Loan Admin Management Application (LAMA)

Description:

LAMA provides a facility for GIS Global Employees to purchase items from GIS Global Mart and facilitates a flexible loan to purchase the items. GIS Global issues loan cards for various purchases like furniture, stationary, crockery, etc., to all their employees with specific repayment tenure for each of the loan type. Whenever an employee applies for loan, based on his eligibility loan will be approved and assign an employee with loan card. Each employee can be issued with different types of cards for purchasing diff categories of products.

There are two types of users

1. Admin, who is an Internal Manager person manages the data.

2. User, who is an internal Employee who can apply for the card

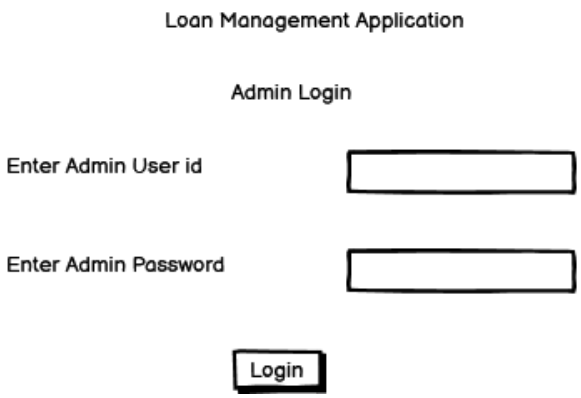
LAMA, is to be developed to manage the Admin activities.

The main functionalities of the LMA are:

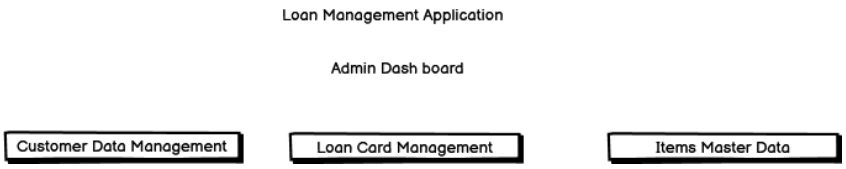
1. It should allow the admin to login and validate the credentials.
2. It should allow the admin to maintain the customer data.
3. It should allow the admin to manage loan cards ie., add or delete or update loan cards
4. It should allow the admin to maintain the item master data.

Proposed Wireframes:

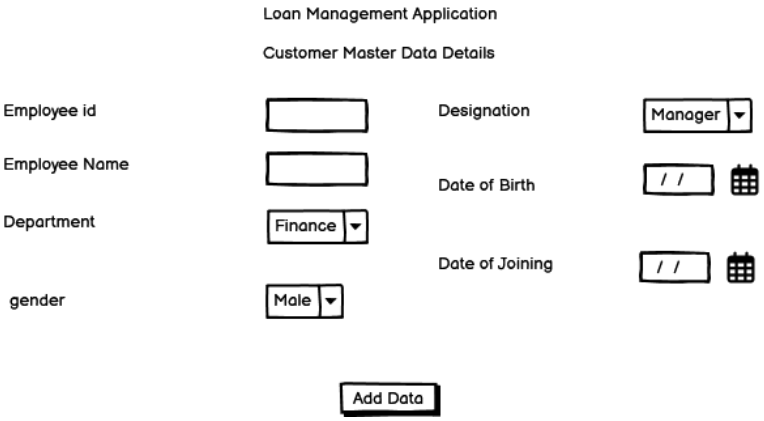
a. A standard login screen to validate Admin credentials



