

# Java Lab 2008/12/01 Enhancements

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## 1 Overview

In this and the following lab sessions, we will enhance the library application in terms of functionality, usability, and stability. At the end of the semester, each group shall present their system to the other group. Be creative in order to end up with a really neat application!

Organize in your team as to who is working on which tasks. Track the status of your tasks in the spread sheet Issue Tracking.xls. Avoid conflicts using the token cards.

The following issues may be addressed.

## 2 Advanced functionality

Enhance the functionality of the library system. Examples include

- Search for books with respect for availability of books on stock
- Borrowing with selection of customers and available books
- Closing reminders with respect to current reminders

## 3 Usability

Improve the usability of the graphical user interface of the library system. Examples include:

- Similar layout of different dialogs, e.g. consistent use of a status line, consistent naming of buttons etc.
- Appropriate use of widgets, e.g., predefined selections
- Handling of user errors

## 4 Exception handling

Implement exception handling according to the respective lecture. Issues include:

- Classify exceptions into A exceptions and T exceptions
- Provide an error handler for T exceptions and attach it to the EJB application server
- Inform users on the occurrence of exceptions (see also the issue on usability)

Read the respective EJB documentation for details.

## 5 Authentication / Authorization

Implement authentication and authorization for the library system according to the respective lecture. Issues include:

- Decide on user groups
- Assign rights to user groups
- Implement authentication using JAAS
- Implement authorization using EJB annotations

Read the respective JAAS and EJB documentation for details.

## 6 Client / Server Operation

Provide a multi-user client / server environment. Issues include:

- Start the application server stand-alone
- Provide an environment for clients to connect to the server
- Provide documentation for installation and usage

Read the respective EJB server documentation for details.

## 7 Integration testing

Test the entire application.

- Think of test scenarios
- Test destructively, e.g., enter characters in date fields etc.
- Report all bugs in Issue Tracking.xls
- Fix all bugs

## 8 Presentation

Prepare for presenting your library application to the other group.

- Think of a scenario to present the functionality
- Also give insights in implementation details, e.g., the solution to authentication or exception handling
- Organize as to who is presenting which parts

Have fun!