LibNet: Revolutionizing Library Management

Transforming the library experience for students and staff alike.

The Challenge: Outdated Library Systems

Student Frustration

Students struggle to find books across various libraries, leading to wasted time and missed resources.
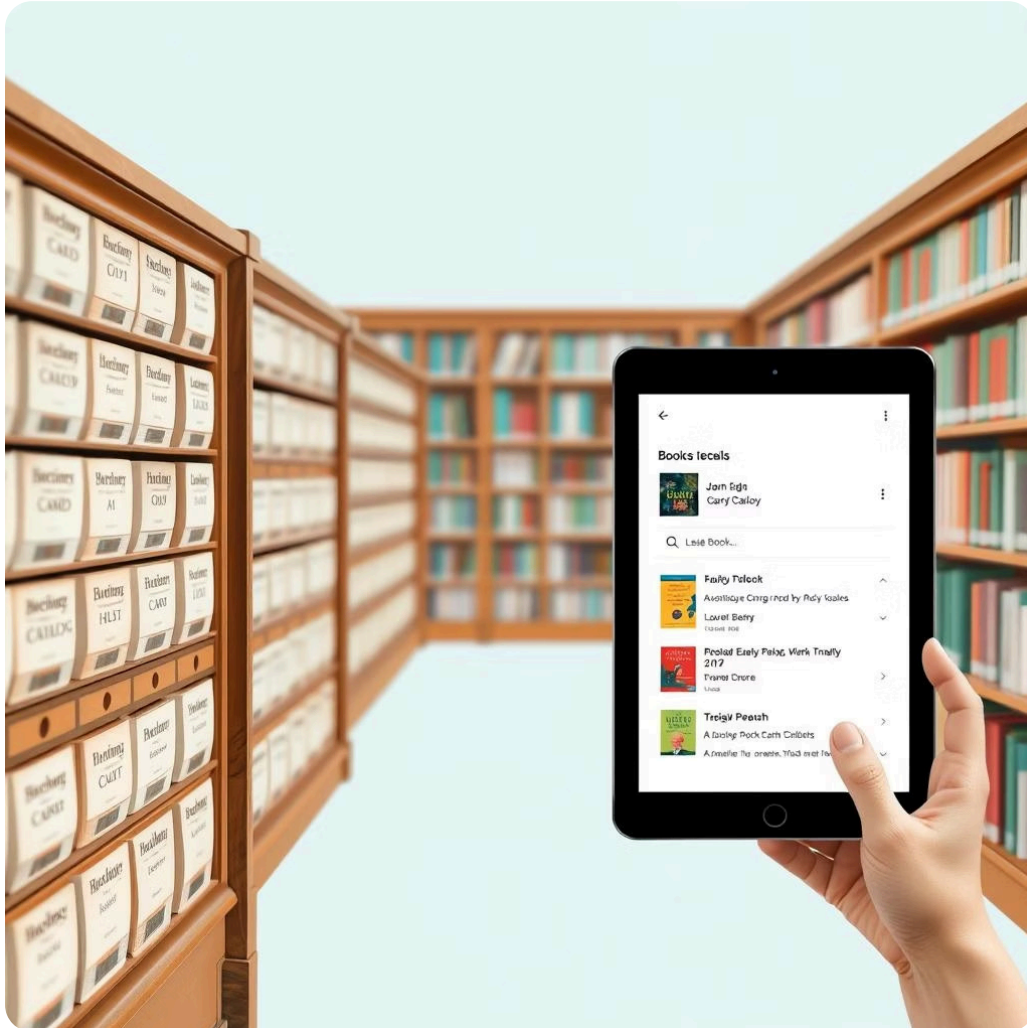
Librarian Inefficiency

Librarians spend of their time on manual record-keeping, diverting focus from patron support.

Lack of Modern Support

Current systems lack essential mobile compatibility and intuitive user interfaces, hindering accessibility.

LibNet: Our Innovative Solution

Unified Cross-Library Search

Instantly search and locate books across all connected libraries from a single platform.

Automated Reservations

Streamlined 3-click reservation process for books, reducing wait times and manual errors.

Modern Admin Dashboard

Intuitive and powerful dashboard for librarians to manage inventory, users, and operations efficiently.

Addressing Core User Needs

For Readers: Seamless Access

- Instant book availability checks
- Mobile-friendly interface for on-the-go access
- Favorites and history tracking for personalized experience

For Librarians: Empowered Management

- One-view management console for comprehensive control
- Automated overdue notices and reminders
- Real-time inventory updates to prevent discrepancies

Core Features & Technology Stack

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JWT-Secured Bookings

Ensuring secure and authenticated reservation processes.

