

Use cases

Use case: Start game

Summary: The user starts a new game with the previously selected map and begins playing.

Priority: High

Extends: None

Includes: Build tower, Sell towerUpgrade tower, , Pause

Participators: The player.

Normal flow of events

	Actor	System
1	Clicks the “Start Game”-button	
2		Displays the map and initializes the game.

Use case: Exit game

Summary: Shuts down the program

Priority: High

Extends: None

Includes: None

Participators: The player.

	Actor	System
1	The user press exit button	
2		Shutdown program

Use case: Choose map

Summary: The user chooses a map for the game.

Priority: Mid

Extends: None

Includes: Start game

Participators: The player.

	Actor	System
1	The user clicks on a representation of a map	
2		The system loads the selected map

Use case: Build tower

Summary: The player purchase and places a new tower. Deducts money.

Priority: High

Extends: None

Includes: None

Participators: The player

	Actor	System
1	User selects a tower from an actionpanel	
2	User clicks on the map	
3		Constructs the tower on the clicked coordinate
4		Deducts player's money

5		Sets the area tower's area on the map to unbuildable
---	--	--

Alternate case: Player's funds are insufficient.

	Actor	System
2.1		Displays a message informing the player, that he/her has not enough money

Alternate case: The player places the tower on an unbuildable area

	Actor	System
2.1		Informs the user that he/she can't place a tower on the clicked area

Use case: Select tower

Summary: Selects tower and brings up the context menu

Priority: Mid

Extends: None

Includes: Upgrade tower, Sell tower

Participants: The player.

	Actor	System
1	The user presses on the tower	
2		Presents a popup menu

Use case: Upgrade tower

Summary: Improves the towers characteristics

Priority: Mid

Extends: None

Includes: None

Participators: The player.

	Actor	System
1	The user selects upgrade from the context menu	
2		Upgrades the selected tower
3		Deducts the user's money

Alternate case: Player's funds are insufficient.

	Actor	System
2.1		Displays a message informing the player, that he/her has not enough money
2.2		Context menu closes

Use case: Sell tower

Summary: The user sells a tower and earns money.

Priority: Mid

Extends: None

Includes: None

Participators: The player.

	Actor	System
1	Selects "Sell" from the context menu	
2		Removes the tower
3		Gives the player money

Use case: Next wave

Summary: The user starts a new round

Priority: High

Extends:

Includes:

Participants: The player.

	Actor	System
1	The player presses the "Next wave" button	
2		Updates GUI based on the information of the incoming wave
3		Starts spawning enemies

Use case: Pause game

Summary: The user pauses the game.

Priority:Low

Extends: None

Includes: Reset, resume, toggle sound, exit map

Participants: The player.

	Actor	System
1	Clicks the "Pause"-button	
2		Holds the game's state

Use case: Player dies

Summary: The player loses all his/her lives and the game is over. The system prompts the user to play the same map again or to choose a new.

Priority: High

Extends: None

Includes: Reset, Exit map

Participants: The player.

	Actor	System
1	Loses all lives	
2		Prompts the user to play the same map again or to choose a new
3	Chooses alternative by clicking	
4		Loads the selected map

Use case: Tower shoots enemy

Summary: An enemy is within the shooting radius of a tower and the tower shoots the enemy.

Priority: High

Extends: None

Includes: None

Participants: The player, enemies

	Actor	System
1	Detects an enemy within the shooting radius.	
2	Begins shooting at the enemy.	
3		Enemy takes damage

Alternate case: The tower applies an effect to the shot enemy, e.g. slows the enemy down.

	Actor	System
3.1		The towers specified effect is applied to the tower.

Use case: Enemy dies

Summary: When an enemy loses all its hitpoints, it dies and disappears from the map.

Priority: High

Extends: None

Includes: None

Participants: Enemies

	Actor	System
1	The enemy disappears.	
2		The player gets money.

Alternate case: Last enemy is killed

	Actor	System
--	-------	--------

2.1		Wave ends
2		System spawns no more enemies until nextWave is invoked.

Use case: Enemy reaches end of path.

Summary: When an enemy reaches the end of the path, the player loses lives.

Priority: High

Extends: None

Includes: Player dies

Participators: Enemies

	Actor	System
1	The enemy disappears.	
2		The player loses lives.

Alternate case: Last enemy reaches end of path

	Actor	System
2.1		The current wave ends.

Use case: Toggle speed.

Summary: Makes the game speed increase if the speed has the default value or reset it if it's increased.

Priority: Low

Extends: None

Includes: None

Participants: The player

	Actor	System
1	Presses the speed button	
2		The speed is increased

Alternate case: Speed is already increased

	Actor	System
2.1		The speed is set to normal

Use case: Toggle sound.

Summary: Mutes the sound if unmuted, unmutes the sound if muted.

Priority: Low

Extends: None

Includes: None

Participants: The player

	Actor	System
1	Player presses toggle sound	
2		Mute sound

Alternate case : Sound is muted

	Actor	System
2.1		Unmute sound