

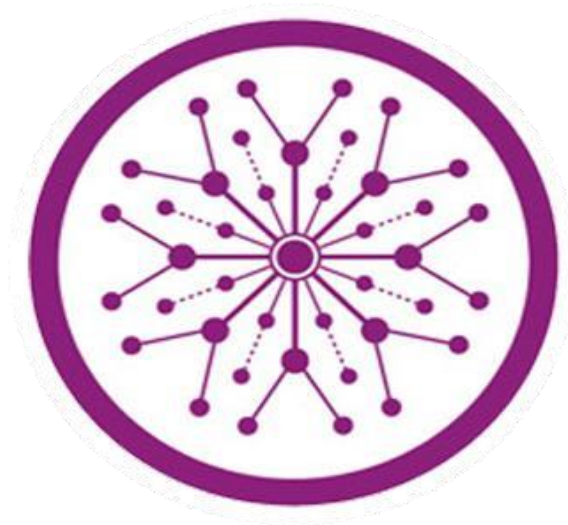
# DECIMATER (Top Down Shooter)

Final Year Project

Session 2020-2024

A project submitted in partial fulfillment of the degree of

**BS in Gaming and Multimedia**



Department of Computer Science

Faculty of Computer Science & Information Technology

The Superior University, Lahore

Spring 2024

Type (Game)	[ <input checked="" type="checkbox"/> ] Development      [ <input checked="" type="checkbox"/> ] Research      [ <input type="checkbox"/> ] R&D			
Area of specialization	Game Design, 3D/2D modeling, Game Programming			
FYP ID	FYP-BGMM-F23-001			
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**\*The candidates confirm that the work submitted is their own and appropriate credit has been given where reference has been made to work of others**

### Plagiarism Free Certificate

This is to certify that, I Talha Ahmed S/D of Aqeel Ahmed, group leader of FYP under registration no FYPBGMM-F23-001 at Computer Science Department, The Superior University, Lahore. I declare that my FYP report is checked by my supervisor.

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Designation: Lecturer

Designation: Lecturer

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Signature: \_\_\_\_\_

HoD: Dr Irfan-ud-din

Signature: \_\_\_\_\_

# DECIMATOR

## Change Record

Author(s)	Version	Date	Notes	Supervisor's Signature
Talha Ahmed, Mohammad Yousaf, Ayan Asif	1.0	8-9-2023		

# APPROVAL

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## PROJECT SUPERVISOR

Comments: \_\_\_\_\_

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Name: \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

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## PROJECT MANAGER

Comments: \_\_\_\_\_

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Date: \_\_\_\_\_

Signature: \_\_\_\_\_

## HEAD OF THE DEPARTMENT

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Date: \_\_\_\_\_

Signature: \_\_\_\_\_

## Dedication

*This work is dedicated to my all my teachers in my last semester. Their unwavering support, boundless encouragement, has been my guiding light throughout this journey. Their wisdom has inspired me to reach new heights and overcome challenges. I am deeply grateful for how they influenced our work.*

## Acknowledgements

*I am sincerely grateful to my supervisor, Sir Awais Mahboob, for his invaluable guidance, unwavering support, and insightful feedback throughout the development of this project. Their expertise and encouragement have been instrumental in shaping the direction of my work.*

*I would also like to extend my appreciation to my team members Yousaf and Ayan, who helped in providing technical assistance, offering valuable insights and participating in testing 30% of the game helping with making asset back-end programming and our 0-level design. Their collective efforts have significantly enriched the quality and depth of this project.*

*They have been a constant source of encouragement and understanding during the challenges of this undertaking.*

*This project would not have been possible without the support and encouragement of all those mentioned above, and for that, I am truly thankful.*

## Executive Summary

*The project aims to develop an action-packed game inspired by titles such as Hotline Miami, Max Payne, and Hong Kong Massacre. The game will feature a mix of top-down and first-person perspectives, providing players with a strategic view and immersive combat encounters, respectively. The focus is on incorporating a compelling story dynamic into the gameplay, appealing to fans of fast-paced games with intuitive controls.*

*The target audience for the game consists of players who enjoy action-packed, strategic combat experiences with immersive storytelling. The game's diverse gameplay mechanics, including top-down planning and first-person intensity, aim to engage players and offer a dynamic experience. The intuitive controls will enable players to quickly grasp and perform actions fluidly, enhancing their enjoyment of the gameplay.*

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# Overview/Theme

## Ideal Summary

The gaming world is always trying to take things to the next level and give players experiences that really suck them in. That's the driving force behind our new project, "DECIMATER." The goal here is to make a game that leaves a positive mark on the dynamic gaming landscape.

By mixing together some unique components and cutting-edge AI, this game is aiming to explore the world of first-person & top-down shooters in a fresh way. The plan is to offer players a genuinely challenging and thought-provoking experience. It's a 2.5D top-down first-person shooter called "Decimater," set in a gritty, immersive world.

You are a mercenary on a mission to sneak into enemy strongholds, complete critical objectives, and engage wave after wave of adversaries. The game will be all about thrilling action, quick-thinking decision making, and a gripping story to pull you in. We're really trying to create something special here that will leave a mark on the genre.

In "Decimater," players navigate through various levels filled with enemies, obstacles, and objectives. The core gameplay involves strategic positioning, resource management, and skillful shooting. The narrative unfolds through mission briefings and in-game events, providing context and motivation for the player.

Decimater, a skilled and hardened mercenary, possesses a unique set of skills that make him a formidable force. As he delves into the investigation, he uncovers a web of corruption, betrayal, and conspiracy that reaches far beyond his sister's murder. Along the way, he encounters various characters, both allies and adversaries, who either aid him in his pursuit or stand in his way.

# Goal

The ultimate goal is to successfully complete missions, earning rewards to upgrade weapons, abilities, and unlock new levels. The game aims to provide a thrilling experience through dynamic encounters, challenging enemies, and engaging storyline progression.

## System Feature 1: Stealth-Based Gameplay

- D  
escription: Emphasizes strategic decision-making and stealthy approaches.
- P  
riority: High.
- F  
unctional Requirements: Implement tactical decision-making elements and adaptive AI for opponents.

