

Shogun Standoff

Introduction

In 16th century Japan during the Sengoku period, Daimyo X was a powerful lord tasked with stopping a skilled general named Sei Shapu and his army from conquering his castle. X's forces prepared for battle, knowing that failure would result in the execution of X's fiancée Yumi. After fighting over 100 waves of enemies, Taro emerged victorious and rescued Yumi. The shogun had no choice but to release her unharmed, and X married her in a grand wedding. Taro was hailed as a hero among his people for his bravery and cunning.

Game Concept

Shogun Stand is a 2D tower defense game that offers engaging gameplay mechanics deeply rooted in Japanese mythology. Players will strategically build, upgrade, and deploy various attack units inspired by historical Japanese warriors, such as samurai, archers, and ninjas, to fend off waves of mythical enemies including Yokai, Oni, and Tengu.

The game is based on the arcade style, that means if the player's health is 0, then he has to start the game all over again.

The game features a diverse array of defense towers, each with unique abilities that can be enhanced through a skill tree system.

Players must carefully select the optimal combination of units and towers to exploit enemy weaknesses and synergize with their own strategy.

During gameplay, players will face intense boss fights that challenge their tactical skills and resource management.

After defeating each boss, players are rewarded with a buff item to strengthen their defenses and a debuff item which will offer them an advantage over the tough enemies. Shogun Stand also incorporates a progression system where players can unlock new units, towers, and abilities, allowing them to develop their own unique playstyles.

Embrace the challenge and test your strategic prowess in Shogun Stand, where captivating Japanese elements and dynamic game mechanics come together to create an unforgettable tower defense adventure.

The game is developed using .NET 6 and no game engine. UI-framework used is WinUI3.

What is a Tower Defense game?

The tower defense genre is a subgenre of strategy video games that revolves around defending a designated area, typically a base or a path, from waves of incoming enemies. Players strategically place various types of defensive structures, often referred to as "towers," along the enemies' path to obstruct, damage, or eliminate them before they reach their objective. Each tower has unique abilities, strengths, and weaknesses, requiring players to carefully plan their strategy and make tactical decisions to counter different enemy types. As players progress, they earn in-game resources to upgrade or purchase new towers, enhancing their defenses.

against increasingly challenging enemy waves. Tower defense games are known for their addictive gameplay, strategic depth, and often for their distinctive visual styles.

Art style and aesthetics Game world and level design

The game will feature pixelated graphics, but not simplified it should leave much to interpret to the user but give enough information to tell the user the story, setting, game style, and most importantly, what's going on while providing textures which are easy on performance which will allow many units to appear on screen without having to render many highly complex enemies.

Art examples:



The game aesthetic will be a fictional version of the Japanese Sengoku, Edo, and Meiji eras. This gives the game that cultural Japanese vibe which the game will take place in. (See more info in appendix)

The world and level design being the same will feature a standard style of Japanese forest. This can include things such as rivers, cherry blossom trees and a handful of traditional architectures. The level will contain a winding path on which enemies will pass to reach your castle.



Story and Narrative

Shogun Stand embraces Japanese themes to offer players an immersive and culturally rich gaming experience. By incorporating elements of Japanese mythology, folklore, and history, the game transports players to a captivating world teeming with legendary creatures and iconic warriors. This unique setting not only enhances the game's visual appeal but also allows players to explore and appreciate the depth and nuances of Japanese culture while engaging in strategic and challenging gameplay, setting Shogun Stand apart from other tower defense games.

Unit Concept

Dual Swordsman - Miyamoto Musashi



Samurai - Tomoe Gozen



Main Screen



Main screen when hovering on the options



Game screen

Samurai standing on the side of the road ready for the enemy units to pass through and attack the base.



Buff/debuff selection screen

After having defeated a boss, a player can choose a buff and a debuff to alter gameplay.



Game Mechanics

Waves

Waves or Rounds are the main challenge of the game and the main source of income. Each wave consists of a number of enemies that spawn at a certain time, and every 5 waves a boss will appear. The wave ends when all enemies are dead. The next wave starts after a certain amount of time has passed or when the player presses a button to continue.

