**Full Stack Development with MERN**

**Frontend Development Report**

|  |  |
| --- | --- |
| Date | 16 July 2024 |
| Team ID | SWTID1720068764 |
| Project Name | Book Nest (Book-Store) |
| Maximum Marks | 10 Marks |

**Project Title: Book Nest**

Date: 16 July 2024

Prepared by: Sricharan R, Krishna Vamsi S, Nithin Krishna K, Praneeth P

**Objective**

The objective of this report is to document the frontend development progress and key aspects of the user interface implementation for the **Book Nest** project.

**Technologies Used**

* **Frontend Framework:** React.js
* **State Management:** [Redux/Context API, if applicable]
* **UI Framework/Libraries:** [Tailwind CSS]
* **API Libraries:** [e.g., Axios, Fetch]

**Project Structure**



**Key Components**

1. **App.js**:

**Code Screenshot**:

import { useContext } from 'react'

import './App.css'

import { Outlet } from 'react-router-dom'

import { AuthContext } from './contexts/AuthProvider'

import Navbar from './pages/shared/Navbar'

import FooterMain from './pages/shared/FooterMain'

function App() {

*const* {user} = useContext(AuthContext)

*return* (

    <>

      <Navbar/>

      <div className='min-h-screen'>

      <Outlet/>

      </div>

      <FooterMain/>

    </>

  )

}

export default App

1. **/components**
   * Contains reusable UI components used across the application.

HorizontalBars.jsx

import React from "react";

import { BarChart } from "@mui/x-charts/BarChart";

import { axisClasses } from "@mui/x-charts/ChartsAxis";

import "../components/HorizontalBars"; *// Import the CSS file for additional styling if needed*

*const* dataset = [

  { genre: "Fiction", sales: 120 },

  { genre: "Horror", sales: 85 },

  { genre: "Psychology", sales: 95 },

  { genre: "Dystopian", sales: 75 },

  { genre: "Action", sales: 150 },

  { genre: "Adventure", sales: 140 },

  { genre: "Comedy", sales: 110 },

  { genre: "Fantasy", sales: 130 },

  { genre: "Biography", sales: 100 },

  { genre: "Thriller", sales: 90 },

  { genre: "Philosophy", sales: 60 },

  { genre: "Science", sales: 80 },

];

*const* chartSetting = {

  xAxis: [

    {

      label: "No. of Sales",

    },

  ],

  width: 570, *// Increased width for more space*

  height: 450,

  sx: {

    [`.${axisClasses.left} .${axisClasses.label}`]: {

      transform: "translate(5px, 0)",

    },

  },

};

*const* valueFormatter = (value) => `${value}`;

export default function HorizontalBars() {

*return* (

    <div className="chart-container">

      <BarChart

        dataset={dataset}

        yAxis={[{ scaleType: "band", dataKey: "genre" }]}

        series={[

          {

            dataKey: "sales",

            label: "Sales",

            valueFormatter,

            color: "#002379",

          },

        ]}

        layout="horizontal"

        {**...**chartSetting}

      />

    </div>

  );

}

Vertical\_admin.jsx

import \* as React from 'react';

import { BarChart } from '@mui/x-charts/BarChart';

import { axisClasses } from '@mui/x-charts/ChartsAxis';

*// Sample dataset for number of customers registered*

*const* dataset = [

  { month: "January", "No. of Customers Registered": 120 },

  { month: "February", "No. of Customers Registered": 150 },

  { month: "March", "No. of Customers Registered": 175 },

  { month: "April", "No. of Customers Registered": 200 },

  { month: "May", "No. of Customers Registered": 225 },

  { month: "June", "No. of Customers Registered": 250 },

  { month: "July", "No. of Customers Registered": 275 },

  { month: "August", "No. of Customers Registered": 300 },

  { month: "September", "No. of Customers Registered": 325 },

  { month: "October", "No. of Customers Registered": 350 },

  { month: "November", "No. of Customers Registered": 375 },

  { month: "December", "No. of Customers Registered": 400 },

];

