



Library Management System with ASP.NET Core

Comprehensive solution for managing library operations.

Developed by a team of skilled computer science students.



by Ahmed Essam

A photograph of a young man with dark hair and a beard, wearing a blue blazer over a light blue shirt. He is seated at a dark wooden desk in a library, looking at a large, transparent, curved screen displaying a complex, futuristic user interface with various graphs, charts, and data points. Behind him are tall bookshelves filled with books. To his left on the desk are several thick books. The scene is lit by natural light coming from a window behind him.

Project Objective

1

Efficient Tracking

Monitor book checkouts, returns, and late penalties.

2

Member Management

Streamline library member data and activities.

3

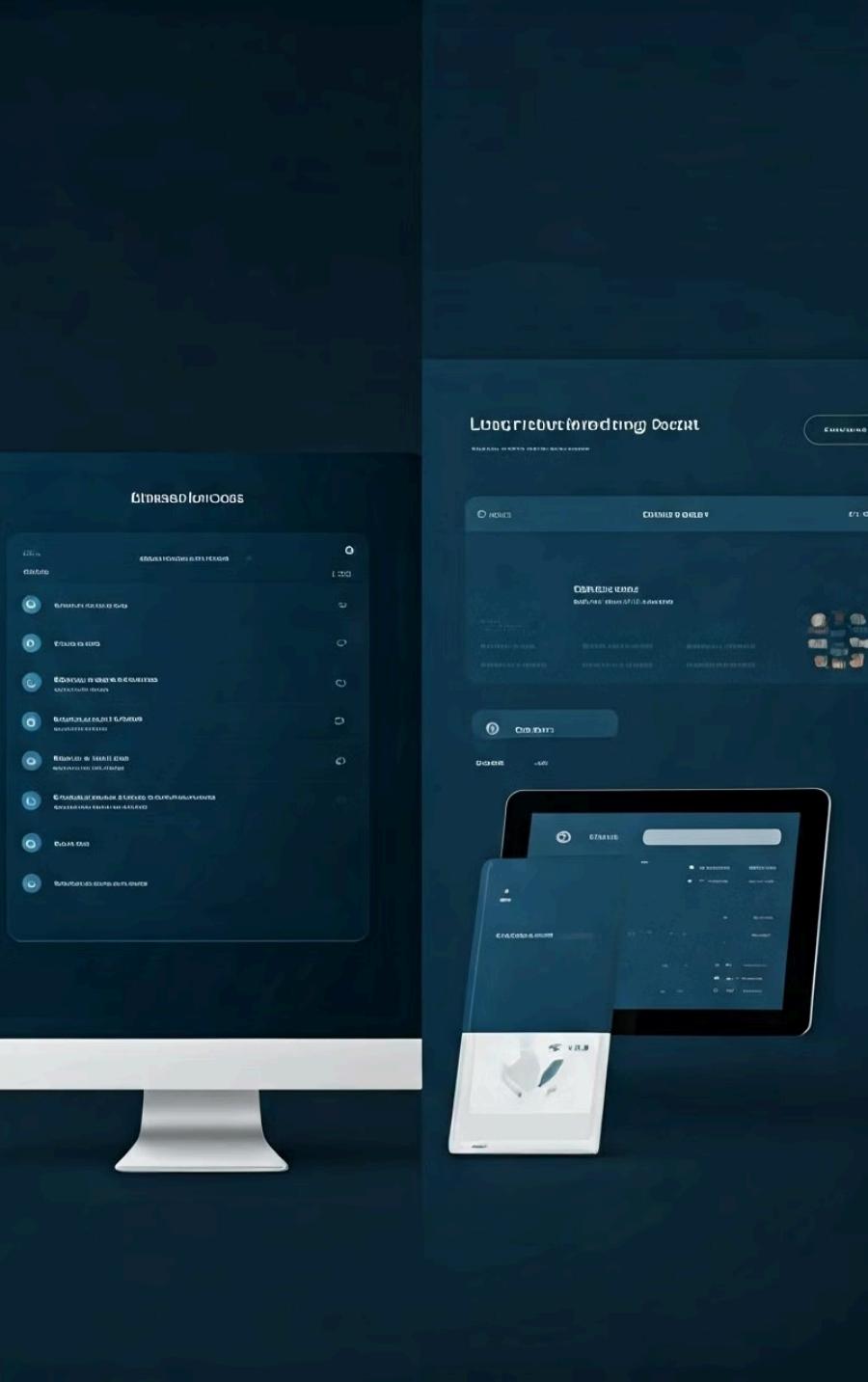
User-Friendly Interface

Implement search feature and member portal.



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System Features



- 1 Book Operations
- 2 Penalty Calculation
- 3 Book Search
- 4 Member Portal

- Book Operations
Manage checkouts and returns efficiently.
- Penalty Calculation
Automate overdue book fee assessment.
- Book Search
Facilitate easy book discovery for librarians.
- Member Portal
Allow users to track borrowings and penalties.

