COMP 4300 Project
Elon's Adventure

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Name: Elon's Adventure

Genre: A Top-down 2D arcade shooter survivor game

Overall theme - defeat aliens to build a civilization on mars

Central gameplay style: Explore the map while collecting materials to build the dome and defend yourself from alien hordes. Once the dome is built, the level is complete, and you are one step closer to making Mars habitable for humans.

Examples of gameplay scenarios involving each of the game mechanics are described below.

- Collisions - Collisions will be present for entities to collide with map tiles and collisions for when the player deals damage and receives damage.
- Bullets / Weapons - Players' primary weapon will be a gun with limited ammo, the second weapon is a melee weapon for close range, and the third is a gravity field that will be on a more significant cooldown. The flamethrower is our special weapon and can only be fired with sufficient fuel.
- NPCs - 4 types of NPCs. A primary enemy, a strong enemy, an enemy that splits into multiple smaller enemies once killed, and the boss enemy.
- Moving Tiles - A wall/rock tile will be available. It functions the same as regular map tiles in collisions, except it will move along a specific path while the game runs.
- HP / Damage - Players' HP is represented by an energy gauge in the HUD. Energy is lost when attacked and can be regained by obtaining plant objects. Damage is dealt to enemies via weapons, and the player receives damage from collisions with hostile entities
- Status Effects: Statuses involve "speed," "rage," and "shield." Speed allows the player to move faster, rage allows the player to hit more damaging shots, and the shield allows him to defend himself from enemies.
- Objects / Inventory - Players will have objects such as "Plants," "Fuel," and "Metal." Plants help you heal. Fuel helps you power up your flame thrower. Other objects include powerups that, when picked up, alter the status of the player and apply respective shaders. Metal helps you build the dome to finish the level. A combination of these objects can make other objects.
- Ray Casting - Most enemies will use ray casting to detect the player. When an enemy spots the player, there will be an indicator that the enemy was alerted.
- Lighting Effects - Dark levels will involve the player "shining" a light to make enemies detectable.
- Gravity / Acceleration - the Player, will have a weapon that can drop "gravity fields" that will pull entities inside toward the centre

- Camera / World View - Main gameplay will have a top-down camera that follows the player. The level select menu will be a top-down view of the game work, showing each level as different locations on the map.
- Pathfinding/Steering - The boss enemy will shoot a projectile with smooth steering to guide it toward the player. The boss will also have a unique movement behaviour to keep their distance while fighting the player.
- Game Progression - There are four levels. The objective of the game is to survive hordes of enemies. Surviving a hoard takes you to the next level. Each level introduces a new enemy. Enemy drops and power-ups will be available throughout the level to help defeat enemies. The last level involves a boss fight.
- Save/Load Game - The player can save and load the game from a level-select menu
- Shaders - When the player receives a status effect, shaders will change the player's look according to the specific effect.
- Parallax - while moving between levels in the map overworld view, the background will move slower than the foreground to give a sense of moving across the planet, creating a parallax effect.
- User Interface / HUD - While the player collects materials throughout the level, The player's health will be displayed in the corner of the screen, and health will be represented as Elon's space suit energy. Energy is lost as you take damage, and you die once energy == 0. Under energy, any status effects the player has will be represented by symbols.
- Sounds - When a weapon is fired/activated, it will play its appropriate sound. The player and enemies will have sounds for taking damage and receiving.
- Options - The player can open an options menu that will be accessed when the game is paused. The options will let the user change different volumes, difficulty, and key bindings.

Extras:
- The flamethrower special and the weapons section are included here. This is because the way it fires is more complicated and unique than other weapons. If time allows, the visual effect can be done in a cool way.
- A "secret area" will be hidden in one of the game levels. Upon entering, the player is spawned in a new stage, and the game will be played in an endless/waves mode. Once the game is beaten, the endless mode will be available from the game's main menu.