CS6P05NP

Final Year Project
Proposal
Dungeons And Wishes

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1 Introduction:

The gaming industry has seen a significant rise in the popularity of role-playing games (RPGs), particularly those with a top-down view. These games offer players an immersive experience through strategic gameplay, character progression, and rich storytelling. Specifically speaking of Top-down view rpg's also called "god's eye view" as player watches his player from above. (Florian Auer, 2024) However, there is a growing need for more innovative RPGs that integrate modern gameplay mechanics with nostalgic elements reminiscent of classic games like Golden Sun, Riveria The Promise Land, Pokemon just to name few. Despite the abundance of RPGs, there is a lack of games that effectively combine the simplicity and charm of earlier RPGs with contemporary features, making this an area ripe for exploration. (Wilson, 2024) (Fuller, 2024)

Figure 1 TopDown View 2D Games

"Dungeons and Wishes" is going to be a 2D topdown view fantasy role playing game which aims to provide people with a nostalgic vibe with modern features and story telling, offering greatly enhanced users experience. This game focuses primarily on veteran rpg players who used to play game in gameboyadvance and bring those same nostalgic taste in computer.

From this project, players will enjoy smooth movement, traditional turn-based combat system which challenges players with strategic battles against a variety of enemies and bosses. Interaction with the game world, and NPC's with simple dialouges, item and equipment usage and context specific actions which will add depth to gameplay. There will be comprehensive inventory system which will

be user friendly, enabling players to easily manage their items, equipment, and resources. Exploration will be the key features with varieties of puzzles. A robust progression system allows player to level up, unlock new abilities and improve their stats during combat. To enhance immersion, the game includes camera shaking effects during significant events, such as powerful attacks or dramatic cutscenes. A reliable save-load features will be added ensuring the players to continure and reset their journet without losing any progression. Sound and effects will be added in order to keep player engage with beautiful tracks.

Figure 2 Turn Based Battle System

a. Problem scenario

The gaming market is saturated with RPGs that often prioritize cutting-edge graphics or overly complex gameplay, which can leave casual gamers or those yearning for a simpler experience feeling left out. Many players long for the nostalgia of traditional gameplay element such as pixel art, turn-based combat, and rich storytelling paired with the conveniences of contemporary gaming. (LightGunGamer, 2023) Additionally, there is a noticeable gap in the market for RPGs that are both accessible and engaging, making it clear that a game blending nostalgic elements with innovative mechanics could offer a refreshing and much-needed experience for a wide range of players. (Wilson, 2024)

b. The project as a solution

This project aims to develop a top-down view RPG game using Unity, which addresses these issues by creating a game that is both nostalgic and innovative. The game will feature classic RPG elements such as turn-based combat, and an engaging storyline while incorporating modern features like dynamic environments, and seamless integration of accessibility options. The project will leverage Unity's powerful engine to deliver a visually appealing game that runs smoothly. By doing so, it appeals to both old-school RPG fans and new players seeking an accessible yet deep gameplay experience.

2. Aims and Objective:

Main Aim:

The primary aim of "Dungeons and Wishes" is to develop a top-down view RPG game using Unity that seamlessly blends nostalgic elements with modern features. The project seeks to provide an engaging and accessible experience that appeals to a broad range of players, particularly those with a fondness for classic RPGs.

Objectives:

1. Use characters, environments and gameplay mechanics that captures the classical essence of RPG's.
2. Ensure the game is free of bugs with user friendly control for maximum user experience.
3. Intuitive controls and options that caters to both veteran and newcomers playstyle.
4. Utilize Unity to develop a stable and efficient game, incorporating 2D art styles and basic RPG system.
5. Provide acceses to top-down view and turn based battle system.

3. Expected Outcomes and Deliverables:

Expected Outcomes:

By the end of this project, a demo version top-down view RPG game will be developed using Unity, featuring a blend of classic and modern gameplay elements. This game gives access to a wide range of players, including those with varying levels of gaming experience.

