SWD-LB ITS PROJECT

IST-Library – Management System

Informationstechnik und System-Management / Wirtschaftsinformatik

Fachhochschule Salzburg GmbH

vorgelegt von

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1 Project Description

1.1 Project Setting

1.1.1 Current situation

We are a public library and we want to establish a new library management solution for improved handling of our library.

1.1.2 Project goals

- Usability
- Availability
- Comprehensive digital handling of media
- Account handling

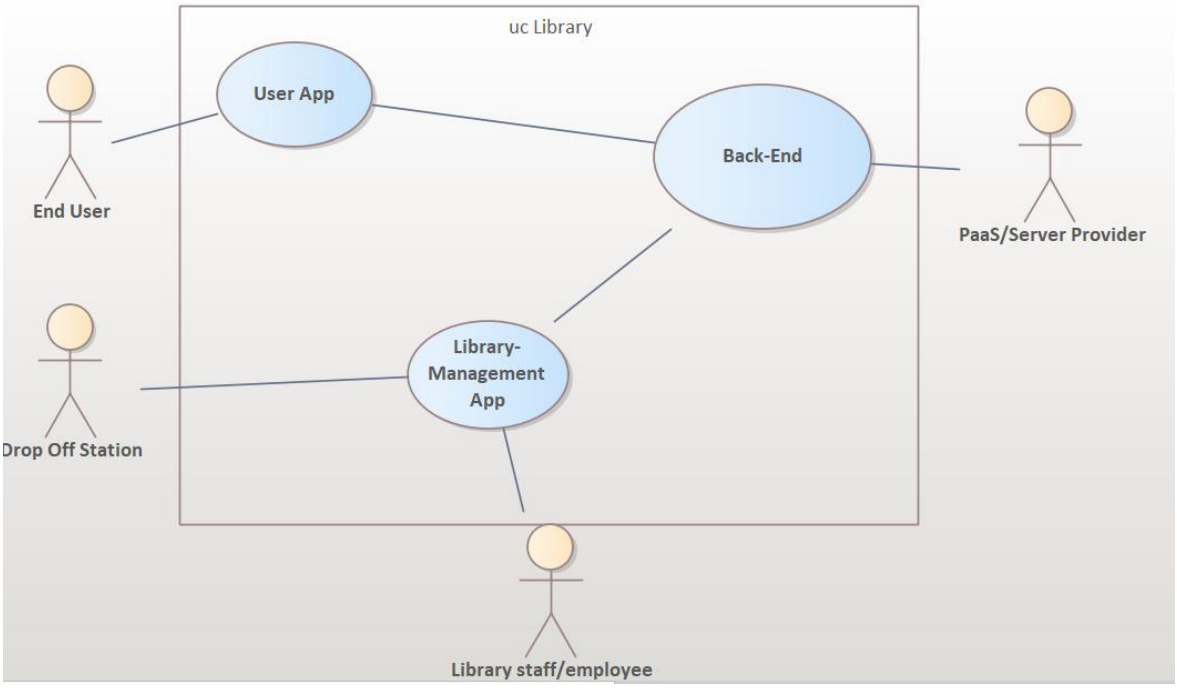
1.1.3 Non Project goals

- Physical handling of media
- Digitalization of media

1.1.4 List of Stakeholder

- Library/ Library-staff
    - The main interest of the staff are easy handling of the application. Handling of media should be made very user friendly, even for unschooled users.
- Drop-off Station
    - The Drop Off station hast interest in a good and reliable connection to the main library, so returned media can be registered. Another interest ist easy maintainability and serviceability.
- User
    - The main interest of the users are ease of use, broad functionality and secure data and payment processing.
- Server/Plattform-Provider
    - Its in the Providers interest to host a good implemented application, which is optimized for CPU consumption and handles client connections well.