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Multi-Library Catalog

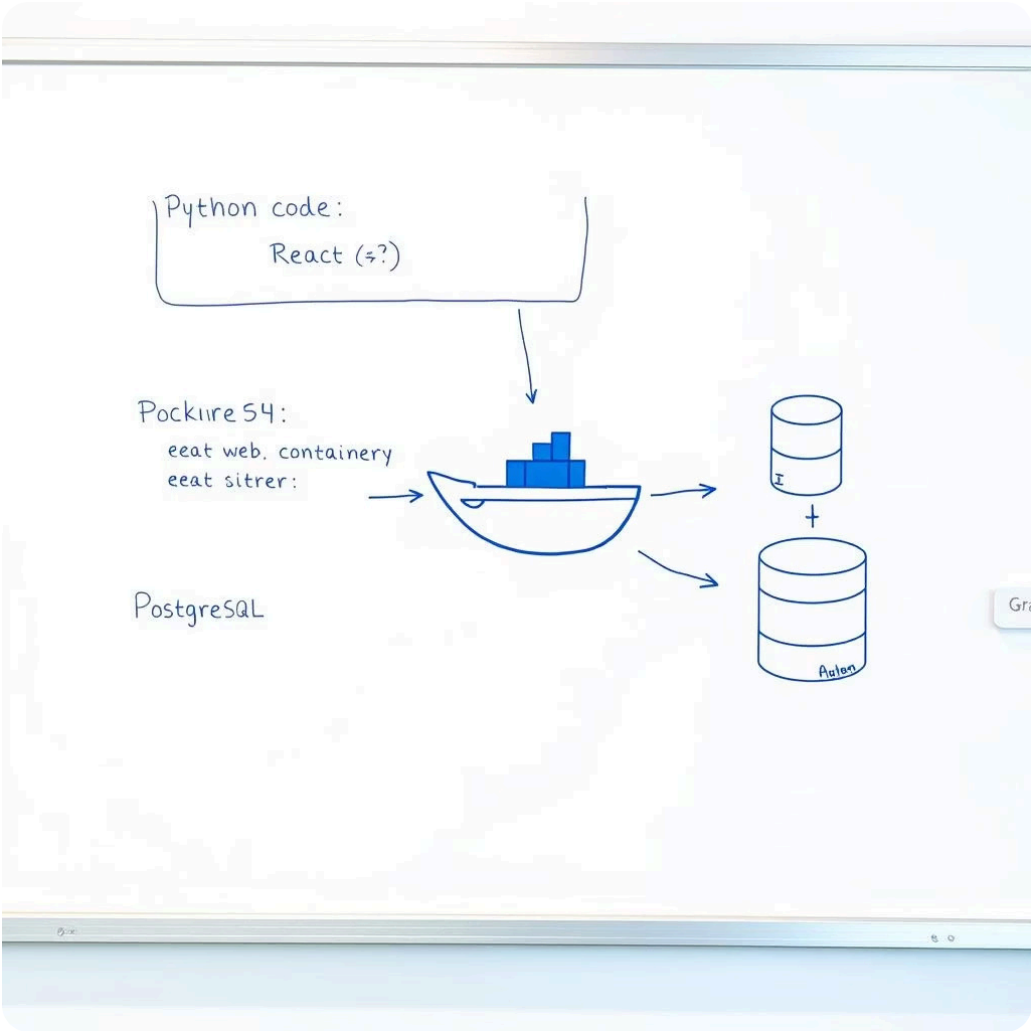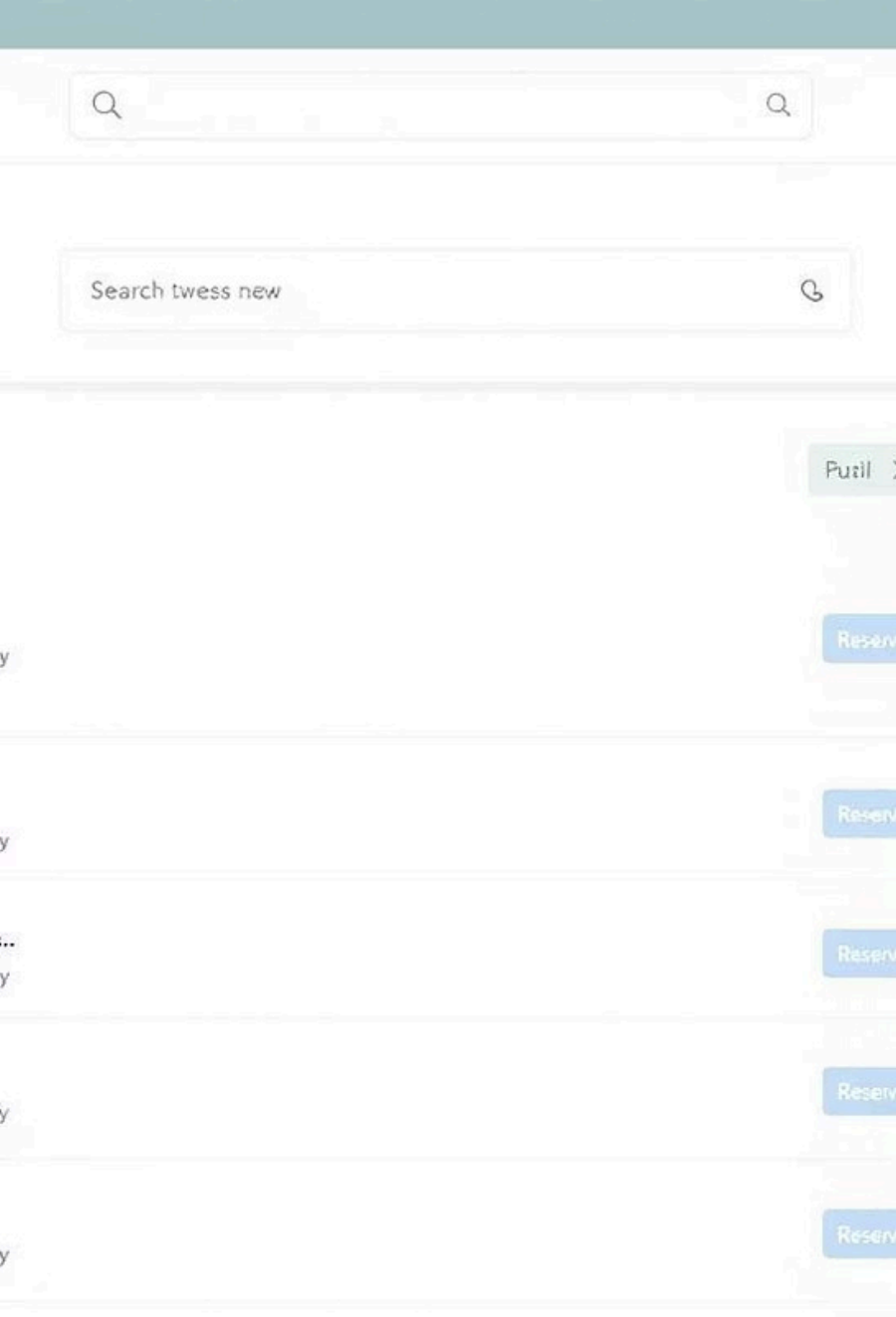Comprehensive catalog spanning multiple library branches.

