**Statement of Work (SOW)**

**Project Title:** Library Management – Book Issue and Deposit  
**Date:** 07-02-2025  
**Prepared By:**

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**1. Introduction**

The **Library Management System (LMS)** is designed to streamline book issuance, returns, and deposits, ensuring efficient management of library resources. It automates record-keeping, minimizes manual errors, and enhances user convenience. Using software engineering principles, the project focuses on system design, database management, and user-friendly interfaces for effective library operations.

**2. Scope of Work**

The Library Management System (LMS) is created to streamline the process of issuing, returning, and depositing books, guaranteeing effective management of library resources. It reduces the likelihood of mistakes, ensures precise documentation, and offers a user-friendly interface for both librarians and library patrons.

1: Establish a process for issuing, returning, and depositing books.

2: Establish a secure database to store user and booking information.

3: Grant specific access privileges to students, faculty, and librarians based on their roles within the educational institution.

4: Make sure to receive timely reminders for upcoming deadlines and potential penalties.

5: Ensure that the interface is intuitive and easy to navigate for users.

**Roles and Responsibilities:**

** Project Manager & System Design –** Aryan Karthik

* Oversees the entire project and ensures timely progress.
* Designs the system architecture and workflow diagrams.

** Database Design & Management –** Aryan Reddy

* Develops and manages the database schema for books, users, and transactions.
* Ensures data integrity and efficient retrieval.

** Frontend Development (UI/UX Design) –** Krishna Bhardwaj

* Designs and implements the user interface.
* Ensures the application is responsive and user-friendly.

** Backend Development & Functionality –** Uthejini

* Implements book issuance, return, and deposit logic.
* Develops APIs and integrates frontend with the database.

** Testing & Quality Assurance –** Nishitha

* Conducts unit and system testing.
* Identifies bugs and ensures system reliability.

** Documentation & Report Writing –** Megha Shyam

* Prepares project documentation, including SRS, UML diagrams, and reports.
* Maintains project records and final presentations.

3. Deliverables for Library Management: Book Issue and Deposit Project

Tangible Outputs

Functional Software Application

Description: A fully operational software system for managing book issuance and deposits, including user interfaces for library staff and users.

Due Date: [].

Documentation

Description: Comprehensive user manual, technical documentation, and system requirements for the software.

Due Date: [].

Testing Report

Intangible Outputs

Improved Efficiency

Description: Enhanced library operations by streamlining the book issuing and returning process.

Skills Development

Description: Development of software engineering skills such as coding, database management, and project collaboration.

Stakeholder Satisfaction

Description: Satisfaction of users (library staff and patrons) with a modernized system.

**4. Timeline and Milestones**

Provide a high-level timeline with key milestones.

Here is your updated project timeline with clear descriptions:

| **Milestone** | **Description** | **Due Date** |
| --- | --- | --- |
| **Project Kickoff** | Conduct an initial project meeting to define objectives, scope, key deliverables, and assign team responsibilities. Establish communication channels and project workflow. | **Week 1** |
| **Phase 1 Completion** | Develop the core modules of the Library Management System, including book cataloging, user management, and basic transactions (borrow/return). Perform initial testing and gather feedback for improvements. | **Week 8** |
| **Final Delivery** | Complete all development tasks, including advanced features like fine management, reporting, and user roles. Conduct final testing, bug fixes, and prepare documentation. Submit all project deliverables. | **Week 12** |
| **Project Closure** | Conduct a final review meeting to discuss project outcomes, receive feedback, and ensure a smooth handover. Close all pending tasks and formally conclude the project. | **Week 14** |

**5. Technology Stack**

**1. Programming Language:**

* Python

**2. Frontend (Web Application):**

* **Framework:** React.js
* **State Management:** Redux
* **UI Library:** Material-UI / Tailwind CSS
* **Routing:** React Router

**3. Backend:**

* **Language:** Python
* **Framework:** FastAPI / Django REST Framework
* **Database:** PostgreSQL / MySQL
* **Caching:** Redis
* **Real-time Features:** WebSockets for live updates (e.g., book availability notifications)

**4. DevOps & Deployment:**

* **Containerization:** Docker
* **Orchestration:** Kubernetes
* **CI/CD:** GitHub Actions / Jenkins
* **Hosting:** AWS / DigitalOcean / Heroku
* **Monitoring & Logging:** Prometheus, Grafana

**5. Mobile App (if applicable):**

* **Framework:** React Native
* **Navigation:** React Navigation
* **State Management:** Redux

**6. Budget and Payment Terms (For now you can ignore this)**

Detail the project budget, including payment schedules, terms, and conditions.

* **Total Budget:** [Insert Amount]
* **Payment Schedule:** [Insert payment milestones and dates]
* **Terms:** [Insert any special payment terms]

**7. Assumptions and Constraints**

**Assumptions:**

* Team availability and access to required tools.
* Timely stakeholder feedback.

**Constraints:**

* 14-week deadline.
* Compliance with data privacy laws.
* Budget and security limitations.

**8. Approval Signatures**

**Client:**  
Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Service Provider:**  
Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_