| CLIENT | Video game startup |
| --- | --- |
| USER | Level designer |
| FUNCTIONAL REQUIREMENTS | R1 - Create player.  R2 - Register enemy to a level.  R3 - Register treasure to a level.  R4 - Modify a player’s score.  R5 - Increase the level of a player.  R6 - Treasures and enemies of a level.  R7 - Treasures on every level.  R8 - Enemy type on all levels.  R9 - Most repeated treasure.  R10 - Highest scoring enemy.  R11 - Consonants of the names of the enemies.  R12 - Top 5 players. |
| CONTEXT OF THE PROBLEM | The video game company needs a system that allows configuring the different levels that its new video game will have, this is how different requirements will be established |
| NON-FUNCTIONAL REQUIREMENTS | Process R1: The use of the treasures and enemies of a level cannot exceed two seconds.  R2: The system must be able to work on web and mobile distributions. |

| **Name or identifier** | **R1 - Create player** | | |
| --- | --- | --- | --- |
| **Abstract** | **The system allows you to add a player to the video game** | | |
| **Inputs** | **Input name** | **Data type** | **Selection or repetition condition** |
| **nickname** | **String** |  |
| **name** | **String** |  |
| **General activities necessary to obtain the results** | * **An instance of the Player class is created.** * **The list of Players is iterated to compare the instance and see that the nickname is not repeated in the game.** * **If the nickname has not been repeated, the instance is added to the first free position in the list.** | | |
| **Result or postcondition** | **The player will be added in the game** | | |
| **Outputs** | **Output name** | **Data type** | **Selection or repetition condition** |
| **player** | **Player** |  |

| **Name or identifier** | **R2 - Register enemy to a level** | | |
| --- | --- | --- | --- |
| **Abstract** | **The system allows registering an enemy at a level** | | |
| **Inputs** | **Input name** | **Data type** | **Selection or repetition condition** |
| **name** | **String** |  |
| **type** | **String** |  |
| **scoreToIncrease** | **int** |  |
| **scoreToDecrease** | **int** |  |
| **numberLevel** | **int** |  |
| **General activities necessary to obtain the results** | * **The position of the level is searched, if it is found, it is validated if the enemy has a type allowed in the video game, if so, the Enemy instance is created and added to the first free position of the enemy list.** | | |
| **Result or postcondition** | **The enemy will be added at the indicated level** | | |
| **Outputs** | **Output name** | **Data type** | **Selection or repetition condition** |
| **msj** | **String** |  |

| **Name or identifier** | **R3 - Register treasure to a level** | | |
| --- | --- | --- | --- |
| **Abstract** | **The system allows to register a treasure to a level** | | |
| **Inputs** | **Input name** | **Data type** | **Selection or repetition condition** |
| **name** | **String** |  |
| **url** | **String** |  |
| **scoreToIncrease** | **int** |  |
| **numberLevel** | **int** |  |
| **quantity** | **int** |  |
| **General activities necessary to obtain the results** | * **The position of the level is searched, if it is found, an instance of the Treasure class is created.** * **The treasure list is iterated to check that the quantity of the treasure to be registered is less than or equal to the available positions, if this is true, the treasures are added to said positions.** | | |
| **Result or postcondition** | **The treasure will be added at the indicated level** | | |
| **Outputs** | **Output name** | **Data type** | **Selection or repetition condition** |
| **msj** | **String** |  |

| **Name or identifier** | **R4 - Modify a player’s score** | | |
| --- | --- | --- | --- |
| **Abstract** | **The system must allow to modify the score of a player** | | |
| **Inputs** | **Input name** | **Data type** | **Selection or repetition condition** |
| **nickname** | **String** |  |
| **score** | **int** |  |
| **General activities necessary to obtain the results** | * **The player's position is searched, if it is found, its score attribute is modified.** | | |
| **Result or postcondition** | **The player's score will be modified** | | |
| **Outputs** | **Output name** | **Data type** | **Selection or repetition condition** |
| **msj** | **String** |  |

| **Name or identifier** | **R5 - Increase the level of a player** | | |
| --- | --- | --- | --- |
| **Abstract** | **The system should allow a player to level up based on their score** | | |
| **Inputs** | **Input name** | **Data type** | **Selection or repetition condition** |
| **nickname** | **String** |  |
| **General activities necessary to obtain the results** | * **The player's position is searched, if it is found, its score is compared with the required score attribute of the current level, if it is greater than or equal to this, the player's level attribute will be the next one in the list of levels.** | | |
| **Result or postcondition** | **The player's level will be modified** | | |
| **Outputs** | **Output name** | **Data type** | **Selection or repetition condition** |
| **msj** | **String** |  |

