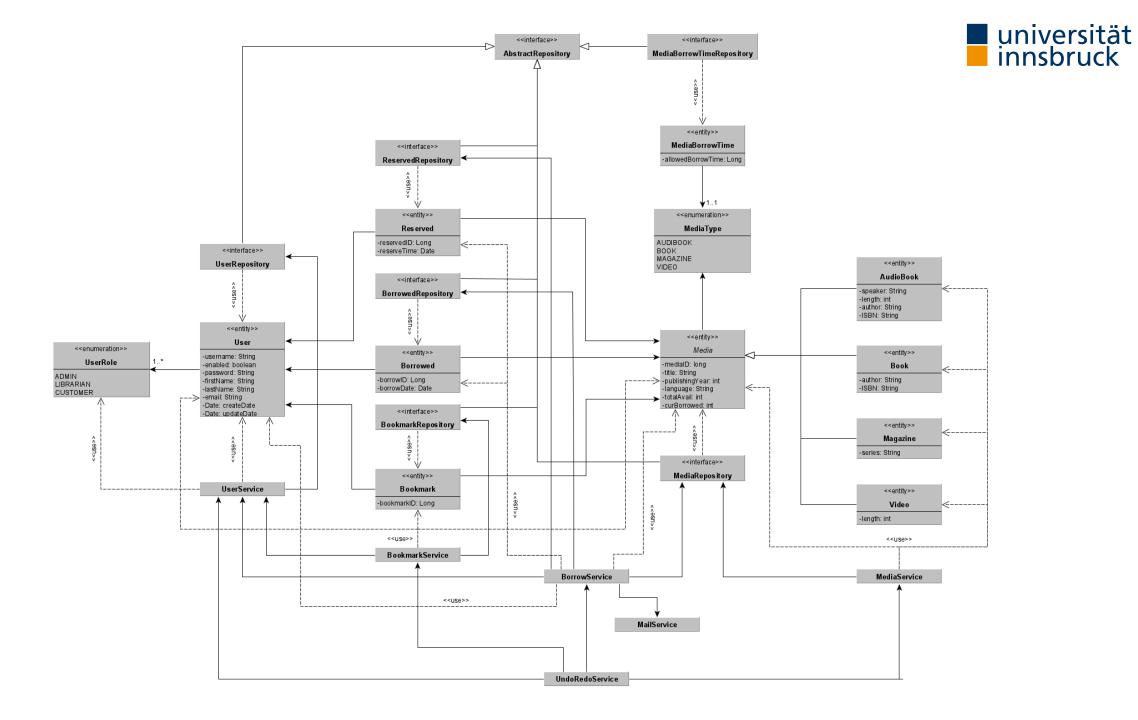# 📖 Library application

Thomas Klotz, Marcel Alexander Huber, Philip Eckhart, David Spleit, Matthias Thalmann
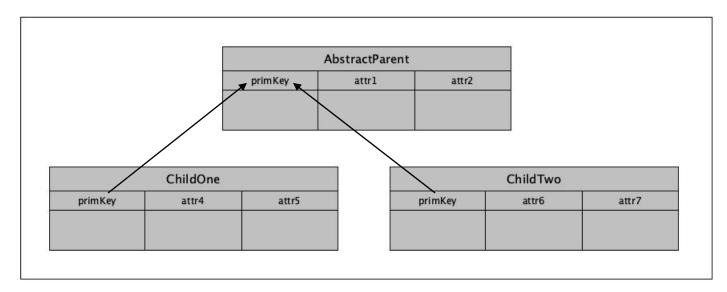
Das System

