



UNIVERSITI
TEKNOLOGI
PETRONAS

OBJECT ORIENTED PROGRAMMING FINAL DOCUMENTATION

Group Name: PONYJAYA

Group Members:

No.	Name	Student ID	Course
1.	Rasha Fera Binti Rizalman	22010597	Computer Science
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4.	Syahirah Binti Mohd Zaki	22010391	Computer Science
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Project Description

Pony Attack is an arcade-style survival shooter that delivers an action-packed and fast-paced gaming experience where players face endless waves of mischievous ponies. As a lone shooter armed with a variety of weapons, players must defend themselves in a vibrant, chaotic environment. The game features a single level with an infinite wave system, focusing entirely on action, survival, and adaptability rather than complex storylines or multiple stages.

The gameplay in Pony Attack is simple yet highly engaging. Players face wave after wave of ponies determined to overwhelm them. While the ponies don't increase in speed, the challenge intensifies as the number of enemies grows with each wave. Players must rely on their reflexes, accuracy, and decision-making skills to adapt to the escalating chaos. Adding to the excitement, players can switch between different guns during gameplay, allowing for varied combat styles and strategies. Choosing the right weapon for different situations adds an extra layer of tactical depth to the game.

One of the key features of Pony Attack is its focus on survival. With no distractions from additional levels or intricate narratives, the game centres around the core objective: to eliminate as many ponies as possible before succumbing to the relentless assault. The game ends when the player's health is depleted, and their final score reflects the total number of ponies defeated. This score acts as a benchmark, encouraging players to replay, refine their strategies, and aim for better results.

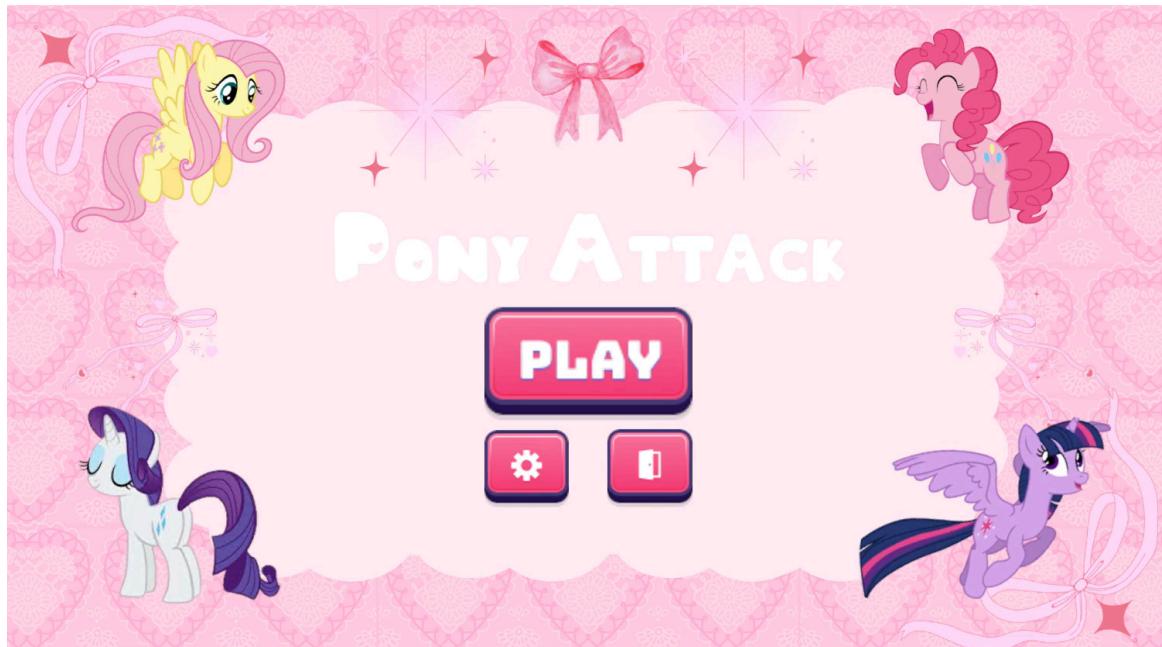
The game's colorful visuals and chaotic action create an engaging atmosphere that keeps players hooked. The ability to change weapons mid-game, combined with the simplicity of the mechanics and the escalating difficulty, makes Pony Attack suitable for casual gamers seeking quick bursts of fun as well as more competitive players eager to improve their performance.

