

Software Requirements Specification for BiblioteQ

Requirements for Version 6.63

Ana Monteiro e Fátima Dias

Universidade do Minho, 2013

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1. Introduction

This document aims to specify the definition of requirements for Biblioteq, presenting the description of its features, restrictions and precise specification of the software, with all functional and nonfunctional requirements of Biblioteq system.

The functional requirements describe the functions or the services you would expect the system to provide / offer (essential functions of the system). The term function is used in the generic sense of operation that can be performed by the system either by commands of the users or by the occurrence of either internal or external to the system. The specification of a functional requirement must determine what software is expected to do, without worrying about how he does it.

The non functional requirements are the requirements that aren't directly related to the essential functions of the system, they are de global qualities of the software, like usability, performance, efficiency, costs among others. Usually these requirements are described in an informal way and are difficult to validate.

1.2 Document conventions

When writing this document it was inherited that all requirements have the same priority.

First there is presented an overall view about Biblioteq and then all features and functions are analyzed in detail:

- In chapter 2 an overall description of BibliteQ is provided. First product perspective is presented with product features and main functions. Then follow user classes and characteristics, operating environments that BibliteQ supports as well as design and implementation constraints. After all that user documentation is presented and will provide you with more details about each feature's technology.
- In chapter 3 most important features are presented with detailed description.
- In chapter 4 user and communication interfaces are described.
- In chapter 5 requirements about safety and performance are presented.

1.3 Intended audience

This document is intended for

Developers: in order to be sure they are developing the right project that fulfills requirements provided in this document.

Testers: in order to have an exact list of the features and functions that have to respond according to requirements.

Users: in order to understand the functionalities of the Software BiblioteQ and be capable of using it.

1.4 Contact information/SRS team members

Alexis Megas

<http://textfield.users.sourceforge.net/>

<https://sourceforge.net/users/textfield>

1.5 References

<http://biblioteq.sourceforge.net/>

This is project's official website where you can find links to all above and also find features available for downloading.

<https://sourceforge.net/users/textfield>

In this website you can find out more about the project and discuss any questions in the forums. You can go back and look at previous releases, code and problems that have been solved. There you can also find information about the developers as well as the project's main characteristics such as programming language and algorithms

<http://code.google.com/p/biblioteqonline/wiki/RegisteringOnlineUsers>

In this website you can find Online Interface for the BiblioteQ Library Management Software

<http://ospenciin.blogspot.pt/>

<http://biblioteq.findmysoft.com/>

http://eden.rutgers.edu/~bab253/550infotech/Ex4/ex4_page1.html

2. Overall Description of Software

2.1 Product perspective

BiblioteQ is an open source library management suite that can help libraries with cataloging, patron tracking, and circulation management. With its multi-functionality and cross-platform availability, this free application is a potentially useful library tool, particularly for small libraries at organizations such as schools, churches, and other nonprofits.

BiblioteQ strives to be a professional cataloging and library management suite, utilizing a Qt 4.x interface and providing connectivity to PostgreSQL and SQLite. The SRU and Z39.50 protocols are used for retrieving data for books, journals, and magazines. The software is available for all major operating systems and should be compatible with any system that supports Qt.

2.2 Product functions

By installing BiblioteQ, you will be able to organize and manage any collection, no matter how large, in the most efficient way possible. That's because BiblioteQ is based on a database file, which can store an unlimited number of items.

BiblioteQ features an easy-to-use interface for cataloging books, DVDs, CDs, journals, magazines, and video games. For items with ISBN and ISSN numbers, BiblioteQ offers the ability to query the Library of Congress and Columbia University catalogs via the standard Z39.50 protocol, thereby allowing for quicker data entry. For books, BiblioteQ also offers cover image retrieval via Amazon.com.

BiblioteQ makes it possible to assign unique member IDs to patrons and track basic details such as contact information and check-out history. Other features include listings of overdue, requested, and reserved items; customizable displays; embedded hyperlinks for localized searches of related items; print support; exporting to CSV files; searching capabilities, including custom SQL queries; and translation support.

Summary of BiblioteQ's features:

- Administrator roles.
- Cataloging of books, dvds, journals, magazines, music cds, photograph collections, and video games.
- Cover images with drag and drop support.
- Customizable displays.
- Customizable item data, pricing information, and currencies.
- Embedded hyperlinks for localized searches of similar items.
- Exporting of views to CSV files.
- Free and Open Source technology.
- Front cover image retrieval via Amazon.

