BALOON SHOOTER

SEPTEMBER 2024

TFB 1033

OBJECT ORIENTED PROGRAMMING

PROJECT PROPOSAL

PREPARED BY:

NO	NAME	UTP ID	PROGRAMME
1	NUR ADRIANA BINTI YUSERIZAL	22010296	INFORMATION TECHNOLOGY
2	NUR ADRIANA AMANINA BINTI MOHD BASIR	22010357	INFORMATION TECHNOLOGY
3	FATIN ALYA SYAURAH BT ZAIDI	22010215	COMPUTER ENGINEERING
4	ANIS NUR ERINA BINTI IZANI	22010078	INFORMATION TECHNOLOGY
5	EVE DELLYIENNA WAHIDI	24000632	COMPUTER SCIENCE
6	THISYA A/P PRAKASLINGAM	21002487	INFORMATION TECHNOLOGY

TABLE OF CONTENTS

1.0 INTRODUCTION

We provide single-player game called "Balloon Shooter" where the player will control the dart to shoot the ballon. This stress reliever game can be played by any range of ages such as university students, high schooler, or even elders and to promote alertness and focus. The bright and colourful visuals, along with fun sound effects, contribute to their appeal. Players are often rewarded with power-ups, bonuses, or new levels as they progress, keeping the gameplay engaging.

We have three different mode which is, time mode, classic mode, arcade mode which is to make the game more fun and variety to play. Players must use special abilities or towers to overcome increasingly difficult waves. Balloon shooters are often relaxing and entertaining, combining strategy and reflex-based gameplay with light-hearted, enjoyable themes.

2.0 BACKGROUND

In computer games, swarm attacks resemble both military strategies in which vast swarms of enemies overwhelm their targets with sheer numbers and natural phenomena like the synced behaviour of ants or bees. In games where players must defend against or control waves of attackers, such as tower defence, real-time strategy, and first-person shooters, this idea is frequently employed. Swarm mechanisms raise the difficulty and intensity of gameplay in games like StarCraft (including Zerg rushes), Plants vs. Zombies, and Left 4 Dead. To survive in these games, players must frequently deal with waves of enemy or unit attacks at once. This calls for rapid thinking, careful resource management, and defensive placement. Swarm attacks are a common element in game design because they provide an evolving layer of difficulty and pressure.

Based on our research of the popular mobile arcade game Galaxy Attack: Alien Shooter has fast-paced gameplay with present graphics and escalating difficulty, inspired of classic space shooters like Space Invaders. As they upgrade their ships and equipment to meet more difficult challenges, players take control of a spaceship and repel waves of alien enemies. The game offers a well-balanced experience for both casual and competitive gamers with its nostalgic appeal, in-app purchases for power-ups, and fun elements. This game stands out as a key example of how classic gameplay can be modernized for today's audiences. Its ability to blend retro space shooter mechanics with updated visuals and features has made it highly popular among players. This combination of nostalgia and modern gameplay elements serves as a strong inspiration for our game, as we aim to create a similarly dynamic and captivating experience.

3.0 OBJECTIVE

1. **Grasp Swarm Attack Concepts**
   Understand the core ideas behind swarm attacks, which are inspired by natural swarm behaviour and linked to modern cyber threats.

2. **Recognize Key Characteristics**
   Identify the essential features of swarm attacks, such as their distributed and self-organizing nature

3. **Study Real-World Examples**
   Review case studies of swarm attacks, like the Star Craft, Plants vs Zombie and Left 4 Dead to see how they affect important systems.

4. **Explore Emerging Technologies**
   Examine how artificial intelligence (AI) and machine learning are being integrated to enhance the complexity and adaptability of swarm attacks.

5. **Assess Defense Mechanisms**
   Investigate the difficulties in detecting and defending against swarm attacks, along with existing and potential solutions.

4.0 DESCRIPTION

1. **Core Gameplay**
   - Balloon Targets: Instead of traditional dartboards, use balloons of various sizes and colors as targets.
   - Burst Mechanics: When a dart hits a balloon, it bursts, scoring points based on the balloon's size and color.
   - Multiple Rounds: Play multiple rounds with different balloon arrangements and scoring systems.

2. **Scoring System**
   - Color-Based Scoring: Assign different point values to balloons of different colors.
   - Size-Based Scoring: Award more points for bursting larger balloons.
   - Combo System: Award bonus points for bursting multiple balloons in quick succession.

3. Game Modes
   - Classic Mode: A standard mode with a set number of rounds and scoring targets.
   - Time Trial Mode: A mode where players compete against the clock to burst as many balloons as possible.
   - Arcade Mode: A mode with increasing difficulty and challenges as the game progresses.

4. Visuals and Sound
   - Colorful Balloons: Use vibrant and eye-catching balloon designs.
   - Burst Effects: Create visually appealing animations when balloons burst.
   - Sound Effects: Incorporate satisfying sound effects for dart impacts and balloon bursts.

5. Additional Features
   - Customization: Allow players to customize the appearance of their darts.

6.0 CONCLUSION

In conclusion, this project aims to give a lot of benefits to users at all ages. This includes improving cognitive abilities, vision, attention skills, sharpen decision making skills and hand-eye coordination. Other than that, it also a source of entertainment for people to reduce stress and fill in their free time.

One significant advantage is the enhancement vision as app users must react quickly to visual cues and responds with rapid physical actions. This kind of constant interaction sharpens reflexes and can enhance motor skills, both give advantages to real life tasks that require fast reflexes. Researches said that playing games will improve eye-hand coordination. [Jan 1, 2021, TutorDoctor]