*const* chartSetting = {

  yAxis: [

    {

      label: 'No. of Customers Registered',

    },

  ],

  series: [{

    dataKey: 'No. of Customers Registered',

    label: 'Customers Registered',

    color: '#FF7D29' *// Set the color of the bars*

  }],

  height: 450,

  sx: {

    [`& .${axisClasses.directionY} .${axisClasses.label}`]: {

      transform: 'translateX(-12px)',

    },

    [`& .${axisClasses.directionX} .${axisClasses.tick}`]: {

      fontSize: '14px',

    },

    [`& .${axisClasses.directionX} .${axisClasses.label}`]: {

      textOverflow: 'ellipsis',

      whiteSpace: 'nowrap',

    },

  },

};

export default function TickPlacementBars() {

*return* (

    <div style={{ width: '100%', overflowX: 'auto' }}>

      <BarChart

        dataset={dataset}

        xAxis={[

          { scaleType: 'band', dataKey: 'month'},

        ]}

        {**...**chartSetting}

      />

    </div>

  );

}

VerticalBars.jsx

import \* as React from 'react';

import { BarChart } from '@mui/x-charts/BarChart';

import { axisClasses } from '@mui/x-charts/ChartsAxis';

*// Extended dataset with 12 months and sales data for each book*

*const* dataset = [

  { month: "January", "Harry Potter and the Sorcerer's Stone": 120, "Rich Dad, Poor Dad": 85, "1984": 95, "Pride and Prejudice": 75 },

  { month: "February", "Harry Potter and the Sorcerer's Stone": 100, "Rich Dad, Poor Dad": 90, "1984": 110, "Pride and Prejudice": 70 },

  { month: "March", "Harry Potter and the Sorcerer's Stone": 130, "Rich Dad, Poor Dad": 80, "1984": 85, "Pride and Prejudice": 90 },

  { month: "April", "Harry Potter and the Sorcerer's Stone": 140, "Rich Dad, Poor Dad": 75, "1984": 100, "Pride and Prejudice": 80 },

  { month: "May", "Harry Potter and the Sorcerer's Stone": 110, "Rich Dad, Poor Dad": 95, "1984": 120, "Pride and Prejudice": 85 },

  { month: "June", "Harry Potter and the Sorcerer's Stone": 115, "Rich Dad, Poor Dad": 100, "1984": 95, "Pride and Prejudice": 90 },

  { month: "July", "Harry Potter and the Sorcerer's Stone": 125, "Rich Dad, Poor Dad": 105, "1984": 100, "Pride and Prejudice": 95 },

  { month: "August", "Harry Potter and the Sorcerer's Stone": 135, "Rich Dad, Poor Dad": 110, "1984": 105, "Pride and Prejudice": 100 },

  { month: "September", "Harry Potter and the Sorcerer's Stone": 140, "Rich Dad, Poor Dad": 115, "1984": 110, "Pride and Prejudice": 105 },

  { month: "October", "Harry Potter and the Sorcerer's Stone": 145, "Rich Dad, Poor Dad": 120, "1984": 115, "Pride and Prejudice": 110 },

  { month: "November", "Harry Potter and the Sorcerer's Stone": 150, "Rich Dad, Poor Dad": 125, "1984": 120, "Pride and Prejudice": 115 },

  { month: "December", "Harry Potter and the Sorcerer's Stone": 155, "Rich Dad, Poor Dad": 130, "1984": 125, "Pride and Prejudice": 120 },

];

*const* chartSetting = {

  yAxis: [

    {

      label: 'No. of Sales',

    },

  ],

  xAxis: [

    {

      scaleType: 'band',

      dataKey: 'month',

      label: 'Month',

    },

  ],

  width: 1200,

  height: 500,

  sx: {

    [`.${axisClasses.left} .${axisClasses.label}`]: {

      transform: 'translate(-10px, 0)',

    },

  },

};

