**TABLA DE ESPECIFICACIÓN DEL PROBLEMA DE INGENIERÍA DE SOFTWARE, identificando los siguientes elementos**

|  |  |
| --- | --- |
| CLIENTE | a video game company |
| USUARIO | administrators |
| REQUERIMIENTOS FUNCIONALES | R1. Create a Player  R2. Register Level  R3. Register enemy to a level  R4. Register treasure to a level  R5. Modify a player's score.  R6. Increase level for a player, in case you cannot increase the level, you must inform the user what score is required to increase.  R7.Report the treasures and enemies (separated by commas) of a level given by the user  R8. Report the amount of treasure found in all levels, that is, if the user wants to know how many diamonds there are in all levels.  R9. Report the amount found of a type of enemy in all levels, that is, if the user wants to know how many ogres exist in all levels.  R10.Report the most repeated treasure in all levels.  R11. Report the enemy that gives the highest score and the level where it is located.  R12. Report the number of consonants found in the names of the enemies in the game.  R13.Inform the top 5 of the players according to the score.  R14. ask the user what is the resolution on which the game will run |
| CONTEXTO DEL PROBLEMA | A video game company needs you to collaborate with a video game, the game consists of 10 levels in which the player collects treasures and fights with enemies. They have requested your help to analyze the requirements and make the model of classes, responsibilities and collaborations, for now ONLY for the functionalities of the system related to the registration of players, levels, treasures and enemies. |
| REQUERIMIENTOS NO FUNCIONALES | -the system performs very well  -the deployment of the treasures and enemies of a level, in the web application, does not take more than 2 seconds.  - the company wants the system to work both as a web application and as a mobile app |

**Tabla de análisis de requerimientos funcionales (Nota: Una tabla por cada requerimiento funcional)**

|  |  |  |  |
| --- | --- | --- | --- |
| Nombre o identificador | R1. Create a Player | | |
| Resumen | The system must allow players to register, they have a nickname that identifies them, a name, the initial score (the player starts with 10), they have a number of lives (starts with 5). The system must allow establishing the level in which the player is taking into account his score and the score required to pass the level. Remember that the nickname is the identifier so it cannot be repeated. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| nickname | String | input is not null |
| name | String | input is not null |
|  |  |  |
|  |  |  |
|  |  |  |
| Actividades generales necesarias para obtener los resultados | To carry out the process, it is necessary to enter the correct nickname and name. | | |
| Resultado o postcondición | It will show a message that if the registration was successful or there are some error | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| massage | String | all methods of the class were executed correctly |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Nombre o identificador | R2.Register level | | |
| Resumen | The system must allow recording the different levels of the game. From a level you have a number that identifies it, the points that are required to go to the next level. For each level, the treasures and the enemies to be defeated must be registered, and depending on them the level of complexity is defined (high, medium, low), if the points awarded by the treasures is greater than the points of the enemies it's low level, if it's the same it's medium, and if there are more points from the enemies than the points from the treasures it's high.( the level will be created automatically, therefore it will have preset attributes) | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| Actividades generales necesarias para obtener los resultados | it is necessary to have registered the video game later, it will simply call some methods to create the level, this automatically | | |
| Resultado o postcondición | the result will créate the level | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
|  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Nombre o identificador | R3. Register enemy to a level | | |
| Resumen | Enemies decrease the player's score. Of them there is a name (Identifier), a type, the score that remains in case the player beats the player, the score that is added if he is defeated and the position X and Y in pixels in which he is (these X and Y positions are generated randomly, according to the resolution of the screen used (see annex)). In a level the enemies cannot be repeated because once defeated, you would already know how to defeat the others of the same level. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| name | String | input is not null |
| typeEnemy | String | input is not null |
| Damage | int | input is not null |
| score | int | input is not null |
| Actividades generales necesarias para obtener los resultados | it is necessary to show the result, to have registered the name, a type, the score that remains in case the player beats the player, the score that is added if he is defeated and the position X and Y. | | |
| Resultado o postcondición | the system will show a success message when the entries are correctly registered | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| massage | String | all methods of the class were executed correctly |

|  |  |  |  |
| --- | --- | --- | --- |
| Nombre o identificador | R4. Register treasure to a level | | |
| Resumen | Treasures are the mechanism that players have to reach the points that are required to pass a level. Of the treasures of a level, there is the name, a URL to the image that represents it, the score it gives the player when it is found and the position X and Y in pixels in which it is located (these positions X and Y are generated randomly, according to the resolution of the screen used (see annex)). In a level the same treasure can be found in different positions, that is, a diamond can be found in two different positions in the same level, so when entering the treasures into the game, the user will be asked how many treasures will be registered for a same level. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| numbertreasure | Int | input is not null |
| name | String | input is not null |
| url | String | input is not null |
| score | int | input is not null |
|  |  |  |
| Actividades generales necesarias para obtener los resultados | it is necessary to have correctly registered the entries in the system | | |
| Resultado o postcondición | having registered correctly, an exit message will be displayed | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| massage | String | all methods of the class were executed correctly |

|  |  |  |  |
| --- | --- | --- | --- |
| Nombre o identificador | R5. Modify a player's score. | | |
| Resumen | the system gets the score of the said player, to then change the score with the value to be entered | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| namePlayer | String | the player must exist |
| scoreNew | int | input is not null |
|  |  |  |
|  |  |  |
|  |  |  |
| Actividades generales necesarias para obtener los resultados | it is necessary to look for the player entered and if it exists, call his current score and change it with the new one entered | | |
| Resultado o postcondición | . A success message will be displayed if the score was changed, and if the player does not exist, an error message will be displayed. | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| massageSuccess | String | all methods of the class were executed correctly |
| massageError | String | that the player is not found |

