Full Stack Development with MERN

Frontend Development Report

Date	10-07-2024
Team ID	SWTID1720106020
Project Name	Banking Management
Maximum Marks	10

Project Title: Banking Management

Date: 10-07-2024

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Goud and Nimmala Sai Lahari

Objective

This report's goal is to record the frontend development process and important facets of the Banking Management project's user interface implementation.

Technologies Used

• Frontend Framework: React.js

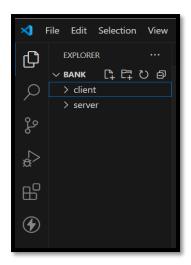
• State Management: Redux/Context API

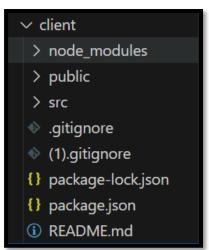
• **UI Framework/Libraries:** Material-UI, Bootstrap

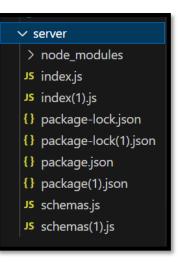
• **API Libraries:** Axios

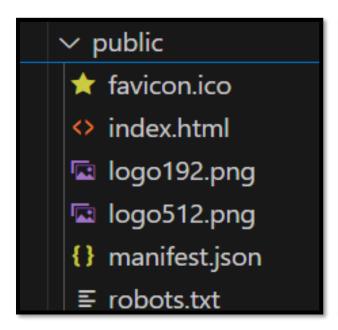
Project Structure:

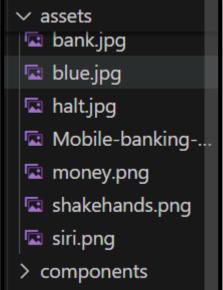
Give Screenshot of Frontend Project with explanation