*const* valueFormatter = (value) => `${value}`;

export default function BarsDataset() {

*return* (

    <BarChart

      dataset={dataset}

      xAxis={[{ scaleType: 'band', dataKey: 'month' }]}

      yAxis={[{ scaleType: 'linear', dataKey: 'sales' }]}

      series={[

        { dataKey: "Harry Potter and the Sorcerer's Stone", label: "Harry Potter", valueFormatter, color: "#FF5733" },

        { dataKey: "Rich Dad, Poor Dad", label: "Rich Dad", valueFormatter, color: "#33FF57" },

        { dataKey: "1984", label: "1984", valueFormatter, color: "#3357FF" },

        { dataKey: "Pride and Prejudice", label: "Pride and Prejudice", valueFormatter, color: "#F3FF33" },

      ]}

      {**...**chartSetting}

    />

  );

}

1. **/pages**
   * Includes different pages for Web App.

**Home.jsx**

import React from 'react'

import { Banner } from './Banner'

import BookCards from '../shared/BookCards'

import FavoriteBook from './FavoriteBook'

import BestSeller from './BestSeller'

import OtherBooks from './OtherBooks'

import PromoBanner from './PromoBanner'

import Review from './Review'

export *const* Home = () => {

*return* (

    <div>

      <Banner/>

      <BestSeller/>

      <FavoriteBook/>

      <PromoBanner/>

      <OtherBooks/>

      <Review/>

    </div>

  )

}

**Banner.jsx**

import React from "react";

import BannerCard from "../shared/BannerCard";

export *const* Banner = () => {

*return* (

    <div className=" bg-bannercolor  px-4 lg:px-24 flex items-center">

      <div className="flex flex-col md:flex-row-reverse justify-between items-center gap-12 py-40">

        {*/\* right side \*/*}

        <div className="md:w-1/2 h-full">

          <BannerCard />

        </div>

        {*/\* left side \*/*}

        <div className="md:w-1/2 space-y-8 bg-bannercolor">

          <h1 className="lg:text-5xl text-5xl font-alata font-bold text-black mb-5 lg:leading-tight leading-snug">

            Your One stop solution for all kinds of books{" "}

            <span className="text-logotextcolor">for the best prices</span>

          </h1>

          <p className="font-hamone">

            Find and read more books you'll love, and keep track of the books

            you want to read. Be part of the world's largest community of book

            lovers on Goodreads.

          </p>

          <div>

            <input

              type="search"

              placeholder="Search a book here"

              className="py-2 px-2 rounded-s-sm "

            />

            <button className="bg-logotextcolor px-6 py-2 text-white font-medium hover:bg-black transition-all ease-in duration-200 font-alata">

              Search

            </button>

          </div>

        </div>

      </div>

    </div>

  );

};

**Best Seller**

import React, { useEffect, useState } from "react";

import BookCards from "../shared/BookCards";

*const* BestSeller = () => {

*const* [books, setBooks] = useState([]);

  useEffect(() => {

    fetch("http://localhost:5000/all-books")

      .then((res) => res.json())

      .then((data) => setBooks(data.slice(0, 8)));

  }, []);

*return* (

    <>

      <div className="font-alata">

        <BookCards books={books} headline={"Best Seller Books"} />

      </div>

    </>

  );

};

export default BestSeller;

**Other Books**

import React, { useEffect, useState } from 'react'

import BookCards from '../shared/BookCards';

*const* OtherBooks = () => {

*const* [books, setBooks] = useState([]);

    useEffect(() => {

        fetch("http://localhost:5000/all-books").then(res => res.json()).then(data => setBooks(data.slice(5, 12)))

    }, [])

*return* (

        <div className='mt-24 font-alata'>

            <BookCards books={books} headline={"Other Books"} />

        </div>

    )

}

export default OtherBooks

**Promo Banner**

import React from "react";

import bookPic from "../../assets/awardbooks.png";

import { Link } from "react-router-dom";