Technische Details
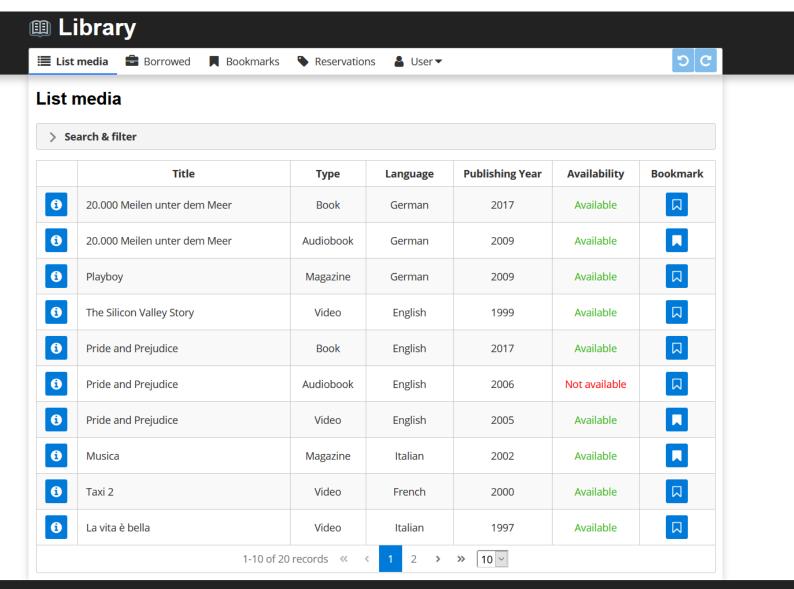
<<interface>>
AbstractRepository

<<interface>>
MediaBorrowTimeRepository

<<entity>>
MediaBorrowTime
-allowedBorrowTime: Long

<<interface>>
ReservedRepository

<<enumeration>>
MediaType
AUDIBOOK
BOOK
MAGAZINE
VIDEO

<<entity>>
Reserved
-reservedID: Long
-reserveTime: Date

<<interface>>
UserRepository

<<interface>>
BorrowedRepository

<<entity>>
AudioBook
-speaker: String
-length: int
-author: String
-ISBN: String

<<enumeration>>
UserRole
ADMIN
LIBRARIAN
CUSTOMER

<<entity>>
User
-username: String
-enabled: boolean
-password: String
-firstName: String
-lastName: String
-email: String
-Date: createDate
-Date: updateDate

<<entity>>
Borrowed
-borrowID: Long
-borrowDate: Date

<<entity>>
Media
-mediaID: long
-title: String
-publishingYear: int
-language: String
-totalAvail: int
-curBorrowed: int

<<entity>>
Book
-author: String
-ISBN: String

<<interface>>
BookmarkRepository

<<entity>>
Magazine
-series: String

UserService

<<entity>>
Bookmark
-bookmarkID: Long

<<interface>>
MediaRepository

<<entity>>
Video
-length: int

BookmarkService

BorrowService

MediaService

MailService

UndoRedoService

1..1

1..*

<<use>>

Das System

User Interface - Customer

📖 Library

Username: * [   ]

Password: * [   ]

[Login]   ⚠ Your session has expired.

Not logged in

Library

List media

> **Search & filter**

	Title	Type	Language	Publishing Year	Availability	Bookmark
ℹ	20.000 Meilen unter dem Meer	Book	German	2017	Available	🔖
ℹ	20.000 Meilen unter dem Meer	Audiobook	German	2009	Available	🔖
ℹ	Playboy	Magazine	German	2009	Available	🔖
ℹ	The Silicon Valley Story	Video	English	1999	Available	🔖
ℹ	Pride and Prejudice	Book	English	2017	Available	🔖
ℹ	Pride and Prejudice	Audiobook	English	2006	Not available	🔖
ℹ	Pride and Prejudice	Video	English	2005	Available	🔖
ℹ	Musica	Magazine	Italian	2002	Available	🔖
ℹ	Taxi 2	Video	French	2000	Available	🔖
ℹ	La vita è bella	Video	Italian	1997	Available	🔖

1-10 of 20 records « ‹ **1** 2 › » 10 ▾

Library

List media

Search & filter

Search title:

Type: Any

Language: German

Availability: Any

Search | Clear search

	Title	Type	Language	Publishing Year	Availability	Bookmark
	20.000 Meilen unter dem Meer	Book	German	2017	Available	
	20.000 Meilen unter dem Meer	Audiobook	German	2009	Available	
	Playboy	Magazine	German	2009	Available	
	Deadpool	Video	German	2016	Available	
	Harry Potter und der Stein der Weisen	Audiobook	German	2011	Available	
	Ein verheißenes Land	Book	German	2020	Available	
	Duden	Book	German	1989	Available	

