

SYD466V1A - Assignment 1

Public Library Booking System (FMO System)

Business Requirements Document (BRD)

Version 1.0.0

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1. EXECUTIVE SUMMARY

1.1 Project Background

Public libraries are critical community infrastructure but are hindered by outdated systems. Existing platforms lack inter-branch coordination, automated fine processing, and scalability.

1.2 Business Opportunity

A unified digital platform provides the opportunity to modernize public libraries by enabling automation, central data control, and remote service delivery.

1.3 Project Objectives

- Implement a scalable, cloud-hosted library system.
- Improve resource sharing and book tracking.
- Automate fine collection and member account services.

1.4 Summary of Stakeholder Needs

- **Library Staff:** Reduce manual work, improve reporting.
- **Members:** Easy access to services, mobile-friendly tools.
- **IT Team:** Integration readiness, maintainability.
- **Regional Managers:** High availability, central oversight.

2. Project Overview

2.1 Project Scope

The system includes account management, book loans/returns, fine processing, interlibrary exchange, and centralized admin dashboards. Out-of-scope items include physical upgrades and support for paper records.

2.2 Project Goals and Objectives

- 99.9% system uptime
- Reduce untracked books by 90%
- Improve member satisfaction by 40%

2.3 Project Assumptions

- Branches have stable internet
- Centralized cloud deployment is permitted

2.4 Project Constraints

- **Budget:** \$175,000
- **Timeline:** 7 months

2.5 Project Risks

- Resistance to change
- Data migration issues
- Vendor delays

3. Stakeholder Analysis

3.1 Stakeholder List

- Library Staff
- Members
- IT Administrators
- Regional Library Governance
- Cloud Hosting Partner

3.2 Roles and Responsibilities

- **Staff:** Input, testing, feedback
- **IT:** Architecture, integration
- **Management:** Prioritization, sign-off

3.3 Needs and Requirements

- Role-based access control, fast performance, transparent workflows

4. Business Requirements

4.1 Business Problem

Manual systems are slow, unreliable, and lead to service disruptions.

4.2 Objectives

- Improve service accessibility
- Reduce administrative overhead

4.3 Success Criteria

- 99% record accuracy
- 100% stakeholder approval
- System adoption within 2 months

4.4 Business Process Overview

4.4.1 Current Model

- Manual checkout, offline logs, inconsistent inter-branch process.

4.4.2 Proposed Model

- Unified, automated, digital system.

4.5 Data Requirements

4.5.1 Inputs

- Book scans, member details, loan requests

4.5.2 Outputs

- Loan reports, user logs, fine notifications

4.5.3 Storage

- Cloud database with encryption

4.6 Compliance and Quality

- Compliant with PIPEDA, ISO 27001, local library regulations

5. Functional Requirements

5.1 User Requirements

- Register, log in, manage accounts
- Borrow and reserve books
- Pay fines

5.2 System Features and Functions

- Book tracking and inter-branch status
- Payment integration
- Real-time reporting

5.3 Interface Requirements

- Mobile-first design, intuitive layout

5.4 Performance

- All pages load under 2 seconds

5.5 Security

- 2FA, data encryption, session timeout

5.6 Integration

- Payment APIs, third-party metadata services

5.7 Usability

- Minimal training, tooltips, help center

6. Non-Functional Requirements

6.1 Scalability

- Must support regional expansion

6.2 Reliability

- Automatic failover and health monitoring

6.3 Availability

- Uptime of 99.9% with SLA enforcement

6.4 Maintainability

- Modular design, CI/CD pipeline

6.5 Disaster Recovery

- Daily backups, rollback scripts

7. Technical Requirements

7.1 Technology Stack

- **Frontend:** React
- **Backend:** Node.js
- **Database:** MongoDB

7.2 Development Environment

- VSCode, GitHub, Docker

7.3 Deployment Environment

- AWS EC2, S3, RDS

7.4 Third-Party Integrations

- Stripe, Google Books API

7.5 Data Migration

- Scripts for validation and structured import/export

8. Transition Requirements

8.1 Training

- Workshops and webinars for all staff

8.2 Data Conversion

- Legacy export mapped to new format with test migration

8.3 System Cutover

- Phased rollout by district

8.4 Support and Maintenance

- Helpdesk setup, SLA documentation, system manual

9. APPENDICES

9.1 Glossary of Terms

- **FMO:** Future Mode of Operation
- **CMO:** Current Mode of Operation
- **RFID:** Radio Frequency Identification
- **API:** Application Programming Interface
- **PIPEDA:** Personal Information Protection and Electronic Documents Act

9.2 Acronyms and Abbreviations

- **FMO:** Future Mode of Operation
- **API:** Application Programming Interface
- **SLA:** Service Level Agreement

9.3 Reference Documents

- Week 1-10 Lecture Content
- IC Business Requirements Template

9.4 Version History

- Version 1.0 - April 2025

10. Approval

10.1 Stakeholder Approval

- Luca Novello

10.2 Change Management Process

- All changes post-signoff must follow the library's standard change control process