

Form FP-1

Department of BSCS Batch 2021 &2022

**Proposal Form for the Final Year Project**

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| --- | --- | --- | --- |
| 1. **Title:** | **Dead Reckoning AI Survival (2D Game)** | | |
| 1. **Domain(s)** | * [Game Development] * [Software Engineering] * [Artificial Intelligence] |  |  |
| 1. **Nature of Project** | [✔]New Project |  |  |
| **4. Brief outline:**  We are developing a **2D side-scrolling zombie survival game** where players can move, fight zombies, collect items, craft tools, build shelters, and rescue survivors. The game includes a **day-night cycle**, where nights are more dangerous, and features a **modular system** for easy updates and testing. The story changes based on the player's choices, making each playthrough unique | | | |
| **5. Objectives:**   * Create a playable 2D survival horror game. * Implement AI-based enemy logic and crafting systems. * Develop a rescue mission system. * Enable save/load game progress. * Integrate a dynamic narrative based on player decisions. | | | |

**6. Scope:**

The game is developed using Unity and C#. It will function as an offline, single-player experience with future potential for cloud integration. The project will demonstrate key AI behaviors, UI design, game logic, and performance optimization

**7. Proposed Methodology:**

The **Waterfall model** will be followed, starting with requirement gathering and GDD, followed by design, implementation (in Unity), testing, and final deployment. Modular programming, GitHub version control, and milestone-based tracking will be used.

**8. Resources Involved:**

* Unity Game Engine
* C#
* Piskel/Photoshop (Graphics)
* GitHub (Version Control)
* FreeSound.org / Audacity (Audio)
* Firebase (Optional for save syncing)

**9. Final Outcomes/ Deliverables:**

* Executable game (.exe)
* Game Design Document
* Source code with documentation
* Gameplay walkthrough video
* Final Report and Presentation

1. **Learning Outcomes:**

* Game development life cycle
* AI behavior modeling
* Real-time game logic design
* Version control collaboration
* UI/UX implementation in Unity
* Team project planning and communication

1. **Industrial Support (If any): None**
2. **FYDPD to Sustainable Development Goals (SGDs) Mapping:**

|  |  |  |
| --- | --- | --- |
| **SGDs** | **Mapping** | **Description** |
| SDG 01. No poverty |  |  |
| SDG 02. Zero hunger |  |  |
| SDG 03. Good health and well-being |  |  |
| SDG 04. Quality education | ✔ | Promotes learning via game development skills |
| SDG 05. Gender equality |  |  |
| SDG 06. Clean water and sanitation |  |  |
| SDG 07. Affordable and clean energy |  |  |
| SDG 08. Decent work and economic growth | ✔ | Encourages innovation, technical skill development |
| SDG 09. Industry, innovation, and infrastructure | ✔ | Fosters infrastructure and AI innovation through simulation environments |
| SDG 10. Reduced inequalities |  |  |
| SDG 11. Sustainable cities and communities |  |  |
| SDG 12. Responsible consumption and production |  |  |
| SDG 13. Climate action |  |  |
| SDG 14. Life below water |  |  |
| SDG 15. Life on land |  |  |
| SDG 16. Peace, justice and strong institutions |  |  |
| SDG 17. Partnerships for the goals |  |  |

***Note: Marked those mapped***

1. **FYDPD to Complex Computing Problem (CCP) Mapping:**

|  |  |  |
| --- | --- | --- |
| CCP Attribute | WP1 and some or all of WP2 to WP7: | FYDPD to CCP Mapping  How it is addressed in FYDPD |
| Depth of knowledge required | WP1: ACM Knowledge Areas | Involves AI, game architecture, pathfinding algorithms, UI/UX, and data serialization. |
| Range of conflicting requirements | WP2: Conflicting technical and game design trade-offs | Balances AI complexity, smooth player controls, resource constraints, and gameplay difficulty. |
| Depth of analysis required | WP3: No obvious solution | Requires custom AI logic (e.g., zombie sound/vision detection) and decision-based story design. |
| Familiarity of issues | WP4: Infrequently encountered issues | Integrates unique zombie behavior modeling, rescue logic, and procedural challenges in Unity. |
| Extent of applicable codes | WP5: Outside standards and practices | Uses Unity-specific formats (JSON, binary), custom AI FSMs, and non-standard design patterns. |
| Stakeholder involvement & conflicting needs | WP6: Diverse stakeholder expectations | Designed for players, game testers, and academic evaluation, each with different expectations. |
| Interdependence | WP7: Subsystems with internal dependencies | Strong interlinking of modules: AI ↔ Game Manager ↔ Save System ↔ UI ↔ Inventory. |

1. **Gantt Chart:**

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| --- | --- |
| Year | 2025 to 2026 |

|  |  |  |
| --- | --- | --- |
| |  |  | | --- | --- | | **Months** | Mar–Dec 2025 | |
| |  |  | | --- | --- | | Task 1 | Game Design Document | |
| |  |  |  | | --- | --- | --- | | Task 2 |  | Player & Inventory System | |
| |  |  | | --- | --- | | Task 3 | Crafting & Combat Systems | |
| |  |  | | --- | --- | | Task 4 | Zombie AI Development | |
| |  |  | | --- | --- | | Task 5 | Rescue Missions & UI | |
| |  |  | | --- | --- | | Task 6 | Save/Load System | |
| |  |  | | --- | --- | | Task 7 | Game Manager & Logic | |
| |  |  | | --- | --- | | Task 8 | Level Design | |
| |  |  | | --- | --- | | Task 9 | Testing, Bug Fixing | |
| |  |  | | --- | --- | | Task 10 | Final Presentation & Report | |

**15. Details of Project Team:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S. No.** | **Name of the Student** | **IU Regn No** | **CGPA** | **Signature** |
| 1 | SYEDA AYESHA MEHMOODI | IUO5-0122-0261 | 3.0 |  |
| 2 | REHMA MUSKAN | IU05-0122-0231 | 3.21 |  |
| 3 | M. ZAIN ALAM | IU05-0321-0096 | 2.5 |  |
| 4 | MOIZ ALI KHAN | IU05-0121-0164 | 3.21 |  |

***Note: Group cannot be more than 4 students***

**16. Details of Supervisor (s)/ Industrial Advisor:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Name** | **Designation &**  **Department** | **Contact No.** | **Signature** |
| **Supervisor** | SANA IRSHAD | Lecturer, CS Dept. |  |  |
| **Co-Supervisor**  **(if any)** | SIR ZUBAIR | Lecturer, CS Dept. |  |  |
| **Industrial Advisor**  **(if any)** | NONE |  |  |  |

1. **For office us only:**

|  |  |  |  |
| --- | --- | --- | --- |
| * Proposal   Approved | * Not Approved | * Returned for Clarification / Modification | |
| Comments (if any): |  | | |
| Project Serial No. |  | Date: |  |
| Signature  FYDP Coordinator |  | Signature  Chairperson |  |
| Signature Associate Dean / Dean | |  | |