Library Management System

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Agenda

- Overview
- Tools & Technologies
- Class Diagram
- Database Diagram
- Sequence Diagram
- Lambda Library
- Limitations
- Demo

Overview

- Checkout book/periodical for library member.
- MVC Model:
 - Ease to maintenance
 - Reduce code redundancy
 - High extension
- Object creation factory pattern aids to support multiple data access layers.
- Lambda library reduces lines of codes for easy maintenance.
- User friendly UI with icons/button.

Tools & Technologies

- JavaFX
 - FXML
 - FX CSS
- JavaDB
- Lambda expression
- Git / GitHub
- Balsamiq







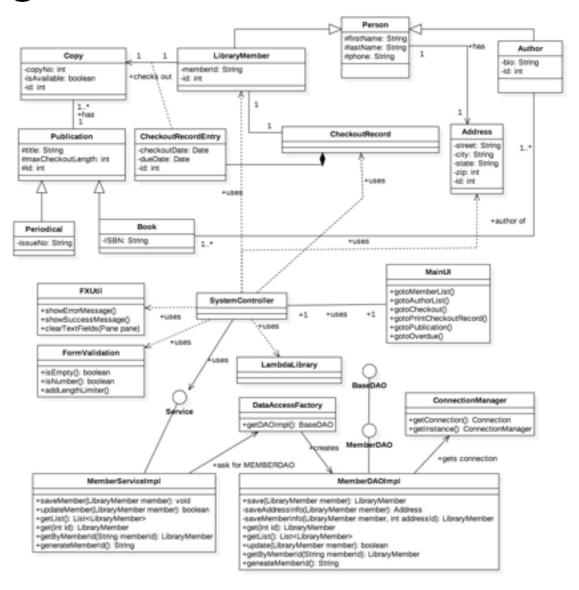




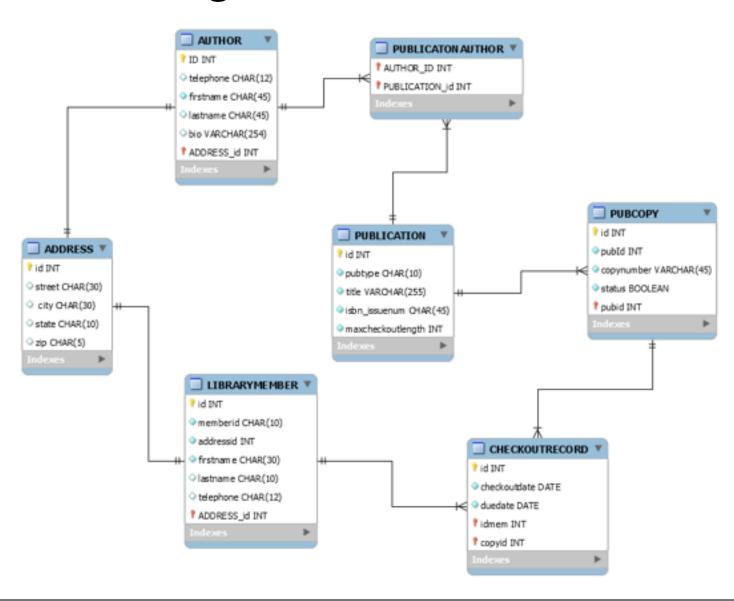




Class Diagram



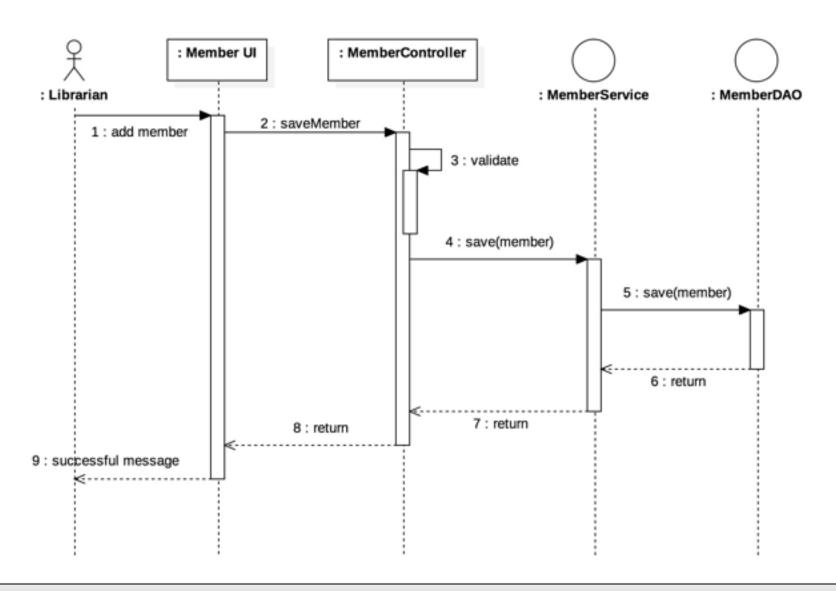
Database Diagram



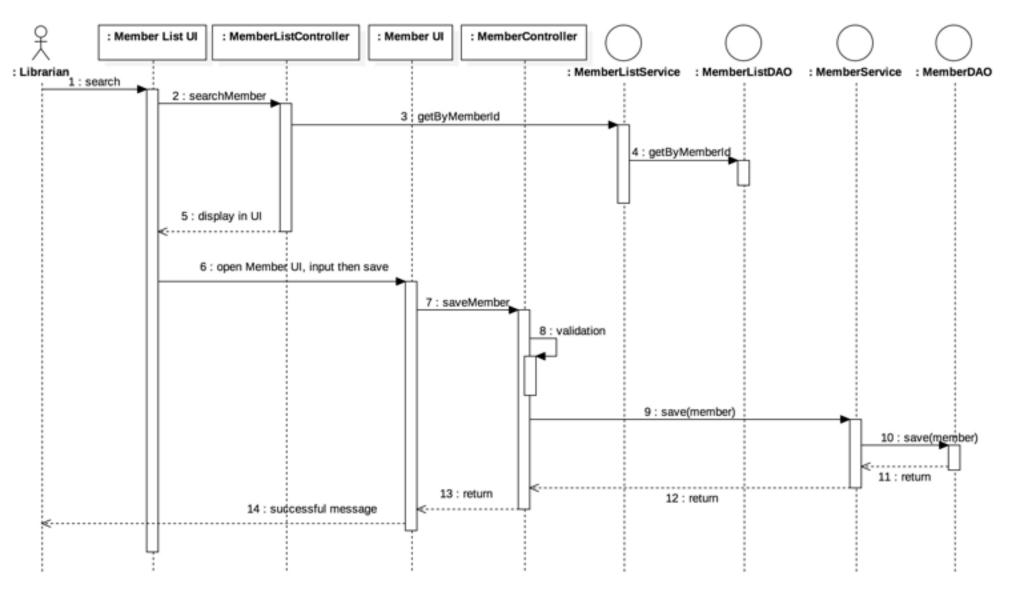
Sequence Diagram

- Add library member
- Search / edit library member
- Add publication (book / periodical)
- Add copy of publication (book / periodical)
- Checkout publication (book / periodical)
- Print checkout record
- Display publication overdue