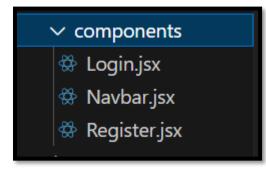


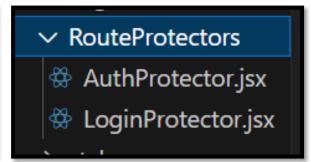




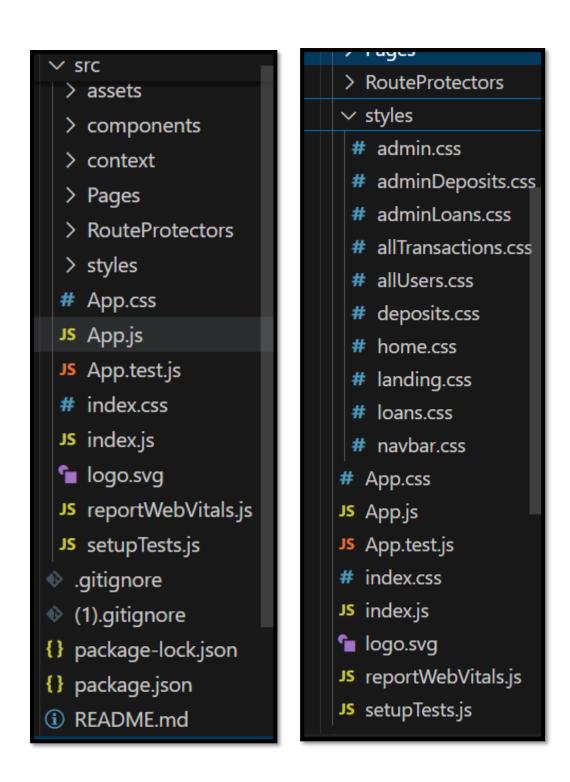






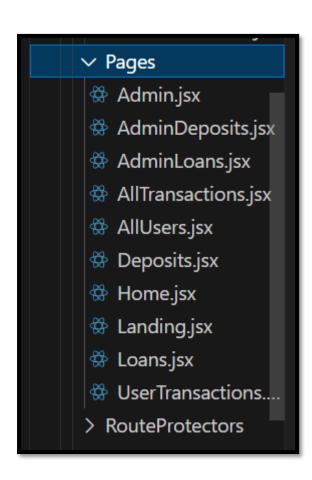




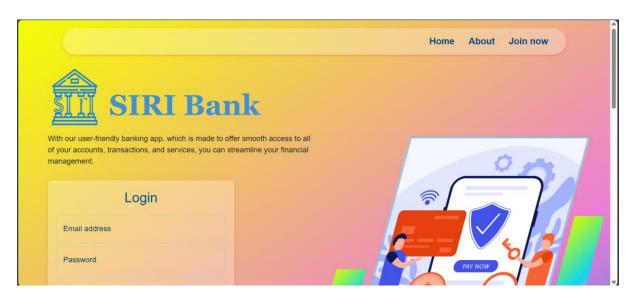


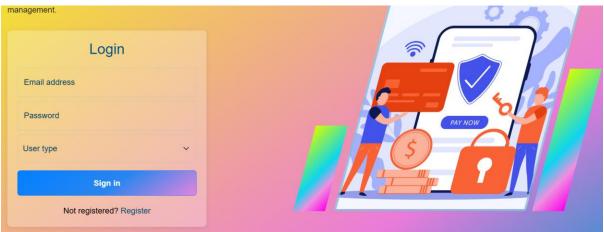
OUR LOGO

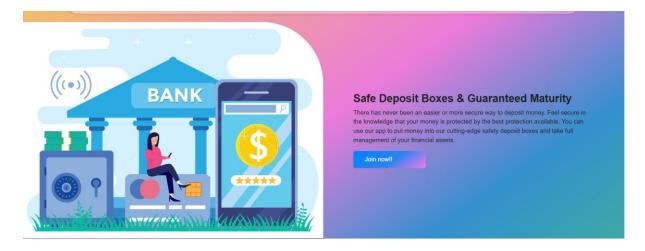




Landing Page:









Footer:

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Key Components

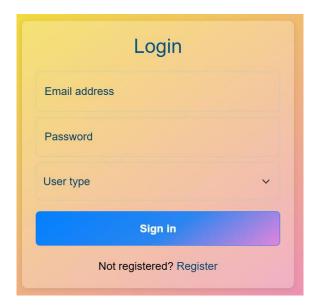
1.App.js:

• Responsible for routing and main application layout.

```
client > src > JS App.js > ♥ App
       import './App.css';
import { Route, Routes } from 'react-router-dom';
       import Landing from './Pages/Landing.jsx';
       import Home from './Pages/Home';
import Admin from './Pages/Admin';
       import Deposits from './Pages/Deposits';
       import Loans from './Pages/Loans';
       import AdminDeposits from './Pages/AdminDeposits';
import AdminLoans from './Pages/AdminLoans';
       import AllTransactions from './Pages/AllTransactions';
       import AllUsers from './Pages/AllUsers';
import LoginProtector from './RouteProtectors/AuthProtector';
import AuthProtector from './RouteProtectors/LoginProtector';
       import UserTransactions from './Pages/UserTransactions';
       function App() {
            <div className="App">
                <Route exact path='' element={<LoginProtector> <Landing /> </LoginProtector> } />
                <Route path='/home' element={<AuthProtector><Home /></AuthProtector>} />
                <Route path='/deposits' element={ <AuthProtector><Deposits /></AuthProtector>} />
                <Route path='/loans' element={ <AuthProtector><Loans /></AuthProtector>} /:
                <Route path='/transactions' element={<AuthProtector><UserTransactions /></AuthProtector>} />
                <Route path='/admin' element={ <AuthProtector><Admin /></AuthProtector>} />
                <Route path='/all-users' element={ <AuthProtector><AllUsers /></AuthProtector>} />
                <Route path='/all-deposits' element={ <AuthProtector><AdminDeposits /></AuthProtector>} />
                <Route path='/all-loans' element={ <AuthProtector><AdminLoans /></AuthProtector>} />
                <Route path='/all-transactions' element={<AuthProtector><AllTransactions /></AuthProtector>} />
              </Routes>
       export default App;
```