Currency

The player will be able to acquire gold by killing enemies. The amount of gold acquired depends on the type of enemy killed. The player will be able to spend the gold on upgrading their units.

Upgrading units

Throughout the game, the player will be able to upgrade their units. That can be done by spending the gold acquired from killing enemies. The player will be able to upgrade the damage, range, and attack speed of their units.

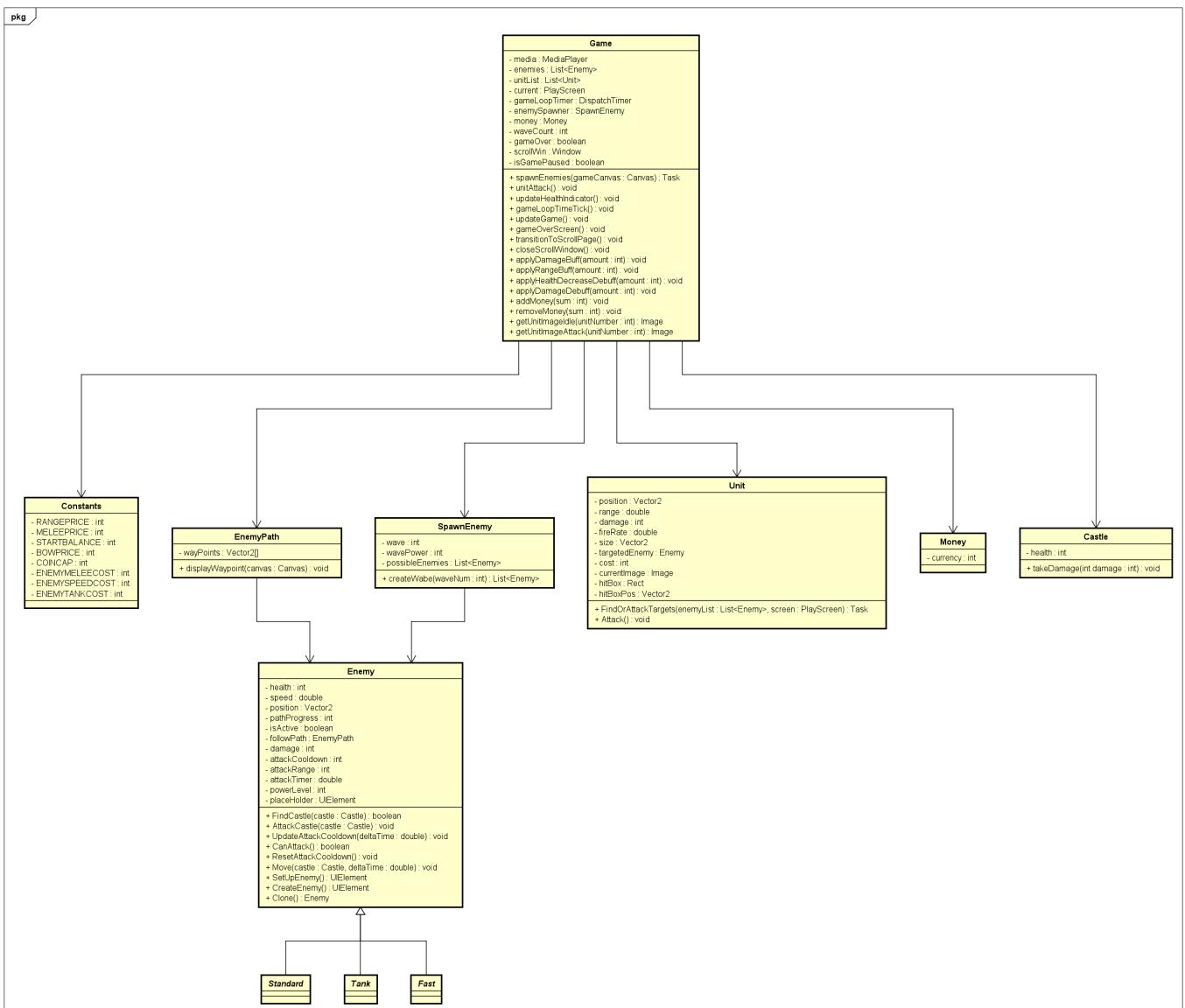
Scrolls

Scrolls are another way for the player's units to become stronger. After a "boss wave", the player will be presented with a choice of 3 scrolls. Each scroll will have a different effect, either on the player's units or the enemies.

