Systems.md

Game Systems

Core Systems

- FrameSystem Responsible for keeping track of current frames and FPS.
- StateSystem Manages the game state, facilitating transitions between different game states.
- CoreSystem Provides all the systems required for each game states.
- ParentSystem Handles parent-child relationships between entities for hierarchical transformations.
- MediaPlayerSystem Manages multimedia playback, handling sound playback and keeping track of progress.

Graphics Systems

- RenderSystem Responsible for rendering all the sprites.

Debug Systems

- ConsoleSystem Provides a console interface for debugging and logging any values.
- DrawGridSystem Draws the aabb grid for better collision visualization.

Physics Systems

- MovementSystem Handles entity movement and navigation within the game world.
- RotationSystem Manages rotation and orientation of entities in the game.
- GridBroadPhaseSystem Implements a grid-based broad-phase collision detection system.
- CollisionSystem Handles narrow-phase collision detection and triggering collision event.

Gameplay Systems

- PlayerControllerSystem Manages player input for shooting and following mouse for the player entity.
- TruckControllerSystem Handles the input for the movement of the truck.
- ZombieSpawnSystem Controls the spawning of zombie entities.
- FollowTargetSystem Enables zombies to follow a target(player) entity rotating and moving towards it.
- DestructionSystem Manages destruction of all entities after collision or leaving game area.
- ScoreSystem Tracks and manages the player's score during gameplay.
- PlayerHealthSystem Handles player health and triggers gameover on health 0.
- LevelSystem Manages the state of game levels and increase in difficulty.
- ItemSystem Handles the pickup and hadling of the items.

UI Systems

- PlayerUISystem Manages the display of all user status.
- GameStateUISystem Handles the display and updates of the overall game state user interface.