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Responsive Design

Optimized for all devices , providing a consistent user experience.

LibNet is built on a robust and scalable technology stack:

Backend	Python + FastAPI
Frontend	React + Vite
Database	PostgreSQL
Infrastructure	Docker + Grafana

Live Demo Highlights

1 **Intuitive Book Search**

Demonstration of advanced search filters and instant results.

2 **Seamless Reservation Workflow**

Step-by-step walk-through of the 3-click book reservation process.

3 **Powerful Admin Panel**

Overview of the librarian dashboard for real-time management.

Overcoming Challenges and Key Learnings

Performance metrics improved by 30% after Ollama migration.

Challenge: Cross-Library Data Sync

Integrating diverse library databases posed a significant hurdle.

Solution: Ollama Migration Tool

Developed a custom tool for seamless and efficient data migration.

Lesson Learned: Early Load Testing

Critical importance of conducting comprehensive load testing early in development to ensure scalability.

Made with GAMMA

Future Roadmap: Innovation & Expansion

Mobile App Development

Dedicated iOS and Android applications for enhanced user accessibility.

AI Book Recommendations

Personalized suggestions based on user reading habits and preferences.

RFID Integration

Automated check-ins/check-outs and inventory tracking for improved efficiency.

Community Features

In-app forums and book clubs to foster a vibrant reader community.

Our Dedicated Team

1	**Ivan Murzin** **Role:** UX/UI Design
2	**Anna Serova** **Role:** Frontend Development
3	**Alena Averina** **Role:** DevOps
4	**Artem Ostapenko** **Role:** Backend Development
5	**Aliya Sagdieva** **Role:** Technical Writing