Technology Stack

Backend

- ASP.NET Core (C#)
- Entity Framework
- MVC Architecture
- SQL Server

Frontend

- HTML, CSS, JavaScript
- User Authentication
- Responsive UI

Deployment

- Azure
- AWS
- Local IIS



Week 1: Initial Setup

1

Environment Setup

Install ASP.NET Core, Entity Framework, SQL Server.

2

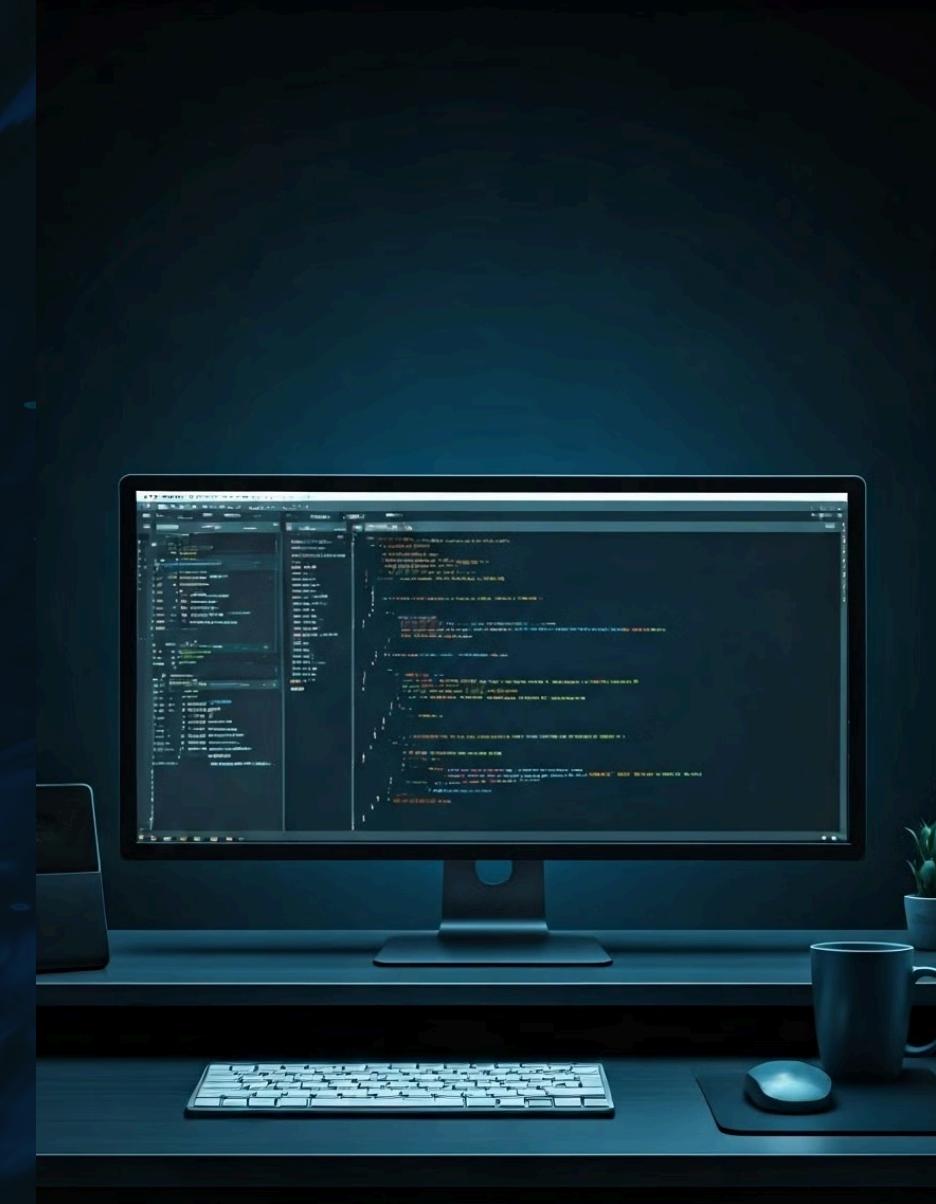
Database Design

Implement schema for core library entities.

3

Basic Features

Develop book listing and user authentication.



Week 2: Core Functionality

Checkout System

Record book loans with due dates.

Return System

Process returns and calculate overdue penalties.

Penalty Calculation

Implement automatic fee assessment for late returns.

System Testing

Verify all checkout and return scenarios.



Week 3: Advanced Features

1

Member Management

Develop system for registration and borrowing history.

2

Book Search

Implement advanced search and filtering capabilities.

3

Member Portal

Create interface for members to view activities.

4

Feature Testing

Ensure reliability of new functionalities.



Week 4: Finalization



UI Enhancement

Improve user experience with CSS and JavaScript.



Final Testing

Comprehensive testing of all system features.



Deployment

Launch system on chosen cloud platform.



Documentation

Complete project documentation and user manual.



Final Deliverables

Functional System

All features operational
and tested

Deployed Solution

Accessible via provided
URL

Documentation

Comprehensive setup
guide and user manual





Project Conclusion

1

Objective Achieved

Robust library management system successfully created.

2

Timely Delivery

Solution implemented and deployed within planned timeline.

3

Future Enhancements

Potential for analytics, mobile design, enhanced security.



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Team Members

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Thank You