

Library Management System

A Modern Dual-Interface Solution

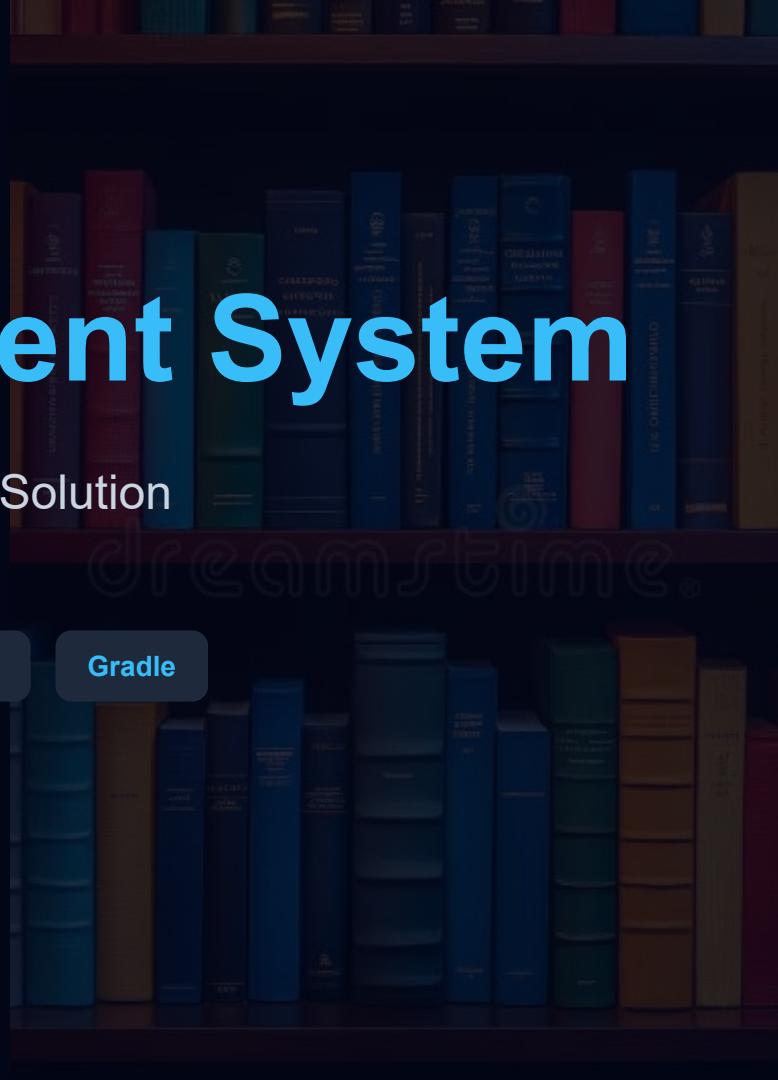
Java 25

JavaFX

PostgreSQL

Gradle

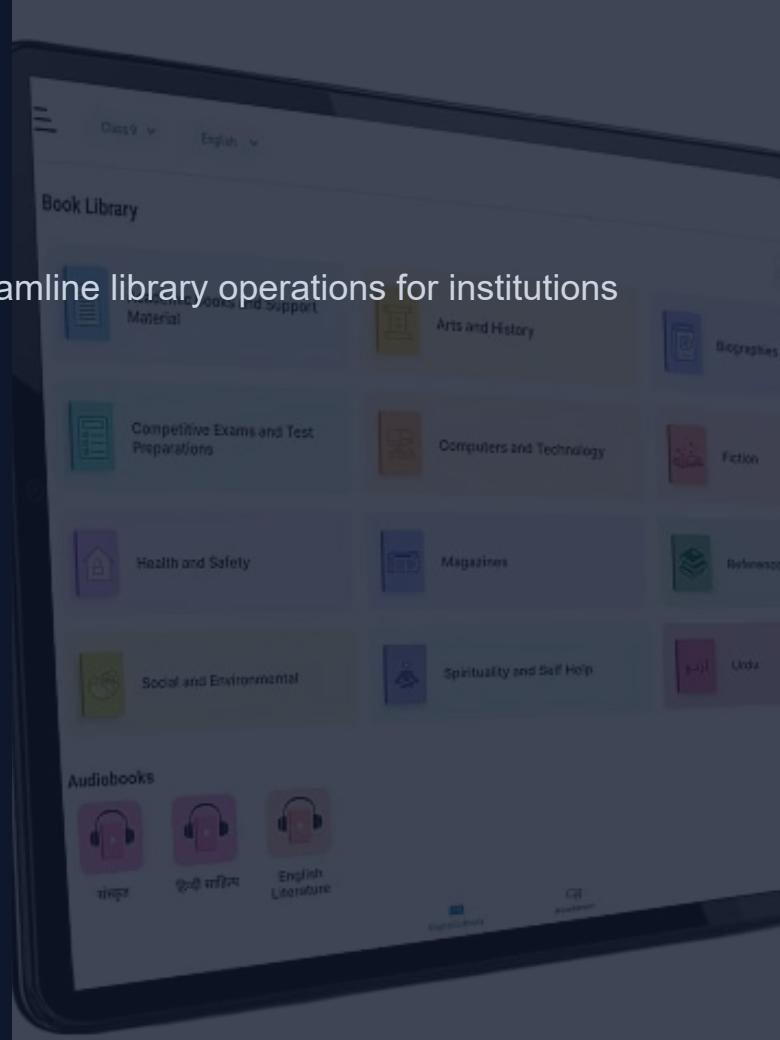
UE19 • 2025



Project Overview

A comprehensive library management solution designed to streamline library operations for institutions of all sizes.

- Efficient book tracking and cataloging system
- Student/member management with detailed records
- Seamless book issue and return workflows
- Real-time availability tracking and reporting