## System Feature 2: Mission-based Gameplay

- D  
escription: Features diverse objectives and challenges through mission-based structure.
- P  
riority: Medium.
- F  
unctional Requirements: Design and implement diverse mission objectives, integrate optional tasks for weapon upgrades.

## System Feature 3: Story-based Gameplay

- D  
escription: Offers a deep dynamic and immersive story
- P  
riority: Medium.
- F  
unctional Requirements: Write an engaging script, encourage story changing decisions.

## Why will it work?

DECIMATER has the potential to succeed for several reasons:

- 1. Captivating Gameplay:** DECIMATER offers a unique and engaging gameplay experience. The emphasis on stealth-based mechanics requires players to think strategically and make critical decisions in each encounter. They must carefully plan their actions, utilize cover, and employ stealthy takedowns to avoid detection. This level of strategic thinking and the satisfaction of successfully executing stealth maneuvers can keep players hooked and motivated to progress.
- 2. Compelling Story:** The game features a deep and dynamic story that immerses players in an adventure. With an immersive script and engaging characters, players become emotionally invested in the protagonist's journey. The presence of story-changing decisions adds an element of agency, allowing players to shape the narrative and witness the consequences of their choices. This level of player involvement creates a more personalized and impactful storytelling experience.
- 3. High Production Quality:** DECIMATER showcases high production values, including stunning visuals, detailed environments, realistic animations, and immersive sound design. The attention to detail and the overall polish of the game contribute to a seamless and immersive experience. A well-crafted and technically sound game not only enhances the player's enjoyment but also earns credibility and positive reception among gamers and critics.
- 4. Player Agency:** DECIMATER offers players a sense of agency in shaping their gameplay experience. The adaptive AI of opponents ensures dynamic and challenging encounters that respond to the player's actions. Additionally, the inclusion of storychanging decisions allows players to have a direct impact on the narrative and the outcome of the game. This level of player agency fosters a deeper sense of immersion and investment in the game world.

5. **Alignment with Market Demand:** DECIMATER aligns with popular gaming trends and genres that have proven to attract a dedicated fan base. The combination of stealth-based gameplay, mission based structure, and immersive storytelling resonates with players who enjoy strategic decision-making, diverse objectives, and engaging narratives. By catering to these preferences, DECIMATER has the potential to capture the interest and loyalty of its target audience.

Overall, DECIMATER's captivating gameplay, compelling story, high production quality, player agency, and alignment with market demand position it favorably for success in the gaming industry.

## Mock Ups

Rough sketch



## Main Menu



## Options Page



# Screen-Shots



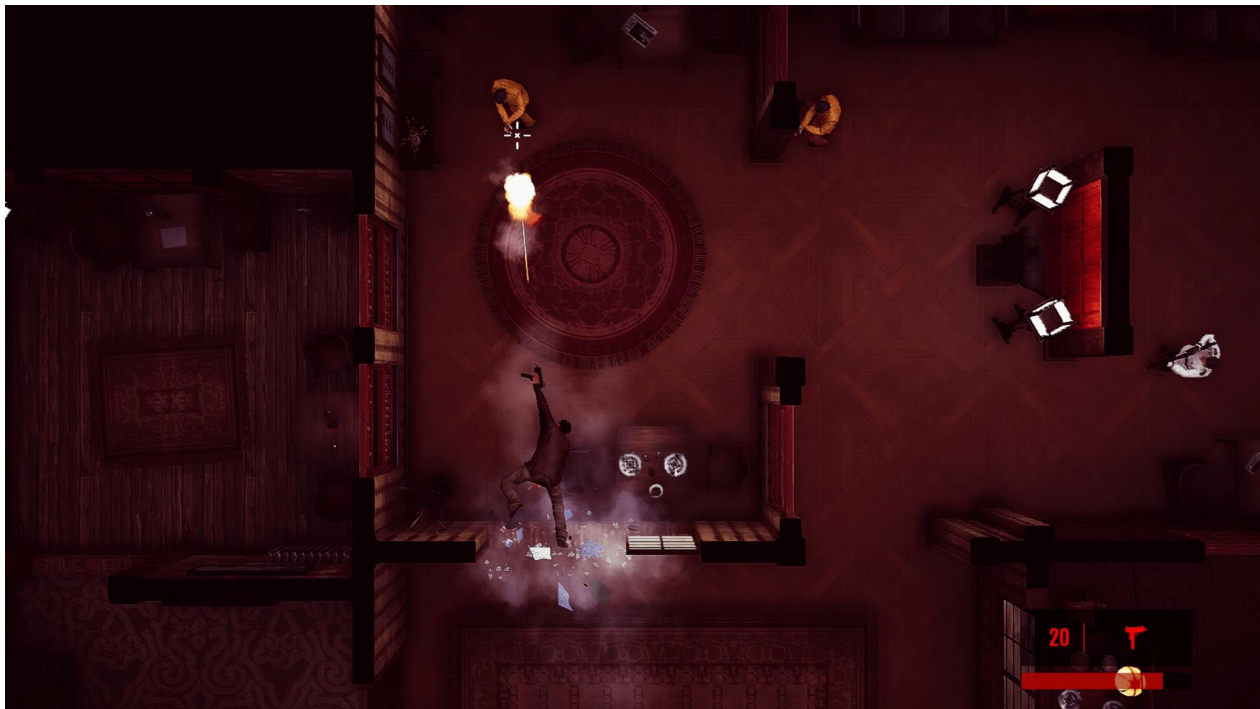
# References

## Game mechanics

### Hotline-Miami



### Hong-Kong Massacre



## Aesthetics

### Max Payne



### Cyberpunk 2077



# Art Style

DECIMATER can be visually represented in a variety of art styles, depending on the desired aesthetic and the vision of the creators. Here are some possible art styles that could suit the story:

- 1. Stylized:** This art style emphasizes exaggerated and unique visual elements, often deviating from realism. It can add a distinct and memorable look to the characters, environments, and overall atmosphere of DECIMATER. Stylized art can enhance the gritty and dark nature of the story, while still allowing for creative interpretations of the world.
- 2. Low Poly:** This art style utilizes simple geometric shapes and flat shading to create a minimalist and stylized look. Low poly can give DECIMATER a unique and visually appealing aesthetic, with sharp edges and a clean overall design. It can work well for creating environments and characters, while also allowing for smooth performance in real-time rendering.
- 3. Isometric:** An isometric art style presents the game world from a fixed perspective, with a 2.5D representation. This can add depth and readability to the environments in DECIMATER, allowing players to navigate and explore the world with ease. Isometric art often features a high level of detail and can create a sense of immersion.

