Test Plan: M4 (Team 17)

Milestone 4

Category	Description	Steps to Perform	Outcome	Status	Completed By	Where to find in the code
Playability	10 minutes of non-repetitive gameplay. Different enemies are rolled out depending on how long the user can survive, which is enough to entertain for 10 minutes.	Play the game.	10 minutes of non-repetitive gameplay	COMPLETED	Everyone	N/A
Stability	The game includes all the features from previous milestones. All the bugs reported are fixed. The game resolution is good and the aspect ratio is good too. It works fine, with no glitches, or crashes, plus at a good frame rate too!	Play the game.	Very stable game with no unexpected behaviours.	COMPLETED	Everyone	N/A

User Experience	The game includes a proper tutorial where the commands to play + enemies are introduced with animations during the game. Not only this, but there is also a help menu to familiarize with the commands in-game.	Play the game. Tutorial is introduced depending on the gameplay. For commands, press "H".	User will be introduced to the controls and learn about each enemy as the character encounters them.	COMPLETED	Tarun	world_system.cpp > updateTutorial(float elapsed_ms), updateEnemyTutorial(),updateCollectibleTutorial()
Robustness	Apart from the template leaks, there are no other memory leaks. The user can tab in/tab out/minimize without affecting gameplay since the game is paused. There should be no input lag or stuttering.	Tab in/tab out/minimize the game screen.	The game should run smoothly with no lags or stuttering. The user can tab in/tab out fine without affecting the game.	COMPLETED	Everyone	N/A
Reporting	Updated bug list & test plan uploaded. Video has been uploaded.	-	-	COMPLETED	Everyone	N/A

Creative Element (Basic)	Game Balance. The enemies are rolled out in 2 ways, tutorial/non-tutorial modes. When tutorial is enabled, enemies are spawned in a way that user is familiar with all of them first before diving into game. Non-tutorial mode dives straight into the game with balance adjusted based on time and performance.	Try both Tutorial and Non-Tutorial Mode and see the difference.	The enemies should spawn more frequently in the tutorial mode, but non-tutorial mode would progress normally.	COMPLETED	Yan Naing	spawn_manager.hpp & spawn_manager.cpp
Creative Element (Advance d)	2.5D Lighting.	Play the game.	Lighting is cast by the player holding the torch, and all the entities on the map have normal maps that show reflections and depths based on the player's point light.	COMPLETED	Katie, Linus	render_system.cpp > drawMesh(Entity entity, const mat3& projection, const mat4& projection_screen) textured_normal.fs.glsl, animated_normal.fs.glsl

Creative Element (Advanced)	Particle Effects	Play the game.	Different particle effects can be seen, such as smoke from the torch, dash frames when the player dashes (Press C) and the smoke that comes out when the wizard casts a fireball.	COMPLETED	Linus	particle_system.cpp spawn_manager.cpp > spawn_particles(float elapsed_ms)

Other Features (Where to find the code)

- Point System -> world_system.cpp > void WorldSystem::handleEnemiesKilledInSpan(float elapsed_ms)
- Inventory System -> world_system.cpp > void WorldSystem::equipItem(INVENTORY_ITEM item, bool wasCollected), void WorldSystem::unEquipItem()
- Apply Weapons -> world_system.cpp > void WorldSystem::leftMouseClickAction(vec3 mouseWorldPos)
- Phantom Trap -> ai_system.cpp > std::pair<bool, vec3> AISystem::is_phantom_closer(Entity enemy), world_init.cpp > Entity createPhantomTrap(vec2 pos)