1.2 Context Diagram



Expected information flow:

Actor	Input	Output
End User	Account Details (Credentials, Payment information)	Reservation / booking Requests
PaaS/Server Provider	---	Platform Status
Drop Off Station	---	Information about returned media
Library staff / employee	Information about available physical media	Information about returned media

1.3 Requirements

1.3.1 Functional requirements

- Handling of Media
    - Loan/ (cancel-)reserve/ return/ creation/ view/ store
- Billing
- Account handling

- Media
- Handling of drop-off station

1.3.2 Non-functional requirements

1.3.2.1 Quality requirements

- Usability
- Scalability
- Security
- Reliability
- Maintainability

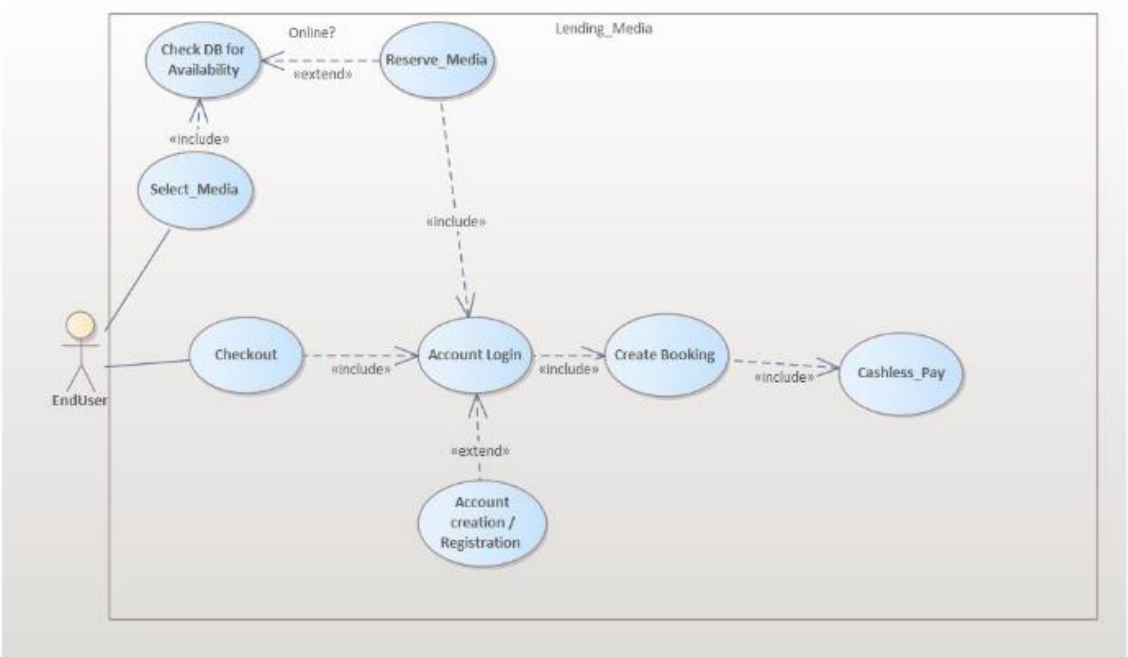
1.3.2.2 Constraints

- Each Media is marked as a specific category
- Each media has a unique ID

2 System Behaviour

2.1 Use Case Diagram

UC01_Lending Media:

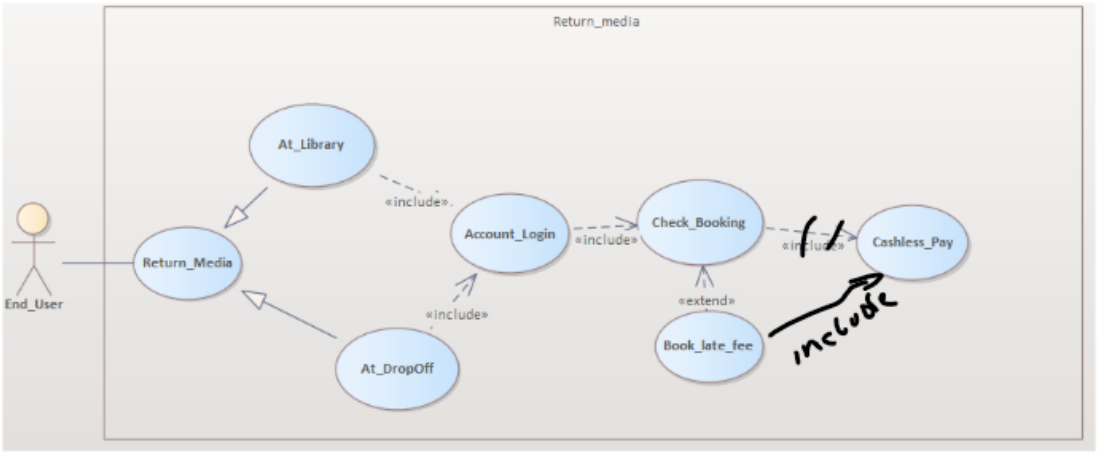


Actor	Trigger	Pre Condition	Post Condition
EndUser	Need for Media	- Customer can create / has account - Customer can select & book media	- Media is marked as "lent / booked" - Payment is received - Media has return date

2.1.1 Use Case Description

The Enduser, in this case the library customer, can select from a variety of media in the library. If the selected media is available in the library it is possible to reserve a copy. The user has the possibility to book the copy, which is in difference to the reservation a agreed contract for borrowing a media copy, after he has logged in with an existing account or after creating an account. The booking is finalized after it is payd with a cashless payment method.