- Internationalization (translation) support. BiblioteQ currently supports the Czech, Dutch, English, French, German, and Greek languages.
- Item reservation histories for patrons.
- Item reservation.
- Listings of overdue items, requested items, and reserved items.
- Patron information.
- PostgreSQL accounts with various privileges.
- Print support.
- Rich search capabilities, including custom SQL queries.
- Support for multiple SRU and Z39.50 sites.
- Support for requesting unavailable items.
- Threaded data retrieval via the standard Z39.50 protocol for books, journals, and magazines.
- Transactional database queries.
- True PostgreSQL and SQLite pagination.
- Uniform functionality across various platforms.

2.3 User classes and characteristics

End users/Desktop: users with no particular knowledge on computer programming. They just use the database for organizing their data and to keep them safe.

System administrators: True administrator privileges are only available on PostgreSQL databases. SQLite databases are fully editable by the owners of the databases.

You must install PostgreSQL and configure it properly for BiblioteQ in order to utilize BiblioteQ's PostgreSQL administrator roles.

If you are using the application for recording small sets of data and/or are unfamiliar with PostgreSQL, SQLite is recommended.

2.4 Operating environment

The technologies used in the development of BiblioteQ include: RedHat JBOSS AS7, JSF 2.0, RichFaces 4.0, Hibernate 4.1, PostgreSQL 9.1, and Lucene 3.6.0.

BiblioteQ Specifications

- **User Interface:** Qt
- **Programming Language:** C++
- **Database:** PostgreSQL, SQLite
- **Platforms:** FreeBSD, Linux, Mac OSX, Solaris, Windows
- **Current Languages:** Czech, Dutch, English, German, Greek,

2.5 User environment

The program has a nice and organized interface, with intuitive menus, and a toolbar that provides easy access to key features of data management.

In the main window of the application you can view all items that already exist in the database: books, journals, DVDs and other materials.

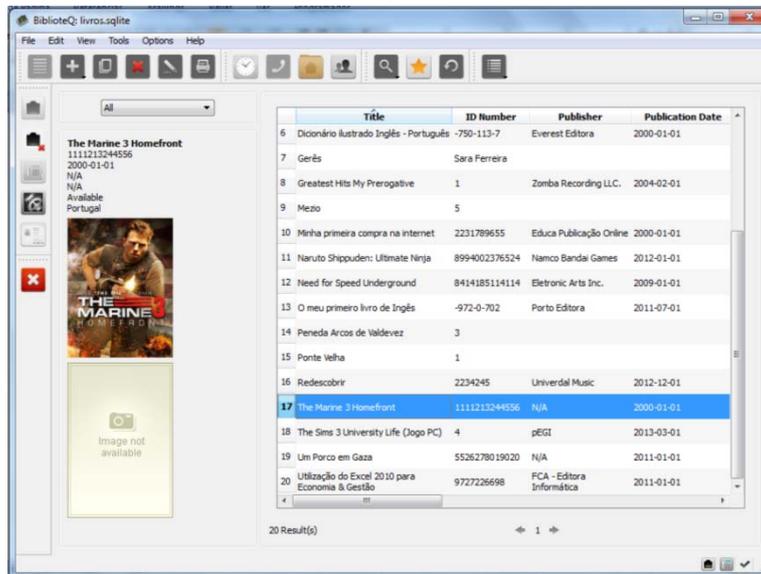
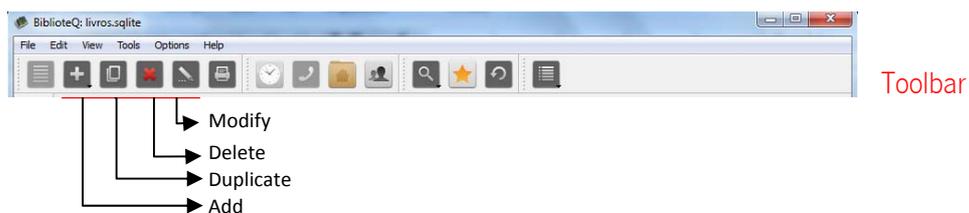


Figure 1: main window of biblioteq

Besides the main information displayed, in this window, through the menus and toolbar, the user can:

1. add, duplicate, delete and modify, the several item(s)
2. print current view.
3. reserve the selected item
4. display members browser.
5. database search (General search or item search)
6. custom database query.
7. refresh table.
8. Select viewable columns.



2.7 Assumptions and dependencies

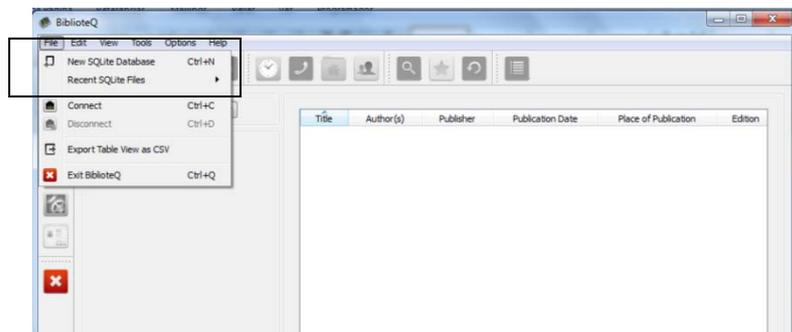
3. System Features

- Create New Database
- User Manager (Administrator roles, ...)
- Cataloging (Cataloging of books, dvds, journals, magazines, music cds, photograph collections, and video games.
- Customizable item data, pricing information, and currencies.
- Reservations (Item reservation histories for patrons, Item reservation, Listings of overdue items, requested items, and reserved items)
- Transactional database queries.