1-7 of 7 records   «   ‹   1   ›   »   10

📖 Library

Borrowed

	Title	Type	Language	Publishing Year	Due date	Return
ℹ	Pride and Prejudice	Audiobook	English	2006	31.01.2021	✖
ℹ	La vita è bella	Video	Italian	1997	24.01.2021	✖
ℹ	20.000 Meilen unter dem Meer	Book	German	2017	11.02.2021	✖

1-3 of 3 records   «   ‹   **1**   ›   »   10 ▾
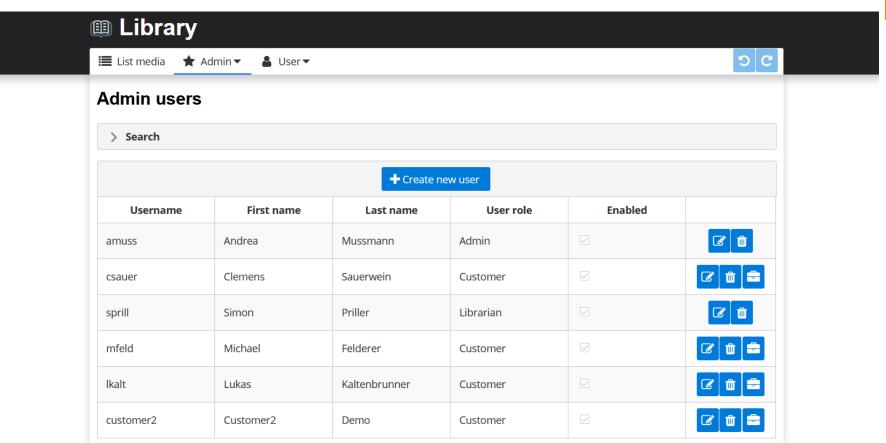
Logged in as csauer [CUSTOMER]

Das System

User Interface - Admin

Library

List media | ★ Admin ▾ | 👤 User ▾

Admin users

> Search

+ Create new user

Username	First name	Last name	User role	Enabled	
amuss	Andrea	Mussmann	Admin	☑	✏ 🗑
csauer	Clemens	Sauerwein	Customer	☑	✏ 🗑 💼
sprill	Simon	Priller	Librarian	☑	✏ 🗑
mfeld	Michael	Felderer	Customer	☑	✏ 🗑 💼
lkalt	Lukas	Kaltenbrunner	Customer	☑	✏ 🗑 💼
customer2	Customer2	Demo	Customer	☑	✏ 🗑 💼

📖 Library

Admin media

> **Create media**

> **Search & filter**

	Title	Type	Language	Publishing Year	Availability	Edit | Delete	Borrow for user
ℹ	20.000 Meilen unter dem Meer	Book	German	2017	Available	✏️ 🗑️	👤➕
ℹ	20.000 Meilen unter dem Meer	Audiobook	German	2009	Available	✏️ 🗑️	👤➕
ℹ	Playboy	Magazine	German	2009	Available	✏️ 🗑️	👤➕
ℹ	The Silicon Valley Story	Video	English	1999	Available	✏️ 🗑️	👤➕
ℹ	Pride and Prejudice	Book	English	2017	Available	✏️ 🗑️	👤➕
ℹ	Pride and Prejudice	Audiobook	English	2006	Not available	✏️ 🗑️	👤➕
ℹ	Pride and Prejudice	Video	English	2005	Available	✏️ 🗑️	👤➕
ℹ	Musica	Magazine	Italian	2002	Available	✏️ 🗑️	👤➕
ℹ	Taxi 2	Video	French	2000	Available	✏️ 🗑️	👤➕
ℹ	La vita è bella	Video	Italian	1997	Available	✏️ 🗑️	👤➕

Library

List media | Admin ▾ | User ▾

Admin media

Create media

+ Create book | + Create Audiobook | + Create Magazine | + Create Video

> Search & filter

	Title	Type			...ility	Edit | Delete	Borrow for user
ⓘ	20.000 Meilen unter dem Meer	Book			...le	✏ 🗑	👤+
ⓘ	20.000 Meilen unter dem Meer	Audiobook			...le	✏ 🗑	👤+
ⓘ	Playboy	Magazine			...le	✏ 🗑	👤+
ⓘ	The Silicon Valley Story	Video			...le	✏ 🗑	👤+
ⓘ	Pride and Prejudice	Book			...le	✏ 🗑	👤+
ⓘ	Pride and Prejudice	Audiobook			...able	✏ 🗑	👤+
ⓘ	Pride and Prejudice	Video	English	2005	Available	✏ 🗑	👤+
ⓘ	Musica	Magazine	Italian	2002	Available	✏ 🗑	👤+
ⓘ	Taxi 2	Video	French	2000	Available	✏ 🗑	👤+

