

Product Backlog

Team 16 – Dining Defense

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Problem Statement:

Tower defense has been a very popular genre for online games for a long time. However, there is something we feel all tower defense games are missing: putting the player in a 1v1 battle. We want to bring our users a new and fresh 1vs1 tower defense game which has high controllability with a fast paced strategic game style.

Background Information:

All of our developers have experience playing tower defense games and we all agree that there is something missing to the genre. We are targeting people who like playing video games. Many games are unoriginal games or clones of older games, but most video game enthusiasts crave the exposure to original and groundbreaking new games. A vast majority of the tower defense games out there in the market are either about fantasy, military or sci-fi. We hope to differentiate our game from the masses by adding a theme of food to the game. Our game will present a fresh new experience to the gaming industry with its theme, which we think could be very useful for gamers looking for something new to play. We do not believe we will have enough time in this class to make our game online, so we will focus on an offline version where the user plays against a computer, while we will plan on expanding our game in the future to allow online games.

Requirements:

Functional

1. As a user, I would like to run the game.
2. As a user, I would like to be able to access the main menu
 - a. As a user, I would like to start a new game from the main menu
 - b. As a user, I would like to resume my previous game from the main menu
 - c. As a user, I would like to access the highscores from the main menu
3. As a user, I would like to have an in-game pause menu.
 - a. As a user I would like to continue the game from the pause menu
 - b. As a user I would like to restart the game from the pause menu
 - c. As a user I would like access the game settings to from the pause menu
 - d. As a user I would like to exit the game from the pause menu
4. As a user, I would like to be able to place offensive minions.
5. As a user, I would like to be able to place defenses towers.
6. As a user, I would like to destroy my opponent's castle.
7. As a user, I would like to generate in-game currency over time.
8. As a user, I would like to be able to access game settings from the main menu screen and from the pause screen.

- a. As a user, I would like to be able to adjust music/effects volume.
 - b. As a user, I would like to customize my castle (if time allows, via in app purchases with in-game currency).
 - i. As a user, I would like to be able to change the appearance of my castle.
 - ii. As a user, I would like to be able to increase the defensive strength of my castle.
 - c. As a user, I would like the option to change the resolution of the game
- 9. As a user, I would like to be able to zoom in and out.
- 10. As a user, I would like to be able to scroll around the map.
- 11. As a user, I would like to advance through levels in the game (if time allows)
 - a. As a user, I would like to be able to start over from the beginning if I complete all levels
- 12. As a user, I would like to have my personal character.
- 13. As a user, I would like to upgrade the minions
- 14. As a user, I would like to upgrade my weapons
- 15. As a user, I would like to upgrade my castle.
 - a. As a user, I would like to strengthen the defense features specific to my castle
 - b. As a user, I would like to strengthen the offense features specific to my castle
- 16. As a user, I would like to have a status bar showing the life, assets and experience level.
- 17. As a user, I would like to get warning when enemies start attacking.
- 18. As a user, I would like to have a countdown clock for the current round.
- 19. As a user, I would like the option to connect the game to my social media/email accounts (if time allows)
- 20. As a user, I would like to get rewards like coins and weapons after winning a game.
- 21. As a user, I would like to throw food bombs in the game.
- 22. As a user, I would like to choose different maps/themes to play.
- 23. As a developer, I would like to display Start sign before the game starts.

Non-Functional

- 1. As a user, I would like to play this game on PC
- 2. As a user and a developer, I would like the game to run smoothly
- 3. As a user, I would like the game to work on other platforms such as Mac, iOS, and Android. (If time allows)
- 4. As a user, I would like to a game with clear and concise UI.
- 5. As a user, I would like to have intuitive controls.
- 6. As a user, I would like the game to be fair.
- 7. As a developer, I would like the ability to release updates to our game when necessary
- 8. As a developer, I would like to have my API readable by others.
- 9. As a developer, I would like user/player feedback.
- 10. As a developer, I would like to have a documentation that keeps track of development.
- 11. As a developer, I would like to have a documentation for users to read about changes that have been made through each update on game.
- 12. As a developer, I would like the user to quickly understand how this game works with ease.
- 13. As a developer, I would like to a backup copy of every released version of the game.

