SYD466V1A - Assignment 1

Public Library Booking System (FMO System)

Business Requirements Document (BRD)

Version 1.0.0

Luca Novello

# TABLE OF CONTENTS

[**1. EXECUTIVE SUMMARY 3**](#_91ms18l93yin)

[1.1 Project Background 3](#_ntfrz4m4qqaq)

[1.2 Business Opportunity 3](#_22iv55rl59i0)

[1.3 Project Objectives 3](#_m6gcw4bx3a58)

[1.4 Summary of Stakeholder Needs 3](#_ot9634odtxa7)

[**2. Project Overview 4**](#_6ppkzo3ru3te)

[2.1 Project Scope 4](#_upb8bpvpdvsj)

[2.2 Project Goals and Objectives 4](#_twx91981g3yz)

[2.3 Project Assumptions 4](#_imsuu4pubw0c)

[2.4 Project Constraints 4](#_ye3q9am4pr0a)

[2.5 Project Risks 4](#_gi9e2aijhrfu)

[**3. Stakeholder Analysis 5**](#_efu0qpjwnm8m)

[3.1 Stakeholder List 5](#_me0lslmtw8t4)

[3.2 Roles and Responsibilities 5](#_6qioxf99tmnf)

[3.3 Needs and Requirements 5](#_uxyv4zm8o2sz)

[**4. Business Requirements 6**](#_n4sx0zwijvx6)

[4.1 Business Problem 6](#_q1z944vpve01)

[4.2 Objectives 6](#_rn7bm3tcatpg)

[4.3 Success Criteria 6](#_7thomthygflb)

[4.4 Business Process Overview 6](#_fig795j8t04i)

[4.4.1 Current Model 6](#_11ae5dzdc76g)

[4.4.2 Proposed Model 6](#_l1a0taax81sg)

[4.5 Data Requirements 6](#_4apazsn8udyf)

[4.5.1 Inputs 6](#_ctkutid82j1n)

[4.5.2 Outputs 6](#_ix7l7bgiuhph)

[4.5.3 Storage 6](#_mil80gxp7qg)

[4.6 Compliance and Quality 6](#_4dp98oj48xc4)

[**5. Functional Requirements 7**](#_iwfcf0ewxm0e)

[5.1 User Requirements 7](#_psz96y7yxud9)

[5.2 System Features and Functions 7](#_cu5anem8jl46)

[5.3 Interface Requirements 7](#_drs9v1yo7i2y)

[5.4 Performance 7](#_7bppw2grme7p)

[5.5 Security 7](#_fmmmridygk1r)

[5.6 Integration 7](#_taasb2kiyjhq)

[5.7 Usability 7](#_87te5onhp2wt)

[**6. Non-Functional Requirements 8**](#_1om4jq5tkojv)

[6.1 Scalability 8](#_qfcvpkt8pljn)

[6.2 Reliability 8](#_umffs33m81du)

[6.3 Availability 8](#_3laj8z8xqrf8)

[6.4 Maintainability 8](#_k5hal7jjwi17)

[6.5 Disaster Recovery 8](#_1l28lh2pkj9e)

[**7. Technical Requirements 9**](#_uw5pzpyvdnog)

[7.1 Technology Stack 9](#_86ff9octteob)

[7.2 Development Environment 9](#_ad9a3sbvipp4)

[7.3 Deployment Environment 9](#_s6depz7peo8)

[7.4 Third-Party Integrations 9](#_xkh0ko6nhgw8)

[7.5 Data Migration 9](#_z06lv5c2cj9u)

[**8. Transition Requirements 10**](#_n9s36mp2ktoy)

[8.1 Training 10](#_x99ofjr4r53j)

[8.2 Data Conversion 10](#_1jyrects9qmh)

[8.3 System Cutover 10](#_qzah75af6ci)

[8.4 Support and Maintenance 10](#_te9e5fv2dxdp)

[**9. APPENDICES 11**](#_92keou1ofa11)

[9.1 Glossary of Terms 11](#_j0wwyfmjd7w0)

[9.2 Acronyms and Abbreviations 11](#_g4nx3gvg3k83)

[9.3 Reference Documents 11](#_ndvqshclnkn6)

[9.4 Version History 11](#_s2sauovq97xy)

[**10. Approval 12**](#_pngesytfd39w)

[10.1 Stakeholder Approval 12](#_x9lqxcdzb2o7)

[10.2 Change Management Process](#_40kxokkla0ac) …12

# 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