Create media ✕

Title: New Book

Published Year: 2021

Language: Swahili ▾

Total Available: 10

Type: BOOK

Author: Me

ISBN: 978-3-86680-192-9

Save | Cancel

universität innsbruck

Library

List media | Admin ▾ | User ▾

Admin media

> Create media

> Search & filter

	Title	Type	Language	Publishing Year	Availability	Edit | Delete	Borrow for user
ⓘ	20.000 Meilen unter dem Meer	Book	German	2017	Available	✎ 🗑	👤+
ⓘ	20.000 Meilen unter dem Meer	Audiobook	German	2009	Available	✎ 🗑	👤+
ⓘ	Playboy	Magazine	German	2009	Available	✎ 🗑	👤+
ⓘ	The Silicon Valley Story	Video	En		Available	✎ 🗑	👤+
ⓘ	Pride and Prejudice	Book	En		Available	✎ 🗑	👤+
ⓘ	Pride and Prejudice	Audiobook	English	2006	Not available	✎ 🗑	👤+
ⓘ	Pride and Prejudice	Video	English	2005	Available	✎ 🗑	👤+
ⓘ	Musica	Magazine	Italian	2002	Available	✎ 🗑	👤+
ⓘ	Taxi 2	Video	French	2000	Available	✎ 🗑	👤+
ⓘ	La vita è bella	Video	Italian	1997	Available	✎ 🗑	👤+

Borrow for user ✕

User: csauer ▾

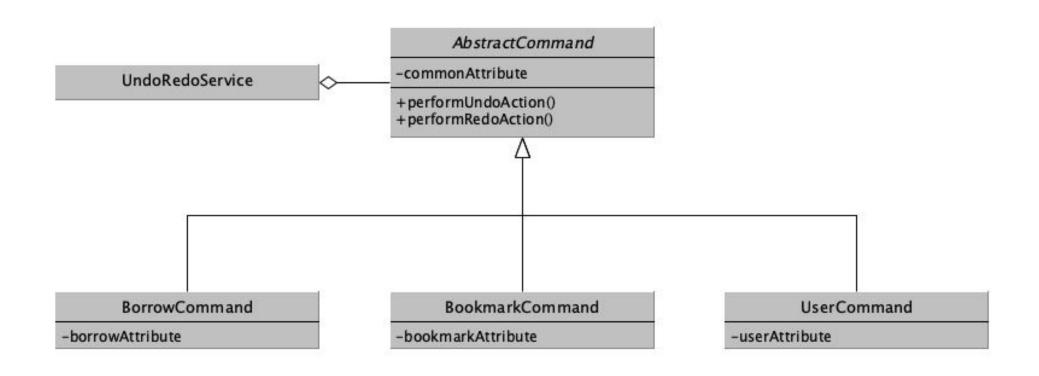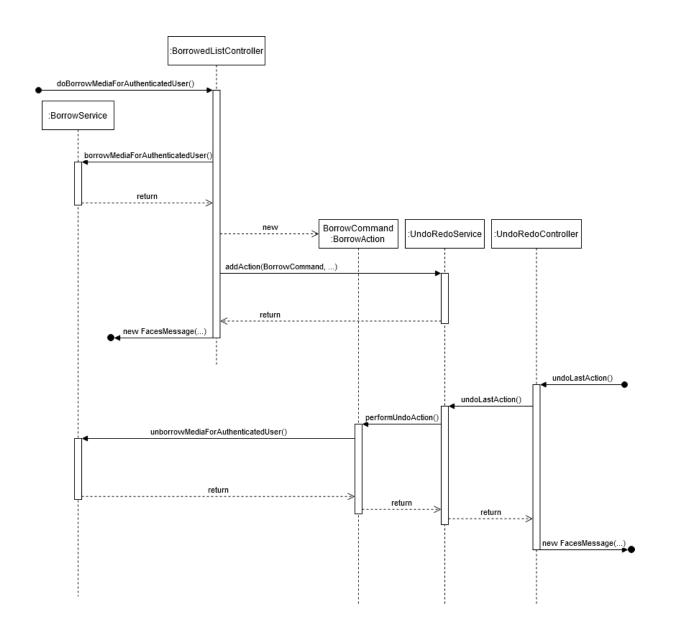⊞ Borrow for selected user