UC02_Return Media:



Actor	Trigger	Pre Condition	Post Condition
End User	End User wants to return Media to the library	- User has an account - Media is booked on Account - Media is brought to Drop Off Station / Library - Account has payment information regarding his card for processing of late fee	- Media is marked as returned and available for other users - Optional: Late fee has been processed on User account - Media is physically in Drop Off Station or Library - Optional: Library has information about Media location for transferring it to main library

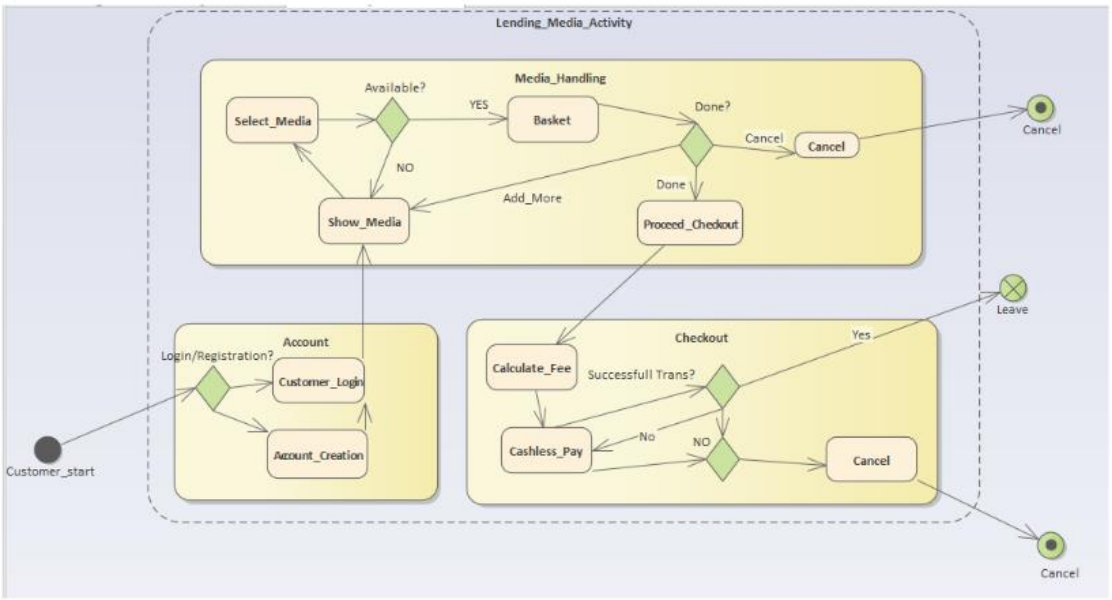
*(Enter Prise Architect License ist ausgelaufen, deshalb nachbesserung mit Paint)

2.1.2 Use Case Description

The EndUser wants to return a borrowed copy of media. This can be done either at the library directly or at a Drop-Off Station. A Login into his Account is required to check if a late-fee is applicable. If so, the late-fee is payd with a cashless payment method.

