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

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| --- | --- |
| CLIENTE | ReadX |
| USUARIO | Regular and premium users. |
| REQUERIMIENTOS FUNCIONALES | Register bibliographical products.  Delete bibliographical products.  Modify bibliographical products.  Consult information on bibliographic products.  Register users.  Delete users.  Modify users.  Consult user information.  Purchase of bibliographic products  Delete subscription for a magazine.  Consult a library of a user. |
| CONTEXTO DEL PROBLEMA | ReadX is an Egyptian conglomerate that wants to develop a prototype software to manage its publishing business globally. Their goal is to sell books and magazines, so they need an efficient system that allows them to manage bibliographic products, users and associated transactions. In addition, they want to be prepared for changes in the publishing industry, so they require a flexible design that can be adapted to future product types and users. They also need to generate real-time reports to get relevant data on product consumption and sales. Finally, they want to facilitate system testing by automatically generating test objects. |
| REQUERIMIENTOS NO FUNCIONALES | -Usability: The prototype must be intuitive and easy to use.  Scalability: The system must allow the future incorporation of new product types and users without affecting their performance.  -Security: Security measures are required to protect customer data and users' personal information.  -Performance: The system must be fast and efficient in handling transactions and loading times.  -Availability: The prototype must always be available and accessible to users.  -Interoperability: The system must be compatible with different platforms and devices.  -Documentation: Complete and clear documentation must be provided to facilitate its implementation and maintenance. |

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

| Nombre o identificador | Register bibliographical products. | | |
| --- | --- | --- | --- |
| Resumen | The program may record bibliographical products without any limitation. To register a bibliographic product, it is necessary for the user to decide which type of bibliographic product is to be registered, there are two options, book or magazine, depending on the option chosen, different information must be typed. To create a book, you need a unique identifier (3 hexadecimal characters), a name, a number of pages, a short review, a publication date, a gender and the sales value (in dollars). On the other hand, the creation of a journal requires a unique identifier (3 alphanumeric characters), a name, a number of pages, a publication date, a category, the value of the subscription (in dollars) and the periodicity of issue. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| Name | String |  |
| Number of pages | Int |  |
| Publication date | Int |  |
| Categorization | Int | - depends on the product you want to register |
| Value | double |  |
|  | Special value | String | - depends on the product you want to register |
|  | Election | Int | - This variable is used to know which product should be registered |
| Resultado o postcondición | The book or journal is recorded in the system, this is determined by taking the variable "Election". | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| "Memory full, the magazine has not been registered" | String | -Only if the product has not been registered |
| “Product registered with success” | String | -Only if the product has been registered |
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|  |  |  |
|  |  |  |

| Nombre o identificador | Delete bibliographical products. | | |
| --- | --- | --- | --- |
| Resumen | To delete a product from the program you must type the position in which it is, the product must be registered in the system, once a product is deleted from the system cannot be recovered | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| Product position | Int | - The product must have been registered |
| Resultado o postcondición | The product is removed from the system. | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| "Error, product could not be deleted" | String | -Only if the product has not been deleted |
|  | "Product successfully deleted" | String | -Only if the product has been deleted |

| Nombre o identificador | Modify bibliographical products. | | |
| --- | --- | --- | --- |
| Resumen | To modify a product, you must enter the same data that was needed to register the product. In addition, it is necessary to choose whether to modify a book or a magazine to show the respective lists created by products, the user should choose a product that is in the list to be able to modify it. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| Name | String |  |
| Number of pages | Int |  |
| Publication date | Int |  |
| Categorization | Int | - depends on the product you want to modify |
| Value | double |  |
|  | Special value | String | - depends on the product you want to modify |
|  | Election | Int | - This variable is used to know which product should be modify |
|  | Product position | Int | - The product must have been registered |
| Resultado o postcondición | Product data is updated with user-provided data. | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| "Memory full, the magazine has not been modified" | String | -Only if the product has not been modified |
| “Product modified with success” | String | -Only if the product has been modified |

| Nombre o identificador | Consult information on bibliographic products. | | |
| --- | --- | --- | --- |
| Resumen | This will allow you to consult the information of all products registered in the program. It will also allow you to see the total pages read of each product, the number of books sold or the number of active subscriptions, this depends on the type of product. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
|  |  |  |
| Resultado o postcondición | All products registered in the system are displayed | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| Id | String | -Only if the product has been registered |
|  | Name | String | -Only if the product has been registered |
|  | Number of pages | String | -Only if the product has been registered |
|  | Publication date | Calendar | -Only if the product has been registered |
|  | Url | String | -Only if the product has been registered |
|  | Number of pages read | int | -Only if the product has been registered |
|  | Review | String | -Only if the product has been registered  -If the product is a book |
|  | Genre | Genre Type | -Only if the product has been registered  -If the product is a book |
|  | Price | Double | -Only if the product has been registered  -If the product is a book |
|  | Units sold | Int | -Only if the product has been registered  -If the product is a book |
|  | Category | Category Type | -Only if the product has been registered  -If the product is a magazine |
|  | Subscription value | Double | -Only if the product has been registered  -If the product is a magazine |
|  | Periodicity | Periodicity of emission | -Only if the product has been registered  -If the product is a magazine |
|  | Active subscription | Int | -Only if the product has been registered  -If the product is a magazine |
|  | "There are no products registered" | String | -Only if the consult has not been realized |

| Nombre o identificador | Register users. | | |
| --- | --- | --- | --- |
| Resumen | The program may record users without any limitation. To register a user, it is necessary to decide which type of user is to be registered, there are two options, regular or premium, depending on the option chosen, will have different characteristics. To create a user, you need a name, and a certificate. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| Name | String |  |
| Certificate | Int |  |
| Resultado o postcondición | The user regular or premium is recorded in the system, this is determined by taking the variable "Election". | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| "Memory full, the user has not been registered" | String | -Only if the user has not been registered |
| “User registered with success” | String | -Only if the user has been registered |
|  |  |  |
|  |  |  |
|  |  |  |

| Nombre o identificador | Delete users. | | |
| --- | --- | --- | --- |
| Resumen | To delete a user from the program you must type the position in which it is, the user must be registered in the system, once a user is deleted from the system cannot be recovered | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| User position | Int | - The user must have been registered |
| Resultado o postcondición | The user is removed from the system. | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| "Error, user could not be deleted" | String | -Only if the user has not been deleted |
|  | "User successfully deleted" | String | -Only if the user has been deleted |

| Nombre o identificador | Modify users. | | |
| --- | --- | --- | --- |
| Resumen | To modify a user, you must enter the new name for the user. In addition, he user must choose what position they are in to be able to change their username | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| Name | String |  |
|  | User position | Int | - The user must have been registered |
| Resultado o postcondición | Username data is updated with user-provided data. | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| " Error, user could not be edited" | String | -Only if the user has not been modified |
| “User successfully edited” | String | -Only if the user has been modified |

| Nombre o identificador | Consult user information. | | |
| --- | --- | --- | --- |
| Resumen | This will allow you to consult the information of all users registered in the program. | | |
| Entradas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
|  |  |  |
| Resultado o postcondición | All users registered in the system are displayed | | |
| Salidas | Nombre entrada | Tipo de dato | Condición de selección o repetición |
| Name | String | -Only if the product has been registered |
|  | Certificate | String | -Only if the product has been registered |
|  | Date of vinculation | Calendar | -Only if the product has been registered |
|  | "There are no registered users" | String | -Only if the consult has not been realized |