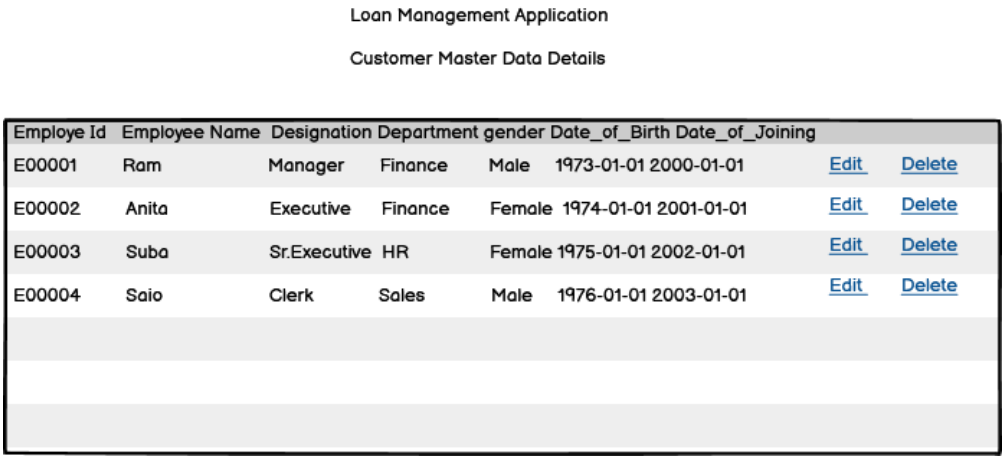
b. Admin Dash board to select various operations



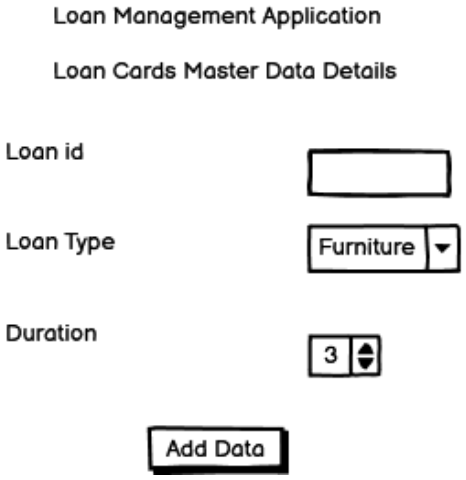
c. Customer Data Management – Add Customer Data



