



IT 309 SOFTWARE ENGINEERING

PROJECT DOCUMENTATION

THE READING JOURNAL

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TABLE OF CONTENTS

Contents

1. Introduction.....	2
1.1. About the Project.....	2
1.2. Project Functionalities and Screenshots.....	2
2. Project Structure.....	4
2.1. Technologies	4
2.2. Database Entities.....	5
2.3. Design Patterns	5
2.4. Tests.....	6
3. Conclusion	6

1. Introduction

1.1. About the Project

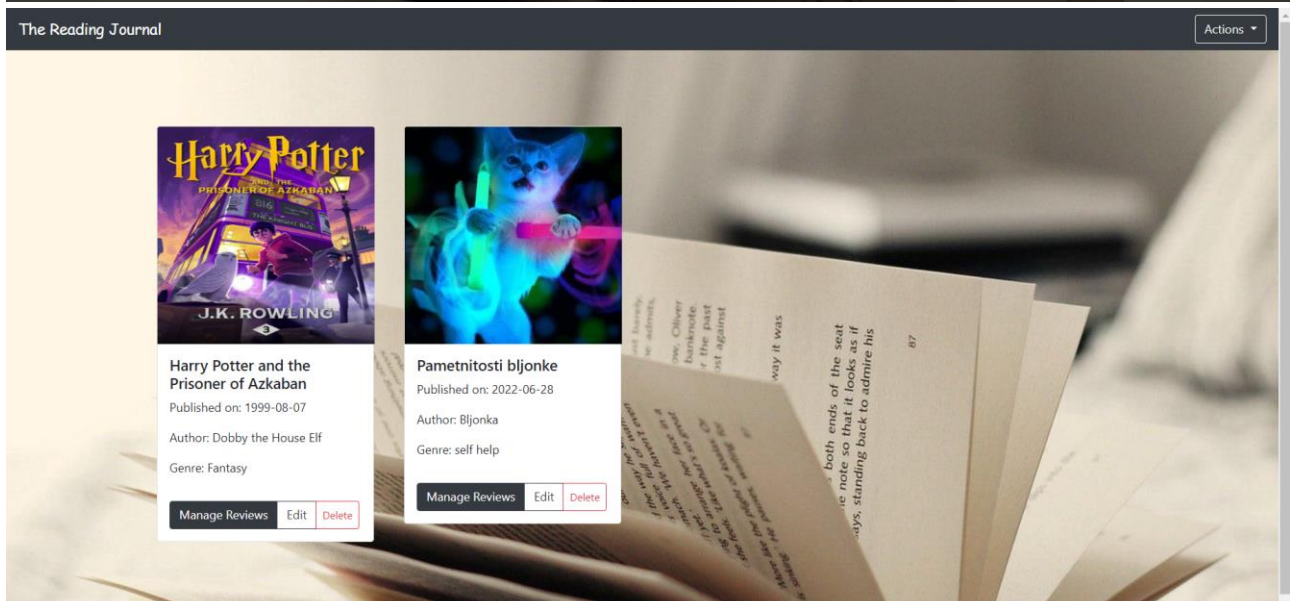
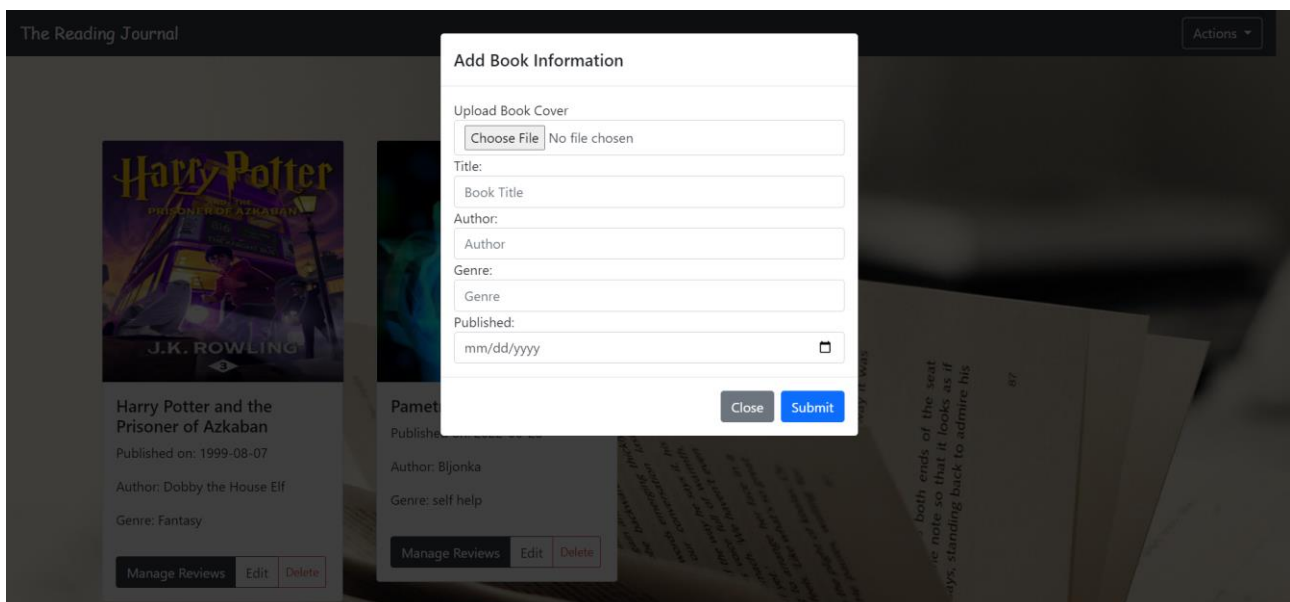
The Reading Journal is a web application for book lovers. You can easily add the books you've read and write reviews about them. It also lets you set reading challenges to motivate yourself. If you come across books that you didn't finish, you can mark them as "DNFs" and even explain why you stopped reading them.

