game end screen is displayed |

## New Level

| **Number** | **Feature** | **Input** | **Expected Result** |
| --- | --- | --- | --- |
| 1 | New Level | Kill all enemies on level 3 | User will spawn on the 4th level |

## Guns

| **Number** | **Feature** | **Input** | **Expected Result** |
| --- | --- | --- | --- |
| 1 | Railgun | Reach level 4 | Some enemies will drop the railgun on this level |
| 2 | SMG switched from level 2 to level 4 | Reach level 4 | Player will spawn with the SMG gun |
| 3 | Ricochet revolver | Reach level 2 | Player will spawn with the ricochet revolver gun. |
| 4 | Enemies drop guns | Kill an enemy | Enemy will drop a gun. |
| 5 | Player pickup enemy guns | Move over a gun that an enemy dropped | The player can pick up this gun if the gun is a different type than the one the player is currently holding. If the gun type is the same, the player will automatically pick up the gun and the ammo will be added to the player inventory. |

## New In-Game Features

| **Number** | **Feature** | **Input** | **Expected Result** |
| --- | --- | --- | --- |
| 1 | New user sprite | N/A | The user sprite is updated. |
| 2 | Breakable Doors | Left-click to shoot or ‘F’ to melee | There are now doors in some choke points throughout the map. The doors are breakable by shooting them. Doors can also be broken by melee attacks. Upon breaking, there will be a small particle effect and audio as they disappear. Enemies who get hit by the particles take some damage. |

## AI updates

| **Number** | **Feature** | **Input** | **Expected Result** |
| --- | --- | --- | --- |
| 1 | When enemy is shot, enemies in the same room become alerted | Shoot at enemy from outside room | Other enemies in the same room become alerted and enter combat. |
| 2 | When enemy becomes alerted, other enemies in the same room become alerted as well | Alert an enemy by moving in front of their line of sight. | Other enemies in the same room become alerted and enter combat. |

## Creative Elements

| **Number** | **Feature** | **Input** | **Expected Result** |
| --- | --- | --- | --- |
| 1 | [21] Camera Controls | N/A | The camera will follow the player as the player moves. |
| 2 | [23] Audio Feedback | 1. Left-click to shoot  2. WASD to move  3. Get shot by enemy projectile  4. Left-click when out of ammo  5. R to reload  6. Space to dash  7. F or shift to melee  8. Shoot an enemy  9. Walk over a gun to pick it up  10. Right-click to throw gun at a wall  11. Walk over a health pack when injured  12. Left-click to shoot a door | 1. Gunshot audio when a player is shooting  2. Footsteps audio when player is moving  3. Hurt sound when a player dies  4. Clicking sound when gun is out of ammo and the player is trying to shoot  5. Reloading sound will play  6. Dash sound when the player dashes  7. Sword slash sound will play  8. Blood impact sound will play when enemy is hit by player projectiles  9. Pick up sound is played  10. Bounce sound is played when the gun bounces off the wall  11. Power-up sound will play  12. Door breaking sound will play once the door has been broken |
| 3 | [25] Game Balance | N/A | User feedback was generated from cross-plays, internal play-testing and other informal feedback from classmates, team members and friends. We have optimized our game to be beatable but still require a solid level of challenge to the player. More specific examples are listed on the README. |