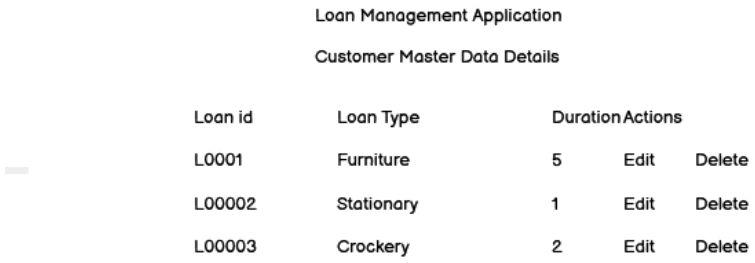
d. Screen for Customers Data Edit



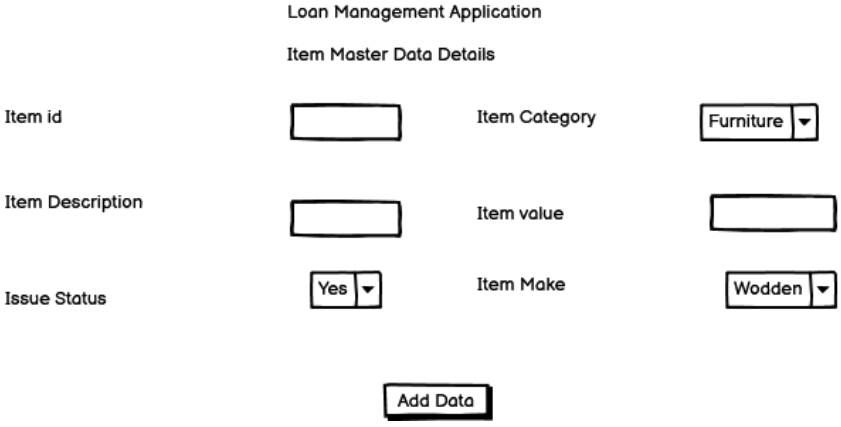
e. Wireframe for Loan Card Data insert



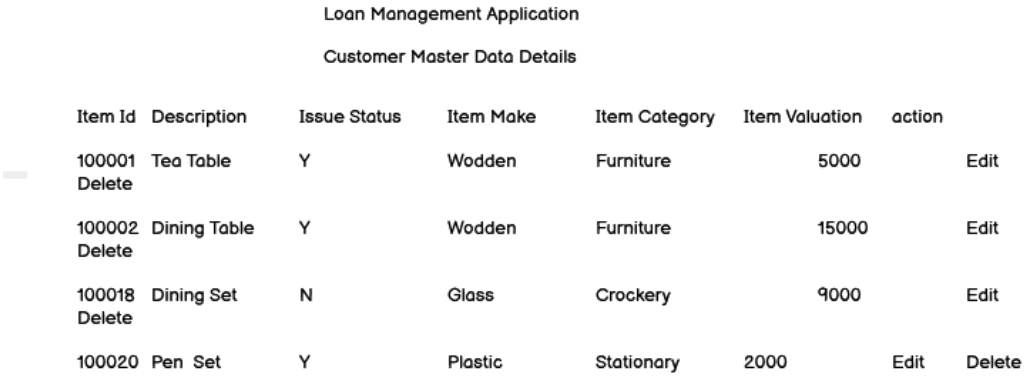
f. wireframe for loan data edit details



g. Wireframe for Item Master



h. Wireframe for Item Master Data Edit Details



3. Toolchain

Databases: MySQL

Presentation or View Layer: React

Backend processing: Spring and Springboot

Database Connectivity: Spring data JPA

Version control systems: Git

Build Tools: Maven

Development Flow

The application development should be completed in 40 hours, as per the below order

Phase -1 : Backend Development: Backend Tasks – Code Project panel presentation

Phase -2: Frontend Development: Frontend Tasks – Code project panel presentation

Business Requirement:

There will be 5 main user stories required to be implemented covering the below use cases:

User Stories

User story Id	Us-01
User story title	Admin Login
User Story Details	1. Admin should provide the user id and password for validation.
Acceptance Criteria	1. Both username and password are mandatory, if not provided, error messages should be displayed. 2. Successful validation should redirect to menu page, unsuccessful validation should redirect to registration page.

User story Id	Us-02
User story title	User Menu
User Story Details	Display the Admin Dashboard for Loan, Customer and Item Master details management
Acceptance Criteria	Null

User Story Id	Us_03
User Story Title	Loan Card Details Management
User story Details:	As an admin, he should be able to create a new loan card with the following details viz., loand_id, loan_type, duration_in_years and should save it in the database.
Acceptance Criteria	Once the data is entered, it should redirect to display all the existing loan card details and also have a provision to edit and delete existing data details.

User_Story id	Us_04
User story Title	Customer Data Management
User Story Details:	As an admin he should be able to create a new employee with the following details: viz., employee_id, employee_name, designation, department, gender, date_of_birth, date_of_joining.
Acceptance Criteria	Once the data is entered and submitted, it should save the details in the database and also have the provision to edit and delete existing data details.

User_Story_id	Us_05
User Story Title	Item Master Management
User Story Details	As an admin he should be able to create a new item details with the following details: viz., item_id, item_description, issue_status, item_make, item_category, item_valuation.
Acceptance Criteria:	Once the data is entered and submitted, it should save the details in the database and also have the provision to edit and delete existing data details.

Note: A separate service component must be created to call the spring boot backend services and all the validations or processing regarding the use case should be done at the backend only.