3.1. New Database

The most recent version of the software can be found in the website <http://biblioteq.sourceforge.net> (the software files along with detailed instructions in the ZIP file).

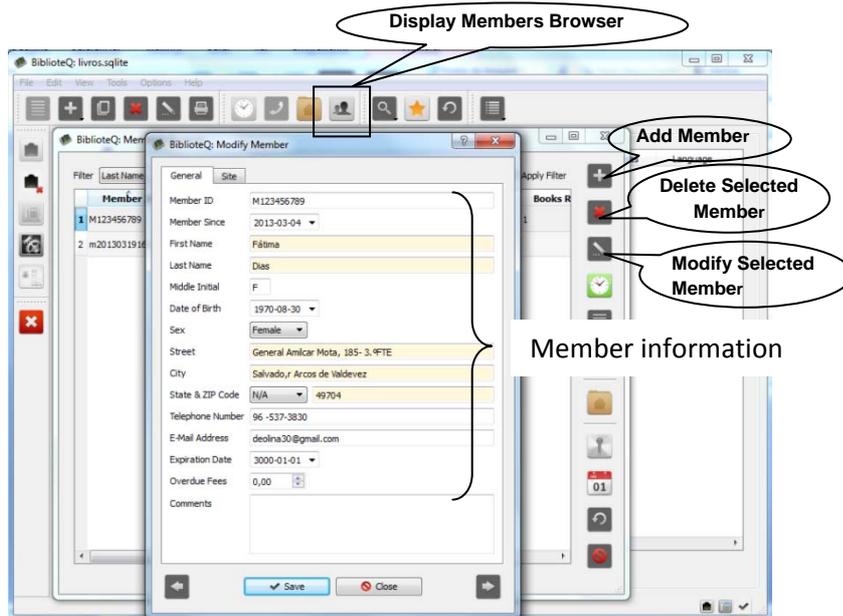
After the application has been installed and launched, the user first needs to create a new database file and then add the desired items into his collection (File Menu -> **New SQLite Database**).



If you have already created one new SQLite, simply select in the [File] tab the option **Recent SQLite files**, and choose which file to open.

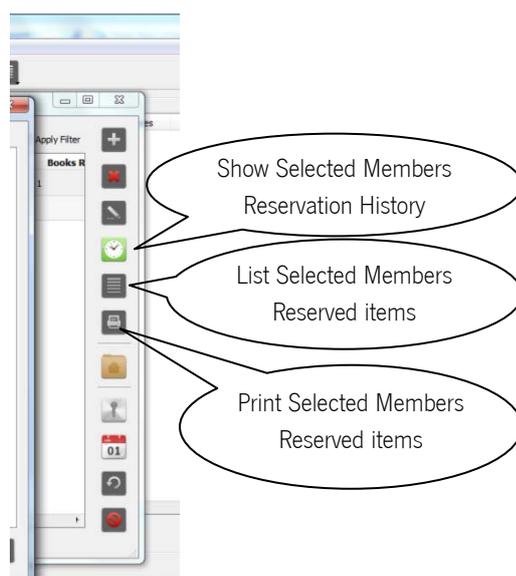
3.2. User Manager (Administrator roles, ...)

The software allows the inclusion, alteration or removal of members, with the following attributes in **General**: Member ID, Member Since, First Name, Last Name, Middle Initial, Date of Birth, Fri, Street, City, State & Zip Code, Telephone Number, Email Address, Expiration Date, Overdue Fees, and Comments and the following attributes in **Site**: Class and General Registration Number.



In this form we can also:

- Search for Members by **Id** or **Last Name**
- View the reserves history of selected user, and show the selection list of members with items reserved, with the following attributes: Member ID, First Name, Last Name, Member Since, Expiration Date, Books Reserved, Reserved Cds, DVDs Reserved, Reserved Journals, Magazines Reserved, and Video Games Reserved.
- Print selected members with reserved items.
- List all items whose reservation period has already expired.
- Refresh table of members browser.