Ultimately, the choice of art style depends on the creative direction of the project and the intended atmosphere of DECIMATER. It's important to consider how each style aligns with the narrative, gameplay, and target audience to create a cohesive and visually engaging experience.

## Look & Feel / Camera

In DECIMATER, the choice of camera perspective and look & feel can greatly impact the player's immersion and experience. Here are some options to consider:

- 1. First Person:** This perspective places the player directly in the shoes of the protagonist, seeing the world through their eyes. It can create a sense of immediacy and intensity, allowing players to feel personally connected to Decimator's journey. First-person perspective often works well for immersive storytelling and intense action sequences.
- 2. Over the Shoulder:** This camera perspective is similar to third person, but the camera is positioned closer to the character's shoulder, providing a more intimate view. Over the shoulder perspective can create a stronger sense of connection with the protagonist, emphasizing their presence and actions in the game world.
- 3. Top Down:** This camera angle provides an overhead view of the game world, allowing players to see the environment from a bird's-eye perspective. Top-down perspective is often used in strategic games or games with a strong emphasis on exploration and puzzle-solving. It can provide a comprehensive view of the surroundings, enabling players to plan their tactics and navigate the world effectively.

The choice of camera perspective and look & feel should align with the gameplay mechanics, narrative focus, and the desired player experience in DECIMATER. It's important to consider how each perspective enhances immersion, gameplay mechanics, and the emotional impact of the story.

# Mechanic

## Controls

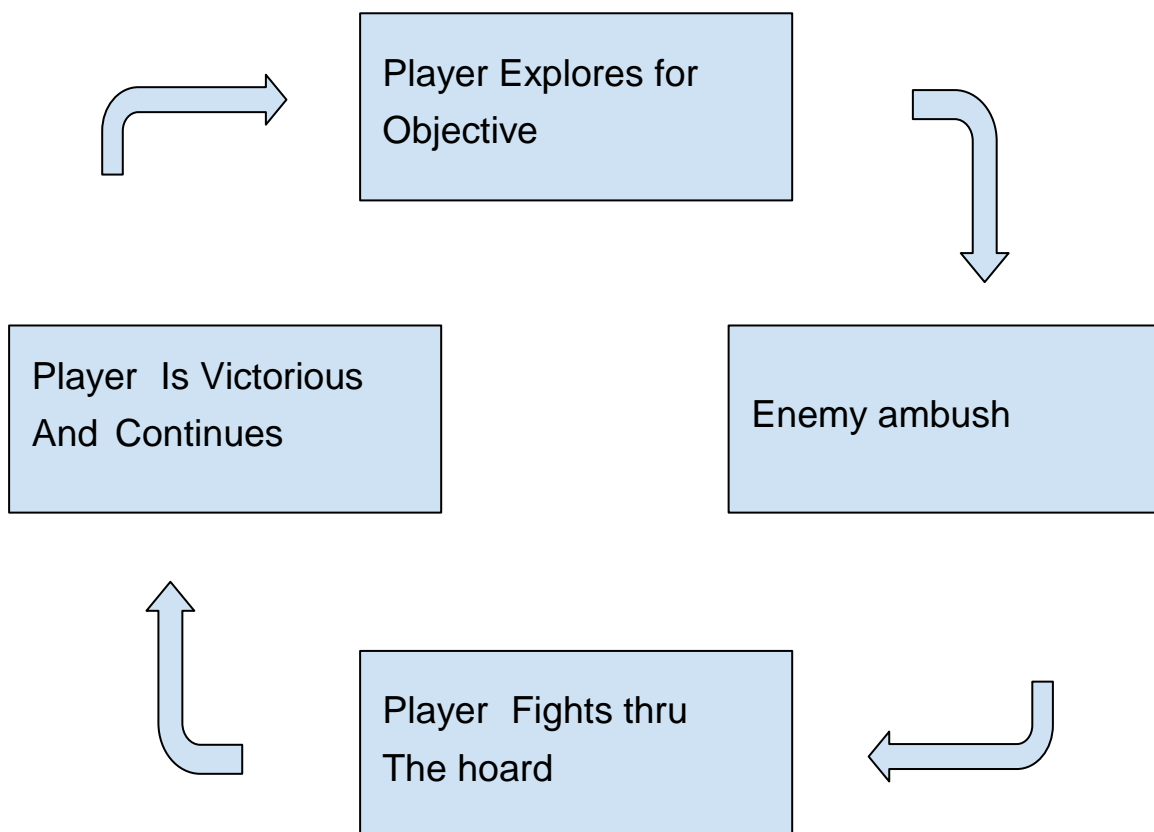
The control scheme for DECIMATER is designed to provide intuitive and responsive gameplay. Here are the basic controls typically used in the game:

- 1. Movement:** Players can control the character's movement using the directional controls, such as the arrow keys or joystick. This allows them to navigate the game world, move between cover, and approach targets strategically.
- 2. Stealth Actions:** Stealth actions are crucial in DECIMATER. Players can use a designated button, such as the "Crouch" or "Sneak" button, to enter a stealthy mode, allowing the character to move silently and avoid detection by enemies. This button can also be used for actions like climbing, crawling, or hiding in shadows.
- 3. Interactions:** Interaction with the environment and objects is facilitated through a dedicated button, such as the "Interact" or "Use" button. Players can use this button to open doors, pick up items, activate switches, or interact with various elements in the game world.
- 4. Melee and Takedowns:** When in close proximity to enemies, players can initiate melee attacks or perform stealth takedowns. This is usually done using a specific button or combination of buttons, enabling the character to incapacitate or eliminate enemies quietly and efficiently.
- 5. Gadgets and Equipment:** DECIMATER may feature a variety of gadgets and equipment that players can utilize during gameplay. These can include items like distraction devices, hacking tools, or throwable objects. The controls for using these gadgets are typically assigned to specific buttons or a radial menu for quick selection.
- 6. Weapon Controls:** If the game includes combat scenarios, players will have controls for wielding and using weapons. This can involve aiming, shooting, reloading, and switching

between different weapons. These controls are often assigned to the mouse buttons or triggers on a gamepad.

