St. Francis Institute of Technology, Mumbai-400 103
Department of Information Technology

A.Y. 2024-2025
Class: TE-ITA/B, Semester: VI

Subject: **MAD & PWA LAB**

Experiment – 8: Creating a responsive UI using jQuery mobile/material UI/ Angular UI/ React UI for Ecommerce Application

1. **Aim:** To create a responsive UI using jQuery mobile/material UI/ Angular UI/ React UI for Ecommerce Application

2. **Objectives:** After study of this experiment, the student will be able to
   - Learn the Essential technologies, and Concepts of PWAs.
   - Develop responsive web applications by combining AJAX development techniques with the jQuery JavaScript library.

3. **Outcomes:** After study of this experiment, the student will be able to
   - Understand various PWA frameworks and their requirements.
   - Design and Develop a responsive User Interface by applying PWA Design techniques.

4. **Prerequisite:** HTML/ CSS/ JavaScript.

5. **Requirements:** Visual Studio Code, Bootstrap framework, Internet Connection.

6. **Pre-Experiment Exercise:**
   Brief Theory:

   Progressive Web Applications:
   PWAs are web applications developed using a number of specific technologies and standard patterns to allow them to take advantage of both web and native app features.
   There are some key principles a web app should try to observe to be identified as a PWA. It should be:
   1. Discoverable
   2. Installable
   3. Linkable
   4. Network independent
   5. Progressively enhanced.
   6. Re-engageable
   7. Responsively designed
   8. Secure

Implement Responsive Design using React js:
Responsive design is a graphic user interface (GUI) design approach used to create content that adjusts smoothly to various screen sizes.

The 3 different approaches to implementing responsive design in your next React app are:

1. Media Queries
2. Inline styles
3. Higher Order Components

7. Laboratory Exercise

A. Program

1. Create a responsive user interface for an e-commerce application.

B. Result/Observation

1. Print out of program code and output.

8. Post-Experimental Exercise

A. Questions:

1. Why Responsive Design is important for web applications?
2. Differentiate between responsive design and adaptive design.

B. Conclusion:

1. Write what you have learnt in the experiment.

C. References:

1. https://www.w3schools.com/css/css_rwd_intro.asp
2. https://developers.google.com/web/updates/2015/12/getting-started-pwa
3. Building Progressive Web Apps, O'Reilly 2017.