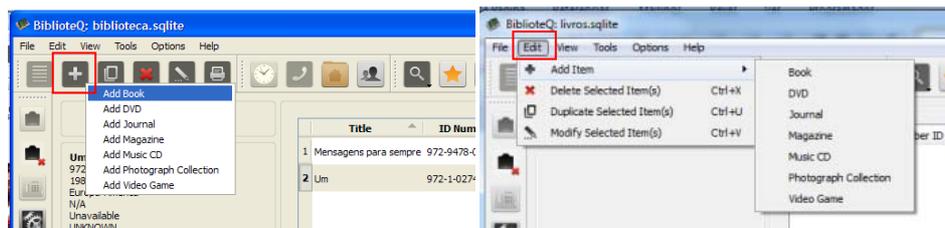
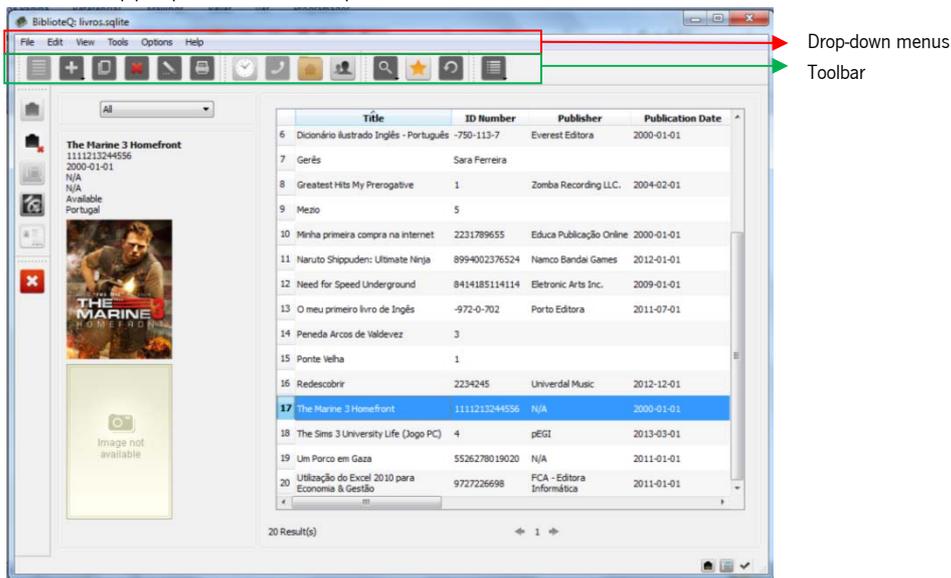


3.3. Cataloging

Biblioteq allows Cataloging of books, dvds, journals, magazines, music cds, photograph collections, and video games.

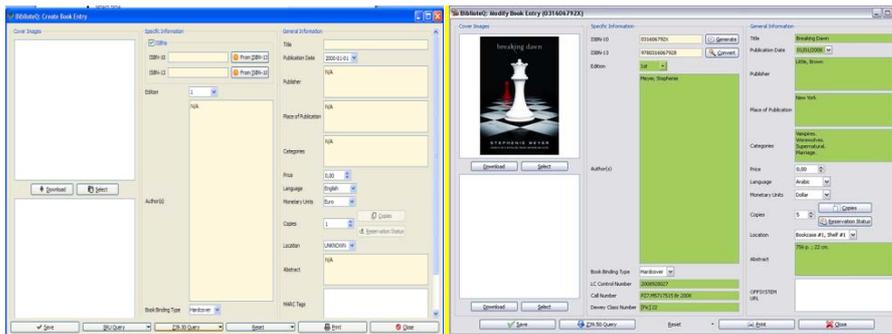
For each category the user will be able to add specific fill a form with specific information, for example if he chooses to add audio CDs, Biblioteq will allow him to type the name of the artist, genre, year, song names and so on.

In the main window you can do this in two ways: by the drop-down menu (EDIT) or by the button of toolbar. In both ways you must first choose the category (type of material) you want to add and then the appropriate form is open.



3.3.1. Add a Book

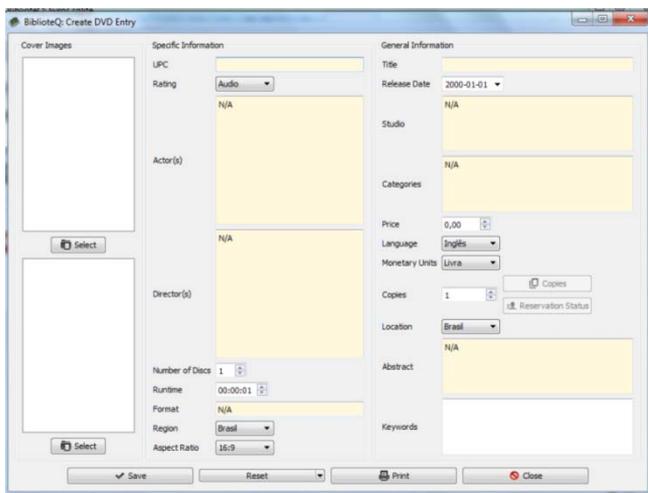
After you choose Add Book a new form is open, and you can start to introduce the information of the book in the appropriate fields:



Here the user will be able to introduce several information such as: Cover Image, ISBN-10 or ISBN-13, Edition, Author(s), Book Binding Type (Hardcover, Paperback), LC Control Number, Call Number, Dewey Class Number, Title, Publication Date, Publisher, Place of Publisher, Categories, Price, Language, Monetary Units, Copies, Location, Abstract, MARC Tags, Keywords, SRU Query, Z39.50 Query, Print and reset any of the fields. Each book can have one or more copies in the biblioteq. So the system will assign a unique identifier to each copy (Copy Identifier).

3.3.2. Add a DVD

After you choose Add DVD a new form is open, and you can start to introduce the information of the dvd in the appropriate fields.



Here the user will be able to introduce several information such as: cover images, UPC (Universal Product Code), Actor(s), Director(s), Number of Discs, Runtime, Format, Region, Aspect Ratio, Teatle, Ratio, Release Date, Studio, Categories, Price, Language, Monetary Units, Copies, Location, Abstract, Keyword, Save, Reset any of the fields, Print and Close de window of the adding a DVD.

3.3.3. Add a Journal

After you choose Add Journal a new form is open, and you can start to introduce the information of the journal in the appropriate fields:

Here the user will be able to introduce several information such as: cover images, ISSN, Volume, Issue Number, LC Control Number, Call Number, Dewey Class Number, Title, Publication Date, Publisher, Place of Publication, Categories, Price, Language, Monetary Units, Copies, Location, Abstract, Save, SRU Query, Z39.50 Query, Reset any of the fields, Print and Close de window of the adding a Journal.

3.3.4. Add a Magazine

After you choose Add Magazine a new form is open, and you can start to introduce the information of the Magazine in the appropriate fields:

Here the user will be able to introduce several information such as: cover images, ISSN, Volume, Issue Number, LC Control Number, Call Number, Dewey Class Number, Title, Publication Date, Publisher, Place of Publication, Categories, Price, Language, Monetary Units, Copies, Location, Abstract, Save, SRU Query, Z39.50 Query, Reset any of the fields, Print and Close de window of the adding a Magazine.

3.3.5. Add a Music CD

After you choose Music CD a new form is open, and you can start to introduce the information of the Music CD in the appropriate fields:

Here the user will be able to introduce several information such as: Cover Images, Catalog Number, Format, Artist(s), Number of Discs, Runtime, Audio, Recording Type, Tracks, Title, Release Date, Recording Label, Categories, Price, Language, Monetary Units, Copies, Location, Abstract, Keywords, Save, Reset any of the fields, Print and Close de window of the adding a Music CD.

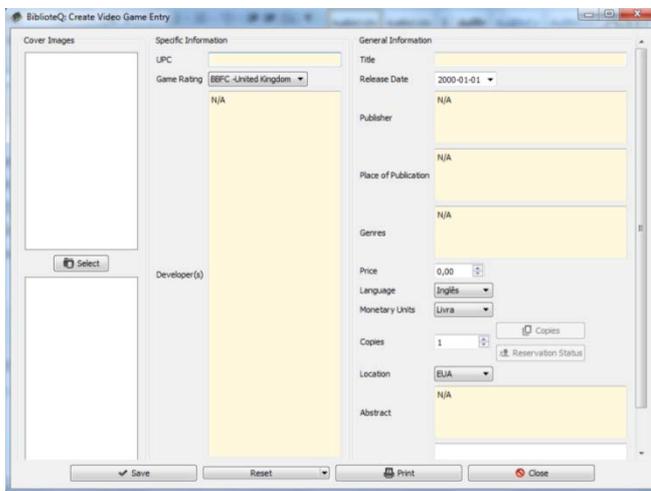
3.3.6. Add a Photograph Collection

After you choose Photograph Collection Entry, a new form is open, and you can start to introduce the information of the Create Photograph Collection in the appropriate fields:

Here the user will be able to introduce several information such as: Select (Images), ID, Title, Location (insert information of location), insert information of the item and ID, Title,Creator(s), Publication Date, Copies, Medium, Reproduction Number, Copyright, , Save, Add Item, Reset any of the fields, Export Photographs Print and Close de window of the adding a Photograph Collection.