Use cases:

Case 1: Launching the game	System Responses
1.Open the .exe file of the game	2. Game window pops out
	3. Main menu shows up

Case 2a: Starting a new game	System Responses
1.On main menu, click on “Start new game”	2. New game loads and then begins

Case 2b: Resuming previous game	System Responses
1.On main menu, click on “Resume game”	2. Previous game loads and starts

Case 2c: Access my top 10 high scores	System Responses
1.On main menu, click on “Highscores”	2. Menu panel changes to scoreboard. User’s top 10 high scores list from top to bottom.

Case 3a: Pause the game, then continue	System Responses
1.During the game, hit pause icon on right top corner	2.Game is paused instantly and the pause menu shows up in the center of the screen.
3.Click on “resume” on the pause menu	4.Pause menu disappears and game starts to operate again from where it has been paused.

Case 3b: Pause the game, then restart	System Responses
1.During the game, hit pause icon on right top corner	2.Game is paused instantly and the pause menu shows up in the center of the screen.
3.Click on “restart” on the pause menu	4.Pause menu disappears and the level is reloaded from the beginning. (This will only work in offline mode.)

Case 3c: Pause the game, then access settings	System Responses
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1.During the game, hit pause icon on right top corner	2.Game is paused instantly and the pause menu shows up in the center of the screen.
3.Click on “settings” on the pause menu	4.Pause menu disappears and the setting panel shows up.
5.Player modifies settings(like adjusting volume and brightness)	6.Game settings are changed correspondingly

Case 3d: Pause the game, then exit the game	System Responses
1.During the game, hit pause icon on right top corner	2.Game is paused instantly and the pause menu shows up in the center of the screen.
3.Click on “Exit” on the pause menu	4.Pause menu disappears and the game is saved. The game exits and the main menu appears

Case 4: Place offensive minions	System Responses
1.During the game, hover the mouse cursor on “select your minions” side panel	2.Side panel is highlighted.
3.Hover the mouse cursor on specific minions on the panel	4.Corresponding minions are highlighted.
5.Click on a desired minion.	6.Checking if player has enough resources for having this item. If not, beep and case ends. If yes, resources are spent instantly and the selected minion is generated on the player side instantly

Case 5a: Place defenses	System Responses
1.During the game, hover the mouse cursor on “select your defense” side panel	2.Side panel is highlighted.
3.hover the mouse cursor on specific defenses on the panel	4.Corresponding defenses are highlighted.
5.Click on a desired defense tool.	6.Checking if player has enough resources for having this item. If not, beep and case ends. If yes, the defense is attached with mouse cursor and the placeable area for this defense is highlighted on the map.
7.Click on a highlighted place of the map	8. Checking if location is valid for this defense. If not, beep and prompt for different location. If yes,

	the defense is placed instantly and the resources are spent.
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Case 5b: Upgrade defenses	System Responses
1.During the game, click on one of the defenses	2.Minion is highlighted.
	3. Upgrade options are overlaid, with price and brief description of each, also a sell button with the sell value of the minion.
5.Click on a desired upgrade.	6. Checking if player has enough resources for purchasing the upgrade. If not, beep and case ends. If yes, the defense is upgraded, resources are depleted.
	7. Appearance and behavior of defense change according to the upgrade

Case 5c: Sell defenses	System Responses
1.During the game, hover the mouse cursor on “select your defense” side panel	2.Side panel is highlighted.
	3. Upgrade options are overlaid, with price and brief description of each, also a sell button with the sell value of the minion.
5.Click on the sell button	6. If yes, the defense is removed from the board, and player’s funds updated accordingly.

Case 6: Destroy enemy’s base	System Responses
1. The user’s minions do enough damage to the enemy’s base.	2. The health bar of the enemy’s base reaches zero and the destruction animation of the base is played. “Congratulation” window pops out.
	3. High score menu shows up

Case 7: Generate currency	System Responses
1.Place defenses & send troops	2. Enemy’s minions death and defenses takedowns

	are recorded and are calculated into currency. And then it's added into the player's total currency in real time.
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Case 8a: Access Game Settings from main menu/ pause screen	System Responses
1. Click on setting icon on main menu/ pause screen	2. Setting panel pops out
3. Click on music/effects icon	4. Music/effects setting panel pops out
5. Adjust the music/effects using UI like sliders	6. Music/effects are adjusted accordingly

