

# CLA WS 2019/2020: Dokumentation

## Control Scheme:

<b>Movement:</b>	W/A/S/D or Arrow Keys
<b>Aim:</b>	Mouse
<b>Shoot:</b>	Left Click (hold)
<b>Pause/Unpause</b>	Escape

## Messages:

Message Type	Use	Caller	Listeners
<b>VerifyScore</b>	Verify (Save) the achieved score and sort it into the highscore list.		
<b>PlayerDamaged</b>	Notify all listeners that the player's health changed.	PlayerController: Upon experiencing a change in health.	CameraController PlayerHealthUI
<b>ReturnToPool</b> <EnemyBehaviour>	Return this EnemyBehaviour to the pool. Handle the enemy dying for score and spawning powerups.	EnemyBehaviour: Upon dying.	EnemyPool PlayerController PowerupManager
<b>ReturnToPool</b> <DeathParticle>	Return this DeathParticle to the pool.	DeathParticle: Upon completing the particle effect.	DeathParticlePool
<b>ReturnToPool</b> <ProjectileBehaviour>	Return this ProjectileBehaviour to the pool.	ProjectileBehaviour: Upon hitting a target, or exceeding lifetime.	ProjectilePool
<b>ReturnToPool</b> <PowerupBehaviour>	Return this PowerupBehaviour to the pool.	PowerupBehaviour: Upon being picked up, or exceeding lifetime.	PowerupManager
<b>PickupPowerup</b>	Notify the Player that they picked up / activated a powerup.	PowerupBehaviour: Upon being picked up or activated.	PlayerController
<b>GameOver</b>	Notify all listeners that the game is over. Freezes all active EnemyBehaviour instances. Causes the GameEndScreen to be activated.	PlayerController: Upon dying. WaveManager: Upon completing the last wave of the last stage.	EnemyBehaviour GameEndScreen WaveManager
<b>GameStarted</b>	Notify all listeners that the game is just starting. This happens after the initial countdown in stage 0. Causes the WaveManager to start spawning enemies. Allows the PlayerController to move.	StartCountdown: Upon finalizing the countdown.	WaveManager PlayerController
<b>StageCleared</b>	Notify all listeners that a stage has been cleared. Temporarily freezes the Player.	WaveManager: Upon completing the last wave of a non-last stage.	PlayerController GameOverlay PulseEffect
<b>StageStarted</b>	Notify all listeners that a stage is about to start.	WaveManager:	PlayerController

	Un-freezes the Player.	Immediately before starting to spawn enemies.	
<b>ScoreMultiplierChanged</b>	Notify all listeners that the score multiplier of the Player has changed.	PlayerController: Upon changing the score multiplier due to clearing a stage or killing several enemies.	ScoreMultiplierUI
<b>PromptText</b>	Show a short text above the Player.	PlayerController: Upon applying the effects of a Powerup.	GameOverlay
<b>PauseGame</b>	Pause the game and show the pause screen.	PlayerController: Upon pausing the game.	GameOverlay
<b>ContinueGame</b>	Unpause the game and hide the pause screen.	PlayerController: Upon unpausing the game.	GameOverlay

## Data Structure:

### VerifyScore

Param Name	Type	Description
<b>score</b>	int	The final score achieved within this run of the game.
<b>name</b>	string	A short, 3-character string that represents the name of the player. It is given by an input field in the UI.

### PlayerDamaged

Param Name	Type	Description
<b>newHealth</b>	float	The current health of the player after the change.
<b>damage</b>	float	The change in health, positive: healing, negative: damage.

### ReturnToPool<T>

Param Name	Type	Description
<b>value</b>	T : MonoBehaviour	The object that is returning to the pool.

### PickupPowerup

Param Name	Type	Description
<b>value</b>	Powerup	The Powerup that was picked up / activated by the Player.

### GameOver

Param Name	Type	Description
<b>playerDied</b>	bool	Is the game ending the result of the player dying?
<b>finalScore</b>	int	The final score achieved by the player.

### GameStarted

#### StageCleared

Param Name	Type	Description
<b>bufferTime</b>	float	The bufferTime between stages. This determines the time until the player can move again.

#### StageStarted

#### ScoreMultiplierChanged

Param Name	Type	Description
<b>multiplier</b>	float	The total score multiplier as of now.
<b>delta</b>	float	The change in multiplier since the last time this event was called.

#### PromptText

Param Name	Type	Description
<b>text</b>	string	The text to be displayed in the prompt (pop-up text above the player).
<b>color</b>	Color	The color of the text.

#### PauseGame

#### ContinueGame