Das System

Undo/Redo

```java
private class BookmarkAction extends ActionItem {
    protected Bookmark bookmark;

    […]

    @Override
    protected void performUndoAction() {
        if (type.equals(ActionType.SAVE_BOOKMARK)) {
            bookmarkService.deleteBookmark(bookmark);
        } else if (type.equals(ActionType.DELETE_BOOKMARK)) {
            bookmarkService.addBookmark(bookmark.getMedia());
        } else {
            logger.error("Error while undoing bookmark action, wrong action type");
        }
    }

    […]
}
```

Primefaces vulnerability

Unsere Lösung

```java
public class CustomInputTextRenderer extends InputTextRenderer {

    @Override
    public void decode(FacesContext context, UIComponent component) {

        InputText inputText = (InputText) component;
        String clientId = inputText.getClientId(context);
        String submittedValue = context.getExternalContext().getRequestParameterMap().get(clientId);

        if(submittedValue != null) {

            int maxLength = inputText.getMaxlength();

            if (maxLength >= 0 && submittedValue.length() > maxLength) {
                submittedValue = submittedValue.substring(0, maxLength);
            }

            inputText.setSubmittedValue(submittedValue);
        }
    }
}
```

Lessons learned

Code

- Kommentare sofort schreiben

- Einheitliches case-schema (Bsp. camelCase, snake_case, …)

- Einheitliche Benennung von Methoden (Bsp. Controller: doCreateMedia, Service: createMedia)

- .editorconfig & .gitignore

- So früh als möglich testen (vor allem bei großen Services etc.)

Gruppe

- Wöchentliche Treffen

- Definierte Zuständigkeiten per Mitglied

- Zeitplan erarbeiten um Abhängigkeiten aufzulösen

- Gemeinsame Linksammlung für Probleme etc. aufbauen

GIT(-lab)

- Extensives Verwenden von Issues

- Issue Inhalte darin als Kommentare diskutieren (zentrale Diskussion)

- Issues in Commits referenzieren (#<issue_id>)

- Branches für Issues über GitLab Tool erstellen

- Tests vor dem Committen ausführen (auch Frontend Tests)

- Use GitLab merge-requests

#30 AddedComponentForEditingAndDeletingMedia

#30 updated media.xhtml --> now possible to Edit Media via component

#30 Added CreateMediaBeanForCreatingMedia

Added media detail for #23

Merge branch 'hotfix_media_service' into 'develop'

Merge branch '22-create-media-list-view' into 'develop'

Added functionality to media search for #22

Added action for undoRedo service in MediaList for #6

handled media delete exception #9 media cannot be deleted if it is still borrowed and if it's deleted notify

handled user delete exception #9 users can't be deleted if they have still borrowed articles, delete bookmar

Hotfix: No email sent on automatic media return

Merge branch 'Documentation_Huber' into 'develop'

#32 Added Javadoc for all entities and several services

MediaService hotfix, now only one media repository needed, updated searchMediaByTitle-method

MediaService hotfix, now only one media repository needed

Merge branch '6-undo-redo-features' into 'develop'

Added ability to undo/redo media changes; Closing #6

#6 Added support for undo/redo bookmarks and undo/redo users

#6 Implementing skelleton of UndoRedoService and undo / redo for borrows

#30 ImplementedPossibilityToDeleteMedia

#30 Constructed Table for Manage Media + Added possibility to edit Media

Merge branch 'develop' into 'master'

Merge branch 'user_interface' into 'develop'

Refactor and manually merge

Merge branch 'develop' into user_interface

Merge branch '22-create-media-list-view' into 'develop'

#22 Hide borrow button for non-customers