Deliverables:

- The code for the game compressed in a zip file.
- Proposal for the project with all necessary topics.
- Interim report that describes the progress of the project.
- Artefacts which will contain the documents of the work done during the project.
- Meeting log book which will contain the progress of the project in a weekly basis.
- Final report which will be submitted alongside the final product.

4. Project risks, threats and contingency plans:

Risk 1: Scope Creep

- **Threat:** As the project progresses, there is a risk of adding new features or expanding the project scope beyond the original plan, leading to delays and resource strain.
- **Contingency Plan**:
  - Establish a clear project scope with well-defined objectives and milestones at the outset.
  - Regularly review progress against the original scope to ensure alignment with the project goals.

Risk 2: Technical Challenges

- **Threat:** Encountering unforeseen technical challenges, such as bugs in the game code, performance issues on different platforms, or difficulties with Unity's toolset, could delay the project.
- **Contingency Plan:**
  - Allocate time in the project schedule for troubleshooting and debugging.
  - Utilize Unity's extensive documentation, forums, and community resources to find solutions to technical problems.
  - If necessary, consider simplifying or scaling back certain features to ensure project completion within the deadline.

Risk 3: Time Management

- **Threat:** Poor time management could result in the project falling behind schedule, especially if tasks take longer than anticipated.
- **Contingency Plan:**
  - Use project management tools to track progress and ensure tasks are completed on time.
  - Prioritize critical tasks and milestones, and be prepared to deprioritize or cut non-essential features if necessary to meet the deadline.

Risk 4: Insufficient User Feedback

- **Threat:** Lack of adequate user feedback during the development process could result in a final product that does not meet user expectations or needs.
- **Contingency Plan:**
  - Conduct multiple rounds of user testing throughout the development process, involving a diverse group of testers to gather varied feedback.
  - Use surveys, and observation to gather detailed user insights.
  - Be prepared to iterate on game features and design based on user feedback, with a focus on critical areas such as gameplay mechanics, accessibility, and user experience.

Risk 5: Resource Limitations

- **Threat:** Limited resources, such as time, or access to testing devices, could impact the quality or completeness of the project.
- **Contingency Plan:**
  - Identify resource constraints early in the project planning phase and adjust the project scope or timeline accordingly.
  - Leverage free or low-cost tools and assets available through Unity and other platforms.
  - Focus on optimizing the game for one primary platform.

5. Methodology:

Software development life cycle (SDLC) is a method by which the software can be developed in a systematic manner and increases the probability of completing the software project within the time deadline and maintains the quality of the software product. The System Development Life Cycle framework provides a sequence of activities for system designers and developers to follow for developing software. (Apoorva Mishra, 2013) This process has defined its various stages as Requirement gathering, Designing, Coding, Testing, Development, and maintainance. And among the models of SDLC, this project will follow agile methodology with scrum framework which is ideal for game development due to its flexibility on the continuous feedback. Unlike rigid traditional models, Agile allows for quick adaptation to changes and player feedback, ensuring game evolves within its design goals.

Agile Methodology:

The Increment model of agile methodology focuses on iterative development and continuous feedback. It's flexible and adaptable, making it ideal for projects where requirements may evolve. Using this model can be highly effective for developing a 2D game, including a top-down RPG, due to its iterative approach, and focus on delivering incremental value.

Iterative approach allows to develop game in manageable chunks or increments. Frequent reviews and feedback sessions enables to adjust and improve the game based on playtesting. This helps ensure the game aligns with player expectations and design goals. Incremental emphasizes delivering the most valuable features first. This ensures that the most important aspects of the game are developed and tested early on. This flexibility enables creative ideas and player feedback which leads to changes in design and features. This helps maintain clarity and accountability through defined goals and roles, which keeps the project on track and ensures that everyone knows their responsibilities. (Sachdeva, 2016)

6. Resource Requirements:

Hardware:

1. **Development Workstation:**

   A high-performance computer capable of running Unity and other development tools smoothly.