It's important to note that the specific control scheme can vary depending on the platform and the preferences of the game developers. Players may also have the option to customize and remap the controls to suit their individual playstyle and comfort.

### Core Loop



### Progression

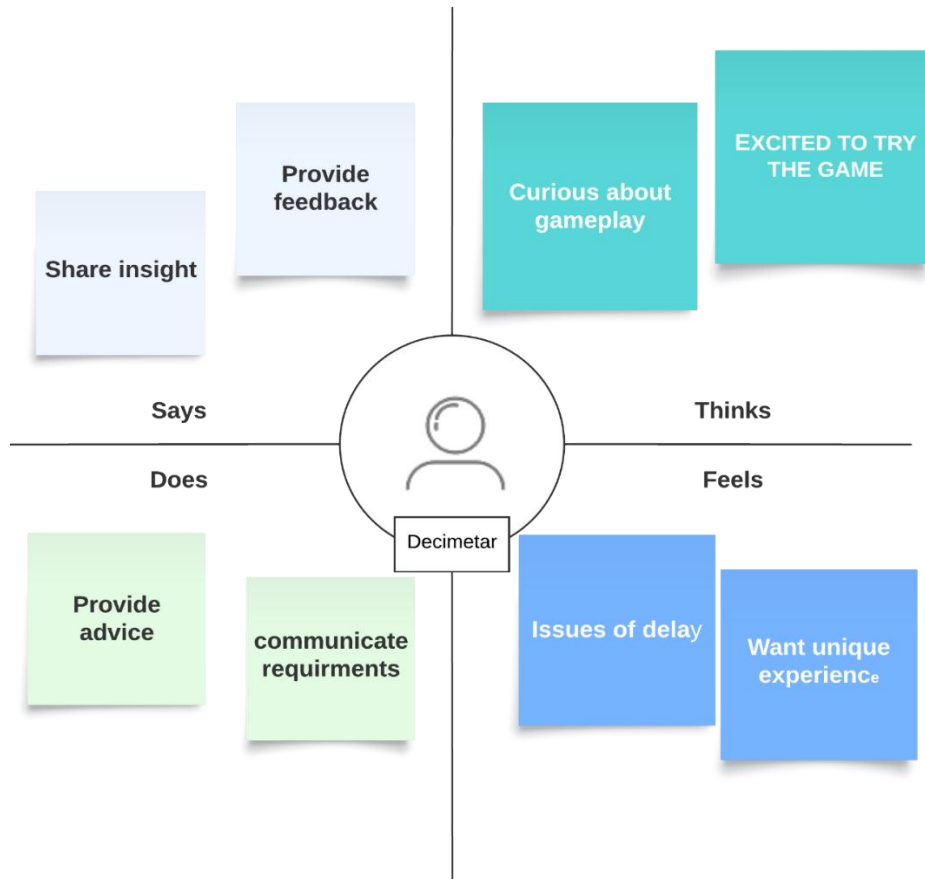
DECIMATER offers various progression systems to enhance the player's experience. Here are the different progression systems that may be implemented in the game:

- 1. Level-Based Progression:** In a level-based progression system, players advance through the game by completing specific levels or missions. As they successfully complete each level, they unlock subsequent levels, allowing them to progress further in the game's storyline or unlock new areas to explore. This system provides a structured and linear progression path for players.
- 2. Upgrade-Based Progression:** An upgrade-based progression system allows players to improve their character's abilities, equipment, or skills over time. By earning experience points, currency, or specific resources through gameplay, players can unlock and upgrade various aspects of their character, such as unlocking new abilities, improving attributes, or acquiring better equipment. This system provides a sense of growth and customization as players become more powerful and capable throughout the game.
- 3. Star-Based Progression:** A star-based progression system involves assigning a rating or number of stars to player performance in each level or mission. Players can earn stars based on their performance, such as completing objectives within a certain time limit, achieving high scores, or completing optional challenges. By earning more stars, players unlock additional content, rewards, or access to special features. This system adds replay value and encourages players to improve their performance.
- 4. Percentage Complete-Based Progression:** A percentage complete-based progression system tracks the player's overall progress in the game. It displays the percentage of content or objectives they have completed out of the total available. This system provides a clear sense of progression and completion, allowing players to track their achievements and work towards completing the game in its entirety.
- 5. Content-Based Progression:** In a content-based progression system, players unlock new content, such as additional levels, areas, or gameplay features, as they progress through the game. This can include unlocking new story chapters, accessing hidden areas, or discovering secret content. This system encourages exploration and rewards players for their curiosity and thoroughness in uncovering all the game has to offer.

