

A PROJECT ON
Online Loan Management System

SUBMITTED IN

FULFILLMENT OF THE REQUIREMENT

FOR THE COURSE OF DIPLOMA IN ADVANCED COMPUTING FROM CDAC



SUNBEAM INSTITUTE OF INFORMATION TECHNOLOGY

Hinjawadi

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UNDER THE GUIDENCE OF:

Mrs. Lalita Shinde

Faculty Member

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ACKNOWLEDGEMENT

A project usually falls short of its expectation unless aided and guided by the right persons at the right time. We avail this opportunity to express our deep sense of gratitude towards Mr. Nitin Kudale (Center Coordinator, SIIT, Pune) and Mr. Yogesh Kolhe (Course Coordinator, SIIT ,Pune) .

We are deeply indebted and grateful to them for their guidance, encouragement and deep concern for our project. Without their critical evaluation and suggestions at every stage of the project, this project could never have reached its present form.

Last but not the least we thank the entire faculty and the staff members of Sunbeam Institute of Information Technology, Pune for their support.

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CERTIFICATE

This is to certify that the project work under the title '**Online Loan Management System**' is done by Amol Ashok Dangi ,Vaibhav Bhausahab kale ,Prajwal Vinodrao Rumale ,Ganesh Hanmant Pawar in fulfillment of the requirement for award of Diploma in Advanced Computing Course.

Project Guide

Date: 11-02-2025

Mr. Yogesh Kolhe

Course Co-Coordinator

Loan Management System

Table of Contents:

1. INTRODUCTION.....	2
2. REQUIREMENTS.....	3
2.1 Functional Requirements	3
2.1 User Module	4
2.2 Admin Module	6
3. Non-Functional Requirements	12
3.3.1 Hardware and Software Interfaces .	12
4. DESIGN.....	13
4.1 Database design	13
5. CODING STANDARD IMPLEMENTED	19
6. APENDIX A	
1. Entity Relationship Diagram	27
2. Data Flow Diagram	28
3. Class Diagram	29
7. APENDIX B	
UI Screenshots.....	30
8. REFERENCES.....	4

1. INTRODUCTION TO PROJECT

The **Online Loan Management System (OLMS)** is a digital platform designed to streamline and automate the loan application, approval, and repayment processes. It enhances efficiency by allowing customers to apply for loans, track application status, manage repayments, and make online transactions seamlessly. The system provides administrative control for lenders and financial institutions to oversee loan processing, verify borrower details, and ensure secure and efficient loan management. OLMS ensures data integrity, security, and scalability, making loan management more organized and accessible.

The **Online Loan Management System** is a comprehensive platform designed to simplify and digitize the loan lifecycle, ensuring seamless coordination between borrowers, lenders, and financial institutions. Traditional loan processing often relies on manual verification and paperwork, which can be time-consuming, inefficient, and prone to errors. This system addresses these challenges by providing an integrated solution that allows customers to apply for loans, upload required documents, track approval status in real-time, and manage repayments efficiently. It also enables financial institutions to verify applications, approve/reject loans, monitor disbursements, and oversee repayment schedules, ensuring smooth financial operations. By centralizing all loan-related processes into a single online system, OLMS enhances productivity, reduces administrative workload, and improves the overall borrower

Loan Management System

experience.

OLMS is built with a **role-based access system**, ensuring different functionalities for admins, lenders, and borrowers:

***Admin:** Has full control over the platform, manages loan policies, monitors transactions, and oversees system security.

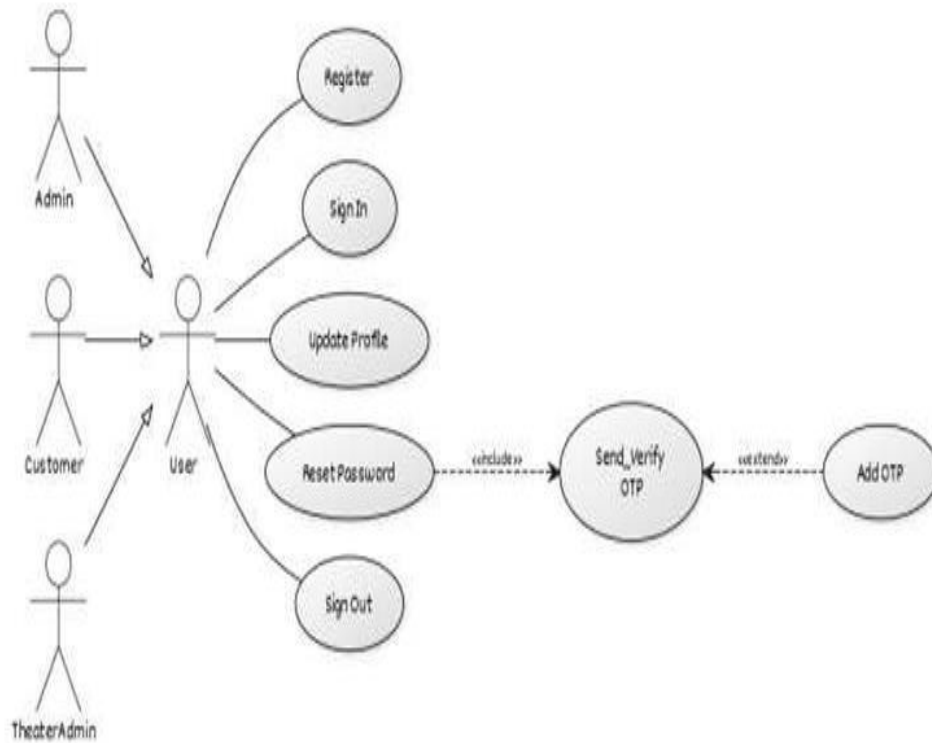
***Lender (Loan Officer/Financial Institution):** Reviews applications, verifies documents, approves/rejects loans, and manages disbursements.

***Borrower (Customer):** Applies for loans, submits documents, tracks application progress, makes repayments, and receives loan updates.

OLMS is built with a role-based access system, ensuring different functionalities for admins, Users. Admins have full control over the platform. Users can view their Applied Loans. Users benefit from a user-friendly interface where they can manage Applying, make payments, and receive Loans updates.

2. REQUIREMENTS

2.1 FUNCTIONAL REQUIREMENTS



CREATED WITH PUPIL

2.1 Users Flow

2.1.1 Home Page

- **Objective:** Provide Users access to event Loan functionalities.
- **Features:**
 - Users can log in to access event-related services. If login credentials are invalid, prompt the user to re-enter credentials.

2.1.2 Loan Apply

- **Objective:** Allow customers to book events with customized services.
- **Features:**
 - Enter Loan information.
 - Select a Loan Type.
 - Choose a Loan Type.
 - Apply for the Loan.

2.1.3 Event Management

- **Objective:** Allow Users to view, edit, and manage their Loans.
- **Features:**
 - Users can edit Loan details after Applying.
 - Users can view all their Applied Loans.

2.1.4 Reports & Logout

- **Objective:** Provide Loan progress updates and allow secure logout.
- **Features:**
 - Users can view Loan detail reports.
 - Logout button to exit the system securely.

3.3 Admin Flow

2.1.5 Home Page

- **Objective:** Allow the admin to access and manage system functionalities.
- **Features:**
 - Admin login verification with valid/invalid credentials

2.1.6 Admin Dashboard

- **Objective:** Allow the admin to access and manage system functionalities.
- **Features:**
 - View and edit Loan information.
 - Manage Loan services.
 - View and edit Loans information.
 - Manage Users details (add, remove users).
 - Access detailed reports on Loans.

2.1.7 Logout

- **Objective:** Securely exit the system.
- **Features:**
 - Clicking "Logout" logs the admin out and redirects to the main screen

2.1.8 Users Dashboard

- **Objective:** Allow Users to view and update Loans.
- **Features:**
 - View assigned Loans.
 - View assigned Loans.
 - View Loans progress reports.

2.1.9 Logout

- **Objective:** Securely exit the system.
- **Features:**
 - Clicking "Logout" logs the employee out and redirects to the main screen.

Loan Management System

3. Non-Functional Requirements

3.1 Minimal Interface:

- Interface should be simple and easy for users to adapt to.

3.2 Speed

- The system should maintain performance standards of handling 1000 transactions/inquiries per second.

3.3 Portability

- The system should maintain performance standards of handling 1000 transactions/inquiries per second.

3.4 Portability

- The system should maintain performance standards of handling 1000 transactions/inquiries per second.

3.5 Scalability

- The System should be extendable if required, and adapt to greater number of users. It should be open for more functionalities to be added if required.

3.6 Security

- User data and/or other private details must be kept confidential and only visible to those authorized to view them.

3.7 Data Integrity

- User Data stored should not be compromised, and should be accurate and reliable.

1.1 Other Requirements

1.1.1 Hardware Interfaces

Requirements: Intel Core i5 or higher (or AMD equivalent), 8 GB RAM, 512 GB SSD or larger.

1.1.2 Software Interfaces

- **Operating Systems:** MS Windows 13.
- **Database:** MySQL.
- **Server:** Embedded Tomcat.
- **Browsers:** Compatible with modern web browsers.

2. System Design

2.1 Architecture

- **Front-End:** Developed using React.js.
- **Back-End:** Built with Spring Boot for server-side logic.
- **Database:** MySQL for storing user data, orders, and other system information.
- **Server:** Embedded Tomcat for hosting the application.

4. DESIGN

4.1 Database Design

Table 1 : kyc_details

```
root>desc kyc_details;
```

Field	Type	Null	Key	Default	Extra
id	bigint	NO	PRI	NULL	auto_increment
aadhaar_card_image_path	varchar(255)	YES		NULL	
aadhaar_number	varchar(255)	YES		NULL	
account_type	varchar(255)	YES		NULL	
annual_income	double	YES		NULL	
bank_account_number	varchar(255)	YES		NULL	
correspondence_city	varchar(255)	YES		NULL	
correspondence_state	varchar(255)	YES		NULL	
correspondence_street	varchar(255)	YES		NULL	
correspondence_zip_code	varchar(255)	YES		NULL	
date_of_birth	date	YES		NULL	
driving_license_number	varchar(255)	YES		NULL	
email	varchar(255)	YES		NULL	
employer_name	varchar(255)	YES		NULL	
father_name	varchar(255)	YES		NULL	
first_name	varchar(255)	NO		NULL	
gender	varchar(255)	YES		NULL	
ifsc_code	varchar(255)	YES		NULL	
kyc_status	enum('NOT_VERIFIED','VERIFIED')	YES		NULL	
last_name	varchar(255)	NO		NULL	
marital_status	varchar(255)	YES		NULL	
mother_name	varchar(255)	YES		NULL	
occupation	varchar(255)	YES		NULL	
pan_number	varchar(255)	YES		NULL	
passport_image_path	varchar(255)	YES		NULL	
passport_number	varchar(255)	YES		NULL	
permanent_city	varchar(255)	YES		NULL	
permanent_state	varchar(255)	YES		NULL	
permanent_street	varchar(255)	YES		NULL	
permanent_zip_code	varchar(255)	YES		NULL	
phone	varchar(255)	YES		NULL	
rental_agreement_image_path	varchar(255)	YES		NULL	
source_of_income	varchar(255)	YES		NULL	
user_id	bigint	NO		NULL	
utility_bill_image_path	varchar(255)	YES		NULL	
voter_id_number	varchar(255)	YES		NULL	

```
36 rows in set (0.42 sec)

root>
```

Table 2 : loan_applications

```
root>desc loan_applications;
```

Field	Type	Null	Key	Default	Extra
id	bigint	NO	PRI	NULL	auto_increment
application_status	enum('APPROVED','PENDING','REJECTED')	NO		NULL	
interest_rate	double	YES		NULL	
loan_amount	double	YES		NULL	
loan_period	int	YES		NULL	
loan_purpose	varchar(255)	YES		NULL	
user_id	bigint	YES	MUL	NULL	

```
7 rows in set (0.17 sec)

root>
```

Loan Management System

Table 3 : Loans

```
root>desc loans;
```

Field	Type	Null	Key	Default	Extra
loan_id	bigint	NO	PRI	NULL	auto_increment
duration_months	int	NO		NULL	
emi_amount	double	NO		NULL	
end_date	date	NO		NULL	
last_emi_date	date	YES		NULL	
loan_amount	double	NO		NULL	
next_emi_date	date	YES		NULL	
paid_emi	int	NO		NULL	
remaining_emi	int	NO		NULL	
start_date	date	NO		NULL	
status	enum('APPROVED','PENDING','REJECTED')	NO		NULL	
total_emi	int	NO		NULL	
user_id	bigint	NO	MUL	NULL	

13 rows in set (0.18 sec)

```
root>
```

Table 4 : Transaction

```
root>desc transactions;
```

Field	Type	Null	Key	Default	Extra
transaction_id	bigint	NO	PRI	NULL	auto_increment
amount	double	NO		NULL	
transaction_date	date	NO		NULL	
transaction_status	enum('COMPLETED','FAILED','PENDING')	NO		NULL	
transaction_type	varchar(255)	NO		NULL	
user_id	bigint	NO	MUL	NULL	
wallet_id	bigint	YES	MUL	NULL	

7 rows in set (0.09 sec)

```
root> transactions
```

Table 5 : Users

```
root>desc users;
```

Field	Type	Null	Key	Default	Extra
user_id	bigint	NO	PRI	NULL	auto_increment
email	varchar(100)	YES	UNI	NULL	
first_name	varchar(20)	YES		NULL	
last_name	varchar(20)	YES		NULL	
password	varchar(500)	NO		NULL	
phone_number	varchar(15)	NO		NULL	
role	enum('ROLE_ADMIN','ROLE_USER')	YES		NULL	
wallet_id	bigint	YES	MUL	NULL	

8 rows in set (0.10 sec)

```
root>
```

Loan Management System

Table 6 : user

```
D1_87123_Summedh>desc user;
```

Field	Type	Null	Key	Default	Extra
id	int	NO	PRI	NULL	auto_increment
acc_number	varchar(18)	YES		NULL	
adhar_number	varchar(12)	YES		NULL	
contact_number	varchar(10)	YES		NULL	
dob	date	NO		NULL	
email	varchar(25)	YES	UNI	NULL	
name	varchar(20)	YES		NULL	
password	varchar(100)	YES		NULL	
role	varchar(20)	YES		NULL	
salary	double	NO		NULL	

Table 7 : Wallet

```
root>desc wallet;
```

Field	Type	Null	Key	Default	Extra
wallet_id	bigint	NO	PRI	NULL	auto_increment
balance	double	NO		NULL	
user_id	bigint	NO	UNI	NULL	

3 rows in set (0.46 sec)

```
root>
```


CODING STANDARDS IMPLEMENTED :

Below summarizes the naming recommendations for identifiers in Pascal casing is used mainly (i.e. capitalize first letter of each word) with camel casing (capitalize each word except for the first one) being used in certain circumstances.

Identifier	Case	Examples	Additional Notes
Class	Pascal	EventController, Menu,Event, Caters	Class names should be based on "objects" or "real things" and should generally be nouns . No '_' signs allowed. Do not use type prefixes like 'C' for class.
Method	Camel	getAllCaters, addCaterer, assignCater	Methods should use verbs or verb phrases.
Parameter	Camel	id, menuName, price, date, contactNumber, adharNumber	Use descriptive parameter names. Parameter names should be descriptive enough that the name of the parameter and its type can be used to determine its meaning in most scenarios.
Interface	Pascal with "I" prefix	IMenuServices, IEventServices	Do not use the '_' sign
Annotation	Pascal	SpringBoot Application	Use @ at start of annotation
DTOs	Camel	EventDTO, LoginDTO	Use to transfer data between the processes
Exception Class	Pascal with "Exception" suffix	Event Management Exception	

Comments :

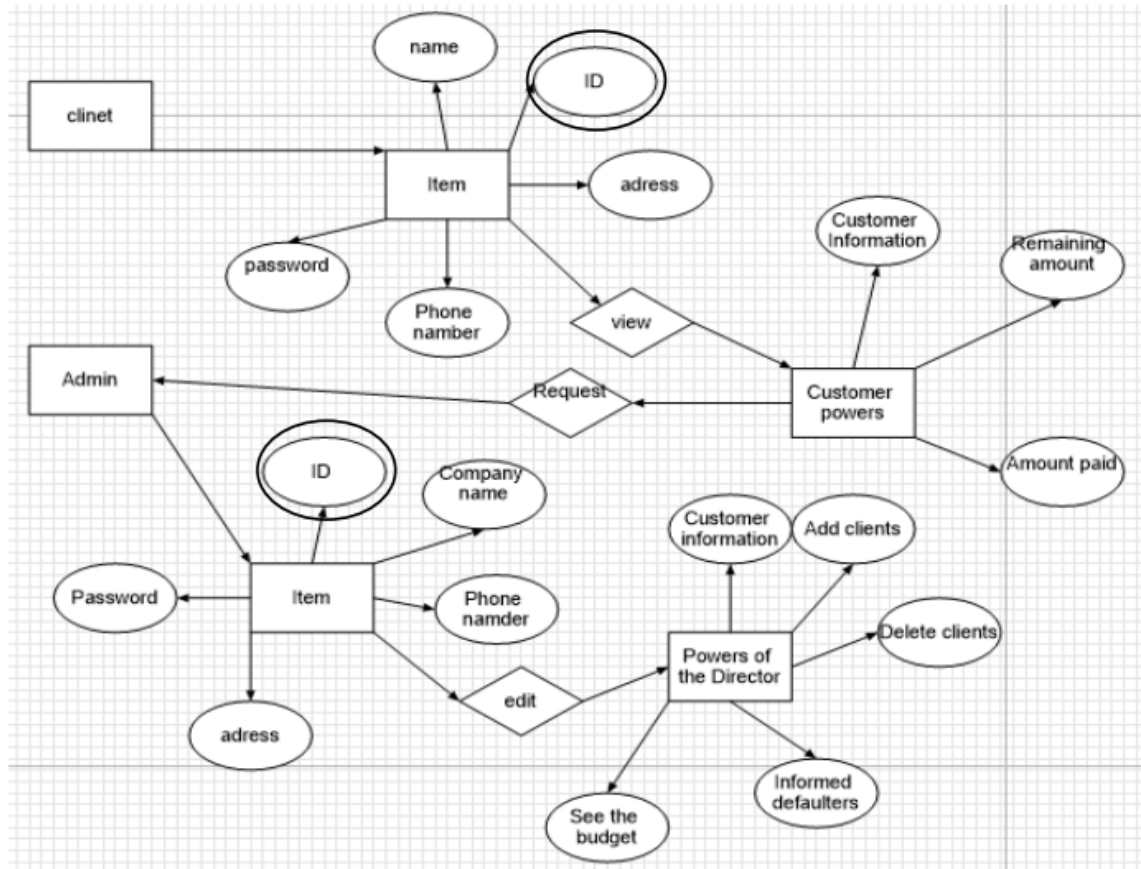
- Comment each type, each non-public type member, and each region declaration.
- Use end-line comments only on variable declaration lines.
End-line comments are comments that follow code on a single line.

Loan Management System

- Separate comments from comment delimiters (apostrophe) or // with one space.

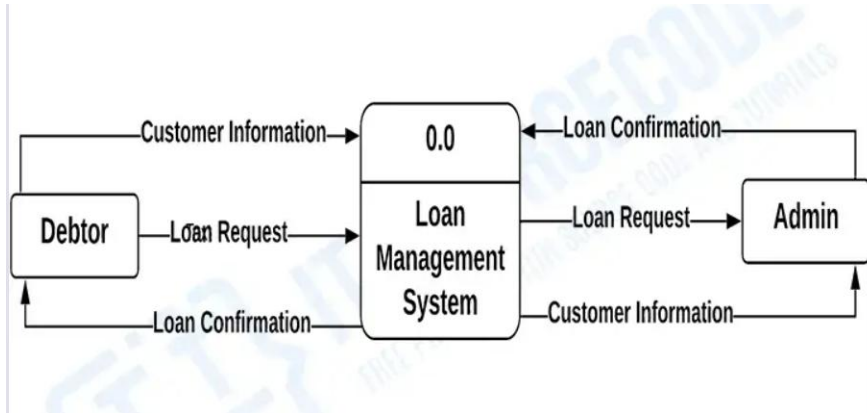
Appendix A

Entity Relationship Diagram

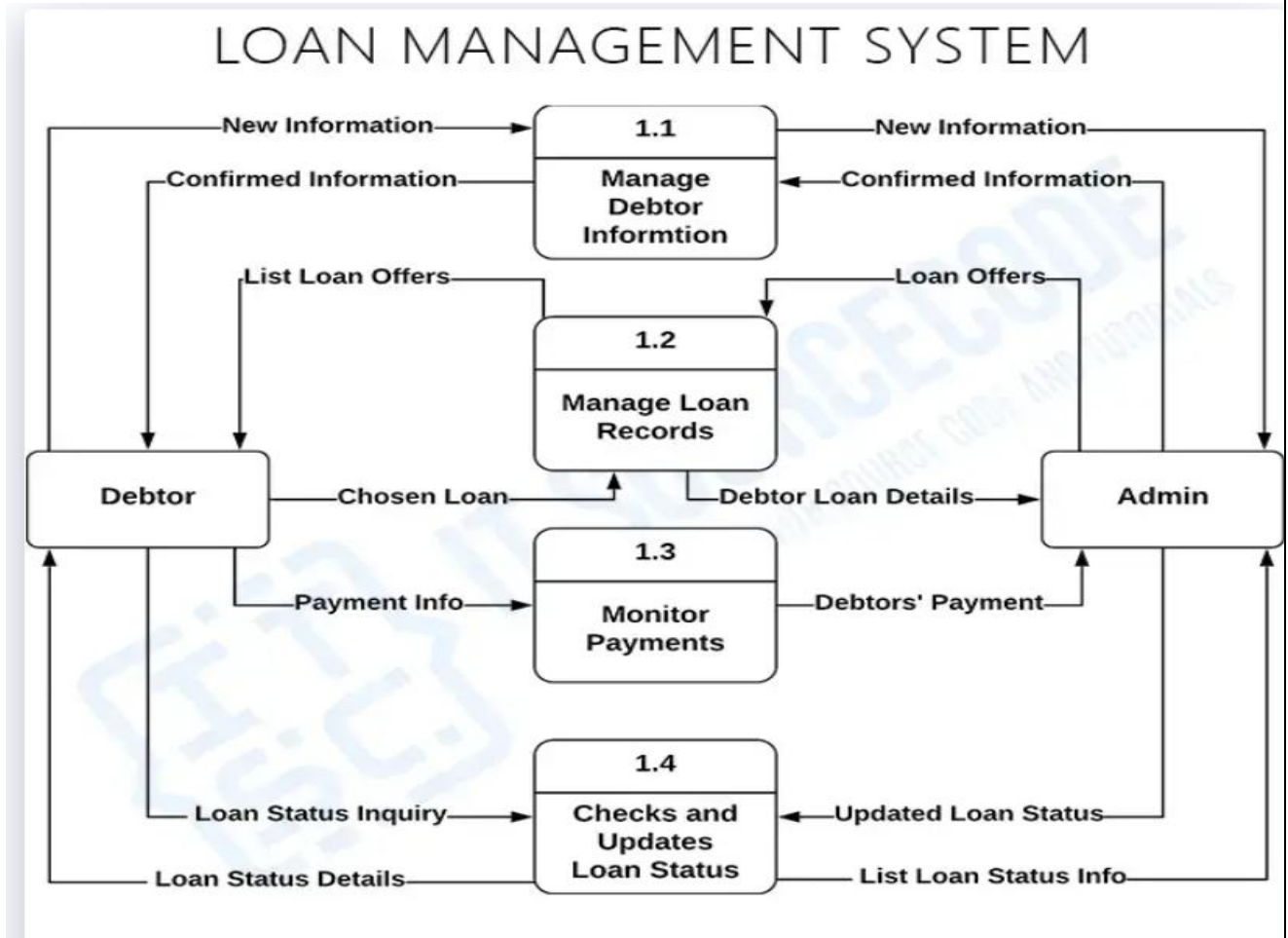


Loan Management System

Data Flow Diagram:0 Level

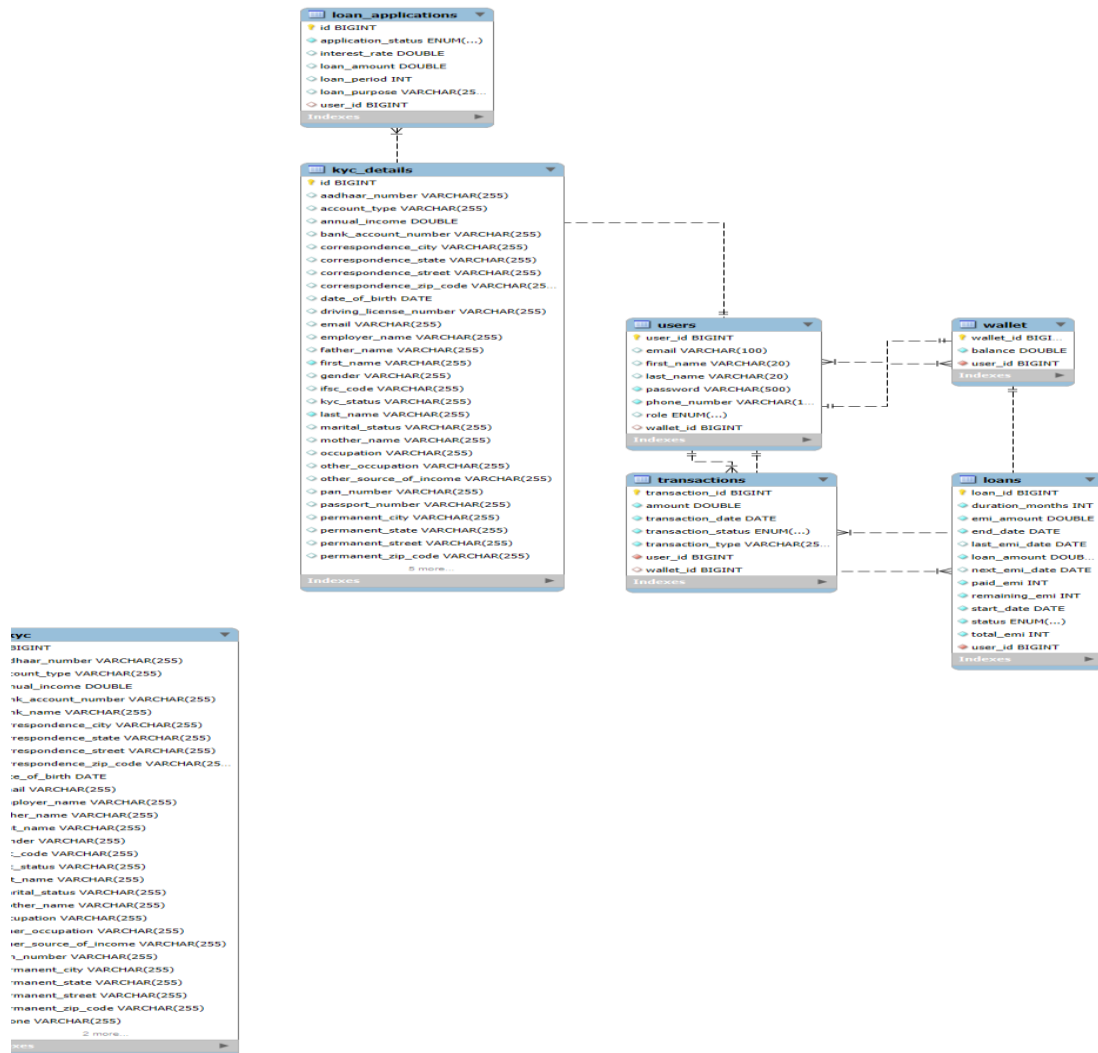


Data Flow Diagram:1 Level:



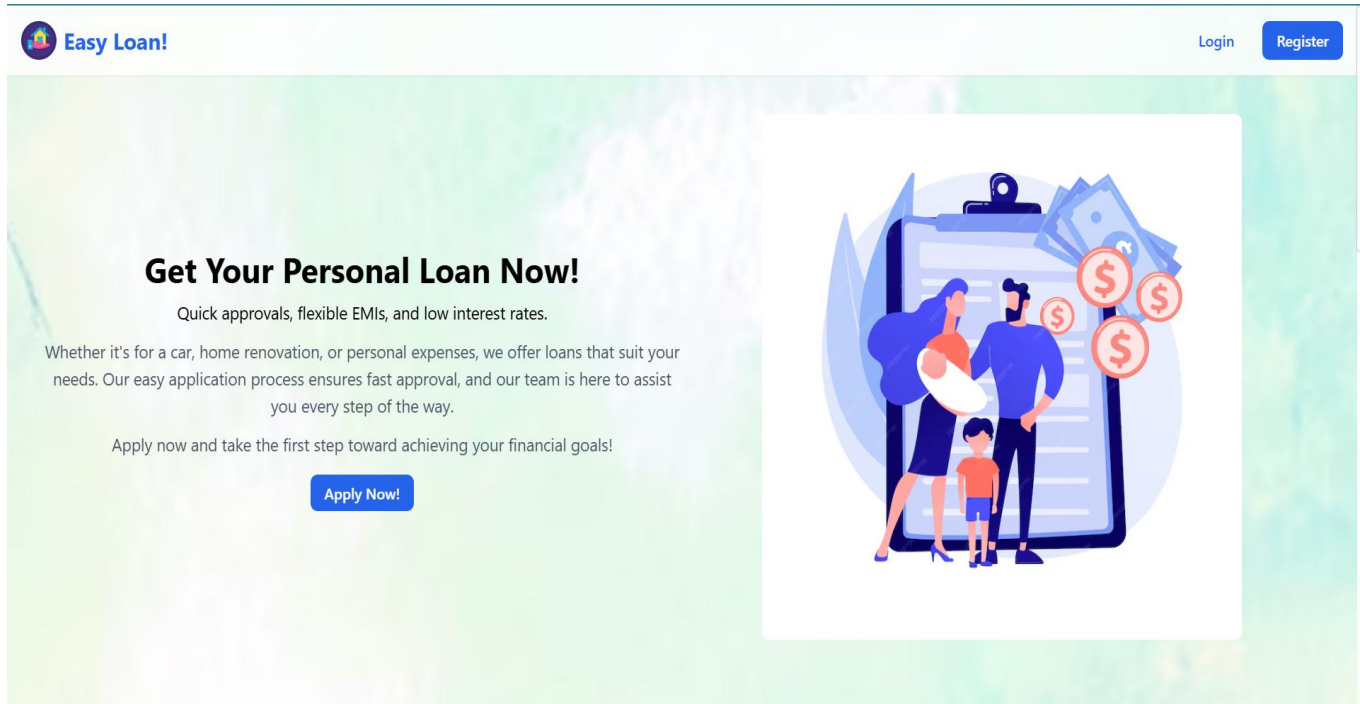
Loan Management System

Class Diagram



Loan Management System

Landing Page:



Login Page:

The login page features a light blue background. In the center is a white rounded rectangle containing the 'LOGIN' form. The form has the title 'LOGIN' in bold blue letters. Below the title are two input fields: 'Email' and 'Password', each with a placeholder text of the same name. Below these fields is a dark blue 'LOGIN' button. At the bottom of the form, there is a link that says 'Don't Have an Account? Register'.

Loan Management System

Register:

REGISTER

First Name

Last Name

Email

Send OTP

Password

Confirm Password

Phone Number

SIGN UP

Already have an account? [Sign In](#)

1. User Dashboard:

Easy Loan - User

Logout

USER DASHBOARD

Dashboard

Loan Details

Pay EMI

User Profile

Wallet

KYC

Apply For Loan

TRANSACTION HISTORY

Date	Amount	Type	Status
2025-02-11	₹10000000	Deposit	COMPLETED
2025-02-11	₹600000	Withdraw	COMPLETED
2025-02-11	₹900000	Deposit	COMPLETED
2025-02-11	₹45000	Deposit	COMPLETED
2025-02-11	₹5000	Withdraw	COMPLETED

<

1

2

>

Loan Status

P

0

Pending Loans

Total: ₹0

A

0

Approved Loans

Total: ₹0

R

0

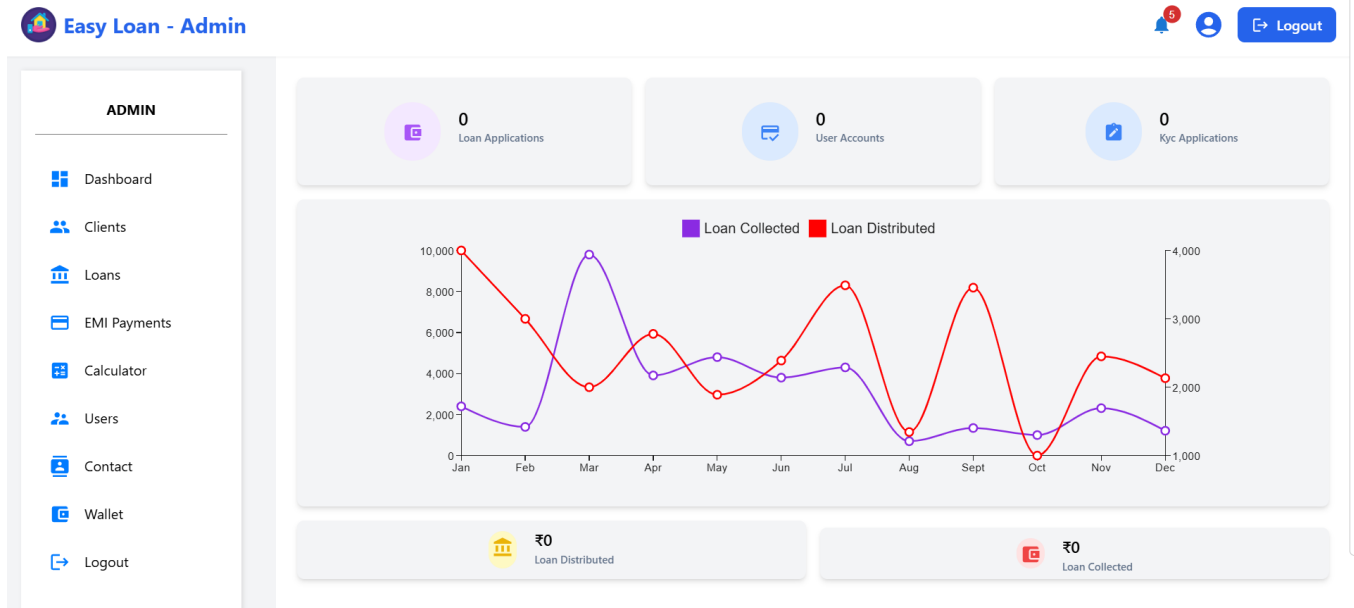
Rejected Loans

Total: ₹0

VIEW ALL

Loan Management System

2. Admin Dashboard:



3. Loan Application:

Easy Loan - Admin Logout

ADMIN

- Dashboard
- Clients
- Loans
- EMI Payments
- Calculator
- Users
- Contact
- Wallet
- Logout


LOAN APPLICATIONS



Loan ID	User ID	Loan Amount	EMI Amount	Start Date	End Date	Next EMI Date	Status
2	1	₹4,00,000.00	₹35,539.52	09-Feb-2025	09-Feb-2026	N/A	Closed
1	1	₹6,00,000.00	₹35,539.52	09-Feb-2025	09-Feb-2027	09-Feb-2025	Active

< 1 >

Loan Management System

Loan Application:





Logout

USER DASHBOARD

- Dashboard
- Loan Details
- Pay EMI
- User Profile
- Wallet
- KYC
- Apply For Loan

Loan Application Form

Loan Purpose

Loan Amount (₹)

Loan Period (Months)


Interest Rate (%)



Monthly EMI (₹)
0.00

APPLY FOR LOAN

localhost:3000/apply-for-loan

User Kyc Form:





Logout

USER DASHBOARD


- Dashboard
- Loan Details
- Pay EMI
- User Profile
- Wallet
- KYC
- Apply For Loan

KYC Form

Personal Information

First Name *

Last Name *

Date of Birth 

Gender

Father's Name

Mother's Name

Marital Status

Contact Details

Permanent Address

House Name *

Street *

Loan Management System

User Wallet:



Easy Loan - User

All Bookmarks



Logout

USER DASHBOARD

- Dashboard
- Loan Details
- Pay EMI
- User Profile
- Wallet
- KYC
- Apply For Loan

WALLET MANAGEMENT

Manage your wallet balance with ease.

Current Balance: ₹560.1453585990002

ADD FUNDS

WITHDRAW FUNDS

localhost:3000/wallet

User Profile:



Easy Loan - User

All Bookmarks



Logout

USER DASHBOARD

- Dashboard
- Loan Details
- Pay EMI
- User Profile
- Wallet
- KYC
- Apply For Loan

USER PROFILE



EDIT PROFILE

PERSONAL INFORMATION

Full Name:

Date of Birth:

Phone Number:

Gender:

Email Address:

CHANGE PASSWORD

CHANGE PASSWORD

Loan Management System

User Pay EMI:



All Bookmarks

Easy Loan - User

USER DASHBOARD

- Dashboard
- Loan Details
- Pay EMI
- User Profile
- Wallet
- KYC
- Apply For Loan

PAY EMI'S

Wallet Balance: ₹560.1453585990002

Total EMI	Paid EMI	Remaining EMI	EMI Amount	Action
12	12	0	₹888.4878867834168	Completed

< 1 >

User Transactions:



All Bookmarks

Easy Loan - User



Logout

USER DASHBOARD

- Dashboard
- Loan Details
- Pay EMI
- User Profile
- Wallet
- KYC
- Apply For Loan

TRANSACTION HISTORY

Date	Amount	Type	Status
2025-02-11	₹888.4878867834168	EMI Payment	COMPLETED
2025-02-11	₹1222	Deposit	COMPLETED
2025-02-11	₹888.4878867834168	EMI Payment	COMPLETED
2025-02-11	₹888.4878867834168	EMI Payment	COMPLETED
2025-02-11	₹888.4878867834168	EMI Payment	COMPLETED

< 1 2 3 >

Loan Status

VIEW ALL



0
Pending Loans
Total: ₹0



1
Approved Loans
Total: ₹10000



1
Rejected Loans
Total: ₹2121

Loan Management System

Admin Registered Users:

ADMIN

Dashboard

Clients

Loans

EMI Payments

Calculator

Users

Contact

Wallet

Logout

Easy Loan - Admin

Logout

ALL USERS

COLUMNS FILTERS DENSITY EXPORT

Search...

<input type="checkbox"/>	User ID	First Name	Last Name	Email	Phone Number	Wallet ID
<input type="checkbox"/>	1	ganesh	pawar	ganeshpawar2002@gmail.com	9373270745	1
<input type="checkbox"/>	2	Nayan	Mandlik	nmandlik268@gmail.com	9366487200	2
<input type="checkbox"/>	3	amol	d	mr.amoldangi@gmail.com	11112234	3

1-3 of 3 < >

localhost:3000/AdminUsers

Admin Loan Calculator:

ADMIN

Dashboard

Clients

Loans

EMI Payments

Calculator

Users

Contact

Wallet

Logout

Easy Loan - Admin

Logout

LOAN CALCULATOR

Enter Loan Amount

0

Enter Interest Rate

0

Enter Loan Period (Months)

0

CALCULATE

Loan EMI

₹ 0

Total Loan Amount

₹ 0


Total Interest


₹ 0


localhost:3000/AdminCalculator

Loan Management System

Admin Users History:

 Easy Loan - Admin

 5



Logout

ADMIN

Dashboard

Clients

Loans

EMI Payments

Calculator

Users

Contact

Wallet

Logout

EMI Received Transactions

COLUMNS FILTERS DENSITY EXPORT

Search...

<input type="checkbox"/>	Transaction ID	Amount	Date	Status	Type
<input type="checkbox"/>	83	888.48788678341...	2025-02-11	COMPLETED	EMI Received
<input type="checkbox"/>	80	888.48788678341...	2025-02-11	COMPLETED	EMI Received
<input type="checkbox"/>	78	888.48788678341...	2025-02-11	COMPLETED	EMI Received
<input type="checkbox"/>	76	888.48788678341...	2025-02-11	COMPLETED	EMI Received
<input type="checkbox"/>	74	888.48788678341...	2025-02-11	COMPLETED	EMI Received
<input type="checkbox"/>	72	888.48788678341...	2025-02-11	COMPLETED	EMI Received
<input type="checkbox"/>	70	888.48788678341...	2025-02-11	COMPLETED	EMI Received
<input type="checkbox"/>	68	888.48788678341...	2025-02-11	COMPLETED	EMI Received
<input type="checkbox"/>	66	888.48788678341...	2025-02-11	COMPLETED	EMI Received
<input type="checkbox"/>	64	888.48788678341...	2025-02-11	COMPLETED	EMI Received

localhost:3000/AdminEMI

Conclusion:

The Online Loan Management System successfully meets the objectives of simplifying and automating the loan management process. With its intuitive interface, secure operations, and robust architecture, the system delivers a seamless experience for users and administrators. Future enhancements may include advanced analytics, machine learning-based credit scoring, and multilingual support.

References

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2. React Documentation: <https://reactjs.org/docs/getting-started.html>
3. MySQL Documentation: <https://dev.mysql.com/doc/>
4. Online Loan Management System Project Reports from academic repositories.