2.components

- Contains reusable UI components used across the application.
- Login.jsx



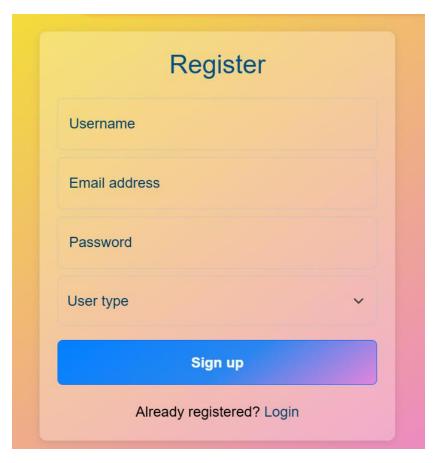
```
client > src > components > 🏶 Login.jsx > 🝘 Login
     import React, { useContext } from 'react'
     import { GeneralContext } from '../context/GeneralContext';
     const Login = ({setIsLoginBox}) => {
       const {setEmail, setPassword, login, setUsertype} = useContext(GeneralContext);
       const handleLogin = async (e) =>{
        e.preventDefault();
         await login();
         <form className="authForm">
            <h2>Login</h2>
             onChange={(e) => setEmail(e.target.value)} />
                 <label htmlFor="floatingInput">Email address</label>
                <div className="form-floating mb-3 authFormInputs">
                <input type="password" className="form-control" id="floatingPassword" placeholder="Password"</pre>
                                                                   onChange={(e) => setPassword(e.target.value)} />
                <label htmlFor="floatingPassword">Password</label>
             <select className="form-select form-select-lg mb-3" aria-label=".form-select-lg example"</pre>
                                                        onChange={(e)=> setUsertype(e.target.value)}>
              <option value="">User type</option>
<option value="admin">Admin</option>
              <option value="customer">Customer</option>
             <button type="submit" className="btn btn-primary" onClick={handleLogin}>Sign in</button>
             Not registered? <span onClick={()=> setIsLoginBox(false)}>Register</span>
     export default Login
```

Navbar.jsx

Home About Join now

```
client > src > components > 🐯 Navbar.jsx > 💌 Navbar
     import React, { useContext } from 'react'
     import '../styles/navbar.css';
import { useNavigate } from 'react-router-dom';
     import About3 from '../assets/siri.png';
     import { GeneralContext } from '../context/GeneralContext';
     const Navbar = () => {
         const navigate = useNavigate();
         const usertype = localStorage.getItem('userType');
         const {logout} = useContext(GeneralContext);
            <div className="navbar">
            {usertype === 'customer' ?
                <div className='ban'>
                      <img src ={About3} className='sirii' alt="" />
                       <h2 className='title'>SIRI Bank</h2>
                <div className="nav-options" >
                   navigate('/home')}><b>Home</b>
                   navigate('/deposits')}><b>Deposits</b>
                   navigate('/loans')}><b>Loans</b>
                   navigate('/transactions')}><b>Transactions</b>
                   <b>Logout</b>
                : usertype === 'admin' ?
                       <div className='bann'>
                       <img src ={About3} className='siriii' alt="" />
                       <h2 className='titlee'>SIRI Bank_Admin</h2>
 41
                          <div className="nav-options" >
                             navigate('/admin')}>Home
                             navigate('/all-users')}>Users
                             navigate('/all-deposits')}>Deposits
                             navigate('/all-loans')}>Loans
                             navigate('/all-transactions')}>Transactions
                             Logout
```

• Register.jsx



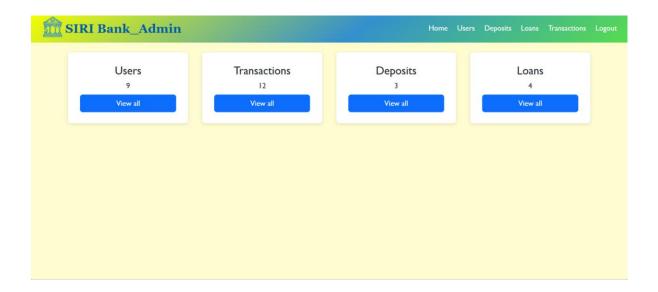
```
import React, { useContext } from 'react'
import { GeneralContext } from '../context/GeneralContext';
const Register = ({setIsLoginBox}) => {
    const {setUsername, setEmail, setPassword, usertype, setUsertype, register, setHomeBranch} = useContext(GeneralContext);
    const handleRegister = async (e) =>{
       e.preventDefault();
         await register()
         <form className="authForm">
                     // Action of the control of the
                              <label htmlFor="floatingInput">Username</label>
                    onChange={(e)=> setPassword(e.target.value)} />
                                <label htmlFor="floatingPassword">Password</label>
                      <select className="form-select form-select-lg mb-3" aria-label=".form-select-lg example"</pre>
                                                                                                                                                   onChange={(e)=> setUsertype(e.target.value)}>
                           <option value="">User type</option>
```

3.pages

• Includes different pages for Web App.

Admin Page:

• Admin.jsx



```
client > src > Pages > 🤀 Admin.jsx > ...
      import React, { useEffect, useState } from 'react'
  1
      import '../styles/admin.css'
      import { useNavigate } from 'react-router-dom'
      import axios from 'axios'
      const Admin = () => {
        const navigate = useNavigate();
        const [userCount, setUserCount] = useState(0);
        const [transactionCount, setTransactionCount] = useState(0);
        const [depositsCount, setDepositsCount] = useState(0);
        const [loansCount, setLoansCount] = useState(0);
        useEffect(()=>{
          fetchData();
        }, [])
        const fetchData = async () =>{
          await axios.get('http://localhost:6001/fetch-users').then(
            (response)=>{
              setUserCount(response.data.length);
          );
          await axios.get('http://localhost:6001/transactions').then(
            (response)=>{
              setTransactionCount(response.data.length);
```

• AdminDeposits.jsx

```
SIRI Bank Admin

All Deposits

Deposit name: Sasi Nominee name: Harsha Nominee age: 210

Customer Ale id: 668#55c093d1 dea372380e1

Duration: 18 months Start Date: 2024-07-11 Mature Date: 11-6-2025

Deposit name: Mukesh Nominee name: Sasi Nominee age: 21

Amount: 50 Customer name: Venky Customer Ale id: 668#55c093d1 dea372380e1

Duration: 12 months Start Date: 2024-07-19 Mature Date: 19-6-2025

Deposit name: Mukesh Nominee name: Sasi Nominee age: 20

Deposit name: Mukesh Nominee name: Sasi Nominee age: 20

Deposit name: Mukesh Nominee name: Sasi Nominee age: 20

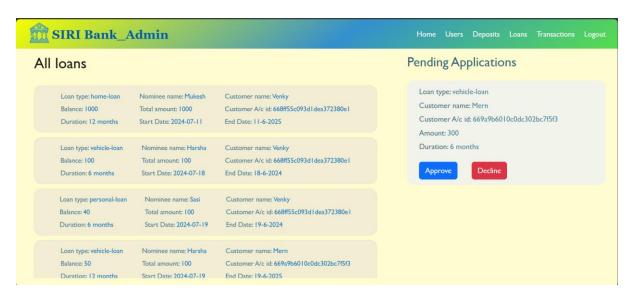
Deposit name: Mukesh Nominee name: Sasi Nominee age: 20

Amount: 100 Customer name: Mern Customer Ale id: 669a9b6010c0dc302bc7f5f3

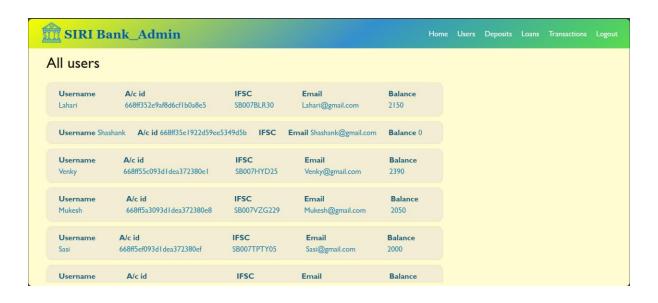
Duration: 12 months Start Date: 2024-07-19 Mature Date: 19-6-2025
```

```
client > src > Pages >  AdminDeposits.jsx > ...
      import React, { useEffect, useState } from 'react'
      import '../styles/adminDeposits.css'
      import axios from 'axios';
      const AdminDeposits = () => {
        const [deposits, setDeposits] = useState([]);
        useEffect(()=>{
          fetchDeposits();
        },[]);
        const fetchDeposits = async () =>{
          await axios.get('http://localhost:6001/fetch-deposits').then(
            (response) =>{
              setDeposits(response.data);
        return (
            <Navbar />
            <div class="deposits">
              <h2>All Deposits</h2>
              <div class="deposits-body">
                {deposits.map((deposit)=>{
                  return(
```

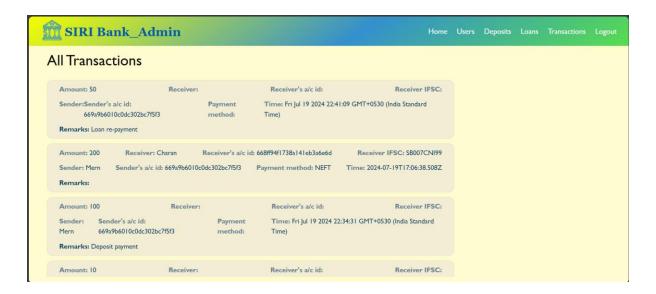
• Adminloans.jsx



```
ient / src / Pages / 🤛 AdminLoans.jsx / ...
     import React, { useEffect, useState } from 'react'
     import Navbar from '../components/Navbar'
     import '../styles/adminLoans.css'
     import axios from 'axios';
     const AdminLoans = () => {
         const [loans, setLoans] = useState([]);
         useEffect(()=>{
             fetchLoans();
         const fetchLoans = async () =>{
             await axios.get('http://localhost:6001/fetch-loans').then(
                 (response) =>{
                     setLoans(response.data);
                     console.log(response.data);
         const approveLoan = async(id) =>{
             await axios.put('http://localhost:6001/approve-loan', {id}).then(
                 (response)=>{
                     alert("Loan approved!!");
                     fetchLoans();
         const declineLoan = async(id) =>{
             console.log(id)
             await axios.put('http://localhost:6001/decline-loan', {id}).then(
                 (response)=>{
                     alert("Loan Declined!!");
                     fetchLoans();
       return (
           <Navbar />
           <div className="loans-page">
               <div className="loans">
                   <h2>All loans</h2>
```



```
client > src > Pages > @ AllUsers.jsx > ...
      import React, { useEffect, useState } from 'react'
      import Navbar from '../components/Navbar'
      import '../styles/allUsers.css'
      import axios from 'axios';
      const AllUsers = () => {
        const [users, setUsers] = useState([]);
        useEffect(()=>{
         fetchUsers();
        const fetchUsers = async () =>{
          await axios.get('http://localhost:6001/fetch-users').then(
            (response) =>{
             setUsers(response.data);
        return (
            <Navbar />
            <div class="all-users-page">
              <h2>All users</h2>
              <div class="all-users">
                {users.map((user)=>{
                  return(
                    <div class="user" key={user._id}>
                       <b>Username </b>{user.username}
                        <b>A/c id </b>{user._id}
                        <b>IFSC </b>{user.ifsc}
                        <b>Email </b>{user.email}
                       <b>Balance </b>{user.balance}
      export default AllUsers
```

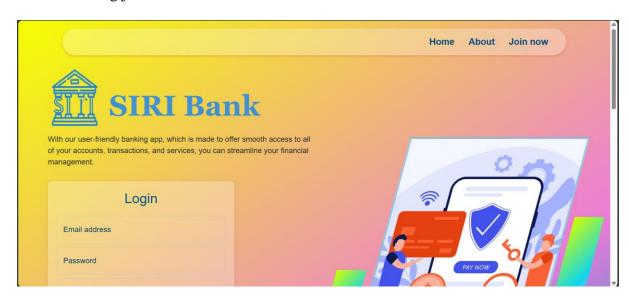


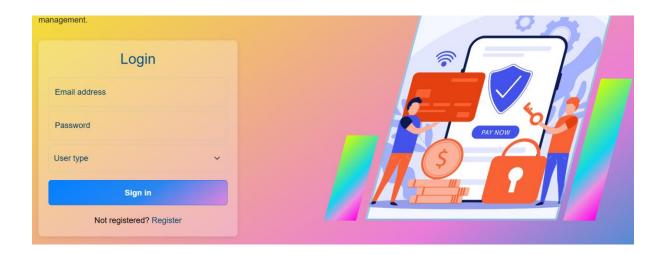
```
:lient > src > Pages > 🤹 AllTransactions.jsx > ...
     import React, { useEffect, useState } from 'react'
     figure 1...
from '...
/ components
Navbar

     import '../styles/allTransactions.css'
     import axios from 'axios';
     const AllTransactions = () => {
       const [transactions, setTransactions] = useState([]);
       useEffect(()=>{
        fetchDeposits();
       },[]);
       const fetchDeposits = async () =>{
         await axios.get('http://localhost:6001/transactions').then(
           (response) =>{
             setTransactions(response.data.reverse());
       return (
           <Navbar />
           <div class="all-transactions-page">
              <h2>All Transactions</h2>
               <div class="transactions-body">
                 {transactions.map((transaction) =>{
                   return(
                     <div class="transaction" key={transaction._id}>
                            <b>Amount:</b> {transaction.amount} 
                            <b>Receiver:</b> {transaction.receiverName} 
                            <b>Receiver's a/c id:</b> {transaction.receiverId} 
                            <b>Receiver IFSC:</b> {transaction.receiverIFSC} 
                            Sender:</b> {transaction.senderName} 
                            Sender's a/c id:</b> {transaction.senderId} 
                            <b>Payment method:</b> {transaction.paymentMethod} 
                            <b>Time:</b> {transaction.time} 
                        <b>Remarks:</b> {transaction.remarks}
```

Home Page:

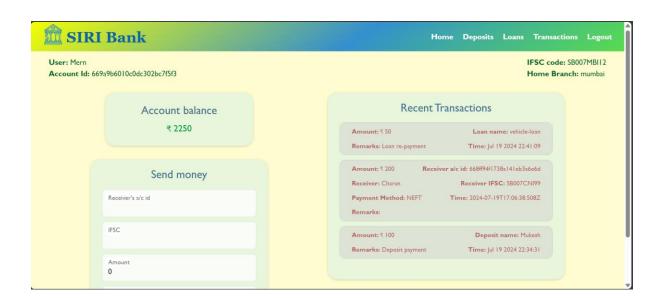
• Landing.jsx





Customer Page:

• Home.jsx

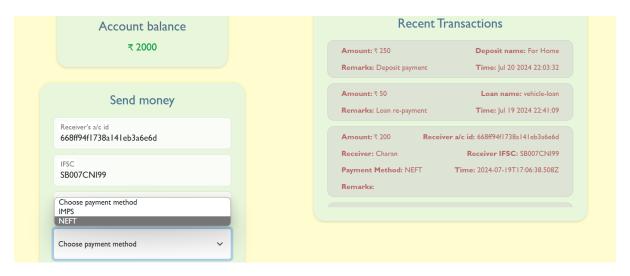


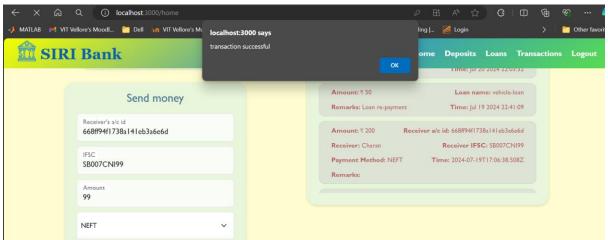
```
client > src > Pages > 🤀 Home.jsx > 🙉 Home
      import React, { useEffect, useState } from 'react'
      import Navbar from '../components/Navbar'
      import axios from 'axios';
      const Home = () => {
       const username = localStorage.getItem('username');
       const userid = localStorage.getItem('userId');
        const ifsc = localStorage.getItem('IFSC');
        const homeBranch = localStorage.getItem('homeBranch');
        const [balance, setBalance] = useState(0);
        const [sendingAmount, setSendingAmount] = useState(0);
       const [sendingIFSC, setSendingIFSC] = useState();
       const [sendingMethod, setSendingMethod] = useState();
       const [sendingAcId, setSendingAcId] = useState();
        const [sendingRemarks, setSendingRemarks] = useState('');
        const [transactions, setTransactions] = useState([]);
        useEffect(()=>{
         fetchUserData();
        }, [])
        const fetchUserData = async () => {
         console.log(userid);
              if (userid) {
                  await axios.get(`http://localhost:6001/user-details/${userid}`).then(
                    async (response) => {
                      setBalance(response.data.balance);
                      console.log(response);
                  ).catch((err)=>{
                  console.log(err);
                  await axios.get(`http://localhost:6001/transactions`).then(
                  async (response) => {
                     console.log(response);
                      setTransactions(response.data.reverse());
                  ).catch((err)=>{
                  console.log(err);
              console.log(err):
```

UserTransactions.jsx

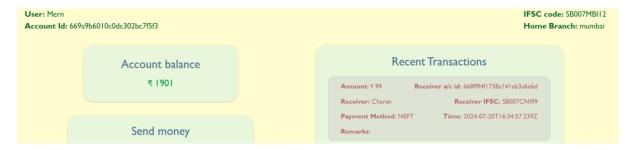
To send money:







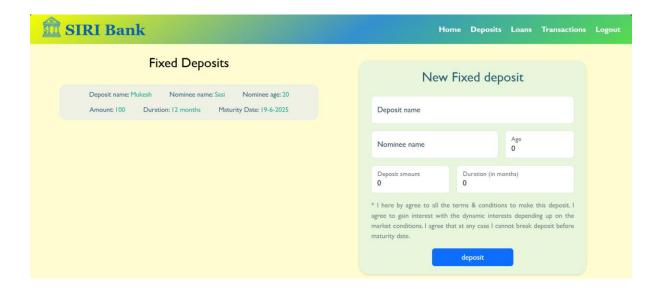
After changing the balance

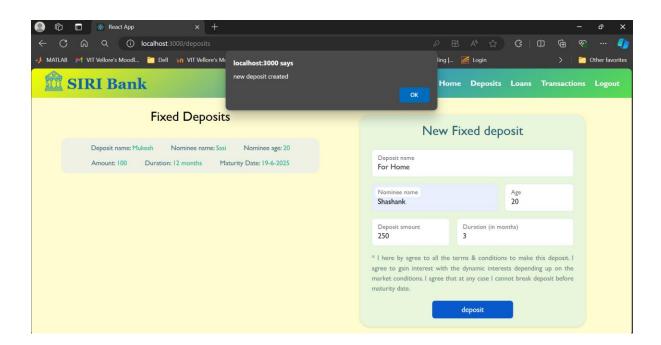


To see all transactions:



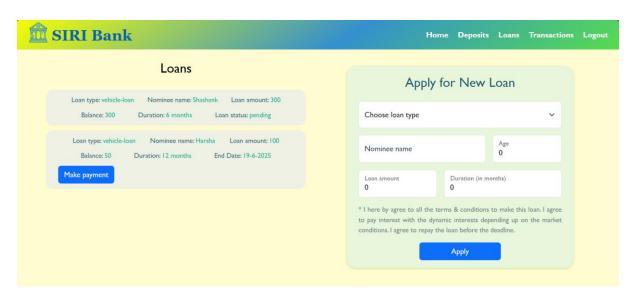
To make a Fixed Deposit (FD):

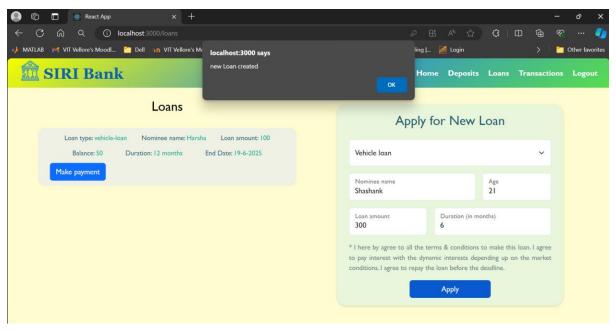




```
client > src > Pages > @ Deposits.jsx > ...
      import React, { useEffect, useState } from 'react'
       import Navbar from '../components/Navbar'
      import '../styles/deposits.css'
      import axios from 'axios'
      const Deposits = () => {
          const username = localStorage.getItem('username');
          const userid = localStorage.getItem('userId');
          const [newDepositName, setNewDepositName] = useState('');
          const [newNomineeName, setNewNomineeName] = useState('');
          const [newNomineeAge, setNewNomineeAge] = useState(0);
          const [newDepositAmount, setNewDepositAmount] = useState(0);
          const [newDepositDuration, setNewDepositDuration] = useState(0);
          const [deposits, setDeposits] = useState([]);
          useEffect(()=>{
              fetchDepositsData();
             const fetchDepositsData = async () => {
                   if (userid) {
                       await axios.get(`http://localhost:6001/fetch-deposits`).then(
                         async (response) => {
                          console.log(response);
                           setDeposits(response.data.reverse());
                       ).catch((err)=>{
                        console.log(err);
               }catch(err){
                  console.log(err);
            const createNewDeposit = async () =>{
               const newDepositDetails = {depositName: newDepositName, customerId: userid,
                                               customerName: username, nomineeName: newNomineeName,
                                               nomineeAge: newNomineeAge, duration: newDepositDuration,
                                               amount: newDepositAmount, createdDate: new Date()};
               await axios.post('http://localhost:6001/new-deposit', newDepositDetails).then(
```