   Purpose: To ensure efficient game development, testing, and debugging.

Software:

1. **Unity Game Engine:**

Primary development platform for creating the game.

Figure 3 Unity

2. **Visual Studio:**

Integrated Development Environment (IDE) for coding in C#.

Figure 4 Visual Studio

3. **Version Control Software:**

Manage project files and track changes

Figure 5 Version Control Software's

4. **Design and Art Tools:**

Design and create visual assets, including characters, environments, and UI elements.

Figure 6 Art Tools

5. **C#:**

Implement game mechanics, systems, and interactions

Figure 7 C# Language

7. Work Breakdown Structure(WBS):

The work breakdown structure (WBS) is a vehicle for breaking an engineering project down into subproject, tasks, subtasks, work packages, and so on. It is an important planning tool which links objectives with resources and activities in a logical framework. It becomes an important status monitor during the actual implementation as the completions of subtasks are measured against the project plan. (Tausworthe, 1979–1980)

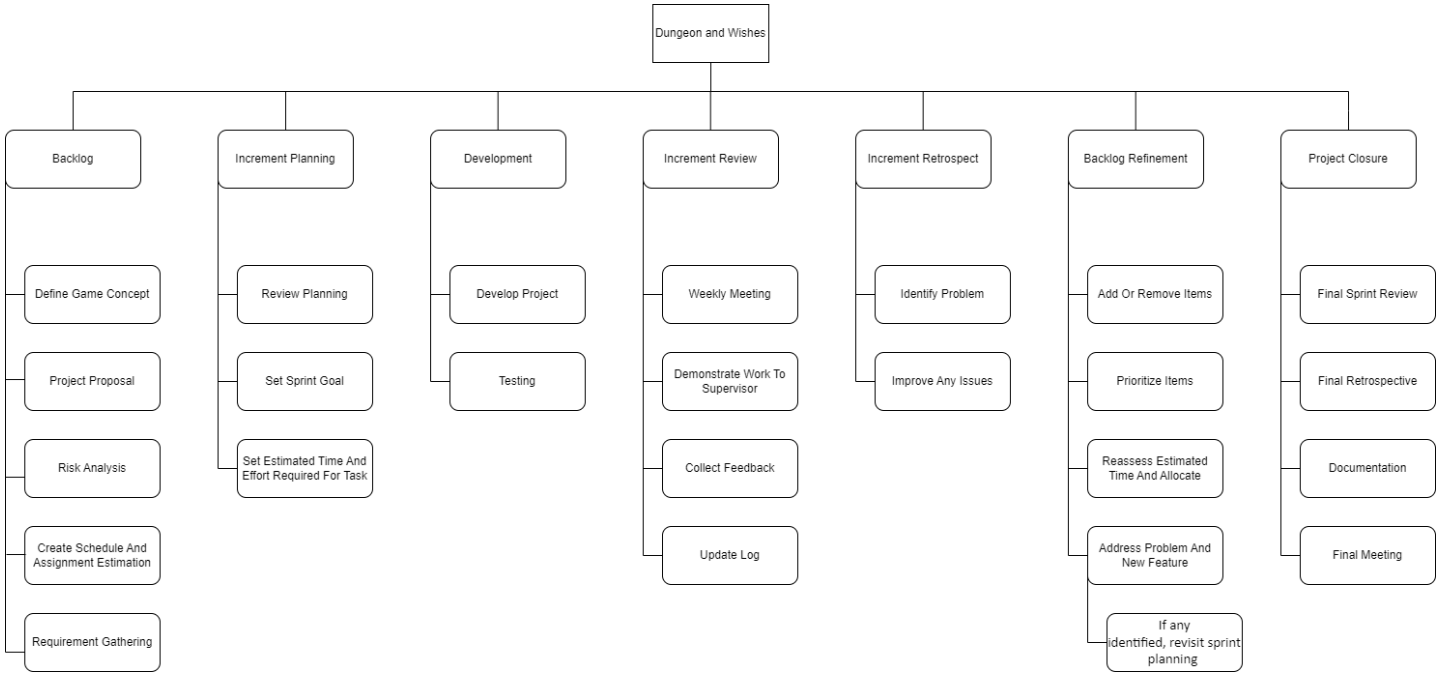

Figure 8 WBS

8. Milestones:

A project milestone is a project planning tool used to mark a point in a project schedule. Project milestones can note start and finish of a project it can also mark the completion of a major phase of work or anything that are worth highlighting. (Tristancho, 2023)