Case 8b: Access Game Settings from main menu/ pause screen	System Responses
1. Click on setting icon on main menu/ pause screen	2. Setting panel pops out
3. Click on the shop icon	4. Store panel pops out
5. Click on some items/decorations	6. Real money/In-game money are spent accordingly
7. Click back button	8. Game resumes, bought items and decorations are shown

Case 8c: Access Game Settings from main menu/ pause screen	System Responses
1. Click on setting icon on main menu/ pause screen	2. Setting panel pops out
3. Click on the "change resolution"	4. resolution setting panel pops out
5. Choose a resolution	6. Game window's resolution is changed

Case 9: Zoom in and out	System Responses
1. During the game, use the scroller to zoom in or out	2. The map will either zoom in or out depending on the user's input

Case 10: Scroll around the map	System Responses
1. During the game, click and drag to move around the map	2. The map will move up, down, left, or right

Case 11a: Advance through levels in the game (if time allows)	System Responses
1. Player wins one level	2. Game stores which level player completed
	3. When user clicks play from the main menu, the next level will load Note: Main menu should display which level user is currently on.

Case 11b: Start over from the beginning, if all levels have been completed	System Responses
1. Player wins last level	2. Game stores which level player completed
	3. Main menu will display a message of congratulations and a button to start level 1

Case 12: Character selection	System Responses
1. On the main menu, the play clicks "Select Character"	2. Character selection menu with different characters pops up
3. Player clicks on the character he/she would like to choose	4. The selected character is set as the player's character and is displayed when the game starts

Case 13: Minions upgrade	System Responses
1. During the game the player clicks "upgrade minions"	2. List of different types of minions (with the amount of money needed for upgrade under the minion's icons) pops up.
3. Player clicks on the minion he/she wants to upgrades	4. The minions that is selected is upgraded. note: next time player spawns the selected minion the upgraded minion will spawn

Case 14: Weapons upgrade	System Responses
1. During the game, the player clicks “upgrade weapons”	2. List of different weapons (with the amount of money needed for upgrade under the weapon's icons) pops up
3. Player clicks on the weapons he/she would like to choose	4. The weapons selected is upgraded note: next time player uses the selected weapon the upgraded weapon is used

Case 15a: Upgrade Castle's defense	System Responses
1. During the game, player would click on “upgrade castle”	2. 2 options of “offense” or “defense” pop up
3. Player selects defense	4. List of different defensive upgrades (with the amount of money needed for upgrade under the different upgrade's icon) pops up
5. Player selects the defensive upgrade he/she wants on the castle	6. The player's castle's defense is upgraded

Case 15b: Upgrade Castle's offense	System Responses
1. During the game, player would click on “upgrade castle”	2. 2 options of “offense” or “defense” pop up
3. Player selects offense	4. List of different offensive upgrades (with the amount of money needed for upgrade under the different upgrade's icon) pops up
5. Player selects the offensive upgrade he/she wants on the castle	6. The player's castle's offense is upgraded

Case 16: Life bar/ assets/ experience level	System Responses
1. Player is playing the game	2. Life bar, assets and experience level is displayed on the top left of the screen

Case 17: Attack Warning	System Responses
1. Enemies start attacking.	2. A warning sign and sound appears on the attacking place.

Case 18: Game Clock	System Responses
1. During the game, there is a clock showing the time limit.	2. Starts counting down the time by second as soon as the game begins.
	3. Terminates the game when the time limit is reached.

Case 19: Social account connection(if time allows)	System Responses
1. Click on sign up button.	2. Sign up window appears.
3. Click on an social connection button.	4. Sign up window disappears and a login window appears.
5. Enter username and password of the social account.	6. Login window disappears, pop up shows connection status, if succeed, enters the game.

Case 20: Rewards	System Responses
1. In the end of a game, shows information of damage and rewards.	2. A reward window appears and user status and assets gets update.

Case 21: Throw food bombs	System Responses
1. During the game, the player clicks weapons	2. A list of the different weapons pops up
3. The player selects "Food bomb" and selects a target	4. A bomb is thrown on the target and the target's health decreases depending on the strength of the food bomb

Case 22: Choose different map (if time allows)	System Responses
1. User clicks on start game	2. A list of the different maps pops up
3. The player selects the map he/she would like to play on	4. The selected map loads up and the game begins

Case 23: Start sign	System Responses
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1.User clicks on start button.	2. A start sign pops up right before the game actually starts.
	3.The game starts.