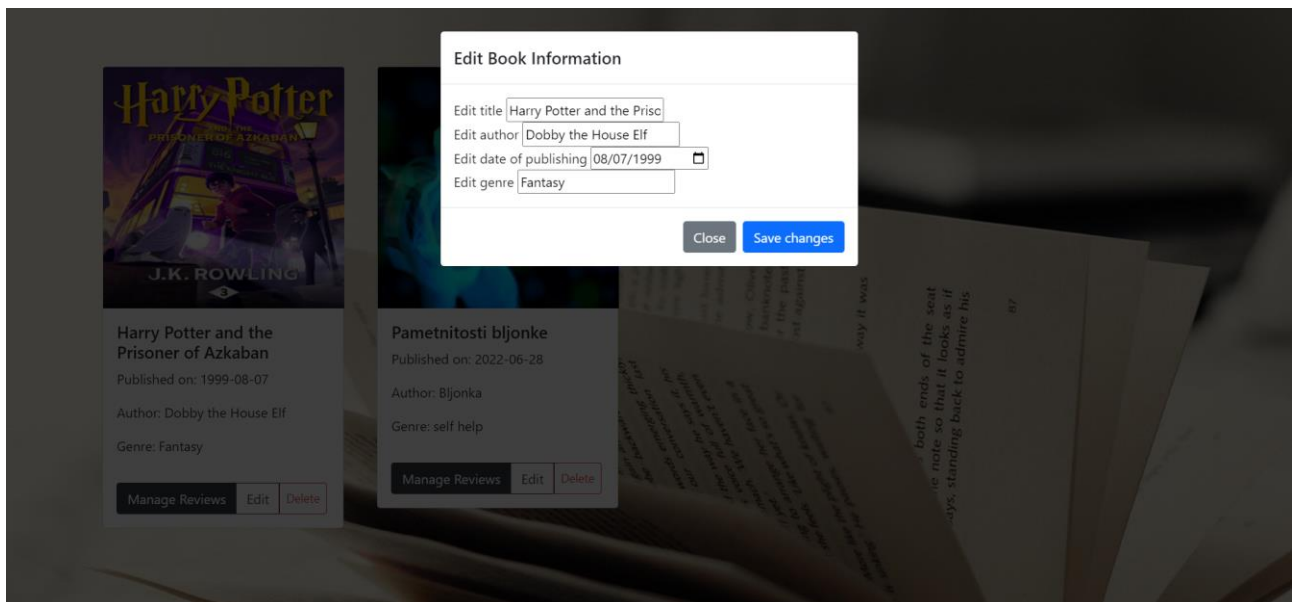
Visit at: <https://ilma-readingjournal.onrender.com/>

