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

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| CLIENTE | NeoTunes |
| USUARIO | Platform users |
| REQUERIMIENTOS FUNCIONALES | 1. Register a producer (artist and content creator) 2. Register consumer (stantard and Premium) 3. Register Audio (song and podcast) 4. Create a playlist 5. Edit a playlist 6. Share a playlist 7. Play song or podcast 8. Buy a song 9. Report the total plays in the platform of each audio type 10. Report the most listened to song genre on the entire platform and its number of reproductions. 11. Report the most listened podcast category on the entire platform and its number of reproductions. 12. Report the name and total plays of the top 5 artists and content creators. 13. Report the name, genre o category and total plays of the top 10 of songs and podcasts. 14. Of each genre, report the number of songs sold and the total value of sales 15. Of the most selled song on the platform, report the total number of sales and the total sale value |
| CONTEXTO DEL PROBLEMA | I must create a program that allow register users consumer and producers. The users consumer are of standard or premium type. The users producer are of artist or content creator type.  The program must be able to register an audio. the audios are of song or podcast type. the podcasts are produced by the content creator and the songs are produced by the artist.  The program must be able to register a playlist. The playlist is composed by audios and have a special code depending of its content.  The standard user can create a maximum of 20 playlists, can buy a maximum of 100 songs, and during the use of the platform ads are played.  The Premium user have acces to all catalogue of audios and he will créate unlimited playlist and buy unlimited songs. |
| REQUERIMIENTOS NO FUNCIONALES | - adaptability for future versions  - maintainability  - durability  - capacity  - security  - efficient  - functionality |

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

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| Nombre o identificador | R1. Register a producer (artist and content creator) | | |
| Resumen | Register a producer. A producer can be artist or content creator | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| typeProducer | Int |  |
| Name | String |  |
| BondingDate | Date |  |
| url | String |  |
| Actividades generales necesarias para obtener los resultados | - Read typeProducer  - Read Name  - Read BondingDate  - Read url  - Automatically generate the variable “accumulatedReproductions” initialized in 0  - Create the Producer object | | |
| Resultado o postcondición | The registered producer will be saved in the data base with the attributes entered by the user, and also a counter of reproductions and reproduced time will be assigned that start from 0. | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| Producer registered successfully | String | Show "producer registered successfully" only if the user has filled in all the information fields that are requested and these have been saved normally in the database |
| Registry error | String | Show " Registry error " when the user has not filled in all the information fields that are requested or when these have not been saved normally in the database. |

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| Nombre o identificador | R2. Register consumer (standard and Premium) | | |
| Resumen | Register a consumer. A consumer can be standard and premium | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| Nickname | String |  |
| Id | String |  |
| bondingDate | String |  |
| typeConsumer | int |  |
| Actividades generales necesarias para obtener los resultados | - Read Nickname  - Read id  - Read bondingDate  - Read typeConsumer  - Create the Consumer object | | |
| Resultado o postcondición | The registered consumer will be saved in the data base with the attributers entered by the user. Also will be assignment a counter of time played, genre time reproduced and a time reproduced of a specific producer and a variable with the most listened artist and the most listened genre or category. | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| Consumer registered successfully | String | Show "consumer registered successfully" only if the user has filled in all the information fields that are requested and these have been saved normally in the database |
| Registry error | String | Show " Registry error " when the user has not filled in all the information fields that are requested or when these have not been saved normally in the database. |

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| Nombre o identificador | R3. Register Audio (song and podcast) | | |
| Resumen | Register an audio. A audio can be a song or podcast depending if the producer of the audio is an artist or content creator | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| Name | String |  |
| url | String |  |
| Duration | double |  |
|  | producerName | String |  |
|  | audioType | int |  |
|  | Álbum | String | if the audio is produced by an artist |
|  | Genre | int | if the audio is produced by an artist |
|  | saleValue | Double | if the audio is produced by an artist |
|  | Description | String | if the audio is produced by a content creator |
|  | Category | int | if the audio is produced by a content creator |
| Actividades generales necesarias para obtener los resultados | - Read Name  - Read url  - Read Duration  - Read producerName  - Read AudioType  If the Audio is produced by an artist (Audiotype= Song):  - Read album  - Read genre  If the Audio is produced by an artist (Audiotype= Podcast):  - Read description  - Read category  - Automatically generate the variable “accumulatedReproductions” initialized in 0  - Create the Audio object (Song or Podcast) | | |
| Resultado o postcondición | The audio registered will be saved in the data base with the attributes entered by the user. This audio will be saved in an array general of audios and also on an array of audios of a specific producer. It is also assigned a variable that counts its number of reproductions and the times sold if the audio is a song. | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| Audio registered successfully | String | Show "producer registered successfully" only if the user has filled in all the information fields that are requested and these have been saved normally in the database |
| Registry error | String | Show " Registry error " when the user has not filled in all the information fields that are requested or when these have not been saved normally in the database. |