3.3.7. Add a Video Game

After you choose Video Game a new form is open, and you can start to introduce the information of the Video Game in the appropriate fields:

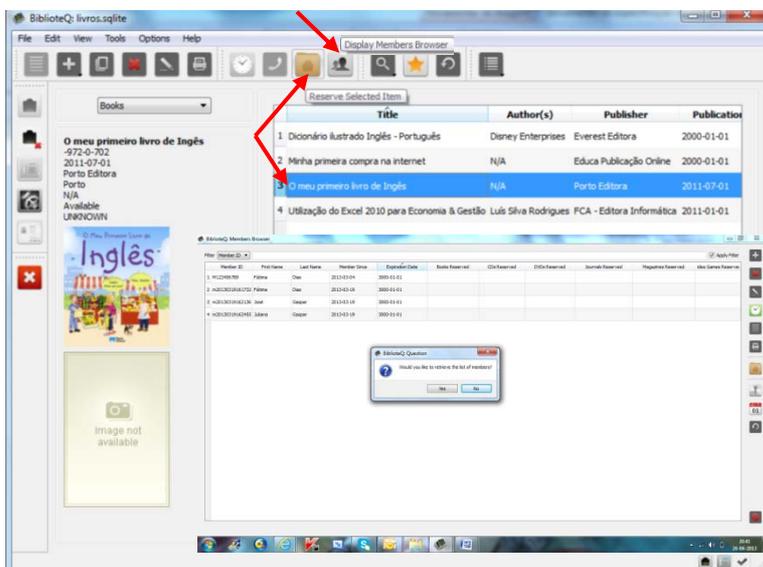


Here the user will be able to introduce several information such as: Cover Images, UPC (Universal Product Code), Game Rating, Developer(s), Title, Release Date, Publisher, Place of Publication, Genres, Price, Language, Monetary Units, Copies, Location, Abstract, Save, Reset any of the fields, Print and Close de window of the adding a Video Game.

3.4. Reservations

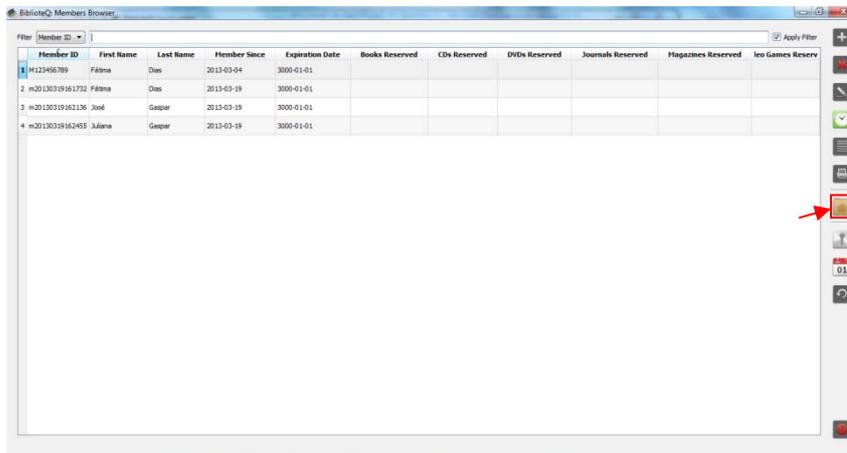
To reserve (book) one of the existing items in BiblioteQ, there are two options that can be selected in the main window.:

In the drop down menu you select Books and you select one book. You select Display Members Browser or Reserve Selected Item and a new form is open, and a question is posed: Would you like to retrieve the list of members? and you selected yes.

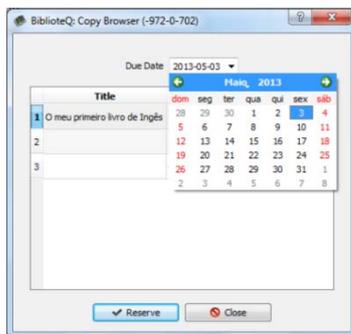


Then comes the list of existing members in the database.

Here we can reserve the book previously selected in the main menu, selecting **Reserve Selected Item** in the toolbar.