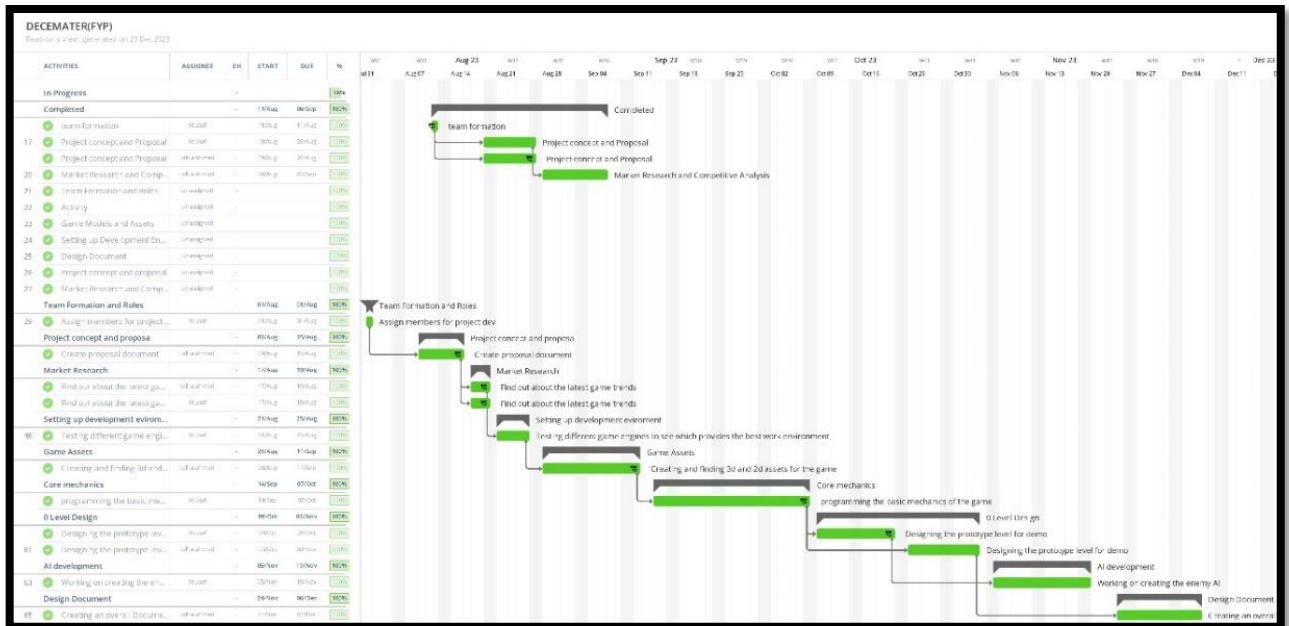
## Roles/Responsibility matrix

WBS	WBS deliverable	Activity #	Activity to complete the deliverable	Duration of days	Team members Roles(s)
1	Project concept	1	Define the game objective, concept	7	Talha, Yousaf, Ayan
2	Team formation	2	Assign roles and responsibilities	1	Talha
3	Market research	3	Analyze existing game market research	5	Talha, Yousaf, Ayan
4	Design Document	4	Create a design document detail	7	Talha
5	Setting up development environment	5	Configure development environment	5	Yousaf
6	Core game mechanics	6	Implement basic gameplay mechanics	10	Yousaf
7	Level Design	7	Design and create prototype	20	Yousaf, Ayan
8	AI development	8	Create enemy AI	15	Yousaf
9	Graphic art	9	3D model assets and characters	10	Ayan
10	User interface	10	Develop UI and HUD	10	Ayan
11	Optimization	11	Optimize game	10	Yousaf
12	Project submission	12	Prepare final project	10	Talha, Yousaf, Ayan