To apply for a LOAN:





```
:lient > src > Pages > 🤹 Loans.jsx >
    import React, { useEffect, useState } from 'react'
import Navbar from '../components/Navbar'
     const Loans = () => {
         const username = localStorage.getItem('username');
         const userid = localStorage.getItem('userId');
         const [newLoanType, setNewLoanType] = useState('');
         const [newNomineeName, setNewNomineeName] = useState('');
         const [newNomineeAge, setNewNomineeAge] = useState(0);
         const [newLoanAmount, setNewLoanAmount] = useState(0);
         const [newLoanDuration, setNewLoanDuration] = useState(0);
         const [paymentLoanId, setPaymentLoanId] = useState();
         const [paymentLoanAmount, setPaymentLoanAmount] = useState(0);
          const [loans, setLoans] = useState([]);
         useEffect(()=>{
            fetchLoansData():
           const fetchLoansData = async () => {
             try{
    if (userid) {
    if axid
                      await axios.get(`http://localhost:6001/fetch-loans`).then(
                       async (response) => {
                        console.log(response);
                         setLoans(response.data.reverse());
                       console.log(err);
                  console.log(err);
            const createNewLoan = async () =>{
              const newLoanDetails = {loanType: newLoanType, customerId: userid, customerName: username,
                                         nomineeName: newNomineeName, nomineeAge: newNomineeAge, duration: newLoanDuration,
                                         loanAmount: newLoanAmount, createdDate: new Date()};
                    axios.post('http://localhost:6001/new-loan', newLoanDetails).then
```

- ❖ For Everything we get a pop-up window:
 - Like from above pics

Routing

Routing is managed using React Router. Here are the main routes:

- **home** Landing page of the application.
- **dashboard** Dashboard displaying user data and statistics.
- **profile** User profile management.

Integration with Backend

The frontend communicates with the backend APIs hosted on [backend URL]. Key endpoints include:

• **GET /api/data** - Retrieves data for display.

```
app.get('/user-details/:id', async (req, res) => {
    try{

        const user = await User.findOne({_id: req.params.id});
        if(!user){
            return res.status(404).json({ message: 'User not found' });
        }
        res.json(user);
    } catch (error) {
        console.log(error);
        return res.status(500).json({ message: 'Server Error' });
    }
});
```

• **POST /api/user/login** - Handles user authentication.

```
app.post('/login', async (req, res) => {
    const { email, usertype, password } = req.body;
     if (usertype === 'customer'){
           const user = await User.findOne({ email });
           if (!user) {
               return res.status(401).json({ message: 'Invalid email or password' });
           const isMatch = await bcrypt.compare(password, user.password);
            if (!isMatch) {
               return res.status(401).json({ message: 'Invalid email or password' });
               return res.json(user);
     }else if (usertype === 'admin'){
           const user = await Bank.findOne({ email });
           if (!user) {
               return res.status(401).json({ message: 'Invalid email or password' });
           const isMatch = await bcrypt.compare(password, user.password);
           if (!isMatch) {
               return res.status(401).json({ message: 'Invalid email or password' });
               return res.json(user);
    } catch (error) {
     console.log(error);
     return res.status(500).json({ message: 'Server Error' });
```

User Interface (UI) Design

The user interface design adheres to [explain design principles].

- Accessibility: Considering the needs of users with disabilities, including features like keyboard navigation, support for screen readers, and adequate contrast between colours.
- **User-Centric:** The design prioritises the demands of the user, making sure that important activities are simple to reach and that user flows make sense. Quick feedback is given in response to user actions.

- **Responsiveness:** The user interface (UI) is flexible and adjusts to different screen sizes and gadgets with ease, making it accessible and easy to use on computers, tablets, and mobile devices.
- **Consistency:** To create a seamless user experience, the application's layout, colour palettes, typography, and interaction patterns should all be consistent.
- **Simplicity:** The user interface is made to be as easy to use as possible, with a minimal learning curve for the user. Clear presentation of the elements prevents clutter and confusion.

Used [UI framework/library] for implementation.

- UI Framework/Library: React, a well-liked JavaScript user interface library, is used to develop the UI. React makes it easier to create reusable components and render the user interface (UI) more quickly.
- CSS Framework: Bootstrap is used for styling, offering a complete set of pre-defined classes and components to create modern, responsive user interfaces. For styling requirements that are beyond the scope of the framework, custom CSS is also included.
- **Routing:** React Router manages the application's navigation and routing, allowing for seamless view transitions and preserving the single-page application (SPA) experience.
- **Form managing:** Yup is used for validation and Formic is used for managing user input in forms. This combination makes sure that form submissions are handled effectively and that validations are applied consistently.
- HTTP Requests: Axios offers a clear and easy-to-use syntax for communicating with the server, managing errors and responses, and submitting HTTP requests to the backend API.