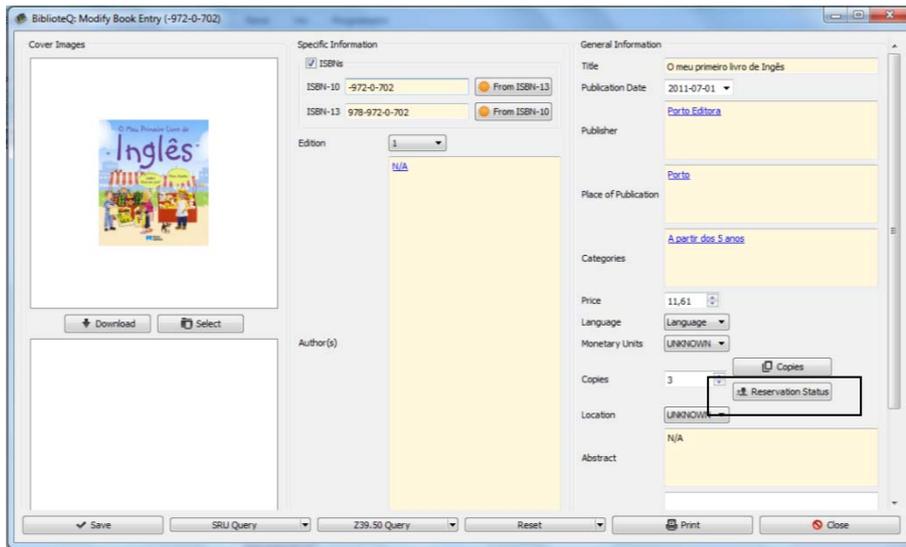


A new form is open, and you can start to select the book you want to reserve and the date of delivery of this. Finally press the button **[Reserve]** and the selected book are reserved.

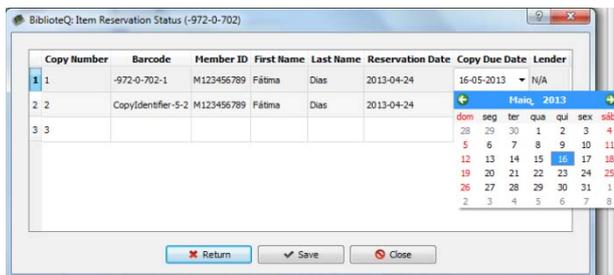


In the reserve Window the system allow you to: Filter Member ID or Last Name; Add Member ; Delete Selected Member ; Modify Selected Member ; Show Selected Member's Reservation History ; List Selected Member's Reserved Items ; Print Selected Member's Reserved Items ; Grant Privileges ; List All Overdue Items ; Refresh Table  and Close Browse .

To change the delivery date of one item or to register his devolution, of a book previously reserved, we should proceed this way: First, in the main window, in the drop down menu select Books and select the return book in the list, by doing double-click in this book. A new form is open:



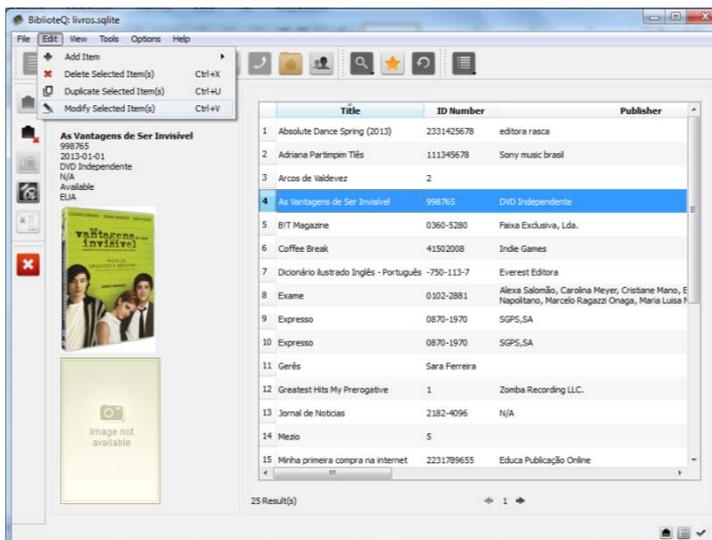
In this window you will find a button [Reservation Status] that you should press to see all the information about the reservations:



Here you can change the delivery date and save the changes, or register the book devolution by pressing the button **Return**.

Modify Selected Item

From the Edit menu, sub-menu Modify Selected Item (s), you can modify an item of BiblioteQ, after it is selected.

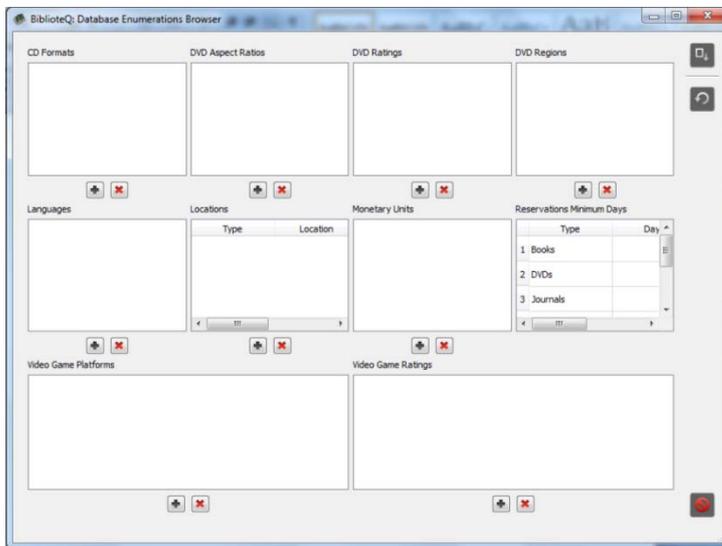


Here the system will allow you to, by double-click the item, change all the existing data and save the changes.