Our team designed Pony Attack to be a straightforward yet thrilling experience. The single-level structure allows players to focus entirely on survival and strategy, while the infinite wave system ensures that every playthrough feels fresh and challenging. By integrating weapon-swapping mechanics, we've added variety and excitement to the combat, encouraging players to experiment with different guns to maximize their efficiency.

Pony Attack offers a unique blend of simplicity and intensity, where every decision matters, and each wave feels like a victory. With its colorful visuals, weapon customization, and engaging gameplay, the game promises hours of fun and replayability. Whether you're aiming for a high score or looking for a quick adrenaline rush, Pony Attack delivers a survival challenge that's hard to put down.

Screenshots

Main Menu



Wave 1



Wave 1 Ends

13.8 ms (72 fps)



Wave 2

20.6 ms (48 fps)

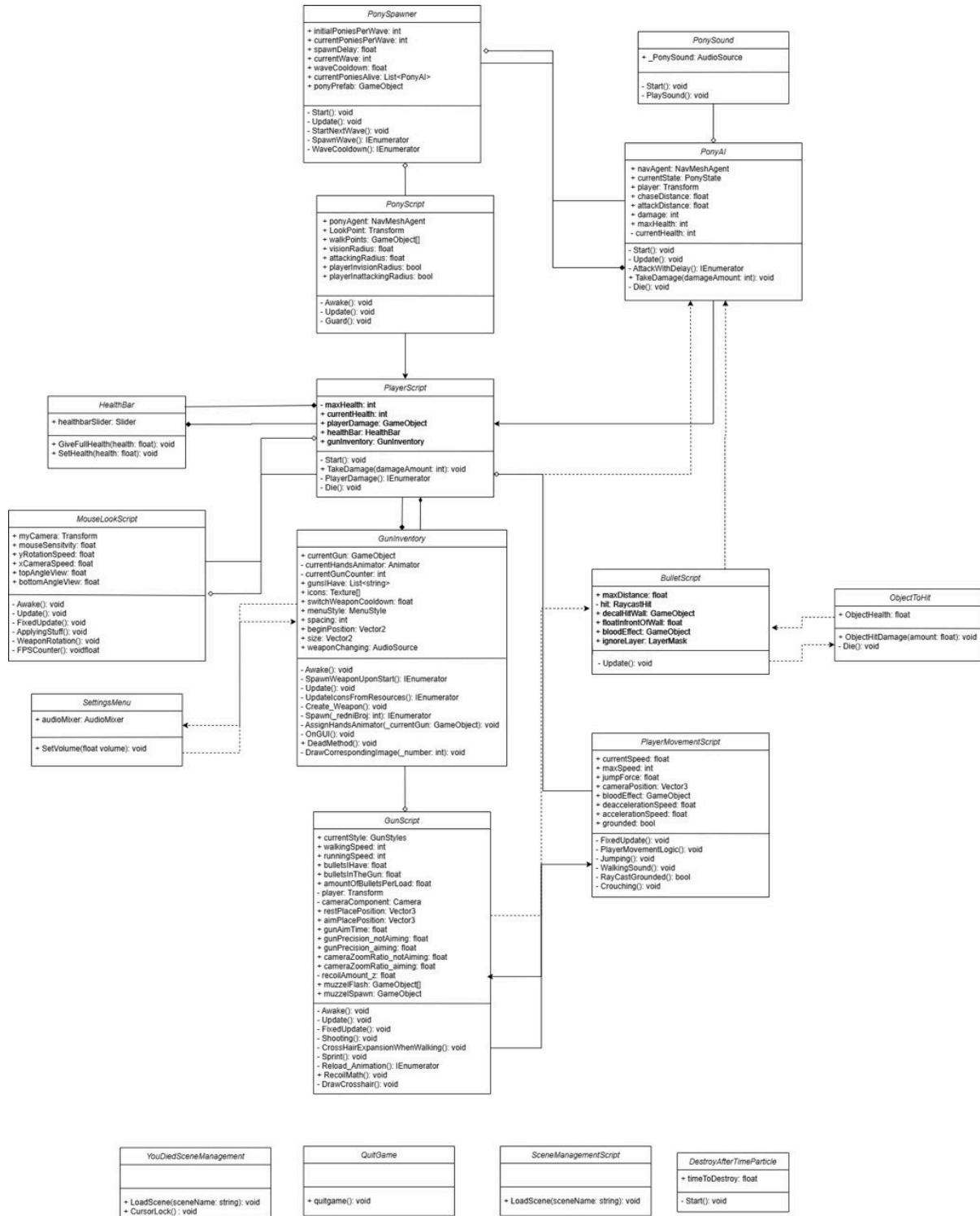


Game Over

wasted

RETURN TO
MAIN MENU

UML Diagram



Evaluation Unity Platform

Unity is an incredibly versatile and user-friendly game development platform that supports the creation of both 2D and 3D games. Its flexibility allows developers to design projects for various platforms, including PC, mobile, console, and AR/VR. For our group, Unity's choice of C# as its primary scripting language proved to be a significant advantage. The language offered an accessible learning curve, which helped members who were new to coding get started quickly. At the same time, its robust capabilities allowed us to implement more complex gameplay mechanics as our project progressed.

One feature that stood out for us was Unity's asset store. The store provided a wealth of pre-made assets, plugins, and tools that saved us a considerable amount of time. Instead of spending hours building assets from scratch, we could redirect our efforts toward coding and refining the game's mechanics. Unity's cross-platform compatibility was another feature we found extremely helpful. The ability to design the game once and deploy it seamlessly across multiple devices made our development process much smoother.