1.2. Project Functionalities and Screenshots

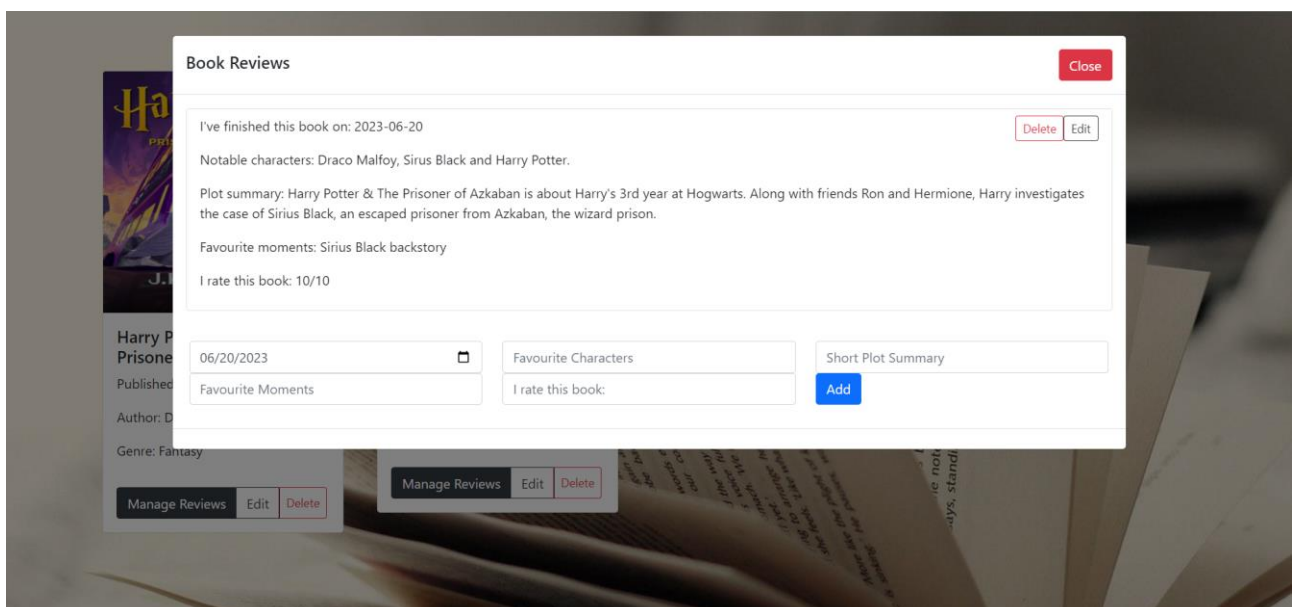
Describe or list the main features of the application and provide a few screenshots of your project.

- Adding a book after you finished reading and providing information about it. You can also edit information or completely delete it.