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| Nombre o identificador | R4. Create a playlist | | |
| Resumen | Create playlist in the program with the data entered by the user. This playlist can have audios(songs or podcasts) | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| Name | String |  |
|  | idConsumer | String |  |
| Actividades generales necesarias para obtener los resultados | - Read Name  - Read idConsumer  - Check if Consumer exists  - Create the Playlist object | | |
| Resultado o postcondición | The playlist create will be saved in the data base with the attributes entered by the user. The playlist will be generate automatically a code made by 16 integers in a specific path over the matriz. | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| Playlist created successfully | String | Show " Playlist created successfully " only if the user has filled in all the information fields that are requested and these have been saved normally in the database |
| Registry error | String | Show " Registry error " when the user has not filled in all the information fields that are requested or when these have not been saved normally in the database. |

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| Nombre o identificador | R5. edit a playlist | | |
| Resumen | Modify the attributes of a playlist. Can modify the name, delete audios and add audios. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| option | int |  |
| indexAudio | int | if the user is going to do something about the audios, he will enter his index, to add or delete it |
| NewName | String | If the user is going to rename the playlist |
| DeleteAudio | Boolean | If the user want delete an audio of the playlist |
| AddAudio | Boolean | If the user want add an audio of the playlist |
| Actividades generales necesarias para obtener los resultados | - Read option  - Read indexAudio | | |
| Resultado o postcondición | will be saved in the database, the changes made to the playlist | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| Playlist edited successfully | String | Show “playlist edited successfully” when the changes of the playlist have been saved to the database normally. |
| Error editing the playlist | String | Show "Error modifying points" when the changes of the playlist have not been saved normally in the database. |

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| Nombre o identificador | R6. Share a playlist | | |
| Resumen | will be show the playlist code generate by the matriz. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
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| Actividades generales necesarias para obtener los resultados | - The playlist should have been saved correctly  - generate the code of playlist by the matriz | | |
| Resultado o postcondición | Will be show for console, the playlist code generate by the matriz | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| code | String |  |

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| Nombre o identificador | R7. play song or podcast | | |
| Resumen | The list of audios will be shown to the user and he will write the name of the audio to play and play it. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| AudioName | String |  |
| Actividades generales necesarias para obtener los resultados | - check if there is at least one audio registered  - check if the chosen audio exists | | |
| Resultado o postcondición | The user played the audio and increase the number of times played | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| The song has been played successfully |  | Show “The song has been played successfully” when the process was executed without any problem |
| error when playing |  | Show “error when playing” when the process has not been executed well |

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| Nombre o identificador | R8. Buy a song | | |
| Resumen | The list of songs will be shown to the user and he will write the name of the song to buy and buy it. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| SongName | String |  |
| Actividades generales necesarias para obtener los resultados | - check if there is at last one song registered  - check if the chosen song exists | | |
| Resultado o postcondición | The user bougth the song and increase the number of times the song was sold | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| song purchased successfully | String | Show “song purchased successfully” when the process runs fine |
| Error in the purchase | String | Show “Error in the purchase” when the process has not been executed well |

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| Nombre o identificador | R9. Report the total plays in the platform of each audio type | | |
| Resumen | The user will be shown the total plays in the platform of the songs and podcasts | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
|  |  |  |
| Actividades generales necesarias para obtener los resultados | - check if there is at last one audio of each type  - count the number of plays of each audio type | | |
| Resultado o postcondición | Shown the number of times played of each Audio.  Example:  Songs – **10000** plays  Podcasts – **2000** plays | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| MsgPlaysSongs | String |  |
|  | MsgPlaysPodcasts | String |  |

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| Nombre o identificador | R10. Report the most listened to song genre on the entire platform or of a user, and its number of reproductions. | | |
| Resumen | The user decides if wants to know the most listened song genre on the entire platform or only of a registered consumer.  Depending on what is decided, will be shown respectively. If decides about the consumer, must type the user name to consult | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| userOrPlatform | int |  |
|  | nameUser | String | If the user decides consult about the consumer |
| Actividades generales necesarias para obtener los resultados | - Read userOrPlatform  If the user decides consult about the consumer:  - Read nameUser  - check if there is at last one user consumer registered  - check if there is t last one song registered  -count the number of plays of a song genre | | |
| Resultado o postcondición | The most listened song genre with its number of reproductions is shown  Examples:  - The song genre most listened in the platform is **Trap** with **100000** plays  - The song genre most listened for **Pablo** is **Rock** with **300** plays | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| MsgGenreMostListened | String |  |