| **Name or identifier** | **R6 - Treasures and enemies of a level** | | |
| --- | --- | --- | --- |
| **Abstract** | **The system should show the treasures and enemies of a level** | | |
| **Inputs** | **Input name** | **Data type** | **Selection or repetition condition** |
| **numberLevel** | **int** |  |
| **General activities necessary to obtain the results** | * **The position of the level is searched, if it is found, the lists of enemies and treasures of said level are traversed.** * **A sum of the existence of these objects is made independently.** | | |
| **Result or postcondition** | **The treasures and enemies of the level will be displayed** | | |
| **Outputs** | **Output name** | **Data type** | **Selection or repetition condition** |
| **msj** | **String** |  |

| **Name or identifier** | **R7 - Treasures on every level** | | |
| --- | --- | --- | --- |
| **Abstract** | **The system allows displaying the number of units of a treasure in all levels of the video game.** | | |
| **Inputs** | **Input name** | **Data type** | **Selection or repetition condition** |
| **String** | **nameTreasure** |  |
| **General activities necessary to obtain the results** | * **All the treasures of all levels are crossed and their names are compared with the name of the treasure we are looking for.** * **In each game, the total number of units of the same treasure increases throughout the video game.** | | |
| **Result or postcondition** | **All units of a treasure in the game will be displayed** | | |
| **Outputs** | **Output name** | **Data type** | **Selection or repetition condition** |
| **msj** | **String** |  |

| **Name or identifier** | **R8 - Enemy type on all levels** | | |
| --- | --- | --- | --- |
| **Abstract** | **The system allows displaying the number of units of a type of enemy in all levels of the video game** | | |
| **Inputs** | **Input name** | **Data type** | **Selection or repetition condition** |
| **String** | **enemyType** |  |
| **General activities necessary to obtain the results** | * **All the enemies of all the levels are crossed and the enemies that are of the searched type are added.** | | |
| **Result or postcondition** | **All units of an enemy type throughout the game will be displayed** | | |
| **Outputs** | **Output name** | **Data type** | **Selection or repetition condition** |
| **msj** | **String** |  |

| **Name or identifier** | **R9 - Most repeated treasure** | | |
| --- | --- | --- | --- |
| **Abstract** | **The system allows you to show which is the most repeated treasure in the entire video game** | | |
| **Inputs** | **Input name** | **Data type** | **Selection or repetition condition** |
| **General activities necessary to obtain the results** | * **All the treasures of all the levels are crossed and they are compared with each one of the treasures that we have in the whole video game.** * **The treasure with the most units in the entire video game is sought.** | | |
| **Result or postcondition** | **The name of the most repeated treasure in the entire video game will be displayed** | | |
| **Outputs** | **Output name** | **Data type** | **Selection or repetition condition** |
| **msj** | **String** |  |

| **Name or identifier** | **R10 - Highest scoring enemy** | | |
| --- | --- | --- | --- |
| **Abstract** | **The system allows to show the enemy who gives the highest score when defeated** | | |
| **Inputs** | **Input name** | **Data type** | **Selection or repetition condition** |
| **General activities necessary to obtain the results** | * **The enemies of this level are traversed for each level and the enemy with the highest score is found.** * **The remaining enemies are compared and the enemy with the highest score in the game is found.** | | |
| **Result or postcondition** | **The name and level of the enemy with the highest score will be displayed** | | |
| **Outputs** | **Output name** | **Data type** | **Selection or repetition condition** |
| **msj** | **String** |  |

| **Name or identifier** | **R11 - Consonants of the names of the enemies** | | |
| --- | --- | --- | --- |
| **Abstract** | **The system allows counting the consonants of the names of all the enemies of the video game** | | |
| **Inputs** | **Input name** | **Data type** | **Selection or repetition condition** |
| **General activities necessary to obtain the results** | * **All the names of the enemies in the video game are concatenated, then each character is traversed and if it is different from 'a', 'e', 'i', 'o', 'u' it is a consonant.** * **All the consonants found are added.** | | |
| **Result or postcondition** | **The number of consonants that all the names of the video game have will be displayed** | | |
| **Outputs** | **Output name** | **Data type** | **Selection or repetition condition** |
| **msj** | **String** |  |

| **Name or identifier** | **R12 - Top 5 players** | | |
| --- | --- | --- | --- |
| **Abstract** | **The system allows to show the 5 players with the highest score** | | |
| **Inputs** | **Input name** | **Data type** | **Selection or repetition condition** |
| **General activities necessary to obtain the results** | * **The video game players are ordered from lowest to highest based on their score. The last 5 players on the list will be selected.** | | |
| **Result or postcondition** | **The nicknames of the 5 players with the highest score will be displayed** | | |
| **Outputs** | **Output name** | **Data type** | **Selection or repetition condition** |
| **msj** | **String** |  |