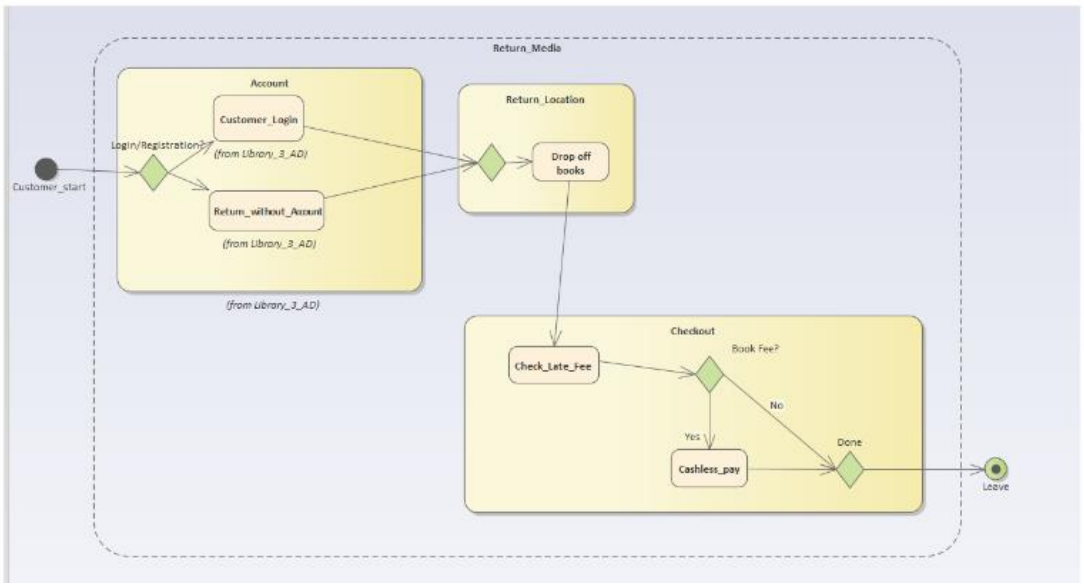
2.1.3 Activity Diagram

UC01



2.1.4 Activity Diagram

UC02

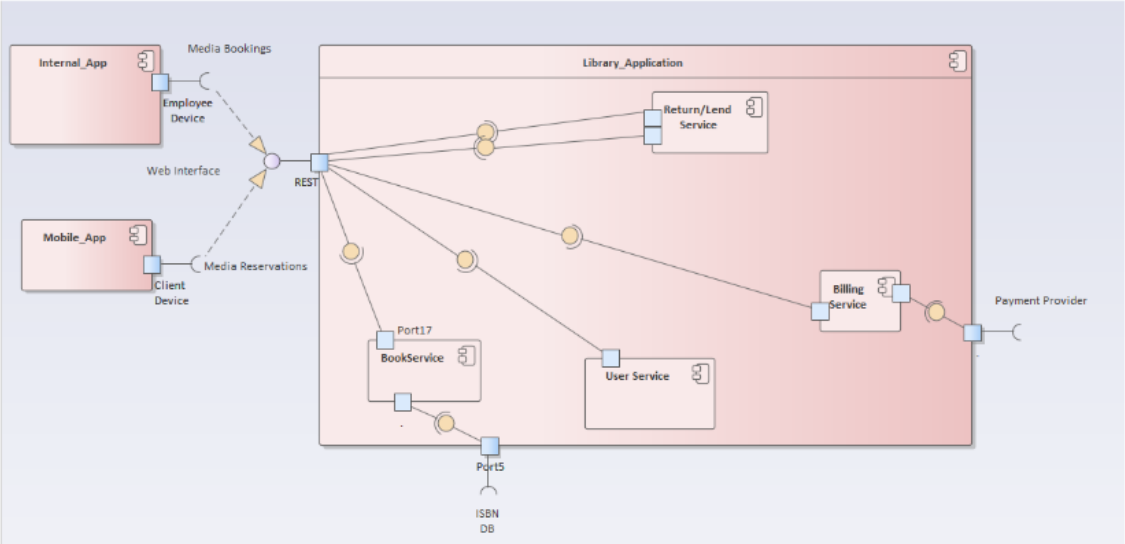


3 Domain Model (CDM) and Descriptions

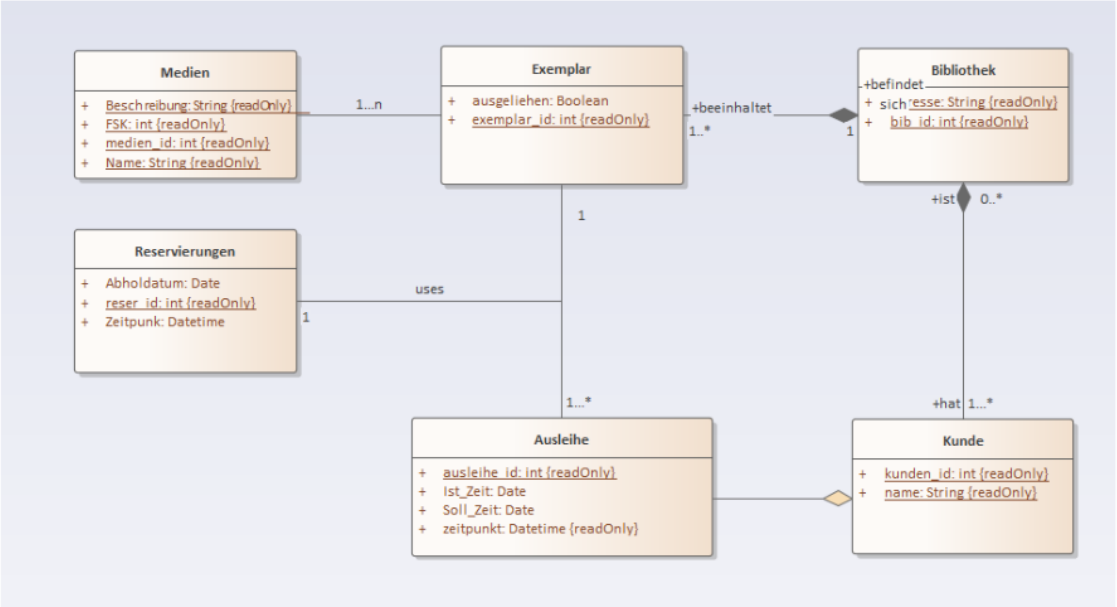
