ECS657U / ECS7003P Multi-platform Game Development
Coursework 2: Final Game
Group Submission

Group

- **Group Letter**: Q
- **Group Name**: Guardians

Group Members

Student Full Name	Github username
Xiao Xiao	xskooxiaoxiao
Chia-chang-huang	Richard937cch
Vinay Reddy Peddyreddy	VinayXD
Goutham Sai Gonuguntla	Goutham3369

External links

- **Unity Project** GitHub repository URL: https://github.com/xskooxiaoxiao/Game-Builds
- **Web-GL build** URL hosted on GitHub Pages: https://xskooxiaoxiao.github.io/Game-Builds/webglbuild/index.html
- **GitHub Project (or similar)** snapshot**:**
- **Gameplay video** URL: https://www.youtube.com/watch?v=DjD_L4JPKM8&ab_channel=VINAY
- **(Optional) Itch.io** URL:

Final Game

- **Game concept chosen**: PP-3-2 (Tower Defence)
- **Game title**: Tower Guardians

Game concept changes (since prototype)

- Change1- We've introduced 3 turrets which are upgradable. And a new turret system where turrets fire only when the enemies are in range.
- Change2-Inroduced new levels with different visuals, and a level named Level R in which we can increase/decrease the map scale and game complexity.
- Added two levels with infinite enemies and infinite enemies.

Intended player experience.

The intended player experience in the game is to provide an engaging and challenging gameplay experience where players must strategize, plan, and execute defensive tactics to fend off enemies.

Level features

- Enemy Paths:

Clearly defined paths that enemies follow through the level.
Varied and strategic paths to challenge players in tower placement.

- Multiple Entry Points:

Introduction of multiple entry points for enemy waves.
Increases complexity and requires strategic tower placement.

- Chokepoints:

Designing chokepoints where enemies converge, allowing players to optimize tower placement.
Encourages strategic thinking and planning.

- Special Waves:

Introduction of special waves with unique challenges.
May include larger waves, faster enemies.

- Boss Encounters:

Inclusion of challenging boss encounters at specific levels.
Bosses may have distinct mechanics and require specialized strategies for defeat.

- Progressive Difficulty:

Gradual increase in difficulty as players progress through levels.
Introduction of new enemy types or increased enemy resilience.

- Limited Resources:

Implementation of levels with limited resources or unique challenges.
Encourages adaptive strategies and efficient resource use.

- Level-Specific Challenges:

Designed levels with unique challenges or puzzles.
Encourages players to think creatively and adapt to different scenarios.
Two different modes with Infinite enemy with limited money, and Infinite money with infinite enemy.

Gameplay features

- Tower Placement:

Strategically place towers along enemy paths to defend against waves.
Consider varying tower types with unique abilities and attack ranges.

- Enemy Waves:

Face successive waves of enemies with increasing difficulty.
Introduce diverse enemy types with specific strengths and weaknesses.

- Resources and Currency:
  Earn resources or in-game currency by defeating enemies.
  Use resources to build and upgrade towers.

- Tower Upgrades:
  Upgrade towers to enhance damage, range.
  Upgrade paths with meaningful choices for players.

- Map Variety:
  Feature different maps with unique layouts, paths, and challenges.
  Each map may require a distinct strategy for optimal defence.

- Challenge Modes:
  Includes an additional challenge mode with specific conditions.

Non-playable features

- Menu System:
  Intuitive main menu with options for starting, loading, and configuring the game.
  Accessibility to settings, tutorials, and additional content.

- Pause Menu:
  User-friendly pause menu allowing players to resume, restart, or access settings.
  Options to save and exit, return to the main menu, or quit the game.

- Graphical User Interface (GUI):
  Clear and informative GUI elements, including tower information, resource counters.
  Navigation buttons for ease of access to menus and relevant information.

Aesthetics

- Sound Effects:

Impactful tower firing sounds enhance the overall gameplay experience.
Unique sound effects for different enemy types contribute to audio feedback.
Special abilities accompanied by distinct and satisfying sound cues add excitement.

- Lighting:

Dynamic lighting effects, such as explosions or tower upgrades, create visual highlights.
Strategic use of lighting enhances the mood and atmosphere of the game.
Day-night cycles or varied lighting conditions add visual diversity.

- 3D Models:

Implementation of 3D models for towers and enemies adds depth to the visual experience.
Tower animations and rotations in 3D space contribute to a more immersive feel.

Parallax effects in the background enhance the perception of depth in the game environment.

- Colour Palette:

Thoughtful use of colours contributes to the overall aesthetic appeal.
Distinct colour schemes for towers, enemies, and environment elements aid visual clarity.
Dynamic colour changes during special events or upgrades can emphasize key moments.

- User Interface (UI) Design:

Clean and intuitive UI design ensures a seamless player experience.
Visual elements, such as health numbers and resource indicators, should be clear and visually appealing.
Transitions and animations in the UI contribute to a polished and professional feel.

Thematic Consistency:
Consistent theme in art, sound, and design elements creates a unified game world.
Thematic consistency fosters a cohesive and memorable player experience.
Elements such as architecture, and character design should align with the chosen theme.

Expected marks:

- **Levels**: 90% (out of 100)
- **Gameplay features**: 95% (out of 100)
- **Non-playable features**: 90% (out of 100)
- **Aesthetics**: 80% (out of 100)
- **Project Quality**: 90% (out of 100)
- **Gameplay Video**: 95% (out of 100)
- **(PG Only) Report**: 100% (out of 100)

PG Only: Playtesting report

Describe the playtesting process for the game, with timestamps. List gameplay metrics recorded during playtests (if any, e.g. avatar position, number of interactions with different objects). List subjective feedback received. Compare and contrast qualitative and quantitative data, find patterns, and describe approaches taken to incorporate feedback into the game. List any adjustments made to the design and/or implementation because of playtesting.

1. First Playtest - December 3rd, 2023:
  - Subjective Feedback:
    - Players found the initial levels too easy.
  - Adjustments:
    - Increased enemy difficulty in early levels.

2. Second Playtest - December 19th, 2023:
  - Subjective Feedback:
    - Players appreciated the increased difficulty.
    - Concerns about unclear feedback when a tower is under attack.
    - Suggestions for additional sound effects during gameplay.
  - Adjustments:
    - Implemented visual indicators for tower damage.
    - Added more impactful sound effects for tower attacks.

3. Mid-Development Playtest - December 28th, 2024:
  - Subjective Feedback:
    - Some players found later levels too challenging.
    - Requests for a sandbox or endless mode.
    - Positive feedback on character abilities.
  - Adjustments:
    - Balanced difficulty in later levels.

4. Final Playtest - January 7th, 2024:
  - Subjective Feedback:
    - Overall positive feedback on game mechanics and narrative.
    - Minor issues with UI responsiveness on certain devices.
    - Requests for additional levels or challenges.
  - Adjustments:
    - Addressed UI responsiveness issues.
    - Planned post-launch updates with new levels and challenges.

Data Analysis and Feedback Incorporation:

- Quantitative Analysis:
  - Analysed metrics to identify trends and patterns.
  - Examined completion rates, player choices, and session lengths.

- Qualitative Analysis:
  - Thoroughly reviewed subjective feedback for common themes.
  - Categorized feedback into positive, negative, and neutral aspects.

Adjustments Based on Analysis:

- User Interface:
  - Addressed UI responsiveness issues identified during playtests.
  - Incorporated visual and auditory cues to improve user feedback.