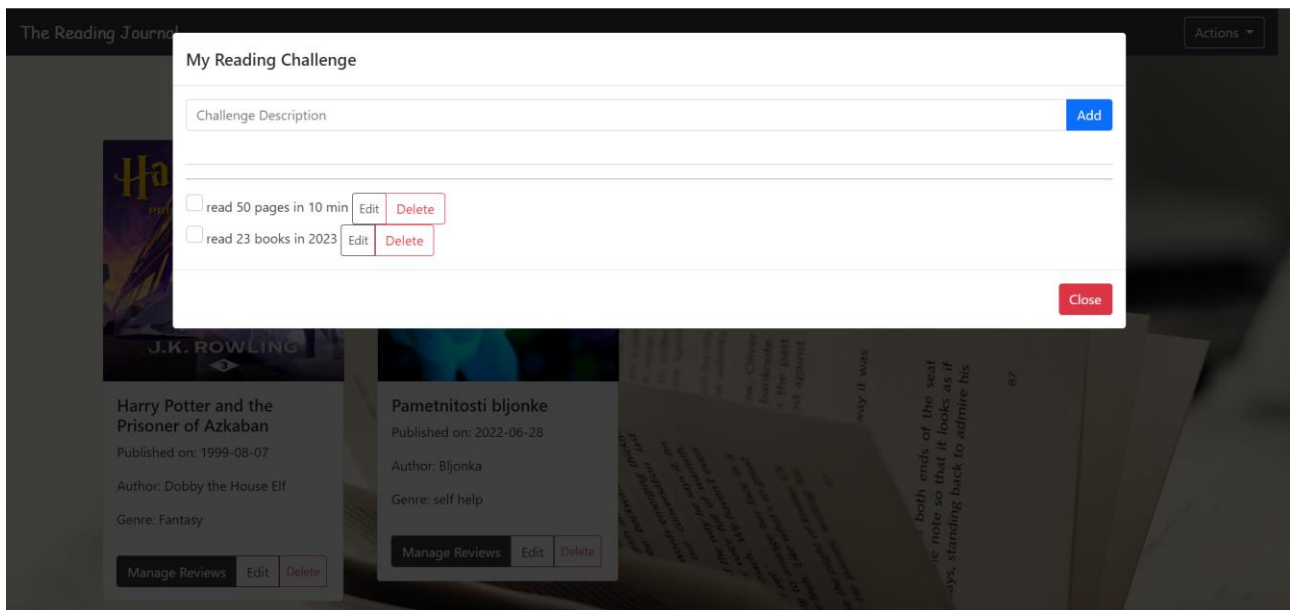




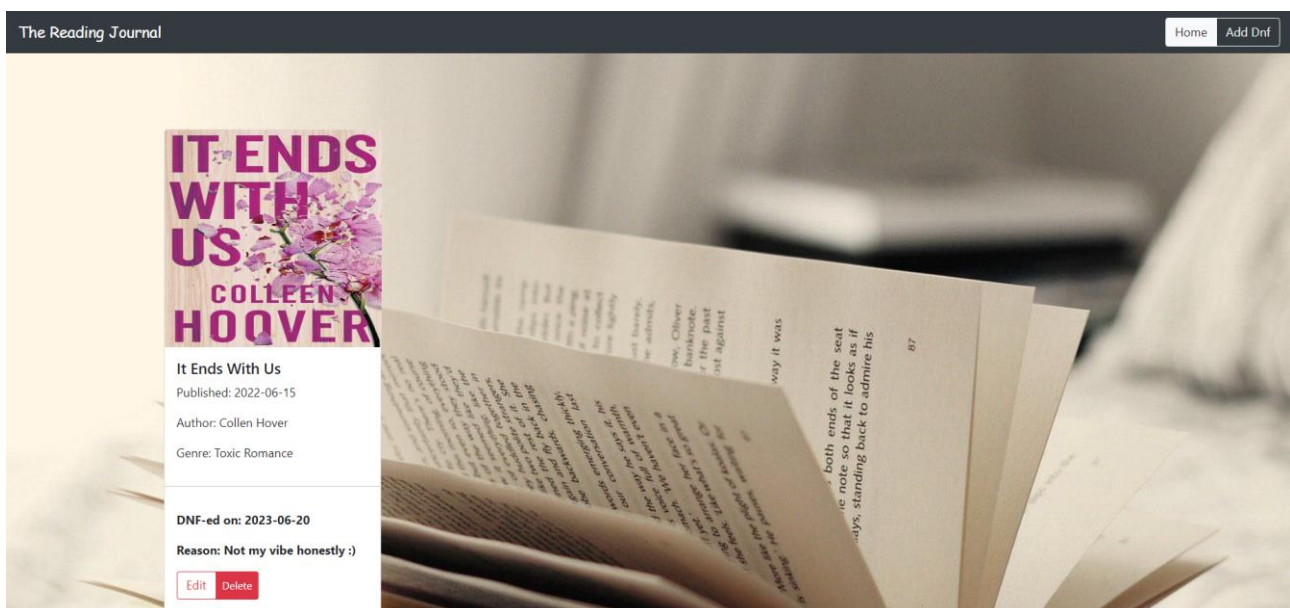
- You can add reviews about the books you have read. Edit and delete them.