Backend Layer Userstories

User story Id	Us-01
User story title	Admin Login processing
User Story Details	1. Should be able to extract the values from request body using @RequestBody 2. Read the user details from database using spring data jpa and validate it with the UI values. 3. After validating should send response to React UI 4. Must use GET Method of communication
Acceptance Criteria	1. Once user validation is done, view must return the main menu in react 2. If validation fails, view must return to login page only, as this application does not allow for admin to register themselves. 3. All validations must be performed at backend only

User story Id	Us-02
User story title	Loan Card Details Management processing
User Story Details	1. Should be able to extract the values from request body object 2. Read the user registration values from UI and pass it to service layer further to dao layer to perform insertion of record in database 3. Should return the model object after successful insertion of data 4. Must use POST method of communication
Acceptance Criteria	1. Once data is inserted, it should re direct to display all the details of loans 2. If insertion fails, it should display an error page and must have provision to go to menu page.

User story Id	Us-03
User story title	Customer Data Management
User Story Details	1. Should be able to extract the values from request body object 2. Read the user registration values from UI and pass it to service layer further to dao layer to perform insertion of record in database 3. Should return the model object after successful insertion of data 4. Must use POST method of communication

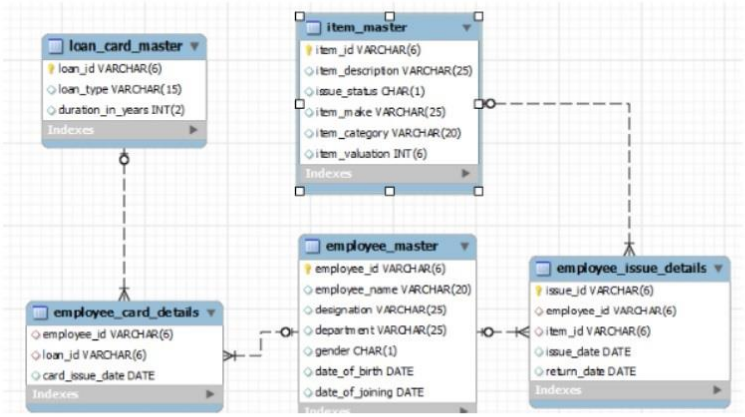
Acceptance Criteria	1. Once data is inserted, it should re direct to display all the details of loans 2. If insertion fails, it should display an error page and must have provision to go to menu page.

User story Id	Us-04
User story title	Item Master Management
User Story Details	1. Should be able to extract the values from request body object 2. Read the user registration values from UI and pass it to service layer further to dao layer to perform insertion of record in database 3. Should return the model object after successful insertion of data 4. Must use POST method of communication
Acceptance Criteria	1. Once data is inserted, it should re direct to display all the details of loans 2. If insertion fails, it should display an error page and must have provision to go to menu page.

Database Layer

User story	User Story Details
Us_01	1. DB Schema creation and setup in mysql database 2. Spring boot project setup creation. 3. Develop the post method api to read data from view page. 4. Use appropriate DTO objects for view and data integration 5. Use spring data jpa for connecting to databases.
Us_02	1. Set up the appropriate methods to perform functions like user validation, user registration, transaction management, transaction details.

Database Schema



Presentation:

I. No custom CSS, UX framework like bootstrap must be used
II. An Appropriate GoF design pattern should be implemented to compose and process the data received from backend APIs
III. SOLID principles should be implemented to develop reusable and modular components
IV. UI app should have appropriate client-side validations
V. UI app should have the latest versions of available imported packages and libraries

Methodology:

Agile-based development methodology should be used to track and manage the progress of the whole process. As a developer, it is expected to update the Agile tools like JIRA with status updates and impediments (Optional)

Day wise plan for user stories

Day -1	Database Layer Us_01 , Us_02 , Frontend US_01
Day-2	Backend US_01 and Frontend Us_02
Day-3	Frontend US_03, US_04 Backend Us_02 and Backend US_03
Day-4	Frontend US_05 Backend Us_04
Day- 5	Unit test cases, testing and ppt preparation.