



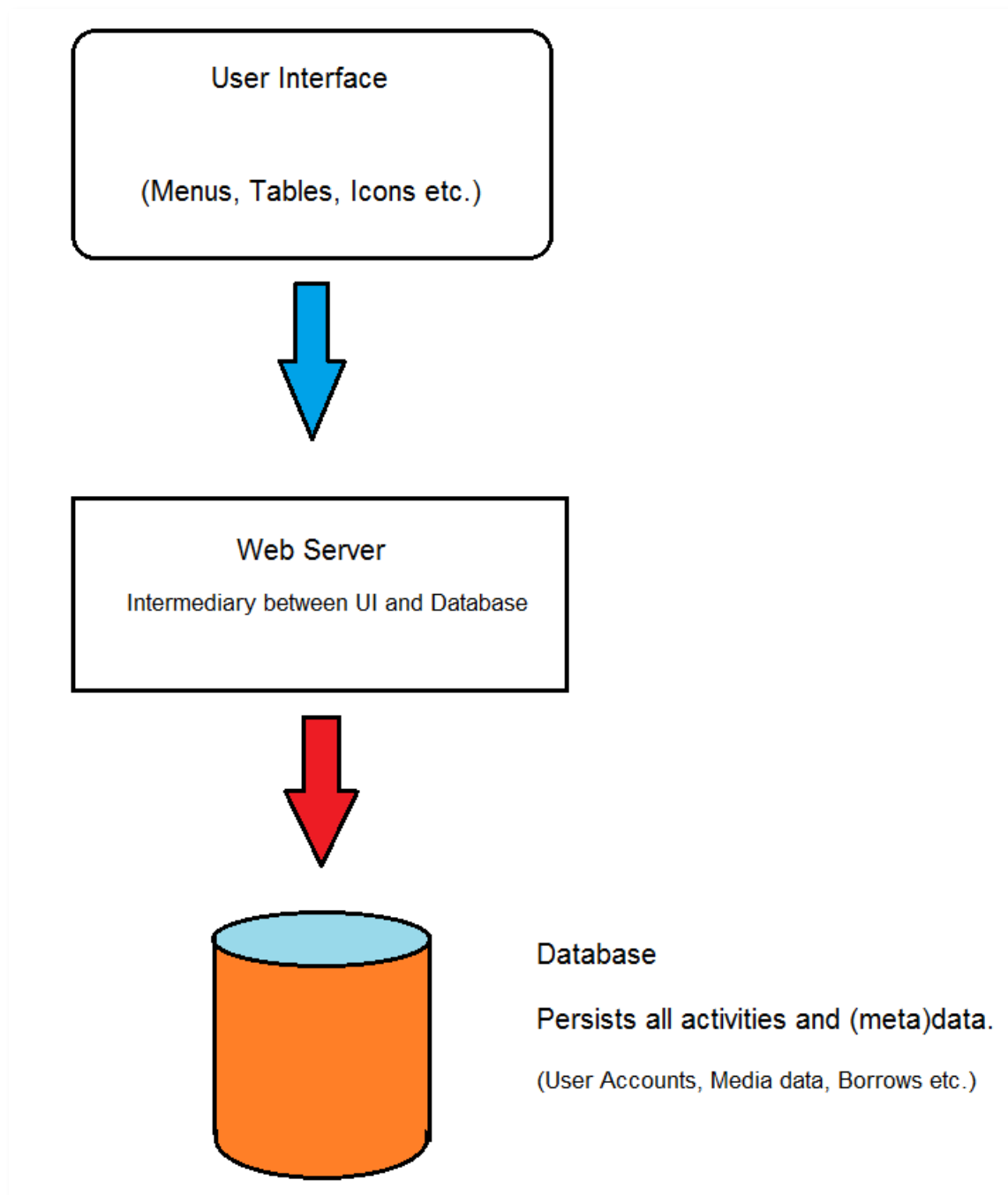
BiB

Open Source **Library Management Software** for Primary Schools

About

BiB is a web-based application for Librarian administration of media. It is an "open source" software (**MIT licensed**), which imposes no restrictions and can be modified and redistributed freely. It can run on all modern operating systems (Windows, macOS and Linux). The only real requirement is the existence of a modern browser such as *Chrome*, *Firefox*, *Internet Explorer 11* or *Edge*. Depending on the selection of the operating system, it can basically be assumed that at least one of the mentioned variants will be available. BiB is operated via a graphical interface via mouse and provides various menus depending on the context. In addition to classical library functions such as media rental, automated enrichment of media data can also be carried out using ISBN numbers. However, a working Internet connection is required for this functionality to operate. For other operations, BiB can be operated without an existing Internet connection, which is also an advantage in terms of data protection, since accidental data loss is impossible. From the outside, BiB is just a web page with some additional features such as context menus and tables. Technically, however, it consists of three separate elements, each covering one aspect of the overall structure. The graphical interface is the place where all interactions take place. A database, which manages all entries, is connected to it, so that these can be saved and imported at any time. And as a link between the graphical interface and the database, a web server, which