**SOFTWARE ENGINEERING PROBLEM SPECIFICATION TABLE, identifying the following elements**

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| CLIENT | ReadX |
| USER | Product administrators and readers |
| FUNCTIONAL REQUIREMENTS | * FR01: bibliographic product record. * FR02: delete the bibliographic product. * FR03: modify the bibliographic product. * FR04: register user. * FR05: purchase of book and magazine subscriptions. * FR06: cancel magazine subscriptions. * FR07: show the bibliographic product collection. * FR08: simulation of the reading session. * FR09: generate real-time reports. * FR10: easy test performance. |
| CONTEXT OF THE PROBLEM | ReadX is an Egypt conglomerate with a business of publishing bibliographic products worldwide. Software is required to manage all their publications. The bibliographic products are divided into books and magazines; users can access the software as regular users or premium users. Regular users can purchase five books and subscribe to two magazines, on the other hand, premium users can acquire or subscribe to any book or magazine respectively. |
| NON-FUNCTIONAL REQUIREMENTS | * The software must foresee the future creation of other products and user types. * The software must have a fast-overall performance. |

**Functional Requirements Analysis Table (Note: One table for each functional requirement)**

| Name or identifier | FR01: bibliographic product record | | |
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| Summary | The software must allow to register new bibliographical products with its respective information:   * In the case of books is required: unique id, name, number of pages, a short review, publication date, genre, front page URL, sell price, number of copies sold and pages red accumulation. * For magazines is required: unique id, name, number of pages, publication date, category, front page URL, subscription price, issuance periodicity, number of active subscriptions and pages red accumulation. | | |
| Inputs | Input name | Data type | Selection or repetition condition |
| Id | String | 3 hex characters |
| Name | String |  |
| Number of pages | String |  |
| Review | String |  |
| Publication date | Calendar | Calendar format: Gregorian (dd-mm-yyyy) |
| Genre | BookGenre | Possible genres: SCI\_FI, FANTASY, HISTORICAL\_NOVEL |
| Category | MagazineCategory | Possible categories: VARIETIES, DESIGN, SCIENTIFIC |
| Front page URL | string |  |
| Sell price | Double | Price format: USA dollar |
| Copies sold | Int |  |
| Subscription price | Double | Price format: USA dollar |
| Active subscriptions | Int |  |
| pages red | int |  |
| Result or postcondition | * The object Book or Magazine is saved in the array. | | |
| Outputs | Output name | Data type | Selection or repetition condition |
| message | String |  |
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| Name or identifier | FR02: delete the bibliographic product. | | |
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| Summary | The software must allow to delete any bibliographic product. For this, user must provide the bibliographic product position in the array. | | |
| Inputs | Input name | Data type | Selection or repetition condition |
| selection | int |  |
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| Result or postcondition | * The bibliographical product must have been created previously. | | |
| Outputs | Output name | Data type | Selection or repetition condition |
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| Name or identifier | FR03: modify the bibliographic product | | |
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| Summary | The software must allow to modify any attribute of a bibliographic product. To do this, user must provide what bibliographic product is going to be modify and which attributes will be changed. | | |
| Inputs | Input name | Data type | Selection or repetition condition |
| productSelection | Int |  |
| attributeSelection | Int |  |
| newValue | String |  |
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| Result or postcondition |  | | |
| Outputs | Output name | Data type | Selection or repetition condition |
| msg | String |  |
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| Name or identifier | FR04: register user | | |
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| Summary | The software must allow to register two types of users: regular and premium. The data required to register a user is: name, id, sign up date. | | |
| Inputs | Input name | Data type | Selection or repetition condition |
| Name | String |  |
| Id | String |  |
| signUp | Calendar |  |
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| Result or postcondition |  | | |
| Outputs | Output name | Data type | Selection or repetition condition |
| msg | String |  |
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| Name or identifier | FR05: purchase of book and magazine subscriptions. | | |
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| Summary | The software must allow the user to purchase a book or subscribe to a magazine. For this, user must select the copy of the book or magazine, then, operation date and the total to pay will be shown in a bill. | | |
| Inputs | Input name | Data type | Selection or repetition condition |
| selection | Int |  |
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| Result or postcondition | * Operation date and the total to pay are stored. * Number of copies is updated. | | |
| Outputs | Output name | Data type | Selection or repetition condition |
| msg | String |  |
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| Name or identifier | FR06: cancel magazine subscriptions. | | |
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| Summary | The software must allow the user to cancel a magazine subscription at any time. To do this, user must select the magazine to unsubscribe. | | |
| Inputs | Input name | Data type | Selection or repetition condition |
| Selection | int |  |
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| Result or postcondition | * The subscription to the magazine is canceled. | | |
| Outputs | Output name | Data type | Selection or repetition condition |
| msg | String |  |
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| Name or identifier | FR07: show the bibliographic product collection | | |
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| Summary | The software must allow to show all the users bibliographic product collection and navigate through the pages. | | |
| Inputs | Input name | Data type | Selection or repetition condition |
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| Result or postcondition |  | | |
| Outputs | Output name | Data type | Selection or repetition condition |
| list | String |  |
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| Name or identifier | FR08: simulation of the reading session. | | |
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| Summary | The software must allow the user to simulate a reading session. This means that the user can navigate through the previous page, next page and return to the main library; | | |
| Inputs | Input name | Data type | Selection or repetition condition |
| productName | String |  |
| navigation | char |  |
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| Result or postcondition |  | | |
| Outputs | Output name | Data type | Selection or repetition condition |
| Msg | String |  |
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| Name or identifier | FR09: generate real-time reports. | | |
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| Summary | The software must generate the following reports in real-time: 1) For each type of bibliographic product, book and magazine, report the accumulated total number of pages read on the entire platform; 2) the most read book genre and magazine category for the entire platform; 3) the Top 5 books and the Top 5 most read magazines on the platform; 4) For each genre, report the number of books sold and the total value of sales; 5) For each category, report the number of active subscriptions and the total value paid for subscriptions. | | |
| Inputs | Input name | Data type | Selection or repetition condition |
| selection | int |  |
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| Result or postcondition |  | | |
| Outputs | Output name | Data type | Selection or repetition condition |
| Msg | String |  |
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| Name or identifier | FR10: easy test performance | | |
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| Summary | Software must provide at least one object of each user and bibliographic product type when required. | | |
| Inputs | Input name | Data type | Selection or repetition condition |
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| Result or postcondition |  | | |
| Outputs | Output name | Data type | Selection or repetition condition |
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