Game Progression

As the game progresses, the enemies will become stronger and the player will have to upgrade their units to keep up. The higher the unit's level, the more expensive it will be to upgrade it. The player will have to choose which units to upgrade and which to leave behind. Of course, the stronger the enemies, the more gold they will drop. The player will have to find the right balance between upgrading their units and buying new ones.

Class Diagram



Development Timeline

Pre-Production (Weeks 1-2)

- **Week 1:** Concept development, initial game design document, and team formation

- **Week 2:** Research and planning (game mechanics, art style, audio, and platform requirements)

Production (Weeks 3-7)

Art and Audio

- **Week 3-4:** Create character models, animations, and environment assets
- **Week 5:** Design UI elements, including menus, HUD, and in-game prompts
- **Week 6:** Compose music tracks, sound effects, and implement audio

Programming

- **Week 3-4:** Implement core game mechanics, enemy AI, tower functionality, and pathfinding
- **Week 5:** Develop basic level design and progression system
- **Week 6:** Implement player data management and integrate art and audio assets
- **Week 7:** Implement UI and menus, create a basic tutorial level (if applicable)

Testing and Polishing (Weeks 8-9)

- **Week 8:** Internal playtesting, bug fixing, and gathering feedback
- **Week 9:** Final bug fixes, optimizations, polish, and prepare for release

Test Plan

This chapter describes the test cases to validate the final product.

1. Start Screen -> Pass

Step	Action	Expected Results	Actual Results
1	Press start button	Change scene. Game starts	Music plays on the main menu. Game starts
2		Player starts with 500 Coins	500 coins are visible

2. Start Executable -> Pass

Step	Action	Expected Results	Actual Results
1	Open executable file	Game application opens	Game opens up

3. Buff/debuff screen -> Pass (defect)

Step	Action	Expected Results	Actual Results
1	Progress in the game for 5 waves	Buff/debuff screen pops-up	After wave 5 buff/debuff screen pops up over the game screen

Step	Action	Expected Results	Actual Results
2	Select a single option and click it	Buff/debuff screen closes, buff/debuff applied	Screen closes, effects applied. However, after the screen closes, units' attack animation continues to play with no enemy in sight. Behaviour is fixed, when it attacks an enemy

4. Game pause -> Fail

Step	Action	Expected Results	Actual Results
1	Press "Escape" key	Game paused	Game doesn't pause, functionality not implemented
2	Press "Escape" key again	Game unpause	N/A

5. Units -> Pass

Step	Action	Expected Results	Actual Results
1	Choose a unit from unit panel and drag and drop it on to the play screen	Money deducted, unit appears on game field, idle animation displayed	Unit gets placed, money deducted
2	Wait for enemy to come to unit's attack range	Enemy gets damaged, enemy HP deducted, attack animation displayed	Enemies get killed, animation plays out

5.1 Units Purchase Check -> Pass

Step	Action	Expected Results	Actual Results
1	Buy 5 melee units to spend 500 coins	Coin counter goes to 0, units placed	Coins deducted, units placed on the game field
2	Try to buy one more melee unit	Unit doesn't appear on the screen	Unit didn't appear on the screen

6. Castle (Player) damage -> Pass

Step	Action	Expected Results	Actual Results
1	Start a game and wait for enemies to come near the castle and attack	Castle (Player) HP get reduced	HP gets reduced, HP bar shows it
2	Wait for the HP to go to 0	Game over screen displayed. Game stops	Game over screen displayed, game stopped, a sound is played