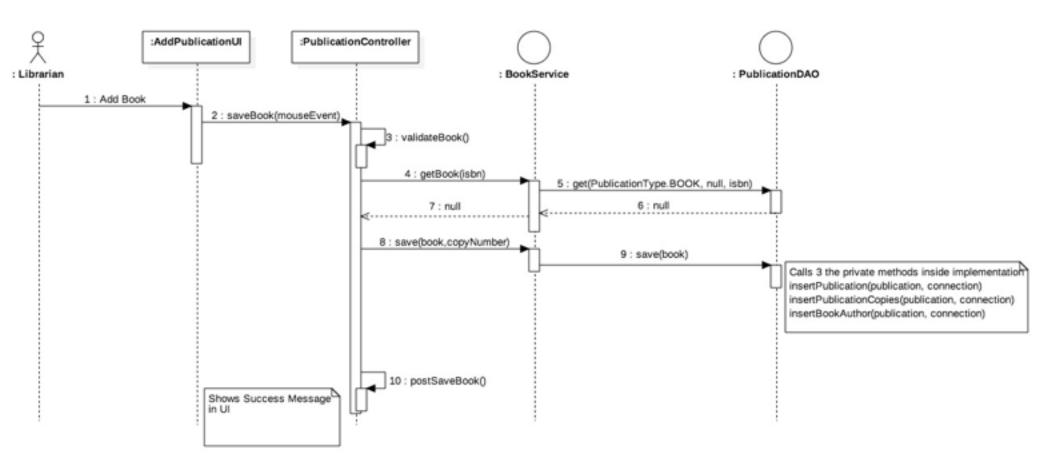
Add Library Member Diagram



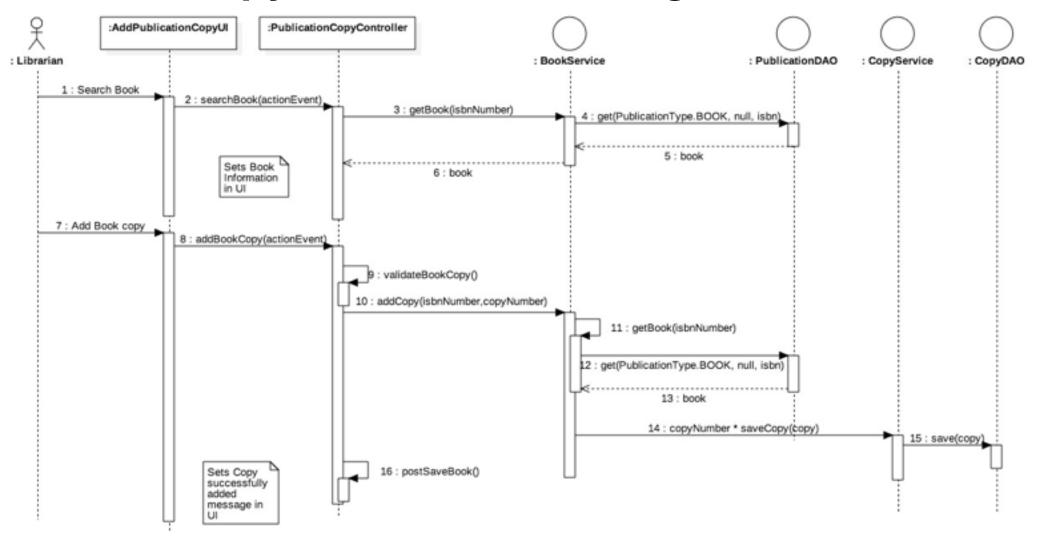
Search / Edit Library Member Diagram



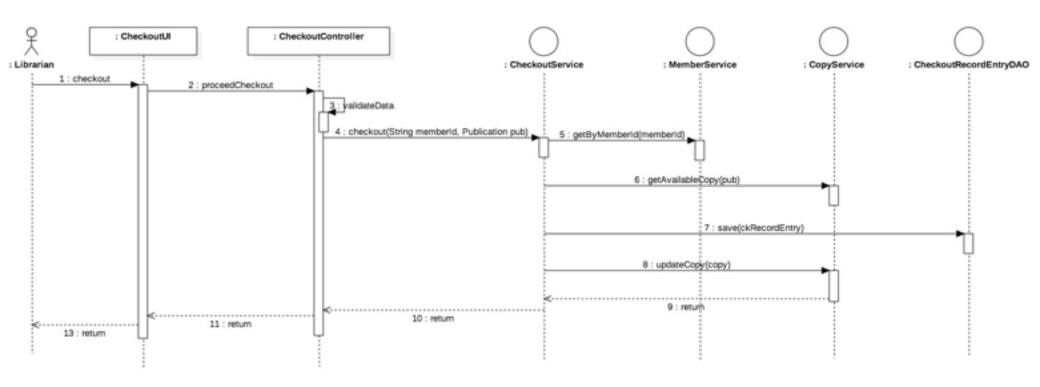
Add Publication Diagram



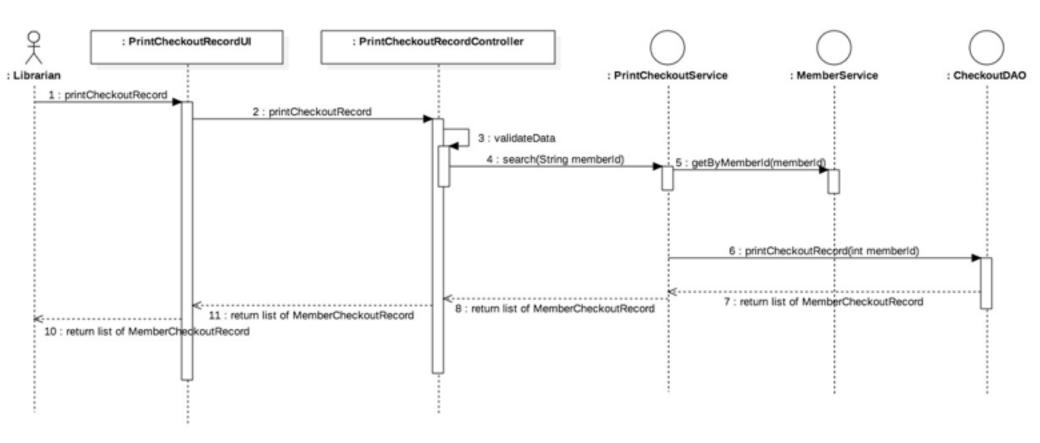
Add Copy of Publication Diagram



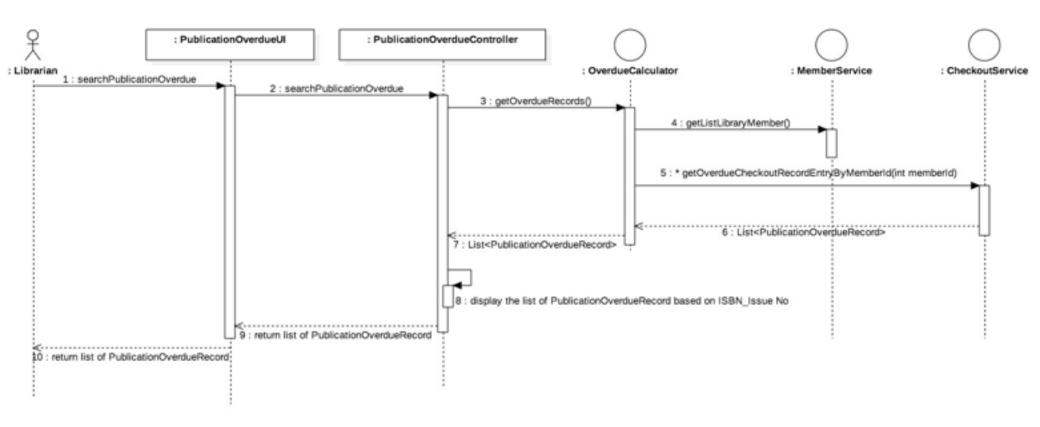
Checkout Publication Diagram



Print Checkout Record Diagram



Display Publication Overdue Diagram



Lambda Library

- PUBLICATION_OVERDUE_RECORD_LAMBDA: return the list of publication overdue records from checkout record entries.
- PRINT_CHECKOUT_RECORD: print to the console the list of checkout record for a specific member.
