

Internal Design Document Loan Management System (Agile)

Version: 1.0

Release Model: 5 Sprints / 8 Builds

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Revision History

Version	Date	Author	Description
1.0	2026-02-18	Sanyogita Herwathe (QA Owner)	Initial Agile Enterprise Release Version

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Approval & Sign-Off
Prepared By: QA Lead – Sanyogita Herwathe
Reviewed By: Product Owner
Approved By: Engineering Manager
Approval Status: Approved for Release Governance

1. Architecture Overview

System follows 3-tier architecture:

Presentation Layer

- Laravel Blade Templates
- HTML / CSS / JavaScript

Business Logic Layer

- Laravel MVC
- Controllers
- Services
- Middlewares
- Routing

Data Layer

- MySQL
- Eloquent ORM

2. Technology Stack

- PHP 8.1
- Laravel Framework
- Apache Server
- Ubuntu OS
- MySQL RDBMS
- Livewire
- Blade UI Kit
- Filament Admin

3. Database Schema

Tables:

USERS

- username (unique)
- password
- role
- branch_id

CUSTOMERS

- account (7-digit unique)
- first_name
- last_name

- phone
- email

LOANS

- customer_id
- monthly_income
- monthly_debt
- monthly_payment (calculated)
- loan_term
- rate
- principal

4. Build Deployment Model

Build	Sprint	Purpose
1	Sprint 1	Auth Initial
2	Sprint 1	Auth Stabilization
3	Sprint 2	Users
4	Sprint 3	Customers
5	Sprint 4	Loan Logic
6	Sprint 4	Loan Stabilization
7	Sprint 5	PDF + RBAC
8	Sprint 5	Release Candidate

5. Security Controls

- Middleware-based authentication
- Role-based route protection
- Session termination on logout
- URL manipulation prevention