

SOFTWARE PROJECT MANAGEMENT

DEPARTMENT: UBIT

DEPARTMENT NAME: COMPUTER SCIENCE

COURSE CODE: CS-458

COURSE INSTRUCTOR: MISS MARYAM FEROZE

Group Members

Name:	Seat Number:
Syed Minhaj Raza Kazmi	B23110006161
Fahad	B23110006025
Mughees Azhar	B23110006074
Muhammad Raffay Sheikh	B23110006112
Muhammad Ahmer Siddiqui	B23110006084
Muhammad Yahya Saleem	B23110006121

Business Case – Project Video Game

Executive Summary:

Project Video Game is a AAA-scale, open-world zombie survival game developed in Unreal Engine 5.6, aimed at achieving a AAA-quality experience. It includes realistic simulated towns, dynamic zombie AI, and a large, immersive world with high-fidelity visuals. This business case is in favor of complete development of the project both as a technical demonstration and as an excellent portfolio piece with the potential to be commercially viable in the future.

Business Need:

Most independent or academic endeavors shun open-world complexity, producing oversaturated markets of low-effort, corridor-style games. There is a need for high-scale, world-focused projects that test the hardware and developer boundaries. Project [Placeholder] does just that — providing an experience-rich, technically demanding game that leads in realism, scale, and depth of gameplay.

Project Description:

The game provides an open-world survival experience typified by:

- Towns that are fully explorable with enterable buildings, houses, and shops
- Simulated life systems: resource shortages, day/night cycle, AI behavior
- Advanced zombie AI: navigation, sensing, and reacting to players
- Scalable blueprint-based design for high-velocity iteration
- Immersive gameplay mechanics: health, stamina, hunger, combat, crafting
- AAA-grade graphics with Unreal's Lumen, Nanite, and realistic PBR assets
- Ample space to explore and emergent gameplay

Advantages:

- Distinct, high-impact portfolio project reflecting AAA aspirations
- Shows mastery of UE5 systems: AI, world generation, optimization
- Successful collaboration and project planning in situations of complexity
- Ability to expand after academia as a respected indie title
- Visually impressive and emotionally compelling player experience

Costs:

- Significant time and energy investment has been ongoing for several months
- Needs more stringent asset management and performance optimization
- The threat of burnout or project growth

Estimated cost of resources: High-effort, low to moderate cost

Risk Assessment:

- Scope may be beyond team capacity or time frame
- Big world optimization and AI optimization can be technically demanding
- World streaming complexity and unreal asset management
- Motivation and intrinsic alignment issues

Mitigation: Do one fully completed town first, restrict scope, employ LODs, stream levels, and minimize early AI load.

Alternatives Analysis:

- Do nothing: End up in a templated or low-scale project with no technical or visual benefit
- Scale down to basic shooter: Simpler to finish, but loses learning value and imagination
- Proceed full scope with targeted milestones: High-risk but high-gain, with powerful educational and professional reward

Implementation Plan:

Prototype Phase (Less than 3 Months):

- Create an introduction section with basic survival mechanics
- Add primitive zombie AI
- Create a nearby forest zone to explore and to create atmosphere
- Focus on player movement, minimal UI, and general sense of the world

Post-Prototype (2–3 Years Roadmap):

- Phased rollout of main gameplay mechanics (fighting, stamina, hunger, inventory)
- Include animation, sound, and advanced artificial intelligence behavior
- Construct the first fully realized town for the vertical slice
- Target a public or private alpha build with simple world simulation

Continuous Development (Post-Alpha):

- Expand world with new towns, forests, underground regions, etc.
- Enhance gameplay mechanics: faction relationships, crafting, procedural events
- Keep adding features as per player comments and organizational objectives

Recommendation:

Start full development of Project Video Game with a properly scoped prototype. The long-term strategy provides for incremental development into a complete open-world game, with possible release-quality in two or three years. Balanced initial focus, conservative scoping, and well-defined milestones will ground ambition and keep development afloat.