*const* PromoBanner = () => {

*return* (

    <div className="mt-16 py-12 bg-bannercolor px-4 lg:px-24">

      <div className="flex flex-col md:flex-row-reverse justify-between items-center gap-12">

        {*/\* picture \*/*}

        <div>

          <img

            src="src\assets\logo.png"

            alt=""

            className="w-[30rem] h-[30rem] mr-24"

          />

        </div>

        <div className="md:w-1/2">

          <h2 className="text-5xl font-bold mb-6 leading-snug font-alata">

            2023 National Book Awards for Fiction Shortlist

          </h2>

          <Link to="/shop" className="block mt-8">

            <button className="hover:bg-logotextcolor tracking-wider font-alata text-white font-semibold px-5 py-2 rounded bg-black transition-all duration-300 ">

              Explore Now

            </button>

          </Link>

        </div>

      </div>

    </div>

  );

};

export default PromoBanner;

**/shared/Confirmation.jsx**

import React, { useEffect, useRef, useState } from "react";

*// Import Swiper React components*

import { Swiper, SwiperSlide } from "swiper/react";

*// Import Swiper styles*

import "swiper/css";

import "swiper/css/pagination";

*// import './styles.css';*

*// import required modules*

import { Pagination } from "swiper/modules";

import img1 from "../../assets/banner-books/book1.png";

*// react icons*

import { FaCartShopping } from "react-icons/fa6";

import { Link } from "react-router-dom";

*const* BookCards = ({ headline, books }) => {

*return* (

    <div className="my-16 px-4 lg:px-24">

      <h2 className="text-5xl my-5 font-bold text-center">{headline}</h2>

      {*/\* cards \*/*}

      <div className="mt-20">

        <Swiper

          slidesPerView={1}

          spaceBetween={10}

          pagination={{

            clickable: true,

          }}

          breakpoints={{

            640: {

              slidesPerView: 1,

              spaceBetween: 20,

            },

            768: {

              slidesPerView: 3,

              spaceBetween: 40,

            },

            1024: {

              slidesPerView: 4,

              spaceBetween: 50,

            },

          }}

          modules={[Pagination]}

          className=" w-full h-full"

        >

          {books.map((book) => (

            <SwiperSlide

              className="text-center flex items-center justify-center"

              key={book.\_id}

            >

              <Link to={`/book/${book.\_id}`} className="cursor-pointer">

                <div className="bg-gray-100 hover:bg-logcolor  p-8 rounded-lg relative">

                  <img src={book.imageURL} alt="" className="w-full" />

                  <div className="absolute top-3 right-3 bg-black hover:bg-logotextcolor p-2 rounded ">

                    <FaCartShopping className="w-4 h-4 text-white" />

                  </div>

                </div>

                <div className="mt-5 mb-8 text-left space-y-2 flex justify-between items-start">

                  <div>

                    <h3 className="text-black font-semibold">

                      {book.bookTitle}

                    </h3>

                    <p>{book.authorName}</p>

                  </div>

                  <div>

                    <p className="font-bold text-logotextcolor">₹495.00</p>

                  </div>

                </div>

              </Link>

            </SwiperSlide>

          ))}

        </Swiper>

      </div>

    </div>

  );

};

export default BookCards;

**Nav Bar:**

import { useContext } from "react";

import { useEffect, useState } from "react";

*// import icons from react icons*

import { FaXmark, FaBars, FaBarsStaggered, FaBlog } from "react-icons/fa6";

import { Link } from "react-router-dom";

import { AuthContext } from "../../contexts/AuthProvider";

*const* Navbar = () => {

*const* [isMenuOpen, setIsMenuOpen] = useState(false);

*const* [isSticky, setIsSticky] = useState(false);

*const* { user } = useContext(AuthContext);

*const* toggleMenu = () => {

    setIsMenuOpen(!isMenuOpen);

  };

  useEffect(() => {

*const* handleScroll = () => {

      if (window.scrollY > 100) {

        setIsSticky(true);