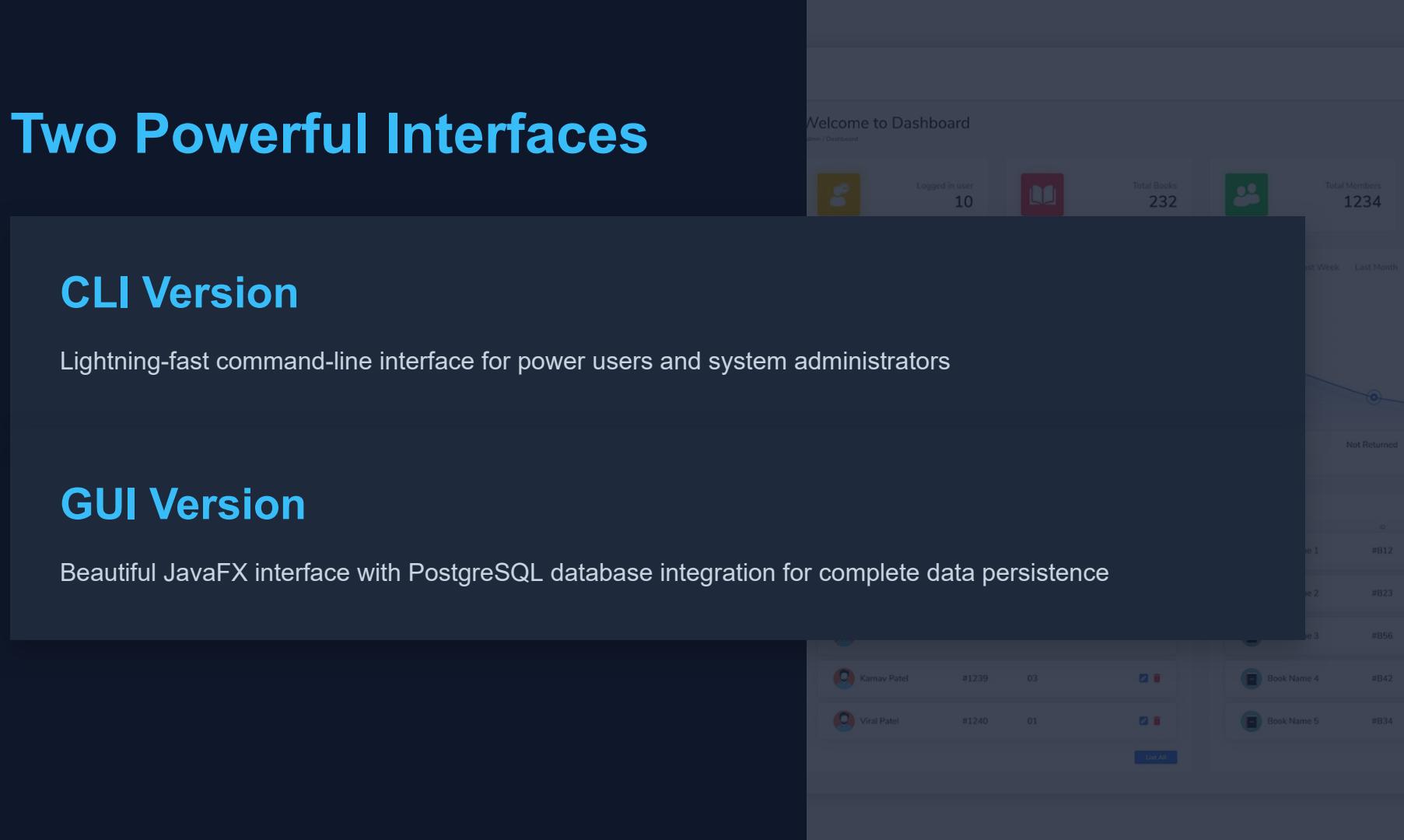
Two Powerful Interfaces

CLI Version

Lightning-fast command-line interface for power users and system administrators

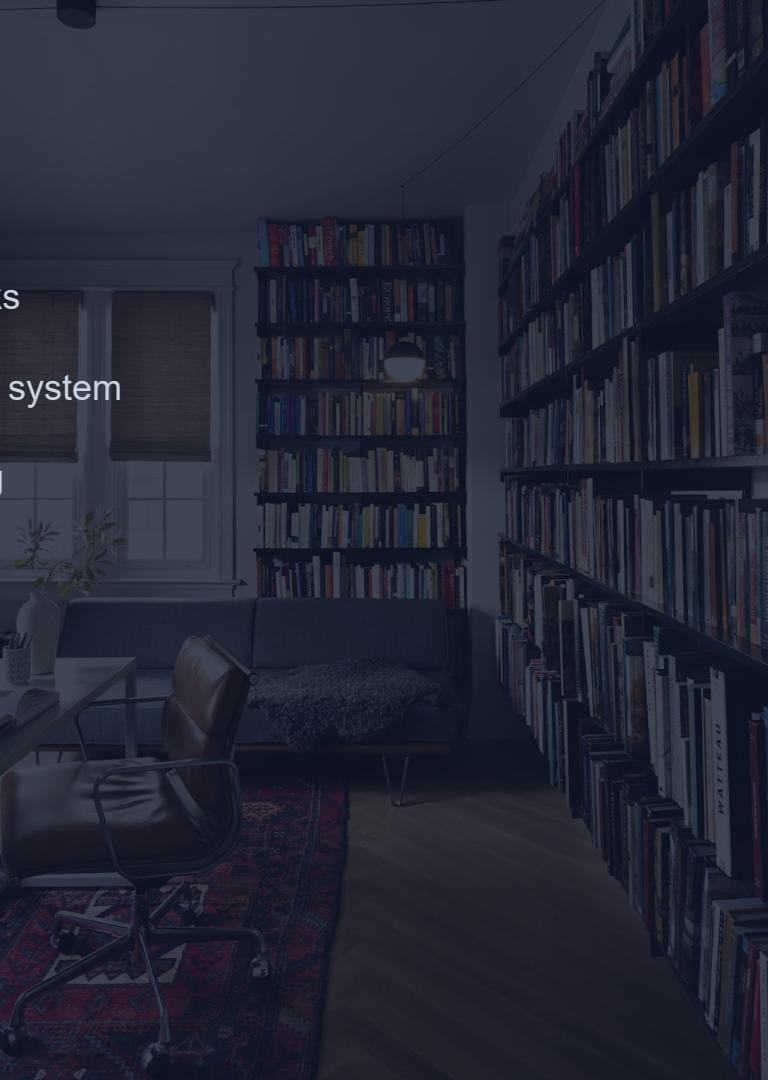
GUI Version

Beautiful JavaFX interface with PostgreSQL database integration for complete data persistence



Core Features

- **Book Management:** Add, search, update, and remove books
- **Student Registration:** Comprehensive member information system
- **Transaction Handling:** Issue and return books with tracking
- **Fine Management:** Calculates fines accurately



Technical Stack

CLI Version

MVC pattern with in-memory storage using ArrayList data structures

GUI Version

Full MVC with JavaFX, FXML views, and PostgreSQL database layer

Built with: Java 25, Gradle 9.0, JavaFX 21, PostgreSQL JDBC 42.7.2

```
...) __android_log_print(ANDROID_LOG_INFO, LOG_TAG, "%s", ...)  
...) __android_log_print(ANDROID_LOG_WARN, LOG_TAG, "%s", ...)  
...) __android_log_print(ANDROID_LOG_ERROR, LOG_TAG, "%s", ...)  
...) __android_log_print(ANDROID_LOG_FATAL, LOG_TAG, "%s", ...)  
SE(fmt, args...) LOGE(fmt " failed with %d: %s", ...)
```

Development Highlights

- **Modular Design:** Clean package structure with model-view-controller separation
- **Cross-Platform:** Runs on Windows, Linux, and macOS
- **Testing Ready:** JUnit integration for quality assurance
- **Easy Setup:** Gradle wrapper for seamless builds

Thank You!

Questions & Discussion



[GitHub: github.com/UE19/projectwork_lms-01](https://github.com/UE19/projectwork_lms-01)



★ Star the repository if you find it helpful!

Built with ❤ using Java & JavaFX