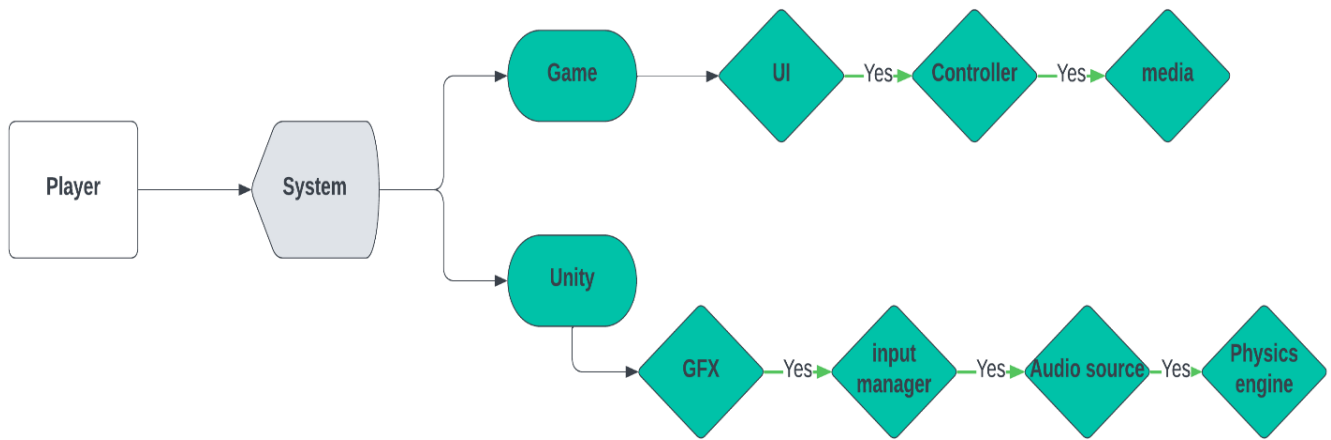
# Empathy Map



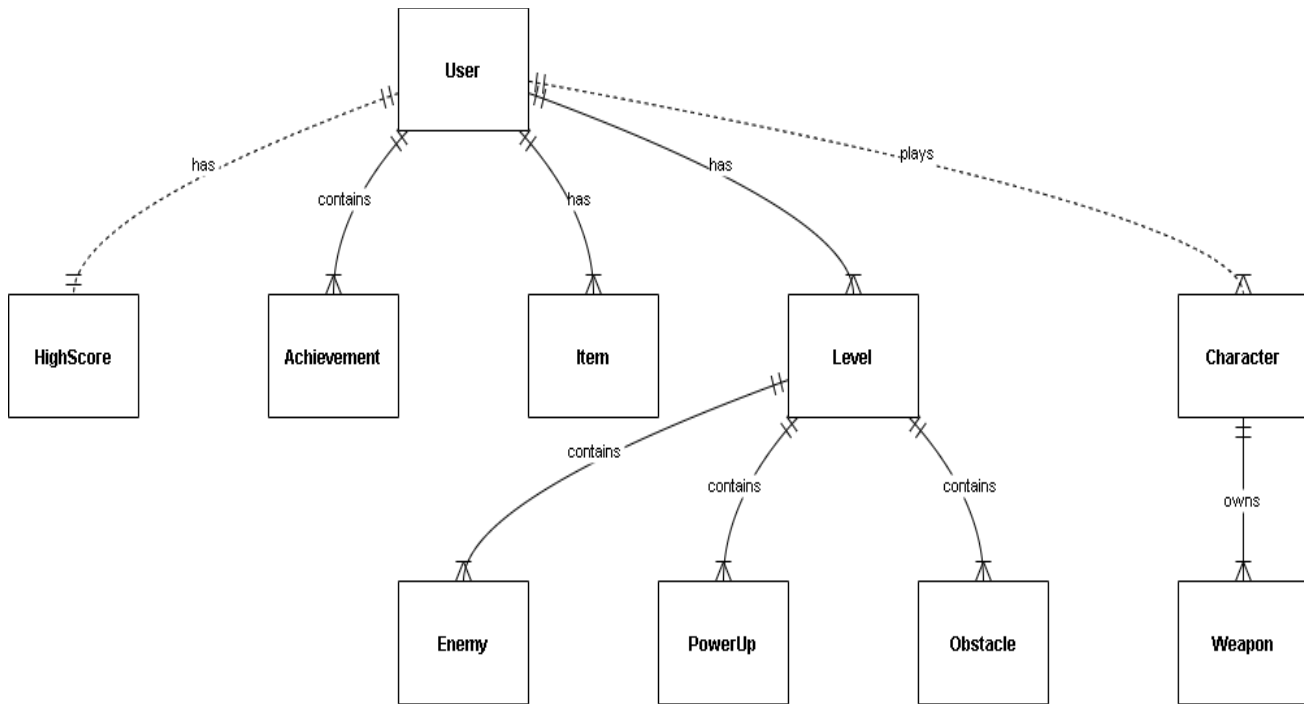
# Gantt chart



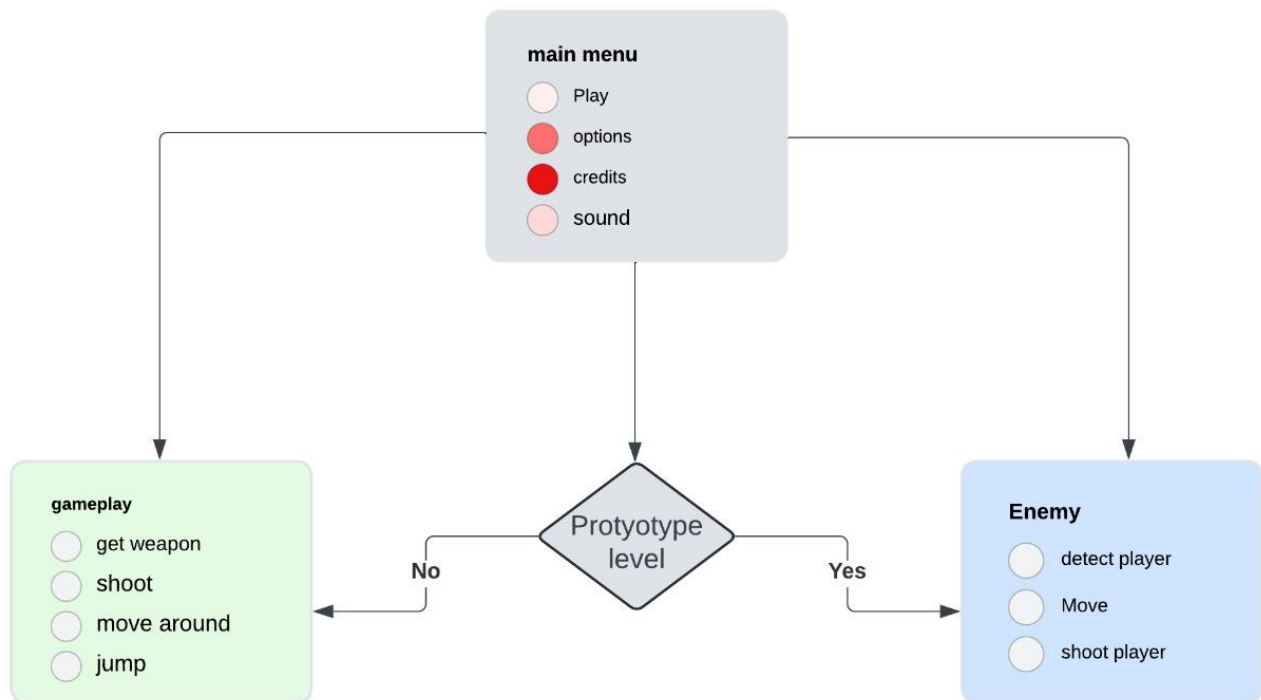
# System Architecture Diagram



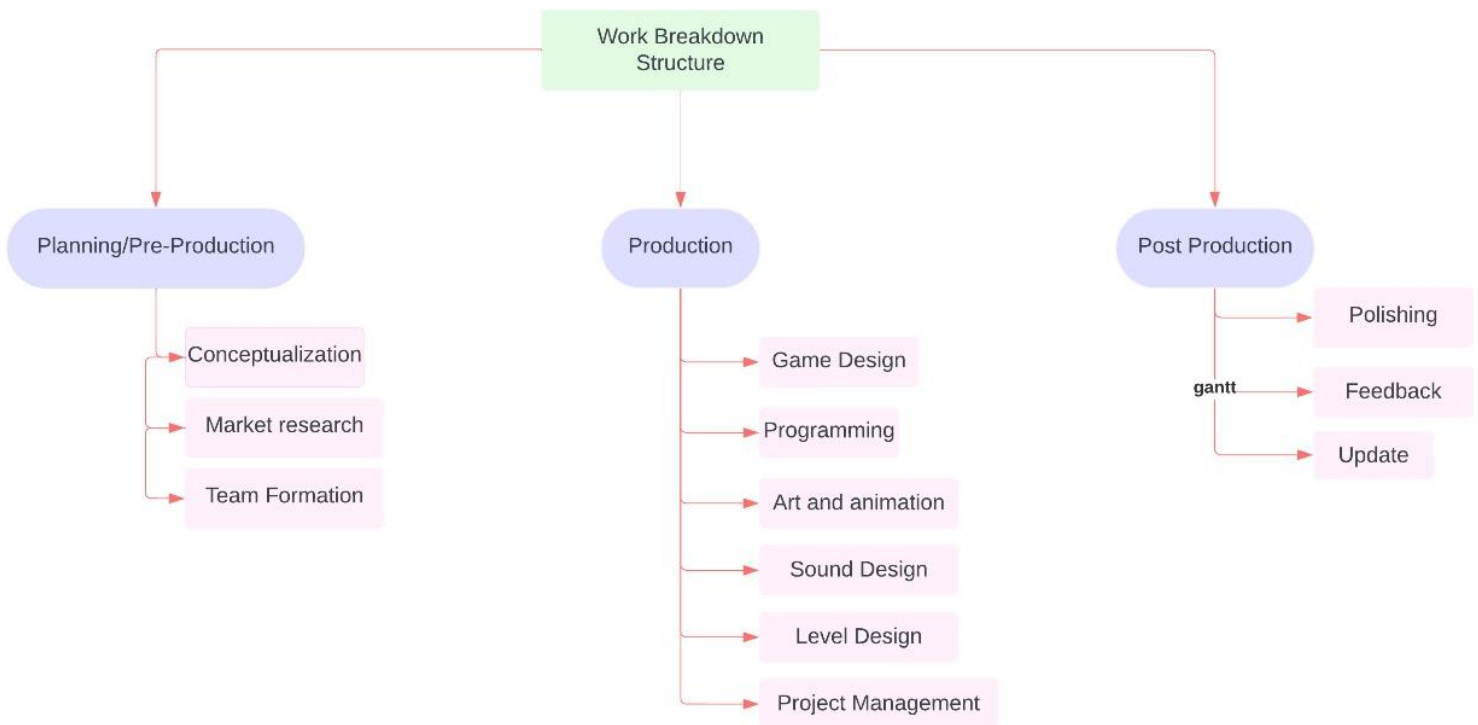
# Entity Diagram



# Class Diagram



# Work Breakdown structure diagram



## 1. Production:

- **Conceptualization:** We will decide the idea, genre, and audience of our game here.
- **Market Research:** We will do a thorough research on similar games as our and decide what makes them interesting and how to engage our players the same way.
- **Team Formation:** Assemble designers, programmers and artists that will help create the desired game.

