A Term Work Plan

Weekly-Based Plan

Week 1-4: Introduction to Unreal 5 and Audio Systems Setup

- **Tasks:**
  - Familiarize yourself with Unreal Engine 5, focusing on its audio and sound design capabilities. You may wish to start with this module
  - Begin collecting and analyzing existing sound design methodologies, with a focus on how they can be implemented or enhanced within Unreal 5 for **Research Objective 1**.
  - Document any external reference or citation in Zotero (Share to be provided)
  - Set up a project repository (system TBD) for tracking progress and maintaining documentation.
- **Deliverables:**
  - Initial Unreal 5 audio system setup and basic configuration.
  - A report on how Unreal 5's audio features align with existing sound design methodologies.
  - A project repository with structure and documentation

Week 5-7: Prototyping and Initial Development in Unreal 5

- **Tasks:**
  - Focus on creating high-fidelity, dynamic soundscapes in Unreal 5 for **Research Objective 2**.
  - Assist in configuring real-time processing systems in Unreal 5, testing initial setups for performance and compatibility with existing simulation frameworks.
  - Expand the sound object library by creating and testing new sound objects within Unreal 5.
- **Deliverables:**
  - Prototype sound objects implemented in Unreal 5 and integrated into a test simulation environment.
  - Functional real-time audio systems set up in Unreal 5.

Week 8-11: VI-Grade Focus: Transition to VI-Grade and Initial Setup

- **Tasks:**
  - Transition focus to the sound and audio implementation within VI-Grade, starting with an overview of the VI-Grade system and its audio capabilities.
  - Assist in configuring the VI-Grade system for audio integration, ensuring compatibility with the existing simulation framework.
  - Begin integrating the sound objects and real-time processing capabilities developed in Unreal 5 into the VI-Grade system, focusing on seamless transition and enhanced realism.

- **Deliverables:**
    - Initial VI-Grade audio system setup and configuration.
    - A report on the integration process, identifying any challenges and potential solutions.

Week 12-14: Advanced Audio Development in VI-Grade

- **Tasks:**
    - Focus on advanced sound synthesis and spatial audio techniques within VI-Grade, ensuring precise sound placement and immersive experiences.
    - Formalize API or communication between VI-Grade and Unreal.
    - Continue building and refining the sound object library within VI-Grade, particularly spatialized sound events.
    - Assist in integrating VI-Grade's audio components with the broader simulation framework, ensuring seamless interaction between systems.
- **Deliverables:**
    - Expanded sound models in VI-Grade, capable of precise spatial audio placement.
    - Initial integration of VI-Grade's audio systems into the broader simulation.