4 System Architecture

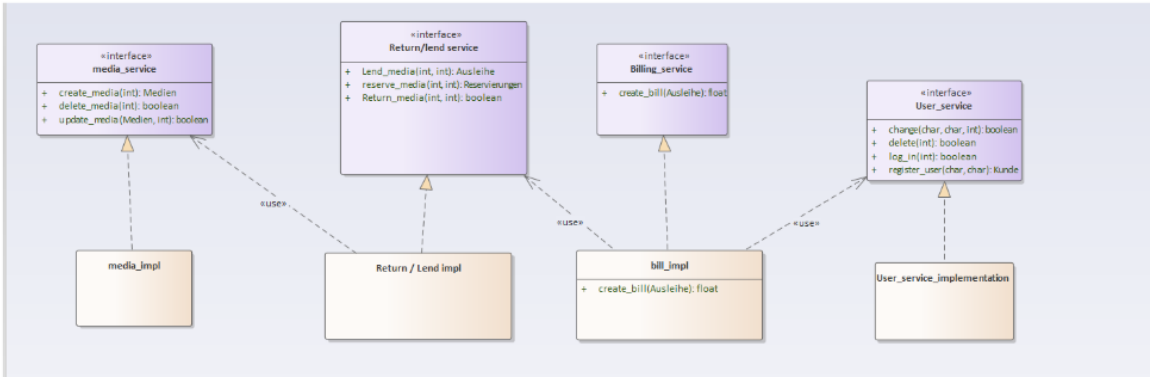
4.1 Selected Technology

4.2 Component Diagrams



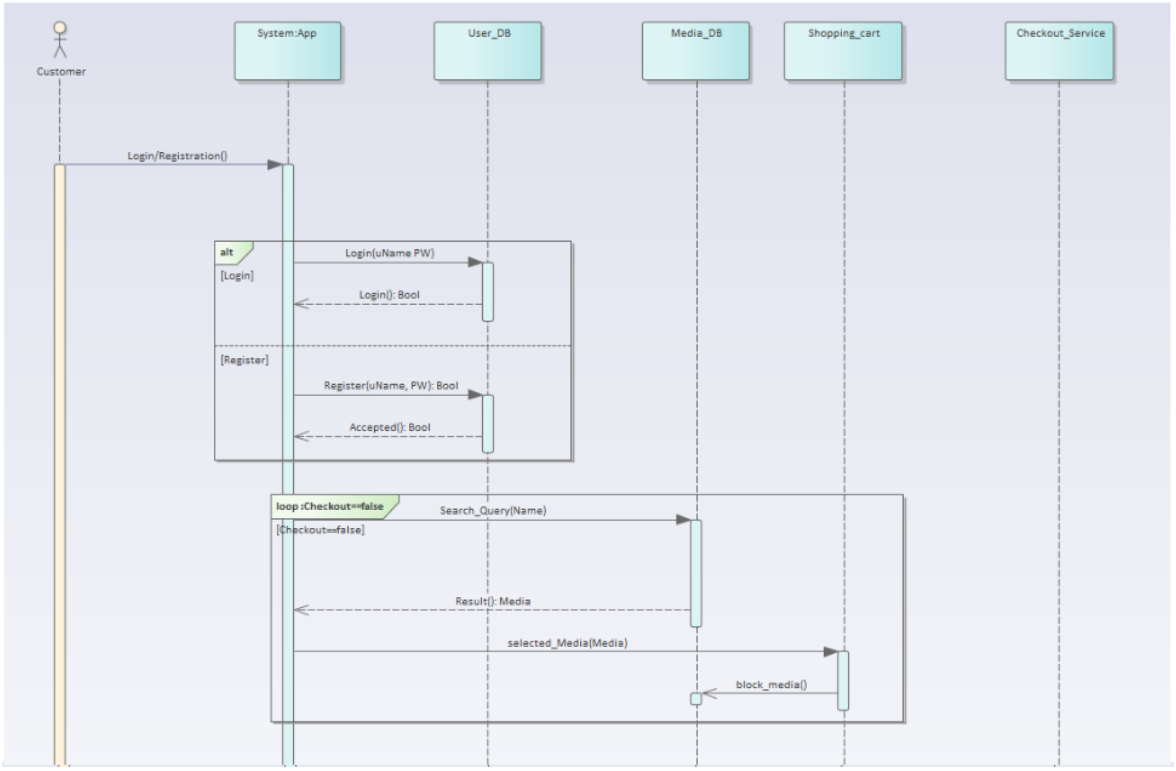
4.3 Class Diagrams