translates queries of the graphical interface into corresponding database commands. Through these three elements: **UI**, **web server** and **database** will ensure that BiB may be adjusted as a whole or some of its components in the future. This structure allows BiB to be used even in more complex scenarios where, for example, a single machine does not harbor all aspects, but is distributed over several machines. As mentioned above, BiB is a free, open-source software. However, this also applies to all other elements to which BiB is based, such as the previously mentioned database and the web server.

BiB's technology stack

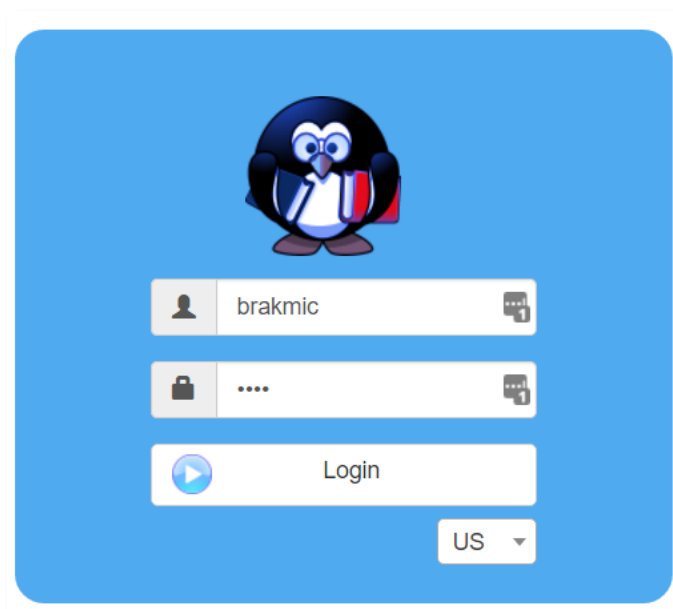


Technically speaking, BiB is an application that makes it possible to send commands to the database using easily accessible elements such as menus. Since all activities in the graphical interface will eventually be stored in the database, BiB is designed to abstract the complexity of the database level as far as possible, so that in the graphical interface there's almost no indications of the presence of a database, or even of a web server. All interactions that are made by users must take place in a context easy to understand. A typical "librarian context" knows terms such as "lending", "reading accounts" or "overdue". While the database level deals with "tables", "relations", or "primary keys". Therefore, it is understandable why such systems should be designed so that users should rarely come into contact with non-contextual infrastructure elements.

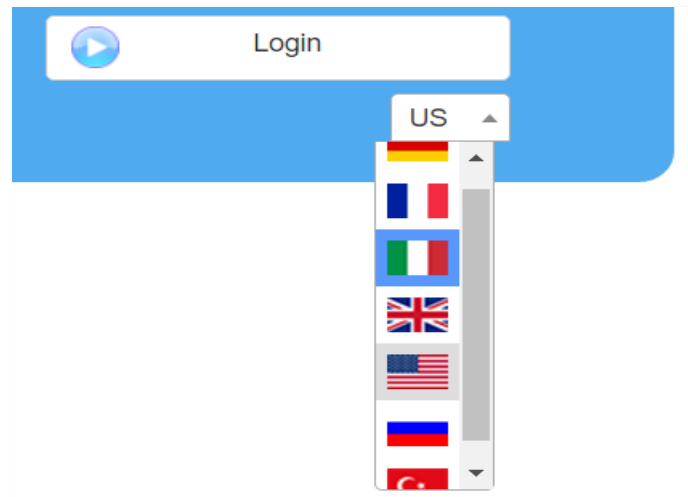
Here's an overview of the technologies that constitute BiB's stack.