## 2. Pre-production

- **Game design:** Create Visuals, mechanics and sound design
- **Programming:** Develop the game mechanics, AI and character with movements and interactions.

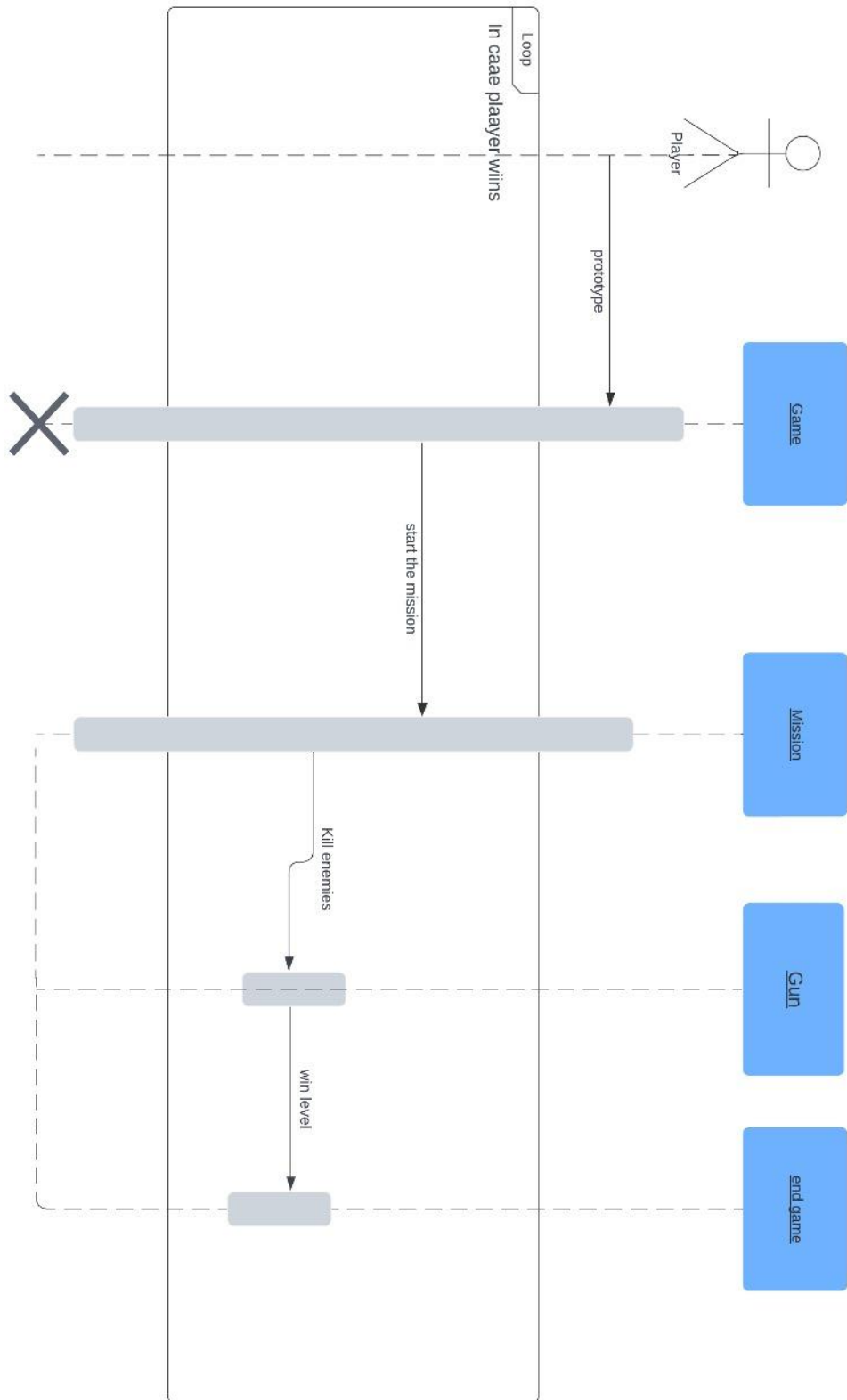
- **Art and animation:** Design or import 3D models using the desired modeling software in order to use them in the game.
- **Sound Design:** Create the appropriate sound effects, Music for the desired game.
- **Level Design:** Start development on the prototype game level for the demo and design the level map.
- **Project management:** Monitor the progress on the project as we move further.

