**3D Game Programming: Project Proposal**

**Member Name and Student ID:**

* Josef Bacík, 312553801
* Eduin Hernandez (艾德文), 0860828

**Instructor:** 黃世強

**WIP Name: Blade of the Lost: The Silent Survivor**

**Game story:**

I invite you to step into a world of mystery and danger, where the hero, Bob, finds himself in the most peculiar predicament. Bob awakens in a place that defies his understanding, devoid of any memories or knowledge about who he is or how he got there. The world around him is a chaotic, hostile landscape, teeming with bizarre and menacing creatures, each shrouded in its own enigma.

Armed with a mysterious sword and an unyielding determination to survive, Bob's journey unfolds through relentless battles against these nightmarish foes. As he defeats his adversaries, Bob uncovers hidden relics and gains newfound abilities that empower him on this enigmatic quest. Each step into the unknown brings him closer to unraveling the mysteries of this world, and he soon realizes that a powerful and malevolent adversary lurks at its heart, holding the secrets to Bob's past and the key to escaping this enigmatic realm.

"Blade of the Lost: The Silent Survivor" is an epic adventure that challenges your combat skills, where survival is not just a choice but an obsession. Join Bob on this journey of discovery and danger, where the truth lies hidden beneath the sword's edge, and the path to redemption winds through the unknown. Will you dare to enter and find the answers?

**System requirements:**

* CPU: Intel Core i3 / AMD equivalent
* RAM: 4 GB RAM
* GPU: Integrated
* DX: Version 11
* OS: Windows 10, 64-bit / Windows 11, 64-bit
* STORAGE: 1 GB available space

**Gameplay**

* 🗡️ **Combat and Power-Ups:** Players engage in epic battles against waves of increasingly formidable enemies, honing their sword skills with two different attacks. The key to survival lies in collecting coins dropped by defeated foes, which can be spent in a shop between waves. In this shop, players can purchase power-ups to boost their damage, health, armor, and more. With each new wave, the stakes rise, making the acquisition of power-ups a vital element of the gameplay. The shop offers a rotating selection of three items, and players can refresh the shop's inventory for a cost.
* ⏳ **Timed Waves:** As players traverse the closed arena, they must confront time-based waves of enemies, keeping them on their toes. Skillful dodging and tactical positioning are critical to survival. The relentless countdown to the next wave keeps the adrenaline pumping and adds an element of urgency to each encounter.
* 💥 **Diverse Enemies:** The game introduces 2-3 different enemy types, each with unique behaviors and combat patterns. Players will need to adapt their strategies to counter the various threats they face. The enemies' increasing difficulty throughout the waves keeps the gameplay fresh and challenging.
* 🔥 **Special Skills:** Players can wield one or more special skills, which may be available from the start or purchased from the shop. These skills provide an array of powerful abilities that can turn the tide of battle. Whether it's devastating area-of-effect attacks or life-saving defensive maneuvers, special skills offer additional depth to the combat experience.
* 🎥 **3rd Person Camera:** The 3rd person camera perspective offers players a limited view backward, enhancing their situational awareness. This perspective enables players to keep track of their surroundings and anticipate enemy movements, ensuring they don't get caught off guard.
* 🏰 **Dynamic Arena Design:** The arena is thoughtfully crafted to aid players in kiting enemies while providing opportunities for limited vertical movement. This design allows for strategic positioning and maneuvering, making each battle feel like a dynamic and ever-evolving challenge.

**Milestones:**

1. **Basic Gameplay and Systems (Foundations)**
   * Develop the core mechanics of the game, including player controls, a basic enemy, a shop, and a rudimentary combat and inventory system.
   * Ensure that players can move, attack, and interact with the shop to purchase initial power-ups.
2. **World Building and Aesthetic Enhancements**
   * Create the game's arena using downloaded 3D models and assets.
   * Implement advanced statistical tracking for both player and enemy interactions, laying the groundwork for future inventory and progression systems.
3. **Character Animation and Combat Refinements**
   * Animate the player character and enemy, making their movements more fluid and realistic.
   * Enhance the player's combat abilities by adding a second attack and refining the character's movement mechanics.
   * Connect the shop, inventory, and player statistics, ensuring a cohesive gaming experience.
4. **Time-Based Waves and User Interface**
   * Introduce the time-based wave system, where waves of enemies spawn at predetermined intervals.
   * Implement a player respawn system to allow for continuous play.
   * Create the main menu for player navigation and game settings.
   * Define a maximum number of enemies alive in each wave and gradually spawn enemies until the cap is reached, ensuring a steadily increasing challenge.
5. **Diverse Enemies and Expanded Inventory**
   * Introduce a variety of new enemies, each with unique behaviors, abilities, and AI.
   * Expand the inventory system to accommodate different items and power-ups, allowing for more complex character customization and strategy.
6. **Spells and Magic System**
   * Incorporate magical abilities, such as charm and freeze spells, into the gameplay.
   * Design and implement the visual effects, mechanics, and interactions associated with these spells, adding an extra layer of strategy and engagement for the player.
7. **Boss Battles and Scaling Challenge**
   * Create challenging boss encounters that break the wave-based progression and provide players with epic showdowns.
   * Implement a scaling difficulty system that adapts to the player's performance, ensuring a consistently engaging experience.
8. **Narrative and Lore Integration (extra)**
   * Develop a storyline that immerses players in the world and provides context for their actions.
   * Integrate lore fragments and narrative elements into the gameplay to give players a deeper understanding of the enigmatic world they find themselves in.
9. **Sound and Music Integration (extra)**
   * Incorporate immersive audio elements, including sound effects for combat, environment, and character interactions.
   * Add a dynamic musical score that enhances the game's atmosphere and tension.
10. **Testing, Balancing, and Optimization**
    * Conduct extensive playtesting to identify and address any bugs, glitches, or balancing issues.
    * Optimize the game's performance to ensure it runs smoothly on a variety of hardware configurations.
    * Gather feedback from players and fine-tune the game based on their input to create a polished and enjoyable gaming experience.