Name	Task	Manufacturer	Address	Open Source?
Angular 2	User Interface	Google	Http://angular.io	Yes
HapiJS	Web server	Wal-Mart	Https://hapijs.com	Yes
MariaDB	Database	MariaDB Corp.	Https://mariadb.com	Yes

Using BiB



Each session in BiB begins with a login. Optionally, the language to be used can be selected below the login button. BiB is multi-lingual and can be extended by providing additional configuration files for new languages.



Should problems occur during registration or other activities, BiB will inform you about these by means of small “toasts”. Here, for example, the information about a failed login attempt can be seen:



Similar messages are also displayed if attempts are made to start operations for which there are insufficient user-rights.

After a successful login, the default screen is presented. It comprises of three parts:

Sidebar menu on the right side, an **activity area** in the middle and the **statistical output** to the left.



The menus on the left lead to functions that are known from the librarian's practice:

- Media Management
- Accounts
- Borrow
- Data-retrieval via ISBN

Media Management

Media					
Show 10 entries		Search: <input type="text"/>			
	Title	Year	ISBN	Borrowed	
2	Im Tal der Dinosaurier	2011	3785535910	Yes	
3	Der Schatz der Piraten	2004	3785537549	Yes	
4	Petronella Apfelmus: Verhext und festgeklebt.	2014	3414823993	Yes	
6	Feen halten zusammen	2015	3770740254	No	
7	Zauberhafte Gutenacht-Geschichten	2014	3770740246	No	
8	Die Zimtsternprinzessin	2016	B01N9F97LM	No	
9	Gute-Nacht-Geschichten	2005	9783937495866	No	
10	Verrückte Schulgeschichten für Erstleser	2013	9783473364190	No	
11	Mein großes Buch für die Vorschule [über 250 Kinderfragen und Antworten]	2013	9783473553631	No	
13	Mein erstes Vorschulbuch Buchstaben und Zahlen	2013	9783473326006	No	

Showing 1 to 10 of 16 entries

Previous 1 2 Next

This option provides a tabular representation of all existing media as well as a context menu for lending and managing them. If the rental is selected, the following window appears with the request to select the desired reading account:

