**Group 1: Project Setup & UI Components --- TEAM KAMRANx**

**Objective**: Set up the project and create reusable UI components for a cohesive interface.

1. **Set up the project**:
   * Run npx create-react-app library-mis.
   * Install required dependencies:

bash

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npm install @mui/material @mui/icons-material react-hook-form yup

1. **Create a Header Component** for app-wide navigation.
2. import React from 'react';
3. import PropTypes from 'prop-types';
4. import { AppBar, Toolbar, Typography, Button, Box } from '@mui/material';
5. import { useNavigate } from 'react-router-dom';
6. function Header({ title, routes }) {
7. const navigate = useNavigate();
8. return (
9. <AppBar position="static">
10. <Toolbar sx={{ display: 'flex', justifyContent: 'center', alignItems: 'center' }}>
11. {/\* Header Title \*/}
12. <Typography variant="h6" sx={{ flexGrow: 1, textAlign: 'center' }}>
13. {title}
14. </Typography>
16. {/\* Centered Buttons \*/}
17. <Box sx={{ display: 'flex', gap: 2 }}>
18. {routes.map((route) => (
19. <Button
20. key={route.path}
21. color="inherit"
22. onClick={() => navigate(route.path)}
23. sx={{
24. textTransform: 'capitalize',
25. fontWeight: 'bold',
26. '&:hover': {
27. backgroundColor: 'rgba(255, 255, 255, 0.1)',
28. },
29. }}
30. >
31. {route.label}
32. </Button>
33. ))}
34. </Box>
35. </Toolbar>
36. </AppBar>
37. );
38. }
39. export default Header;
40. **Set Up Routing and Main Layout**:
    * Use React Router to handle navigation between pages.
41. import React from 'react';
42. import { BrowserRouter as Router, Route, Routes } from 'react-router-dom';
43. import Header from './components/Header';
44. import Home from './pages/Home';
45. import Books from './pages/Books';
46. import Authors from './pages/Authors';
47. import Categories from './pages/Categories';
48. import Users from './pages/Users';
49. import Reservations from './pages/Reservations';
50. const routes=[
51. { path:'/',label:"Home"},
52. { path:'/books',label:"Books"},
53. { path:'/authors',label:"Authors"},
54. { path:'/categories',label:"Categories"},
55. { path:'/users',label:"Users"},
56. { path:'/reservations',label:"Reservations"},
57. ]
58. function App() {
59. return (
60. <Router>
61. <Header title="Library MIS" routes={routes}/>
63. <Routes>
64. <Route path="/" element={<Home />} />
65. <Route path="/books" element={<Books /> }  />
66. <Route path="/authors" element={<Authors />} />
67. <Route path="/categories" element={<Categories />}  />
68. <Route path="/users" element={<Users />}  />
69. <Route path="/reservations" element={<Reservations />}  />
70. </Routes>

73. </Router>
74. );
75. }
76. export default App;

**Team Samiullah: Books & Categories Entities**

**Objective**: Build forms and lists for managing books and categories, using react-hook-form and yup for validation.

1. **Books Entity**:
   * Create a **Book List** and **Book Form** component with form validation.

**src/pages/Books.js**

import React from 'react';

function Books() {

    // Static data to display books

    const books = [

        { id: 1, title: 'Book One', author: 'Author A', category: 'Fiction' },

        { id: 2, title: 'Book Two', author: 'Author B', category: 'Non-Fiction' },

    ];

    return (

        <div>

            <h2>Books</h2>

            <ul>

                {books.map(book => (

                    <li key={book.id}>{book.title} - {book.author}</li>

                ))}

            </ul>

        </div>

    );

}

export default Books;

**Book Form Component**:

* Create a form to add or edit books, using react-hook-form and yup for validation.

import React from 'react';

import { useForm } from 'react-hook-form';

import { TextField, Button } from '@mui/material';

import { yupResolver } from '@hookform/resolvers/yup';

import \* as yup from 'yup';

const schema = yup.object().shape({

    title: yup.string().required("Title is required"),

    author: yup.string().required("Author is required"),

});

function BookForm({ onSubmit }) {

    const { register, handleSubmit, formState: { errors } } = useForm({

        resolver: yupResolver(schema)

    });

    return (

        <form onSubmit={handleSubmit(onSubmit)}>

            <TextField

                label="Title"

                {...register("title")}

                error={!!errors.title}

                helperText={errors.title?.message}

            />

            <TextField

                label="Author"

                {...register("author")}

                error={!!errors.author}

                helperText={errors.author?.message}

            />

            <Button type="submit" variant="contained">Submit</Button>

        </form>

    );

}

export default BookForm;

### Group 3: Authors Entity -----TEAM MOHAMMAD ALI

**Objective**: Build components to manage authors, including a list and form with validation.

1. **Authors Page**:
   * List authors with sample data for now, similar to the Books page.