### 3. Post Production:

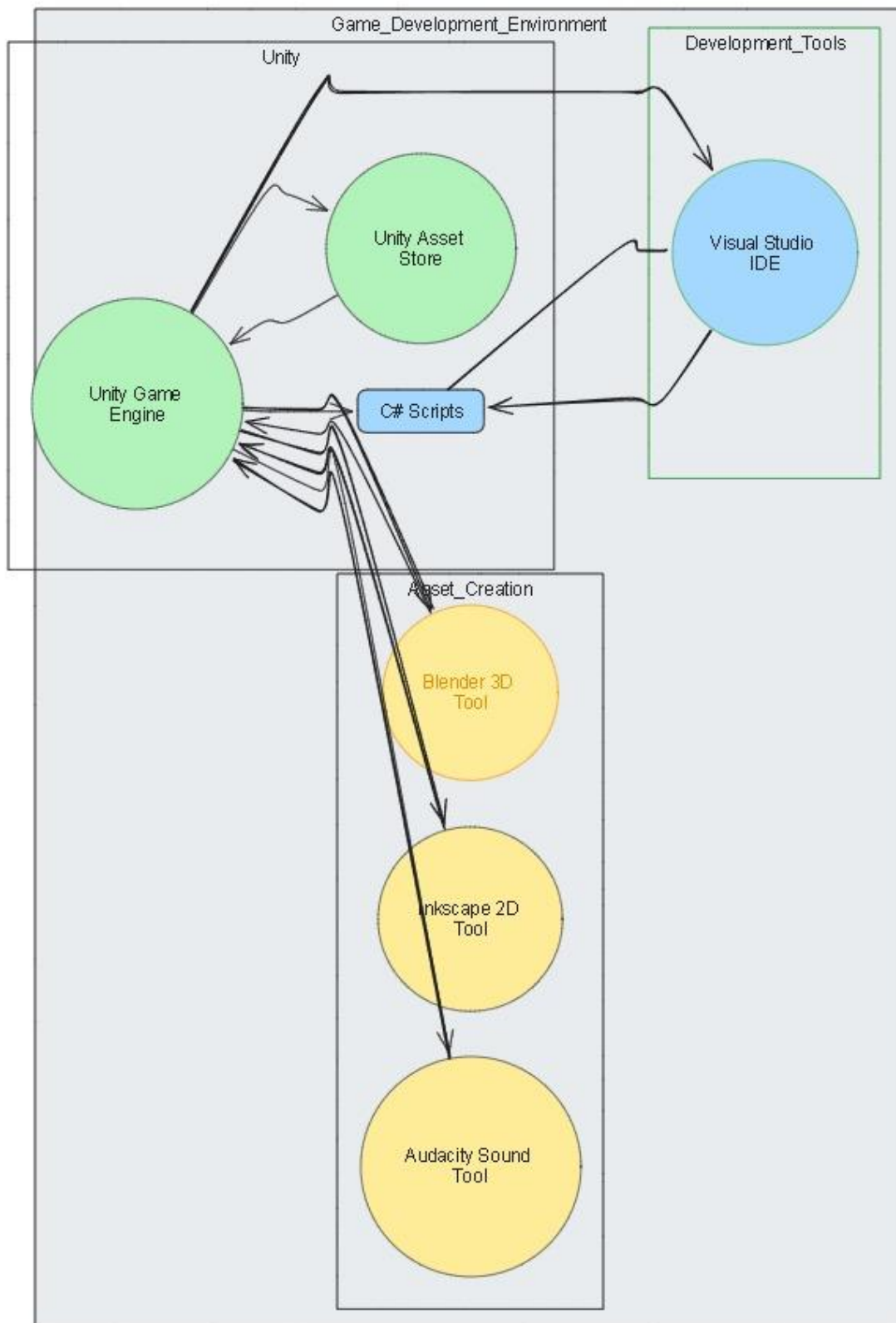
- **Polishing:** Check for bugs and errors in the game refine the overall game.
- **Feedback:** Check for player feedback and feedback of supervisor.

**Update:** Update the game according to the feedback given.

# Sequence Diagram



# Component Diagram



## FAQ

**Q: Did you visit similar games? If yes, what value and how**

**Are you contributing to your game experience?**

Our Game draws inspiration from games like Hotline Miami, Max Payne, and Hong Kong Massacre. The goal is to develop a game that incorporates the intense action and Gameplay mechanics of these titles while introducing a story dynamic. The game will Predominantly feature a top-down perspective, providing players with a strategic view of The environment and facilitating tactical decision-making. However, there will also be Sections that utilize a first-person perspective, offering a more immersive experience in Certain scenarios, such as close-quarters combat or story-driven sequences. Intuitive controls are a key focus for your project. By ensuring that the controls are Responsive and easy to understand, players will be able to quickly grasp the mechanics And perform actions fluidly. Clear tutorials and a gradual introduction of new gameplay Elements will help players acclimate to the controls without feeling overwhelmed.

The inclusion of a captivating story will enhance the overall experience. Engaging Characters, intriguing plot twists, and meaningful player choices will keep players invested And motivated to progress through the game. By playtesting and gathering feedback from Players throughout the development process, you can refine the controls, level design, And story elements to create a polished and enjoyable game.

**Q: In your opinion, who will play your game? Why do you think?**

**That target audience people would want to play this game i.e.**

**What makes the game fun/entertaining/satisfying for them?**

The target audience for your game would be fans of action-packed, fast-paced games with a focus on strategic combat and immersive storytelling. These players enjoy Challenging their reflexes, experiencing intense gameplay, and making tactical decisions. The combination of top-down and first-person perspectives, intuitive controls, and a Gripping narrative will create an

engaging and dynamic gameplay experience. The diverse Range of levels, settings, and enemy types, along with optional objectives and unlockable Rewards, will provide variety and replay ability. Coupled with striking visuals, a fitting Soundtrack, and attention to detail, your game has the potential to captivate players and Offer a fun, entertaining, and satisfying experience.

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# TURNITIN REPORT

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