Case an item from the collection was borrowed to a specific person, the user can add full details regarding that person. Furthermore, one can print the list of items from his collection for future analysis and can also save it as a regular CSV file, which can be imported in any compatible application. Unfortunately, there is no option for protecting the database with a password.

3.5. Customizable item data (Database Enumerations Browser)

From the main window, making a double-click in the command Database enumeration , the following window appears in which you can configure the possible options for certain attributes available to fill.



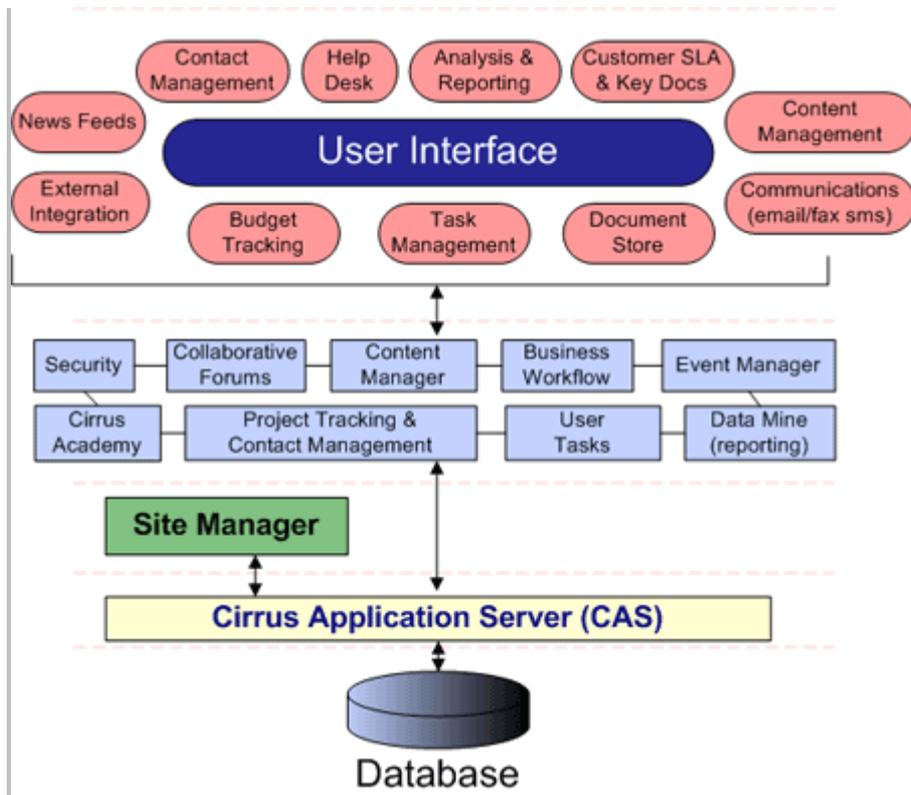
Here the system allow to add attributes to each item , delete selected attributes , save changes , refresh data  and close the window .

4. External Interface Requirements

4.1. User interfaces

4.2. Hardware interfaces

4.3 Software interfaces



3.1 User Interfaces

User interface includes various forms and windows. The main database window consists of the main menu bar with File, Edit, View, Tools, Options and Help. Under main menu there is a toolbar with shortcuts to most used functions of Biblioteq. Those are: View Selected Item (s), Add Item, Duplicate Selected Item (s), Delete Selected Item (s), Modify Selected Item (s), Print Current View, View Member's Reservation History, Item Requests, Reserve Selected Item , Display Members Browser, Database Search, Custom Database Query, Refresh Table, Select Viewable Columns . On the main database window are appeared entries from a selected item. Connect, Disconnect, Change Password, Database Enumerations, Configure Administrator Privileges, and Exit Biblioteq, can be found at a side bar.

When a function is performed like adding, editing or deleting, the active window is the performing the action, and the main window. At this time the main database window is active and can be accessed.

3.4 Communication protocols and interfaces

5.3 Software Quality Attributes

- Biblioteq is a small and light project, an easy to use application designed to help you easily manage your library.
- The application is supported on numerous platforms, including FreeBSD, Linux, OS X, Solaris, and Windows. Installers are available for OS X, Unix, and Windows.
- As for database connectivity, BiblioteQ supports both PostgreSQL and SQLite database engines.
- Biblioteq is developed under GNU General Public License version 2 or later (copy from <http://www.gnu.org/licenses/gpl.html>) and can be distributed under those terms.
- Biblioteq can be found and downloaded from <http://code.google.com/p/biblioteqonline> and the project's official website at <http://biblioteq.sourceforge.net/> for free.