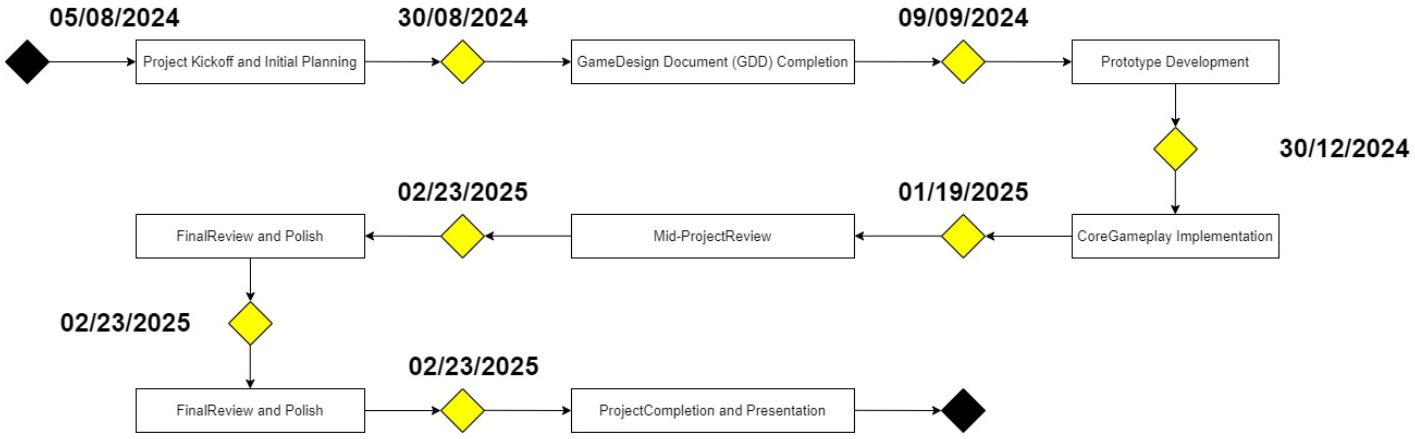

Figure 9 Milestone

9. Project Gantt chart:

A gantt chart is a visual project plan that lists tasks and milestones on the vertical axis with time plotted on the horizontal axis. Gantt charts are used in project management to schedule, track, and communicate deliverables, deadlines, dependencies, and resource assignments. (teamgantt, 2021)