- There is a feature of adding reading challenges that you wish to complete. You can also manage them as well.



- In case you didn't like the book you were reading and gave up, add them to your DNF pile. Here you can provide info about the book and reason why you did not finish it. You also have the ability to manage your DNFs.



2. Project Structure

2.1. Technologies

Backend:

- PHP

- Flight PHP: Flight is a lightweight PHP micro-framework used for building RESTful web applications.

Frontend:

- HTML
- CSS
- JavaScript
- Bootstrap: Bootstrap is a front-end framework that provides a collection of pre-built CSS and JavaScript components, making it easier to create responsive and visually appealing web pages.
- jQuery

Database:

- MySQL

Coding standard: In the backend, for PHP, I used PSR-1 coding standard.

2.2. Database Entities

- Book
- Challenge – reading challenges
- DNF – stands for did not finish, books user did not like and therefore did not finish
- Reviews

2.3. Design Patterns

Factory Pattern – In my project this can be found in the DAO layer. The factory pattern could be used to create instances of DAO classes such as, for example, BookDao. By implementing a factory class, you can encapsulate the object creation logic and provide a centralized way to instantiate DAO objects. I used this pattern because it allows for easy changes to the way DAO objects are created without impacting the rest of the codebase.

Data Access Object (DAO) Pattern – In my project the BaseDao, BookDao and other DAO classes follow the DAO pattern. This pattern separates the data access logic from the business logic, providing a layer of abstraction for performing CRUD operations on the database. I used this pattern because I wanted a clean separation between the database and the rest of the application

Front Controller Pattern - The index.php file can be seen as the entry point and central dispatcher for incoming requests. It follows the Front Controller pattern, handling the routing and dispatching requests to appropriate controller functions. I used this pattern because I wanted to reduce duplication of code related to request handling across different endpoints.

2.4. Tests

I wrote three Selenium tests. I have created a maven project in my project root directory called RJ_tests. Under RJ_tests\src\test\java\ilmaa\dz you can find three tests named Test1, Test2, Test3.

First test asserts that the title in the navigation bar is equal to “The Reading Journal”. It then navigates to DNF page where it asserts that the book title of the first book card is equal to “It Ends With Us”. It then navigates back to main page.

Second test tests out the input form for adding the book. It locates the Add a Book button and populates the input fields. It then submits the form, which is supposed to list the newly added book card.

Third test tests out the input form for adding a challenge. It locates the Challenge button under Actions dropdown menu button in the navigation bar and populates the challenge input field. It then submits the form, which is supposed to list the newly added challenge.

3. Conclusion

The implementation of The Reading Journal project has been a fulfilling experience. The project has been a valuable learning experience. It has provided insights into web development, database management, and software testing

Looking ahead, there are always opportunities for improvement, incorporating automated testing tools can further enhance the development process.

During the implementation, some challenges were encountered, such as integrating various technologies and frameworks seamlessly. Debugging and resolving issues related to web testing and ensuring proper initialization of objects were also areas that required careful attention.

One of the main challenges encountered during the project was deploying the application. Overcoming this challenge required a thorough understanding of the deployment process and troubleshooting any issues that arose.