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Class: TE IT A Roll No: 56

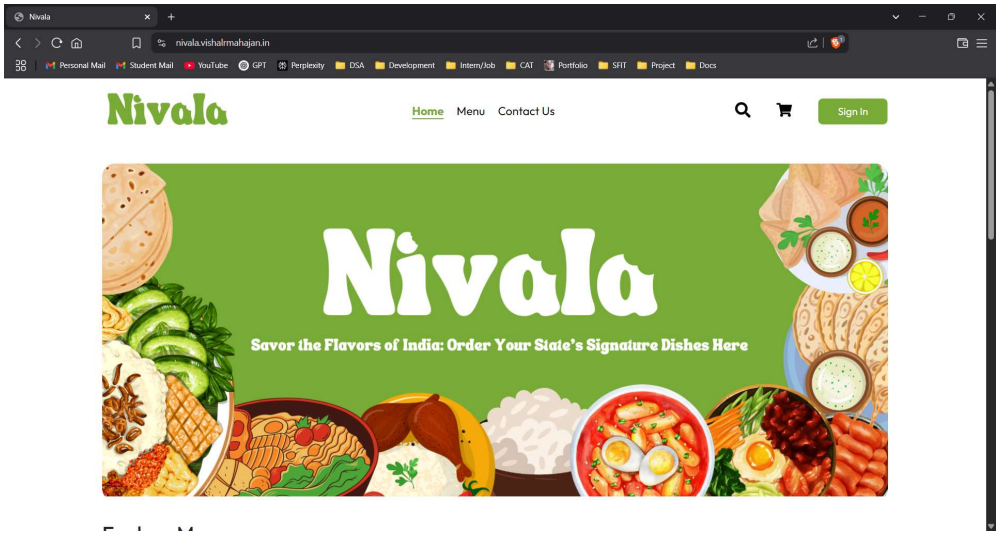
7. Laboratory Exercise

Q. Create a responsive user interface for an e-commerce application.

```
import React, { useContext, useEffect, useState } from "react";
import Navbar from "@/components/Navbar/Navbar.jsx";
import { Route, Routes } from "react-router-dom";
import Home from "@/pages/Home/Home.jsx";P
import Cart from "@/pages/Cart/Cart.jsx";
import PlaceOrder from "@/pages/PlaceOrder/PlaceOrder.jsx";
import Footer from "@/components/Footer/Footer.jsx";
import LoginPopup from "./components/LoginPopup/LoginPopup";
import PaymentGateway from "./components/PaymentGateway/PaymentGateway";
import MyOrders from "./pages/MyOrders/MyOrders";
import toast, { Toaster } from "react-hot-toast";
import { StoreContext } from "./context/StoreContext";
import axios from "axios";

const App = () => {
  const [showLogin, setShowLogin] = useState(false);
  const [showPaymentGateway, setshowPaymentGateway] = useState(false);
  const [orderData,setOrderData] = useState({})
  const {url} =useContext(StoreContext)

  useEffect(() => {
    const fetchData = async () => {
      try {
        const res = await axios.get(` ${url}` );
        console.log(res);
        toast.success(res.data.message);
        clearInterval(intervalId);
      } catch (error) {
        console.error("Error connecting to server");
        toast("Backend Server Take a while to Wake up, Please Wait!" , {icon: " ⏳ "} );
      }
    };

    const intervalId = setInterval(fetchData, 30000);
```

```
    fetchData();

    return () => clearInterval(intervalId);
  }, []);

  return (
    <>
      <Toaster position="top-right" reverseOrder={false} />
      {showLogin ? <LoginPopup setShowLogin={setShowLogin} /> : <></>}
      {showPaymentGateway ? <PaymentGateway orderData={orderData}
setshowPaymentGateway={setshowPaymentGateway}/>  : <></>}
      <div className="app">
        <Navbar setShowLogin={setShowLogin} />
        <Routes>
          <Route path="/" element={<Home />} />
          <Route path="/cart" element={<Cart />} />
          <Route path="/placeorder" element={<PlaceOrder
setshowPaymentGateway={setshowPaymentGateway} setOrderData={setOrderData}
setShowLogin={setShowLogin}/>} />
          <Route path='/myorders' element={<MyOrders />} />

        </Routes>
      </div>
      <Footer />
    </>
  );
};

export default App;
```