|  |  |  |  |
| --- | --- | --- | --- |
| Nombre o identificador | R6. Increase level for a player, in case you cannot increase the level, you must inform the user what score is required to increase. | | |
| Resumen | this requirement asks us to Increase level for a player, in case you cannot increase the level, you must inform the user what score is required to raise. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| nicknname | String | the player must exist |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| Actividades generales necesarias para obtener los resultados | what this requirement needs to obtain results, are the points that are needed to climb from one level to another, know at what level the player is currently, know if the player is registered and their points obtained so far, to level it up or to tell you how much you need to climb | | |
| Resultado o postcondición | a success message will be displayed if the level could be increased, a failure message will be displayed if the user does not have enough points to raise the level. and if the entered game does not exist, an error message will be displayed | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| massageSucccess | String | if the level is increased |
| massagefail | String | if the player needs points to level up |
| massageError | String | if the player was not found |
|  |  |  |
|  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Nombre o identificador | R7.Report the treasures and enemies (separated by commas) of a level given by the user | | |
| Resumen | the system Reports the treasures and enemies (separated by commas) of a level given by the user | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| level | int | Level must exist |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| Actividades generales necesarias para obtener los resultados | requires the user to enter an existing level, and then get the level's treasures and enemies | | |
| Resultado o postcondición | a message is displayed where the treasures and enemies are, and if the level is not found an error message is displayed | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| enemiges\_treasures | String | all methods of the class were executed correctly |
| massagError | String | level not found |
|  |  |  |
|  |  |  |
|  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Nombre o identificador | R8.Report the amount found of a treasure at all levels | | |
| Resumen | the system must allow reporting the amount of treasure found in all levels, that is, if the user wants to know how many diamonds there are in all levels. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| nameTresure | String | The tresure must exist |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| Actividades generales necesarias para obtener los resultados | it is necessary that the name obtained from the treasure is entered correctly, and that the treasure has been registered. After these data, he will search each level for that treasure and count it. | | |
| Resultado o postcondición | the system will display the amount of a treasure found in all levels and if the registered treasure does not exist an error message will be displayed | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| amountTreasure | String | all methods of the class were executed correctly |
| massageError | String | if the treasure has not been registered |

|  |  |  |  |
| --- | --- | --- | --- |
| Nombre o identificador | R9. Report the amount found of a type of enemy in all level | | |
| Resumen | the system Inform the amount found of a type of enemy in all levels, that is, if the user wants to know how many ogres exist in all levels. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| enemyType | String | the enemy must exist and |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| Actividades generales necesarias para obtener los resultados | it is necessary that the entered enemy exists, and therefore then search in the levels how many enemies there are of that type | | |
| Resultado o postcondición | the system will show the number of enemies found and then show them on the screen, if the enemy does not exist an error message will be displayed | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| countEnemy | String | all methods of the class were executed correctly |
| massaageError | String | The enemy dont exist |
|  |  |  |
|  |  |  |
|  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Nombre o identificador | R10.Report the most repeated treasure in all levels | | |
| Resumen | The system will show the most repeated treasure in all levels | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| Actividades generales necesarias para obtener los resultados | It is necessary that there are registered treasures, so that later the system will count each treasure until it has the one with the largest amount. | | |
| Resultado o postcondición | the system will show the treasure with the greatest quantity in all levels, if there are no treasures it will show an error message | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| mostTreasure | String | all methods of the class were executed correctly |
| massageError | String | there are no registered treasures |
|  |  |  |
|  |  |  |
|  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Nombre o identificador | R11. Report the enemy that gives the highest score and the level where it is located. | | |
| Resumen | the system must report the enemy that gives the highest score and the level where it is located. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| Actividades generales necesarias para obtener los resultados | It is necessary before the process that there is an enemy registered by some levels of the game to be able to make the comparison of points. and so, return the message with the enemy that gives more points | | |
| Resultado o postcondición | the system will show a message, the enemy with the highest score and the enemy located, but if there are no enemies it will show an error message | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| bestEnemy | String | all methods of the class were executed correctly |
| masageError | String | there are no registered enemies |
|  |  |  |
|  |  |  |
|  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Nombre o identificador | R12. Report the number of consonants found in the names of the enemies in the game. | | |
| Resumen | the system should report the number of consonants found in the names of the enemies in the game. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| Actividades generales necesarias para obtener los resultados | it is necessary that there are enemies found, so that later the system takes each name of each enemy and counts its consonants | | |
| Resultado o postcondición | The system will show a message with the number of consonants and also, if there are no enemies, it will show an error message. | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| consonants | String | all methods of the class were executed correctly |
| massageError | String | there are no registered enemies |
|  |  |  |
|  |  |  |
|  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Nombre o identificador | R13.Inform the top 5 of the players according to the score. | | |
| Resumen | the system must inform the top 5 of the players according to the score. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| Actividades generales necesarias para obtener los resultados | it is necessary that there are registered players, to then compare their scores and then show the top 5 | | |
| Resultado o postcondición | the system will display a message with the top 5 players for later, and if there are no registered players an error message will be displayed | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| top | String | all methods of the class were executed correctly |
| massageError | String | there are no registered players |
|  |  |  |
|  |  |  |
|  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Nombre o identificador | R14. ask the user what is the resolution on which the game will run | | |
| Resumen | the system must ask the user what is the resolution on which the game will be executed. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| Resolution\_option | int | input is not null |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| Actividades generales necesarias para obtener los resultados | it is necessary that the user has correctly chosen the resolution and that it has not been null | | |
| Resultado o postcondición | the system applies the resolution chosen by the user, and will display a success message | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| massage | String | all methods of the class were executed correctly |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |