

A CASE STUDY OF PROJECT

***CONSUMER FINANCE
MANAGEMENT SYSTEM***

Consumer Finance Management System

PROBLEM STATEMENT:

This Project belongs to Finance domain. In general, when user wants to purchase products using EMI feature of online shopping, user must have a credit card. While payment of EMI every month, user has to pay some interest with EMI which varies for credit cards of different banks. "Finance Management System" is a web application in which the concept of no cost EMI is introduced where user doesn't have to pay any interest on EMI and it is not mandatory for user to have credit card in order to purchase product via EMI since an EMI card will be given to users after Registration on this system if the user meets the eligibility criteria. If all the documents provided by the user are approved, then EMI card gets activated for which user has to pay the joining fee for the card user chooses. Using that EMI card, users will be able to purchase different products according to their card limit. The product which user will purchase; some processing fee will be taken from the user which will be an earning resource for the company. The users will be able to view their purchased products in Dashboard and how much amount they are supposed to pay in upcoming months.

Modules

Register - Consumer

The consumer will register with the company. They can apply for any of the two cards depending on their requirements. The cards have a particular limit. Once the user is verified and registered with the company, he/she will be eligible to avail the services of the particular card. The two cards being gold and Titanium cards. The users will have to pay a minimum joining fee depending on the card type.

NAME:

PHONE NO:

EMAIL:

USER NAME:

PASSWORD:

ADDRESS:

CONFIRM PASSWORD:

CARD TYPE:

SELECT BANK:

SAVING ACCOUNTS NUMBER:

IFSC CODE:

Login

I. Login as User

Once the user logs in successfully into his account, he will be given the card to use henceforth. User history ranging from the items chosen till the number of installments and the amount paid will be reflected. It will also contain a reference to the list of the products page.

USER NAME:

PASSWORD:

ii. Login as Admin

Once the admin logs in his/her account, he/she will be able to access all the details of every user who has registered and will be able to activate the user account once the document verification is completed. The admin will be able to control the backend of the application.

USER NAME:

PASSWORD:

Buy product - Zero Cost EMI

All the products will be listed here. According to the product type, cost of the product and the tenure period, monthly tenures will be deduced. Once the user clicks on buy product, he will be redirected to an info page where all the details, features and the frequently asked questions will be displayed for user's convenience.

The user can buy product with different EMI schemes.

- a. 3 months
- b. 6 months
- c. 9 months
- d. 1 year

Dash-Board

I. EMI card

The EMI card will give details about the registration number, validity period, and name of the user.

ii. List of products purchased

The list of products purchased by the User will also be displayed along with the last transaction. Previous transactions will also be displayed if asked by the user.

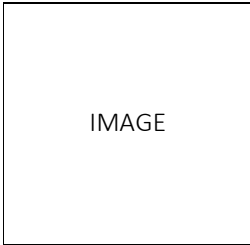
iii. It will also give information about the remaining balance in users membership card.

Equated Monthly Instalments

Finally, if the user wants to buy the product, user will click on the buy option and the amount will be deducted from his card and his limit will thereby be reduced and his order will be confirmed.

INDEX: It is like a homepage in the application. It will contain a register module and a login module at the right end of the page. A sample product's image and details will be displayed on this page. A buy now button when clicked will redirect to the login page.

Eligibility and documentation details will be displayed below the product details. Card details and EMI options will cover the rear end of the page. When the user clicks on register, the user will be redirected to the registration page.

REGISTER LOGIN	
	PRODUCT NAME: PRODUCT DETAILS: COST: <input type="button" value="BUY NOW"/>
ELIGIBILITY	<u>Terms and Conditions</u>
Charges for registration and EMI card details	

REGISTRATION: The consumer will register with the company. They can apply for any of the two cards depending on their requirements. The cards have a particular limit. Once the user is verified and registered with the company, the user will be eligible to avail the services of the particular card. The two cards being gold and Titanium cards. The users will have to pay a minimum joining fee depending on the card type. When the user chooses a particular card, the user will have to pay a joining fee for the card during manual verification of the documents. Once the user clicks on submit, he will be redirected to the login page.

REGISTRATION FORM

Name	
Date of Birth	
Email id	
Phone No.	
User Name	
Password	
Confirm password	
Address	
Card Type	<input type="radio"/> --Gold <input type="radio"/> --Titanium
Select Bank	
Savings Account No:	
IFSC code	

REGISTER

RESET

Already a member? [Login Here](#)

LOGIN: Once the user logs in successfully into his account, he will be given the card to use henceforth. The user will be redirected to the dashboard page after login.

LOGIN

USERNAME

PASSWORD

LOG IN

[Forgot Password?](#)

New User? [Register here](#)

DASHBOARD: A virtual card is assigned to the user which the user can use only after the user pays the joining fee during document verification. Once the verification is done, the admin will approve the use of the card. It will also have the information for the previous transactions. Current card limit will also be shown on this page. A navigation bar for products will be placed on the page.
When it is clicked, it will be redirect to the product list page.

PRODUCTS	DASHBOARD							
<div><div>Card Number: Name: Valid till: MM/YY CARD TYPE: Gold/Titanium ACTIVATED</div><div>LFI</div></div> <div>TOTAL CREDIT: 40,000 CREDIT USED: REMAINING CREDIT:</div> <div>PRODUCTS PURCHASED</div> <div>PRODUCT NAME: AMOUNT: PAID: 15,000 BALANCE: 25,000</div> <div>RECENT TRANSACTIONS</div> <table border="1"><thead><tr><th>PRODUCT</th><th>DATE</th><th>AMOUNT PAID</th></tr></thead><tbody><tr><td> </td><td> </td><td> </td></tr></tbody></table>			PRODUCT	DATE	AMOUNT PAID			
PRODUCT	DATE	AMOUNT PAID						

PRODUCT LIST: All the products will be listed here. According to the product type, cost of the product and the tenure period, monthly tenures will be deduced. Once the user clicks on buy product, he will be redirected to an info page where all the details, features will be displayed for user's convenience.

HI, USERNAME

LOGOUT

IMAGE

PRODUCT NAME:
PRODUCT DETAILS:
COST:
BUY NOW

IMAGE

PRODUCT NAME:
PRODUCT DETAILS:
COST:
BUY NOW

IMAGE

PRODUCT NAME:
PRODUCT DETAILS:
COST:
BUY NOW

PRODUCT INFO PAGE: EMI for the product for various tenures will be calculated and displayed. User can choose any of the tenure as per it's convenience. Once the user pays the monthly installment for the product, the pay now button will be deactivated for the rest of the month for that particular user. Pay now will redirect to payment page.

HI, USERNAME

LOGOUT

IMAGE

PRODUCT NAME:

PRODUCT DETAILS-----

-----.

COST:

EMI PERIOD

3 MONTHS

↓

EMI STARTING 6000pm

PAY NOW

[Terms and Conditions](#)

ADMIN: Only Admin has the access to the activation column of this table.

ADMIN PAGE

USER DETAILS DATABASE								
NAME	UNAME						EDIT	DELETE

VERIFY USER: Once the user’s documents are verified, the admin will activate the user’s account.

ACTIVATE USER’S ACCOUNT

ACTIVATE USER: - ☐ YES ☐ NO

SUBMIT

FORGOT PASSWORD: If the user forgets its password, the user can click on forgot password.

FORGOT PASSWORD

Phone NO

GET OTP

Enter OTP

Verify OTP

CHANGE PASSWORD: The user can create a new password for further use.

CHANGE PASSWORD

NEW PASSWORD

CONFIRM PASSWORD

SAVE

Software Requirements

This case study assumes knowledge of programming and hands-on with below mentioned skills

The technologies included in Full Stack are not limited to following but may consist of:

- UI Layer (HTML5, CSS3, Bootstrap, JavaScript, jQuery, React)
- Middleware Restful API (Spring Boot REST API with MVC)
- Database & Database Persistence (MySQL, JPA)
- Ancillary skills (GIT & GITHUB)

To complete this case study, you should be comfortable with basic single page web application concepts including REST and CRUD.

Technical Spec – Solution Development Environment

Front End Layer

Framework(s)/SDK/Libraries	Version
React Js	5.0 or above
Bootstrap	5.0 or above
CSS	3
HTML	5

Middle Tier Layer

Technology	Framework(s)/SDK/Libraries	Version
Java Stack	<ul style="list-style-type: none">• Java• Spring Boot MVC• REST API•	

Database & Integration Layer

Technology	Framework(s)/SDK/Libraries	Version
Java Stack	<ul style="list-style-type: none">• MySQL• JPA	

Ancillary Layer

Technology	Framework(s)/SDK/Libraries	Version
Source Code Management Tools	GITHUB	
Dependency Management Tool	NPM	4.x

Security

Name	Version
------	---------

JWT	
-----	--

Editors

Name	Version
Visual Studio	2022
Eclipse Enterprise Edition	2022

Architecture

A physical architecture is an arrangement of physical elements, (system elements and physical interfaces) that provides the designed solution for a product, service, or enterprise. It is intended to satisfy logical architecture elements and system requirements. Workout Tracker follows a three layered architecture namely presentation layer, business logic layer and data access layer.

- **Presentation Tier** is the tier in which the users interact with an application. It is a single-page-application of responsive nature. Presentation Tier will consume restful API implemented in Business Tier to display content to the user.
- **Business Tier** is mainly working as the bridge between Data Tier and Presentation Tier. All the Data passes through the Business Tier before passing to the presentation Tier. Business Tier is the sum of Business Logic Layer, Data Access Layer and Value Object and other components used to add business logic. It exposes Rest API which can be called by Presentation Tier to display content to the user. It will also send the data from Presentation tier to Data Tier using Rest API.
- **Data Tier** is basically the server which stores all the application's data. Data tier contents Database Tables, XML Files and other means of storing Application Data.

Deliverables of this Phase

1. Html templates along with React components

Important Instructions

1. Consider using below Java8 features
 - a. Lambda Expressions
 - b. Collections
 - c. Generics
2. Sample Design provided is just for reference, Associates can make changes over it or follow their own Design.

3. Please make sure that your code does not have any compilation errors while submitting your case study solution.
4. The final solution should be a zipped code having solution. Solution code will be used to perform Static code evaluation.
5. Implement the code using best design standards/family Design Patterns.
6. Use Internationalization for all the labels and messages in Rest API Development.
7. Use appropriate logging methods for logging statements/variable/return values.
8. Write web service which takes input and return required details from database.
9. Use JSON format to transfer the results.