7. Resizable Window -> Fail

Step	Action	Expected Results	Actual Results
1	Start a game	Game starts in full screen mode	Game starts in full screen
2	Try to resize the window by dragging its corner	Game field (path, background) scales	Game field doesn't stretch

8. Game music & Sounds -> Pass

Step	Action	Expected Results	Actual Results
1	Open the game	Music plays in the main menu	Music plays in the main menu
2	Press play	Music changes as the game starts	Music changes as the game starts
3	Wait for the enemies to kill the tower	Game end screen is shown, "Game over" sound is played, screen changed	"Game over" sound is played, screen changed

9. Unit Animation -> Pass

Step	Action	Expected Results	Actual Results
1	Start the game and place down 1 melee unit, 1 archer unit	Units displayed on the field in an idle pose	Units stand in an idle pose, money subtracted
2	Wait for unit to attack an enemy	Character appropriate attack animation plays	attack animation plays
3	Wait for the unit to kill the enemy, or for the enemy to leave the unit's range of attack	Unit goes back to the idle pose	Unit goes back to idle pose

10. Enemy path following -> Pass

Step	Action	Expected Results	Actual Results
1	Start the game and wait to wave 1 enemies to spawn	Enemies appear on screen	Enemies appear on screen
2	Wait for the enemy to start moving	Enemies follow the dirt path to the castle (player)	Enemies follow the path
3	Wait for the enemy to reach the castle	Enemy stops, when it reaches the castle	Enemies stop near the castle

Project Team Members

1. Mathew Shardin (Project Leader)

Email: mathew.shardin@student.nhlstenden.com

The role of a Project Leader is to guide and lead the rest of the team to a better outcome and to a more successful result of the project, by explaining the details of every task that needs to be achieved and giving them feedback on their results to improve.

2. Miroslav Penchev (Secretary)

Email: miroslav.penchev@student.nhlstenden.com

The purpose of Minutes is to have notes on every single important detail when we are gathering information in meetings with the clients or in team meetings which will guide us on what task needs to be done.

3. Dimitri Vastenhout (Co-Team Leader)

Email: dimitri.vastenhout@student.nhlstenden.com

The role of the Co-leader is to take the role of the team leader when the leader is not available.

4. Teodor Folea (Quality Control)

Email: teodor.folea@student.nhlstenden.com

The role of quality control is to establish and ensure a high quality of work is produced and delivered by the team in regard to documentation and software.

5. Costache Alin (Minutes taker)

Email: alin.costache@student.nhlstenden.com

A minute taker oversees taking the minutes of the meeting. These minutes are required to provide a formal account of who was at the meeting, what was discussed, what actions were agreed upon, and who would carry out these actions.

Moscow Analysis

Must Have	Could Have	Should Have
A useable menu screen	Boss enemies	Animations and textured units
A defeat screen with the option of restarting or going back to menu.	Different difficulty modes	Sound effects on certain events
A game screen with a background and UI elements	Resizable window	Runes gameplay system to buff units and debuff enemies
Enemies that move down the path	Cutscenes or short movies, a story	Multiple units with different strengths
Units that can attack and kill enemies		Scroll Page that displays the runes
Enemies grant gold on their death		
Placeable units at the expense of gold		
Enemies show up in waves		

Appendix

Japanese Time Periods

Sengoku Period

The sengoku jidai (Warring states era) takes place during most of the 15th and 16th century. This period consisted of many small and large clans vying to take control of territory.

Edo Period

The edo jidai, ranging from 1603 to 1867. Coming directly after the warring states era, the country was unified by the three great unifiers of Japan (In order: Oda Nobunaga, Toyotomi Hideyoshi, Tokugawa Ieyasu), which started this era. The edo period brought 250 years of stability, economic growth, arts and culture.

Meiji Restoration

The end of the edo period due to an alliance of two reformists, which brought the power back to the emperor (the shogunate had ruled Japan for the edo period). The emperor opened up Japan after its long isolationist period, this caused an inflow of new technology and culture. This was the most important step into modernization of Japan.

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