Borrow ✕

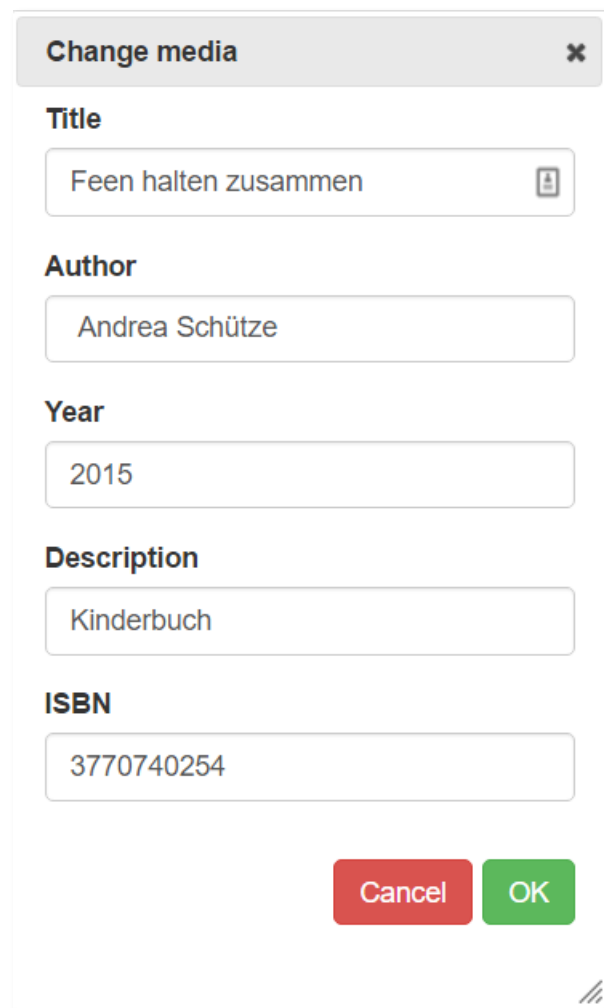
Title

Feen halten zusammen

Harris Brakmic ✕ ▼

Cancel OK

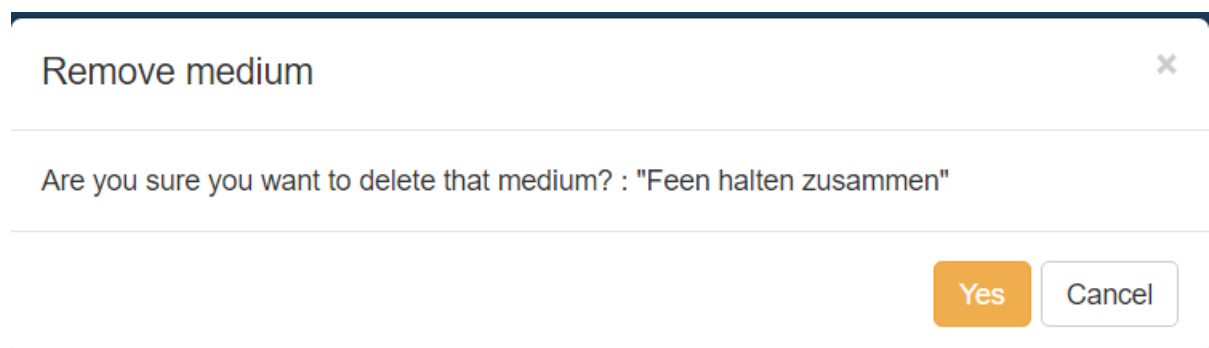
If, on the other hand, one of the options related to the media administration is selected, such a window is presented:



A dialog box titled "Change media" with a close button (X) in the top right corner. It contains five input fields with labels: "Title" (Feen halten zusammen), "Author" (Andrea Schütze), "Year" (2015), "Description" (Kinderbuch), and "ISBN" (3770740254). At the bottom right, there are two buttons: "Cancel" (red) and "OK" (green). A small icon of three diagonal lines is in the bottom right corner of the dialog box.

Field	Value
Title	Feen halten zusammen
Author	Andrea Schütze
Year	2015
Description	Kinderbuch
ISBN	3770740254

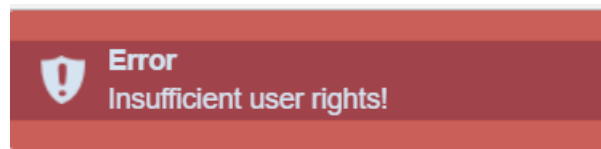
If an attempt is made to delete a medium, a confirmation message appears:



A dialog box titled "Remove medium" with a close button (X) in the top right corner. It contains a confirmation message: "Are you sure you want to delete that medium? : 'Feen halten zusammen'". At the bottom right, there are two buttons: "Yes" (orange) and "Cancel" (white with grey border).

Field	Value
Message	Are you sure you want to delete that medium? : "Feen halten zusammen"

If the active user account does not have the necessary rights, such an operation is acknowledged with an error message:




Loan Management


Borrowed media						
Show	10	entries	Search: <input type="text"/>			
	Reader ID	Reader	Title	Borrow date	Overdue	
204	1	Harris Brakmic	Petronella Apfelmus: Verhext und festgeklebt.	01.01.2017	No	
205	1	Harris Brakmic	Im Tal der Dinosaurier	01.01.2017	No	
206	3	Maria Musterfrau	Der Schatz der Piraten	29.02.2016	Yes	
Showing 1 to 3 of 3 entries				Previous	1	Next

The list of the borrowed media contains all the important data like borrowing dates, the reading accounts and whether this is an overdue loan. Such entries are additionally marked in red to highlight them between the remaining entries.


Borrowed media						
Show	10	entries	Search: <input type="text"/>			
	Reader ID	Reader	Title	Borrow date	Overdue	
204	1	Harris Brakmic	Petronella Apfelmus: Verhext und festgeklebt.	01.01.2017	No	
205	1	Harris Brakmic	Im Tal der Dinosaurier	01.01.2017	No	
206	3	Maria Musterfrau	Der Schatz der Piraten	29.02.2016	Yes	
Showing 1 to 3 of 3 entries				Previous	1	Next




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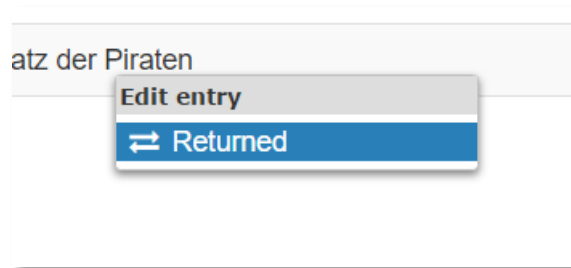


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If a medium is returned, its entry is removed from the borrow list via context menu:



At the same time, all currently leased media and "media overdue" are displayed in the statistics display on the right.