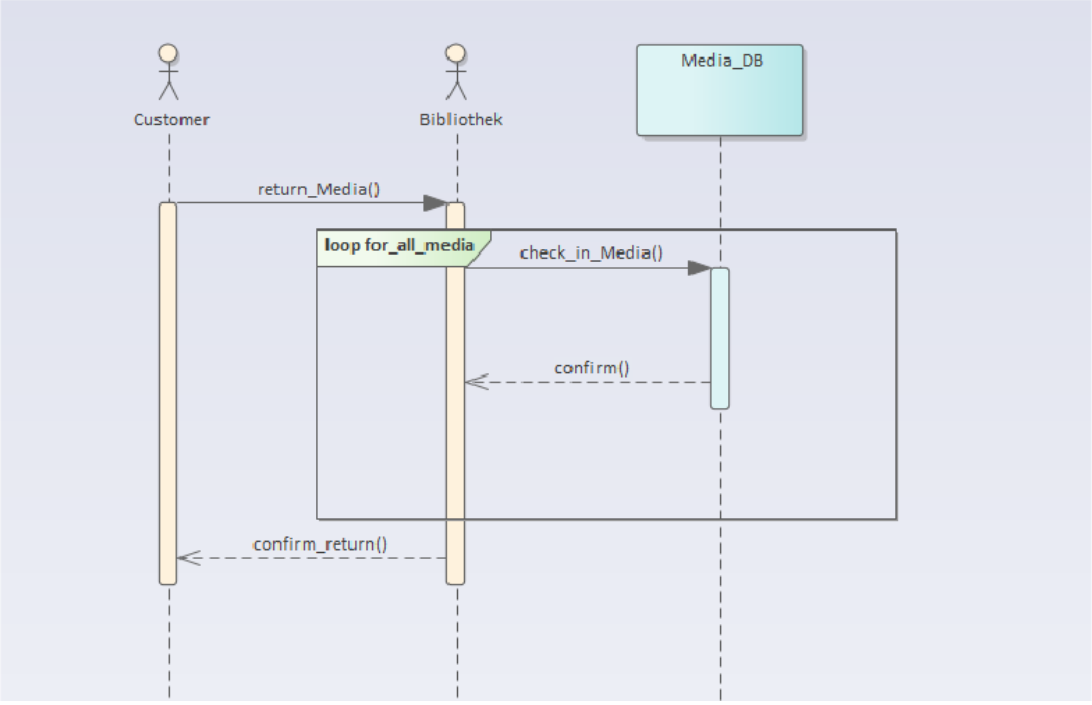


4.4 Sequence Diagrams

4.4.1 Use Case1 Lending Media



4.4.2 Use Case2 Return Media



5 Deployment Diagrams

6 Implementation

https://github.com/DavidStoettinger/SWDLibary

7 Conclusion