

PROJECT CHARTER

Project Title: Video Game

Prepared By: Team Evolution

1. Project Purpose and Objectives

Project Video Game is a AAA-scale, open-world zombie survival game being developed using Unreal Engine 5.6. The project's main purpose is to create an immersive survival experience while demonstrating advanced technical and creative skills as part of an academic and portfolio-driven initiative. It aims to deliver a visually stunning and gameplay-rich environment, simulating realistic towns, zombie AI behavior, and survival mechanics.

Objectives:

- Develop a prototype within 3 months that includes core survival mechanics, primitive zombie AI, and a small explorable environment.
- Build a AAA-quality open-world environment with a realistic day-night cycle, dynamic resource systems, and AI-driven challenges.
- Demonstrate mastery of Unreal Engine technologies like Nanite, Lumen, AI navigation systems, and blueprint-based scalability.
- Create a vertical slice (fully playable section) with polished visuals, sound, and optimized performance.
- Showcase teamwork, project planning, and technical expertise for both academic assessment and potential commercial expansion.

2. High-Level Requirements

- Core Gameplay Systems: Survival mechanics (health, stamina, hunger), combat system, crafting system, and inventory management.
- Artificial Intelligence: Advanced zombie AI for navigation, sensing, and reactive behaviors.
- Visuals: AAA-grade graphics with PBR assets, realistic environments, and visual effects (VFX).
 - Audio: Immersive sound effects (environmental sounds, combat audio, zombie effects).
- Exploration and World Design: A fully explorable town, enterable buildings, and atmospheric elements such as weather and forest environments.

- Optimization: Use Level of Detail (LOD), streaming levels, and efficient asset management to ensure smooth gameplay.

3. Scope Overview

The project focuses on delivering a high-quality prototype within the academic semester, with future plans for continuous development into a fully realized game world.

In-Scope: Development of a single explorable town, initial zombie AI, survival mechanics, basic combat, and immersive visuals.

Out-of-Scope (for prototype): Full open-world expansion, procedural generation, and multiplayer features (planned for future versions).

4. Key Stakeholders

– **Team Evolution (Project Team):**

Name	Role	Seat Number
Syed Minhal Raza	Lead Programmer	B23110006161
Muhammad Raffay Sheikh	Assistant Programmer	B23110006112
Mughees Azhar	3D Modeler	B23110006074
Fahad	Sound Effects Designer	B23110006025
Muhammad Ahmer Siddiqui	Visual Effects Specialist	B23110006084
Muhammad Yahya Saleem	Assistant Visual Effects	B23110006121

5. Roles and Responsibilities

- **Lead Programmer (Syed Minhal Ali Raza):** Oversees core game logic, AI implementation, and Unreal Engine blueprint design.
- **Assistant Programmer (Muhammad Raffay Sheikh):** Supports gameplay systems coding, debugging, and integration of mechanics.
- **3D Modeler (Mughees Azhar):** Creates high-quality assets including buildings, characters, and props for the game environment.
- **Visual Effects Specialist (Muhammad Ahmer Siddiqui):** Designs and implements visual effects like explosions, healing, particle effects, and lighting.
- **Assistant Visual Effects (Muhammad Yahya Saleem):** Supports VFX creation and assists with environment polish and shaders.
- **Sound Effects Designer (Fahad):** Develops immersive audio, background sounds, and in-game soundscapes for a realistic atmosphere.

6. Milestones

Phase 1 – Prototype Development (0–3 Months):

- Implement basic survival systems (health, hunger, stamina).
- Create a small explorable forest area with basic zombie AI.
- Add minimal user interface (UI) for inventory and health.

Phase 2 – Vertical Slice (3 Months –1 Year):

- Add advanced zombie AI (navigation, sensing, combat).
- Develop one fully completed town environment.
- Integrate improved sound and visual effects.

Phase 3 – Alpha Build (1 Year –2 Year):

- Expand mechanics: crafting, advanced combat, dynamic weather.
- Optimize performance with LODs and asset streaming.
- Release a closed alpha version for testing and feedback.

7. Risks and Mitigation

- Scope Creep:** The open-world nature of the game may exceed time limits.

Mitigation: Focus on one complete playable area first.

- Technical Challenges:** AI optimization and large-world performance.

Mitigation: Use Unreal’s profiling tools, LODs, and modular design.

- Team Burnout:** Large scope and high effort can overwhelm the team.

Mitigation: Distribute workload effectively and prioritize key tasks.

8. Authority and Approval

The project is officially authorized by Team Evolution under the supervision of the UBIT Computer Science Department. The project manager role is collectively shared by the team leads (programming, VFX, and modeling) with approval from the instructor.

9. Project Approval

Approved By (Project Team Representative)	: Fahad
Role:	Sound Effects Designer (Team Evolution)
Seat Number:	B23110006025
Signature:	