**Workload Distribution:**

*Remainder of October and November*

1. Basic Gameplay and Systems (Foundations)
   1. Josef: Implement the shop system and rudimentary combat and inventory functionality. Develop core game mechanics, including player controls and basic enemy interactions.
2. World Building and Aesthetic Enhancements
   1. Eduin: Create the game's arena using downloaded 3D models and assets.
   2. Josef: Lay the groundwork for advanced statistics and tracking systems related to player and enemy interactions.
3. Character Animation and Combat Refinements
   1. Eduin: Begin character animation and movement improvements for both player and enemy.
   2. Josef: Work on enhancing the player's combat abilities, including the second attack and refining character movement.
4. Time-Based Waves and User Interface
   1. Eduin: Implement the time-based wave system and player respawn functionality.
   2. Josef: Develop the main menu for player navigation and game settings, including defining enemy wave mechanics.

*December*

1. Diverse Enemies and Expanded Inventory
   1. Eduin: Introduce a variety of new enemies with unique behaviors and abilities.
   2. Josef: Expand the inventory system to accommodate different items and power-ups, adding complexity to character customization.
2. Spells and Magic System
   1. Eduin: Incorporate magical abilities, such as charm and freeze spells, into the gameplay.
   2. Josef: Design and implement the visual effects and mechanics associated with these spells to enhance gameplay.
3. Boss Battles and Scaling Challenge
   1. Eduin: Focus on creating challenging boss encounters that disrupt the wave-based progression.
   2. Josef: Implement the scaling difficulty system that adapts to the player's performance for a consistently engaging experience.
4. Narrative and Lore Integration (tentative)
   1. Eduin, Josef, and **ChatGPT** (collaborative effort): Develop a captivating storyline, integrating lore fragments and narrative elements into the game world. To avoid spending too much time, the prompt engineering of ChatGPT will be used.
5. Sound and Music Integration (tentative)
   1. **Friends**: Voice lines will be recorded from friends for a more immersive and fun interaction. Possibly in various languages (English, Spanish, Russian).
   2. Eduin and Josef (collaborative effort): Incorporate immersive audio elements, including sound effects and a dynamic musical score to enhance the gaming experience.
6. Artwork (tentative)
   1. **Stable Diffusion and Friends**: ArtWork will be requested, both AI generated and from friends for promotional and display purposes.
   2. Eduin and Josef (collaborative effort): Integration of procured artwork.
7. Testing, Balancing, and Optimization
   1. Eduin and Josef (collaborative effort): Conduct extensive playtesting, identify, and address bugs, glitches, and balancing issues.
   2. Friends: Beta testing of the game to receive feedback for further refinement.

Note that most of the distribution are subject to change depending on time constraints. For the crucial features, if one of the developers finishes their work earlier, they can jump in to help the other. In the case of the optional features, if time and opportunity arises, they will be added to the project.

**SWOT**

**Strengths**

1. Diverse Gameplay Elements: The inclusion of diverse enemies, spells, boss battles, and an evolving difficulty system keeps gameplay fresh and challenging.
2. Immersive Aesthetics: The use of 3D models, sound effects, and a dynamic musical score creates an immersive and atmospheric world for players to explore.
3. Collaborative Development: The collaborative effort between the devolopers, their friends, and new AI technologies allows for a more efficient and focused approach to game development.
4. Adaptive Gameplay: The implementation of a scaling difficulty system ensures that the game remains engaging for a broad range of player skill levels.

**Weaknesses**

1. Narrative Complexity: Integrating a storyline and lore fragments may add complexity, potentially overwhelming some players who prefer a purely action-based experience.
2. Resource Demands: The development of 3D models, sound, and music requires time to search and incorporate (for free). It also limits the scopes on what can be used for the project.
3. Lack of Cinematics: May improve the immersion into the game, but since it is too complex and time consuming, it might not be implemented.

**Opportunities**

1. Niche Appeal: The unique blend of gameplay elements can cater to a niche audience looking for both action and narrative depth.
2. Market Expansion: The game's combination of hack 'n' slash and narrative elements could tap into a broader market, appealing to gamers with diverse preferences.

**Threats**

1. Competition: Other students might have the idea of using similar gameplay for the final project. Thus, it is important to add unique features to the gameplay to make it entertaining.
2. Time constraints: The project will be time consuming and some comprimises might need to be made to deliver a working project. As both developers are taking other courses and doing research, this might prove problematic.

**References**

* **Models:** <https://assetstore.unity.com/packages/3d/environments/dungeons/cartoon-temple-building-kit-lite-110397>