However, our experience wasn't without challenges. While Unity's collaboration tools were useful, the free version allowed only three team members to collaborate online simultaneously. This limitation created difficulties for our six-member group. To overcome this, three of our team members had to work physically alongside each other to contribute to the project. They focused on brainstorming ideas, debugging, and assisting with tasks that didn't require direct online access. This approach allowed us to work effectively as a team, despite the restriction.

Optimizing performance for highly detailed scenes also required extra attention, especially when maintaining smooth frame rates. Additionally, some advanced features demanded the integration of external tools or plugins, which added a layer of complexity to our workflow. Despite these hurdles, Unity's extensive documentation, tutorials, and community forums proved to be invaluable. Whenever we faced roadblocks, we could rely on these resources to find solutions.

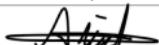
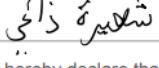
Overall, we found Unity to be an excellent platform for our project. It provided us with the tools, flexibility, and resources we needed to turn our creative ideas into reality. While the collaboration limitations posed some difficulties, they also pushed us to enhance our teamwork and brainstorming abilities. This experience not only deepened our understanding of game development but also made the process enjoyable and rewarding. Unity's balance of accessibility and advanced features made it an ideal choice for our team's needs.

Team Contribution Statement

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Team Name: PonyJaya

github: LearnFPS

Name	ID	Task / Classes / Methods	Signature
Ekhwan Danial	22010283	GunScript, BulletScript, QuitGame, DestroyAfterTimeParticle, ObjectToHit, PonyScript	
Hannah Atiqah	22010028	Design UI, UML Diagram, Documentation	
Amirul Hafizul	22010265	PonyAI, Healthbar, SettingsMenu, Playerscript, Ponysoundscript	
Rasha Fera	22010597	Design UI, UML Diagram, Documentation	
Ria Qistina	22010061	Ponyspawner, GunInventory, Scenemgmt, PlayerMovements, Mouselookscript, DiedSceneMgmt	
Syahirah	22010391	Design UI, UML Diagram, Documentation	

I, Ekhwan Danial bin Ezarisma Azni (22010283), the leader/rep for PonyJaya hereby declare that the information provided is true and correct. I also understand that any willful dishonesty or cover up may render the group submission invalid.

Signature:  Date: 21/11/2024