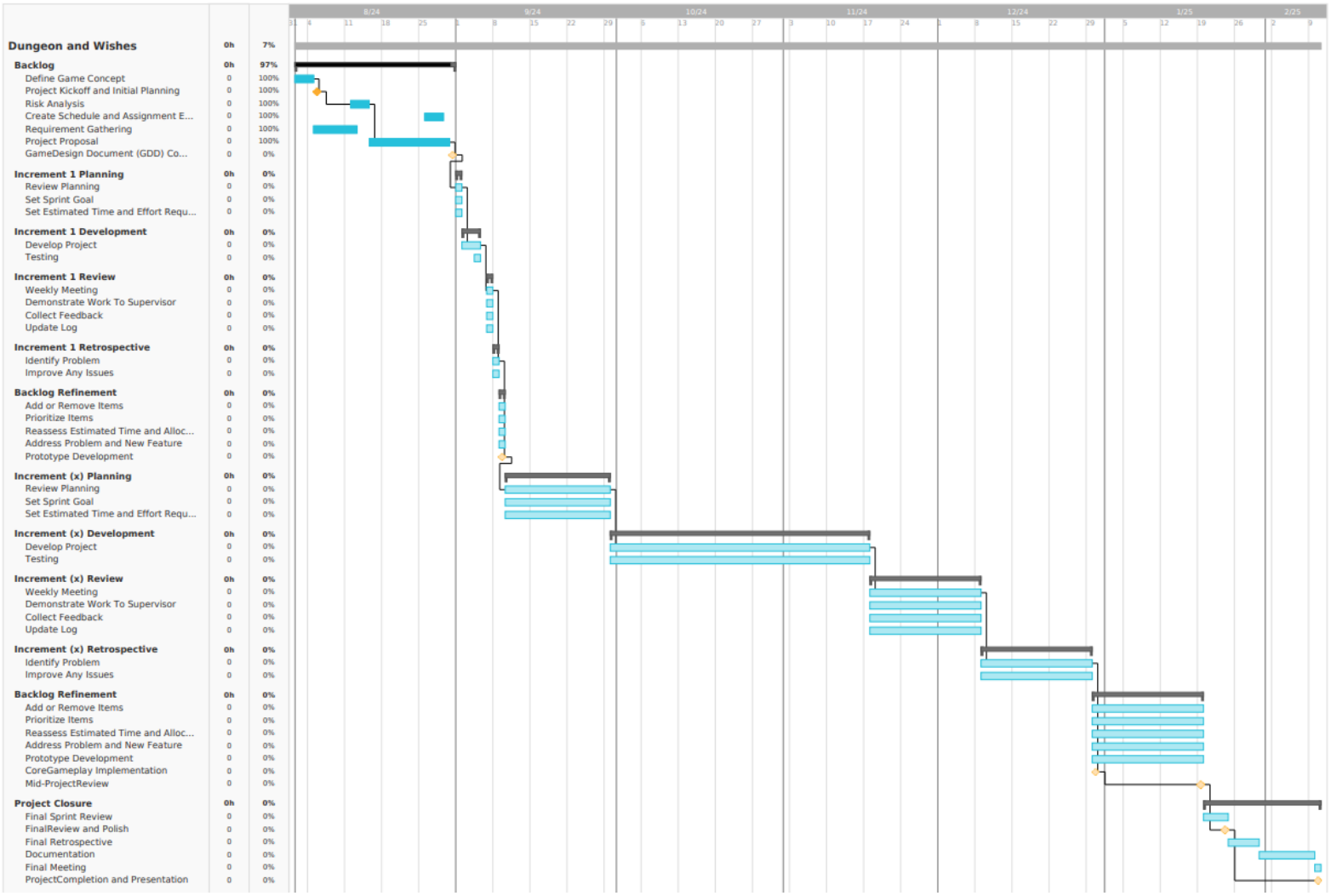

Figure 10 Gantt Chart

10. Conclusion:

In conclusion, "Dungeons and Wishes" stands as a testament to the enduring appeal of classic RPGs, blending nostalgic elements with modern gameplay innovations to craft an experience that resonates with both veteran players and new audiences. By combining smooth movement, strategic combat, immersive exploration, and deep storytelling, the game promises to deliver an unforgettable adventure. Whether it's through the intricate dungeons, dynamic progression system, or the engaging interactions with the environment, players will find themselves drawn into a world that captures the magic of beloved RPGs while offering something fresh and exciting. Ultimately, "Dungeons and Wishes" is going to be more than just a game; it will be journey that invites players to relive the past while forging new memories in a beautifully crafted fantasy world.

From this project I will gain comprehensive understanding of game development using Unity, enhancing my skills in programming and project management. This project will deepen my understanding in how 2D mechanics works and complex database relation. Additionally, managing the project using Scrum framework Agile mehtodology it will improve ability to work iteretively and respond to feedback as well refine certain functions. This experience will strenthen my technical ability which will prepare me for future challenges as a software engineer and programmer.

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