Windows: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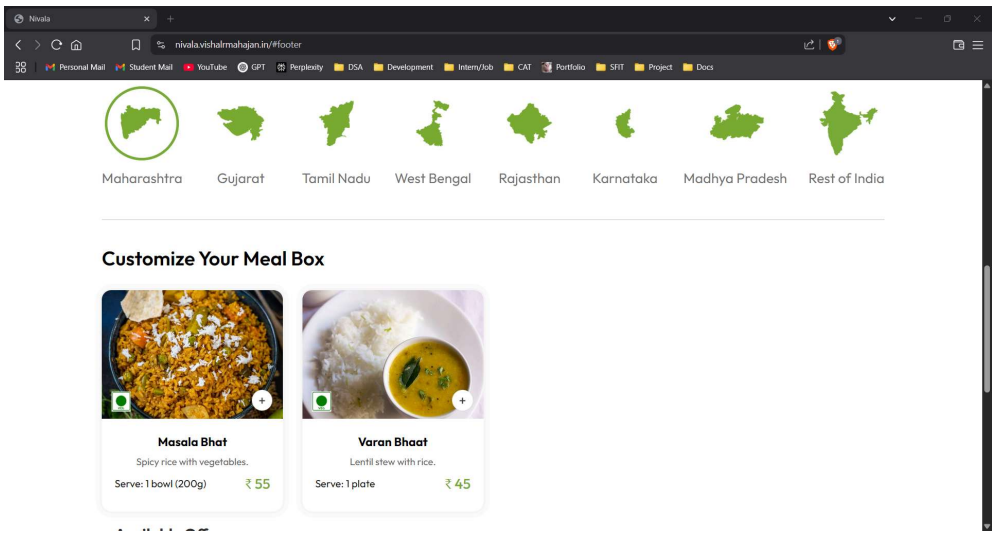
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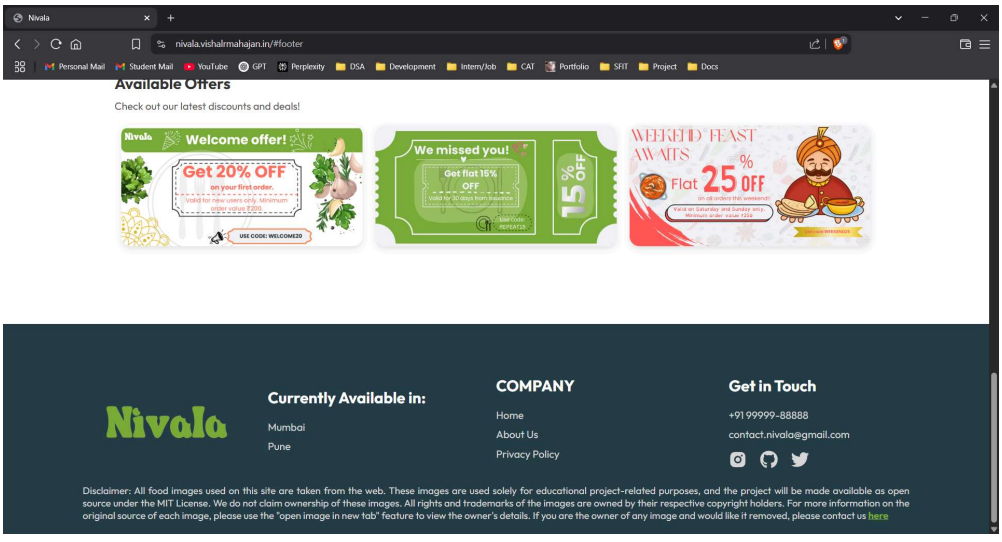
Maharashtra
Gujarat
Tamil Nadu
West Bengal
Rajasthan
Karnataka
Madhya Pradesh
Rest of India
Customize Your Meal Box
Masala Bhat
Spicy rice with vegetables.
Serve: 1 bowl (200g)
₹ 55
Varan Bhaat
Lentil stew with rice.
Serve: 1 plate
₹ 45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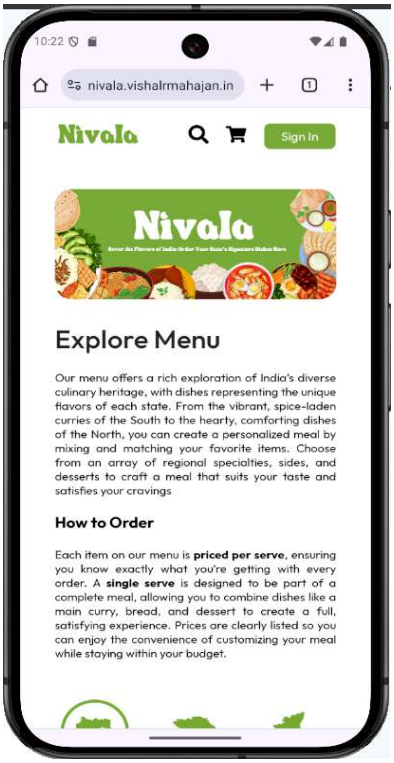
Android: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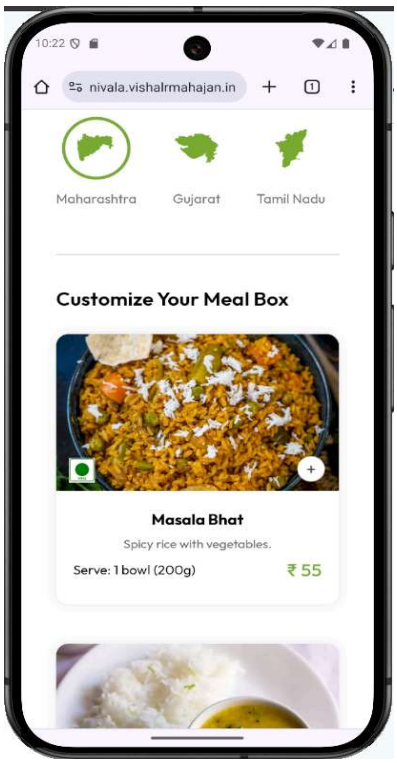
Explore Menu
Our menu offers a rich exploration of India's diverse culinary heritage, with dishes representing the unique flavors of each state. From the vibrant, spice-laden curries of the South to the hearty, comforting dishes of the North, you can create a personalized meal by mixing and matching your favorite items. Choose from an array of regional specialties, sides, and desserts to craft a meal that suits your taste and satisfies your cravings
How to Order
Each item on our menu is priced per serve, ensuring you know exactly what you're getting with every order. A single serve is designed to be part of a complete meal, allowing you to combine dishes like a main curry, bread, and dessert to create a full, satisfying experience. Prices are clearly listed so you can enjoy the convenience of customizing your meal while staying within your budget.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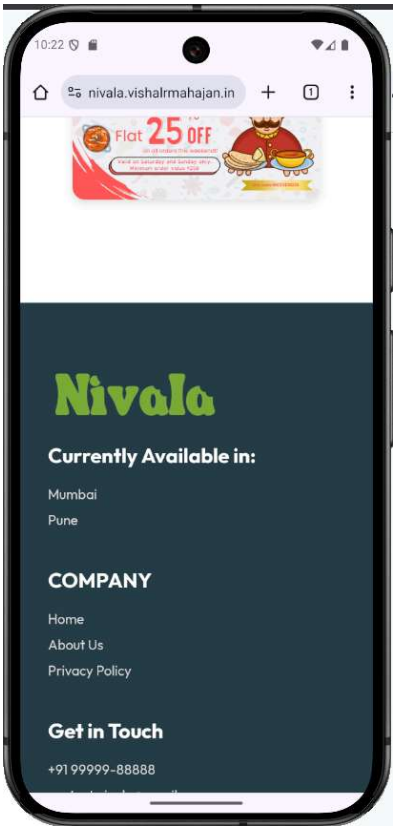
Customize Your Meal Box
Masala Bhat
Spicy rice with vegetables.
Serve: 1 bowl (200g)
₹ 55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Backend:

```
import express from 'express';
import cors from 'cors';
import path from 'path';

import { connectDB } from './config/db.js';
import foodRouter from './routes/foodRoute.js';
import userRouter from './routes/userRoute.js';
import 'dotenv/config'
import cartRouter from './routes/cartRoute.js';
import orderRouter from './routes/orderRoute.js';
import PromoRouter from './routes/promoRoute.js';

const app = express();
const port = 4000;

app.use(express.json())
app.use(express.urlencoded({ extended: true }));
app.use(cors())

connectDB();

app.use("/api/food",foodRouter)
app.use("/api/auth",userRouter)
app.use("/api/cart",cartRouter)
app.use("/api/order",orderRouter)
app.use("/api/promo",PromoRouter)
const __dirname = path.resolve();
app.use("/images",express.static(path.join(__dirname, 'uploads')))


app.get("/",(req,res)=>{
    res.status(200).json({message:"Backend Server is Awake"})
})

app.listen(port,()=>{
    console.log(` Server is running on http://localhost:${port}` )
})
```

Responsive Design