- REGEX_MATCHER: checks if provided String matches with provided regular expression.
- PANE_TEXTFIELD_CLEANER: clears text of every textfield inside provided pane.
- GENERATE_LIST_OF_COPIES: creates and returns list of copies with provided copy number.
- FILTER_PUBLICATION_OVERDUE_RECORD: filter overdue publication record by ISBN / issue number.

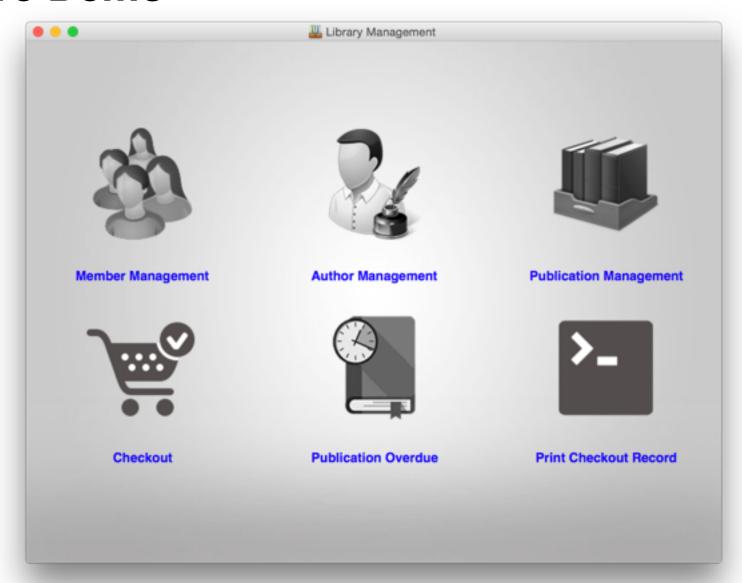




Limitations

- Only support two types of publication: Book and Periodical
- Only librarian can checkout the publication
- Do not support authentication
- Transaction handling is only implemented at some screens

Live Demo



Thank You!