The meaning of the icons is as follows (from top to bottom):

- Number of media
- Number of reading accounts
- Number of loans
- Number "media overdue"

The display changes its values automatically and without reloading the web page. When operations are performed that are relevant to one of the entries, their digits get adjusted accordingly.

Reader Status

Readers			Borrowed media			
Show 10 entries Search:			Show 10 entries Search:			
First Name	Last Name	Phone	Reader ID	Title	Overdue	
Harris	Brakmic	423432324	204	Petronella Apfelmus: Verhext und festgeklebt.	No	
Maria	Musterfrau	00098765	205	Im Tal der Dinosaurier	No	
Max	Mustermann	0221-123456				
Showing 1 to 3 of 3 entries 1 row selected			Showing 1 to 2 of 2 entries			
Previous 1 Next			Previous 1 Next			

You can display and view status information for each active read account. The table on the left shows all known reading accounts, while the right shows which loans have been posted under the respective reading account. Media can also be loaded back into the system via the left-hand table so that switching between the reader status and rental screen is not necessary:

Readers			Borrowed media			
Show 10 entries Search:			Show 10 entries Search:			
First Name	Last Name	Phone	Reader ID	Title	Overdue	
Harris	Brakmic	423432324	204	Petronella Apfelmus: Verhext und festgeklebt.	No	
Maria	Musterfrau	00098765	205	Im Tal der Dinosaurier	No	
Max	Mustermann	0221-123456				
Showing 1 to 3 of 3 entries 1 row selected			Showing 1 to 2 of 2 entries			
Previous 1 Next			Previous 1 Next			

User Account Management

User management							
Show 10 entries Search:							
ID	Account name	First Name	Last Name	Password	Active	Group	
1	brakmic	Harris	Brakmic	MjZj [...]	1	Administrators	
2	dummy	John	Doe	MIz1f_1	1	Standard	
Showing 1 to 2 of 2 entries							
Previous 1 Next							

BiB is a multi-user system and allows simple account management via context menu and input windows. This is how to register a new account. Again, the same rules apply as in the rest of

the system. Only if certain permissions are available, accounts can be changed and / or re-registered.

Add account

Account name

max

First Name

Max

Last Name

Mustermann

Password

.....

Group

Standard

Cancel

OK

Reader Account Management

Reader management

Show 10 entries

Search:

ID	ID	First Name	Last Name	Phone
1	797987	Harris	Brakmic	423432324
3	0000010	Maria	Musterfrau	00098765
4	0000124	Max	Mustermann	0221-123456

Showing 1 to 3 of 3 entries

Previous1Next

Similar to user account management, reader account management also provides appropriate options for changing and entering reader accounts. And here, too, the rule applies that only logged on users with appropriate rights can make such changes.

Add new reader

ID

1234

First Name

Max

Last Name

Mustermann

Phone

12345

Address

Street 1

Cancel
OK

Database Management

Database management					
Show	10	entries	Search: <input type="text"/>		
	Title	Author	Year	ISBN	
1	Gute-Nacht-Geschichten	Bilder von François Ruyer. Text von Marie-José Bardinat ...	2005	9783937495866	
2	Verrückte Schulgeschichten für Erstleser	Doris Arend ... Mit Bildern von Sabine Kraushaar ...	2013	9783473364190	
3	5-Minuten-Geschichten	[Übers.: Ronit Jariv ...]	2011	9781445446035	
4	Mein großes Buch für die Vorschule [über 250 Kinderfragen und Antworten]	[Text: Martina Gorgas ; Johanna Friedl]	2013	9783473553631	
5	Mein erstes Vorschulbuch Buchstaben und Zahlen	Angela Weinhold	2013	9783473326006	
6	Pass auf im Straßenverkehr	[Ill. und text, Angela Weinhold]	2007	9783473332755	
7	Erstlesegeschichten für Mädchen in der 1. Klasse	Katja Reider	2014	9783473364336	

Showing 1 to 7 of 7 entries

Previous
1
Next

☒ Ignore duplicates

Cancel
OK

This option can be used to automatically enrich the database by uploading a text file with ISBN numbers to the BiB system. After the upload BiB contacts a publicly available web service from

WorldCat^t to retrieve data for the matching ISBNs. After completing this process, a table with content similar to the above figure is generated. At this point, it is possible to transfer the obtained data to the BiB database, or to renounce it. It is also possible to sort out duplicates, for example if certain titles or ISBNs already exist in the local database.