      } else {

        setIsSticky(false);

      }

    };

    window.addEventListener("scroll", handleScroll);

*return* () => {

      window.removeEventListener("scroll", handleScroll);

    };

  }, []);

*const* navItems = [

    { link: "Home", path: "/" },

    { link: "About", path: "/about" },

    { link: "Shop", path: "/shop" },

    { link: "Blog", path: "/blog" },

    { link: "Profile", path: "/admin/dashboard" },

  ];

*return* (

    <header className="w-full bg-transparent fixed top-0 left-0 right-0 transition-all ease-in duration-300">

      <nav

        className={`py-4 lg:px-24 px-4 ${

          isSticky ? "sticky top-0 left-0 right-0 bg-logcolor" : ""

        }`}

      >

        <div className="flex justify-between items-center text-base gap-8">

          <Link

            to="/"

            className="text-3xl  font-hamone font-bold text-logotextcolor flex items-center gap-2"

          >

            <img

              src="src/assets/logo.png"

              className="w-[5rem] h-[5rem]"

              alt="logo"

            />

            BookNest

          </Link>

          <ul className="md:flex space-x-12 hidden navitems ">

            {navItems.map(({ link, path }) => (

              <Link

                key={link}

                to={path}

                className="link block text-lg  font-belanosima cursor-pointer uppercase text-black hover:text-logotextcolor"

              >

                {link}

              </Link>

            ))}

          </ul>

          <div className="space-x-12 hidden lg:flex items-center ">

            <button>

              {" "}

              <FaBarsStaggered className="w-5 hover:text-logotextcolor" />

            </button>

            {*/\* {<Link to="/login" className="hover:text-logotextcolor">{user ? user.email : " LOGIN"}</Link>} \*/*}

            {user ? (

              <Link to="/admin/dashboard" className="hover:text-logotextcolor font-belanosima text-lg font-semibold">

                {user.email}

              </Link>

            ) : (

              <Link to="/login" className="hover:text-logotextcolor font-belanosima text-lg font-semibold">

                {"LOGIN"}

              </Link>

            )}

          </div>

          {*/\* menu btn, visible on mobile screen \*/*}

          <div className="md:hidden">

            <button

              onClick={toggleMenu}

              className="text-black focus:outline-none"

            >

              {isMenuOpen ? (

                <FaXmark className="h-6 w-6 text-black" />

              ) : (

                <FaBarsStaggered className="h-5 w-5 text-black" />

              )}

            </button>

          </div>

        </div>

        <div

          className={`space-y-4 px-4 mt-16 py-7 bg-logotextcolor ${

            isMenuOpen ? "block fixed top-0 right-0 left-0" : "hidden"

          }`}

        >

          {navItems.map(({ link, path }) => (

            <a

              href={path}

              key={link}

              onClick={toggleMenu}

              className="block  text-white hover:text-gray-500"

            >

              {link}

            </a>

          ))}

        </div>

      </nav>

    </header>

  );

};

export default Navbar;

**Payment.jsx**

import React, { useState } from "react";

import { useLocation } from "react-router-dom";

export default function Payment() {

*const* location = useLocation();

*const* { book } = location.state;

*const* [selectedPayment, setSelectedPayment] = useState(null);

*const* handlePayment = () => {

    if (selectedPayment) {

      alert("Book Purchased Successfully!");

      window.open(book.bookPDFURL, "\_blank");

    } else {

      alert("Please select a payment method.");

    }

  };

*const* paymentOptions = [

    { name: "Google Pay", logo: "/src/assets/payments\_logo/gpay.png" },

    { name: "Phone Pay", logo: "/src/assets/payments\_logo/phpay.png" },

    { name: "Amazon Pay", logo: "/src/assets/payments\_logo/amazonpay.png" },

    { name: "Paytm", logo: "/src/assets/payments\_logo/paytm.jpg" }

  ];