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| Nombre o identificador | R11. Report the most listened to podcast category on the entire platform or of a user, and its number of reproductions. | | |
| Resumen | The user decides if wants to know the most listened podcast category on the entire platform or only of a registered consumer.  Depending on what is decided, will be shown respectively. If decides about the consumer, must type the user name to consult | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| userOrPlatform | int |  |
|  | nameUser | String | If the user decides consult about the consumer |
| Actividades generales necesarias para obtener los resultados | - Read userOrPlatform  If the user decides consult about the consumer:  - Read nameUser  - check if there is at last one user consumer registered  - check if there is t last one podcast registered  -count the number of plays of a podcast category | | |
| Resultado o postcondición | The most listened podcast category with its number of reproductions is shown  Examples:  - The podcast category most listened in the platform is **Politic** with **100000** plays  - The podcast category most listened for **Tini** is **Fashion** with **300** plays | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| MsgCategoryMostListened | String |  |

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| Nombre o identificador | R12. Report the name and total plays of the top 5 artists and content creators. | | |
| Resumen | The user will be shown the top 5 artist depending of their total plays in songs, and shown the top 5 content creators depending of their total plays in podcasts. of Each artist will show the name and their plays | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
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| Actividades generales necesarias para obtener los resultados | - check if there are at least five of each type of user registered in the app  - check if there is at last one song and podcast registered in the app  - compares the score of all the of each type of user and organizes them from highest to lowest | | |
| Resultado o postcondición | The top 5 artist and content creators is shown  Example:  Artists:  1. **Pablo** – **10000000000000000000** plays  2. **Duki** - **10000000000** plays  3. **Alejandra** – **1000** plays  …  Content Creators:  1. **JF Aranguren** - **99999999** plays  2. **Norha** – **800000** plays  3. **El bicho** – **600000** plays  … | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| msgTop5Artist | String |  |
| msgTop5ContentC | String |  |

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| Nombre o identificador | R13. Report the name, genre o category and total plays of the top 10 of songs and podcasts. | | |
| Resumen | The user will be shown the top 10 songs depending of their total plays, and shown the top 10 podcasts depending of their total plays. of Each audio will show the name, the genre o category and their plays. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
|  |  |  |
| Actividades generales necesarias para obtener los resultados | - check if there are at least 10 of each type of Audio registered in the app  - compares the score of all the of each type of user and organizes them from highest to lowest | | |
| Resultado o postcondición | The top 10 songs and podcasts is shown  Example:  Songs  1. **De musica ligera** – **Rock** – **8000900** plays  2. **Sol y Luna** – **Trap** – **90000** plays  3. **Hasta los dientes** – **Pop** – **1000** plays  …  Podcasts  1. **The wild Project** – **entertainment** – **99988000** plays  2. **MoluscoTv** – **entertainment** – **10000** plays  3. **ApoTv** - **videoGames** – **2000** plays  … | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| msgTop10Songs | String |  |
| MsgTop10Podcasts | String |  |

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| Nombre o identificador | R14. Of each genre, report the number of songs sold and the total value of sales | | |
| Resumen | The user will be shown, of each genre the number of songs sold and the total value of sales | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
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| Actividades generales necesarias para obtener los resultados | - Scroll through the arraylist of songs, storing the number of  songs sold for each genre.  - Obtain the cost of all the songs of each genre.  - Multiply the number of songs purchased with their respective  costs. | | |
| Resultado o postcondición | Each song genre is shown with its info solicited  Example:  Rock – **10** songs selled - $**100000** in sales  Trap – **2** songs selled - $**20000** in sales  Pop – **30** songs selled - $**900001000** in sales  House – **0** songs selled - $**0** in sales | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| msgRock | String |  |
| msgTrap | String |  |
| msgPop | String |  |
| msgHouse | String |  |
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| Nombre o identificador | R15. Of the most selling song on the platform, report the total number of sales and the total sale value | | |
| Resumen | The user will be shown what is the song most selled and will show the number of sales and the total sale value. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
|  |  |  |
| Actividades generales necesarias para obtener los resultados | - Scroll through the song arraylist and get the position of the  best-selling song.  With the saved position, do the following:  - Obtain the total sales of the song.  - Get the costs of the song.  - Get the name of the song. | | |
| Resultado o postcondición | The song most selled is shown with its info solicited  Example:  The most selled song is **Ojitos lindos** – **10** times selled - $**9000** in sales | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| msgMostSelledSong | String |  |