*return* (

    <div className="my-28 px-4 lg:px-24">

      <h2 className="text-3xl font-bold text-center mb-16 z-40">

        Choose Payment Method

      </h2>

      <div className="flex flex-col items-center space-y-4">

        <div className="w-full max-w-md font-alata">

          {paymentOptions.map((option, index) => (

            <button

              key={index}

              onClick={() => setSelectedPayment(option.name)}

              className={`w-full flex items-center px-4 py-4 mb-2 rounded-lg ${

                selectedPayment === option.name

                  ? "bg-gray-300"

                  : "bg-gray-200 hover:bg-gray-300"

              }`}

            >

              <img

                src={option.logo}

                alt={option.name}

                className="h-10 w-10 rounded-full mr-4"

              />

              <span className="text-lg font-semibold tracking-wider">{option.name}</span>

            </button>

          ))}

        </div>

        <button

          onClick={handlePayment}

          className="px-4 py-2 bg-black hover:bg-logotextcolor text-white rounded tracking-wider font-alata"

        >

          Pay ₹495

        </button>

      </div>

    </div>

  );}

**Routing**

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

* **/home** - Landing page of the application.
* **/shop** – Page to browse, pick and buy books
* **/confirmation/:id –** Page toask for confirmation from the user regarding purchasing the selected book.
* **/payment/:id –** Navigate to the page which allows payment of selected book purchases.
* **/book/:id** – To navigate to the page that displays about selected book separately.
* **/about –** About page of the application which describes the organization.
* **/blog –** Blog page of application.
* **/admin/dashboard –** Dashboard page for admin to control the application.
* **/admin/dashboard/upload –** Navigate to the upload page in the admin’s dashboard where the admin/seller can upload a book for sale.
* **/admin/dashboard/manage -** Navigate to the manage page in the admin’s dashboard where the admin/seller can upload a book for sale.
* **/admin/dashboard/edit-books/:id –** Takes to the page where we admin can edit the title, book description, author name etc.
* **/login –** Navigate to the login page of users/admin/seller.
* **/create-user -** Navigate to the signup page of users/admin/seller.
* **/logout -** Navigate to the logout page of users/admin/seller.

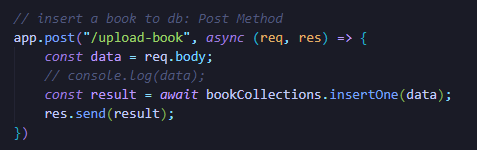
**Integration with Backend**

The frontend communicates with the backend APIs hosted on [**http://localhost:5173/**](http://localhost:5173/). Key endpoints include:

* **GET /all-books**- Retrieves all books from the database. If a category query parameter is provided, it filters books by that category.



* **POST /upload-book**- Inserts a new book into the database.



* **PATCH /book/:id -** Updates a book's details by its ID.

A screen shot of a computer code

Description automatically generated

* **DELETE /book/:id -** Deletes a book by its ID.

A computer screen shot of code

Description automatically generated

* **GET /book/:id -** Retrieves details of a single book by its ID.

**A computer code on a black background

Description automatically generated**

**User Interface (UI) Design**

* The UI design follows a -

**1. Consistency:** Make sure that design elements such as colors, typography, and spacing are uniform throughout.

**2. Simplicity**: Keep the interface uncluttered and easy to navigate.

**3. Accessibility**: Ensure that the UI is usable by people with various disabilities.

**4. Responsive Design**: Make sure the UI works well on different screen sizes and devices.

**5. Visual Hierarchy**: Organize elements to guide users' attention to the most important parts of the interface.

**6. Feedback**: Provide users with feedback for their actions to enhance interactivity and usability.

* Implemented using [UI framework/library].

**Tailwind CSS** is a utility-first CSS framework that allows developers to build custom designs without having to write custom CSS. It provides a set of low-level utility classes that can be composed to build any design directly in your HTML.

**Third-Party Integrations (If any)**

* **Google Firebase** for login and signup authentication.