#### src/pages/Authors.js

import React from 'react';

function Authors() {

    const authors = [

        { id: 1, name: 'Author A' },

        { id: 2, name: 'Author B' },

    ];

    return (

        <div>

            <h2>Authors</h2>

            <ul>

                {authors.map(author => (

                    <li key={author.id}>{author.name}</li>

                ))}

            </ul>

        </div>

    );

}

export default Authors;

**Author Form Component**:

* Set up a form similar to BookForm, validating the author’s name.
* import React from 'react';
* import { useForm } from 'react-hook-form';
* import { TextField, Button } from '@mui/material';
* import { yupResolver } from '@hookform/resolvers/yup';
* import \* as yup from 'yup';
* const schema = yup.object().shape({
* name: yup.string().required("Author name is required"),
* });
* function AuthorsForm({ onAddAuthor }) {
* const { register, handleSubmit, formState: { errors } } = useForm({
* resolver: yupResolver(schema)
* });
* const onSubmit = (data) => {
* onAddAuthor(data);
* };
* return (
* <form onSubmit={handleSubmit(onSubmit)}>
* <TextField
* label="Author Name"
* {...register("name")}
* error={!!errors.name}
* helperText={errors.name?.message}
* />
* <Button type="submit" variant="contained">Add Author</Button>
* </form>
* );
* }
* export default AuthorsForm;

### New Group: Categories Management ----- MOHAMMAD REZA

This group will create:

1. **CategoriesForm** component to add new categories.
2. **CategoriesTable** component to display a list of categories.

#### Task 1: Categories Form

* **CategoriesForm.js**: Use react-hook-form and yup to validate the category name.
* import React from 'react';
* import { useForm } from 'react-hook-form';
* import { TextField, Button } from '@mui/material';
* import { yupResolver } from '@hookform/resolvers/yup';
* import \* as yup from 'yup';
* const schema = yup.object().shape({
* name: yup.string().required("Category name is required"),
* });
* function CategoriesForm({ onAddCategory }) {
* const { register, handleSubmit, formState: { errors } } = useForm({
* resolver: yupResolver(schema)
* });
* const onSubmit = (data) => {
* onAddCategory(data);
* };
* return (
* <form onSubmit={handleSubmit(onSubmit)}>
* <TextField
* label="Category Name"
* {...register("name")}
* error={!!errors.name}
* helperText={errors.name?.message}
* />
* <Button type="submit" variant="contained">Add Category</Button>
* </form>
* );
* }
* export default CategoriesForm;

#### Task 2: Categories Table

* **CategoriesTable.js**: Display the list of categories using an MUI table component.
* import React from 'react';
* import { Table, TableBody, TableCell, TableHead, TableRow } from '@mui/material';
* function CategoriesTable() {
* const [categories, setCategories] = useState([
* { id: 1, name: 'Fiction' },
* { id: 2, name: 'Non-fiction' }
* ]);
* return (
* <Table>
* <TableHead>
* <TableRow>
* <TableCell>ID</TableCell>
* <TableCell>Category Name</TableCell>
* </TableRow>
* </TableHead>
* <TableBody>
* {categories.map((category, index) => (
* <TableRow key={index}>
* <TableCell>{index + 1}</TableCell>
* <TableCell>{category.name}</TableCell>
* </TableRow>
* ))}
* </TableBody>
* </Table>
* );
* }
* export default CategoriesTable;

Group 4: Users & Reservations Entities ------------ TEAM SULIMAN

**Objective**: Build forms for users and book reservations.

1. **Users Page**:
   * Create a static display for users, and a form to add new users.

#### src/pages/Users.js

import React from 'react';

function Users() {

    const users = [

        { id: 1, name: 'User A' },

        { id: 2, name: 'User B' },

    ];

    return (

        <div>

            <h2>Users</h2>

            <ul>

                {users.map(user => (

                    <li key={user.id}>{user.name}</li>

                ))}

            </ul>

        </div>

    );

}

export default Users;

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Group 5th

**User Management**: Create a user form and table to manage users.

import React from 'react';

import { useForm } from 'react-hook-form';

import { TextField, Button } from '@mui/material';

import { yupResolver } from '@hookform/resolvers/yup';

import \* as yup from 'yup';

// Define validation schema with Yup

const userSchema = yup.object({

  name: yup.string().required("Name is required"),

  email: yup.string().email("Invalid email").required("Email is required"),

  phone: yup.string().required("Phone number is required"),

});

const UserForm = ({ onSubmit }) => {

  const { register, handleSubmit, formState: { errors }, reset } = useForm({

    resolver: yupResolver(userSchema),

  });

  const submitForm = (data) => {

    onSubmit(data);

    reset();  // Clear the form after submission

  };

  return (

    <form onSubmit={handleSubmit(submitForm)}>

      <TextField

        label="Name"

        {...register("name")}

        variant="outlined"

        error={!!errors.name}

        helperText={errors.name?.message}

        fullWidth

        margin="normal"

      />

      <TextField

        label="Email"

        {...register("email")}

        variant="outlined"

        error={!!errors.email}

        helperText={errors.email?.message}

        fullWidth

        margin="normal"

      />

      <TextField

        label="Phone"

        {...register("phone")}

        variant="outlined"

        error={!!errors.phone}

        helperText={errors.phone?.message}

        fullWidth

        margin="normal"

      />

      <Button type="submit" variant="contained" color="primary">

        Add User

      </Button>

    </form>

  );

};

export default UserForm;

Task 2: --------------TEAM KHALID

The UserTable component will display the list of users in a table format.

**File**: src/components/UserTable.js

import React from 'react';

import { Table, TableBody, TableCell, TableContainer, TableHead, TableRow, Paper } from '@mui/material';

const UserTable = ({ users }) => {

export const users = [

  { id: 1, name: "Alice Johnson", email: "alice@example.com", phone: "123-456-7890" },

  { id: 2, name: "Bob Smith", email: "bob@example.com", phone: "987-654-3210" },

];

  return (

    <TableContainer component={Paper}>

      <Table>

        <TableHead>

          <TableRow>

            <TableCell>Name</TableCell>

            <TableCell>Email</TableCell>

            <TableCell>Phone</TableCell>

          </TableRow>

        </TableHead>

        <TableBody>

          {users.map((user, index) => (

            <TableRow key={index}>

              <TableCell>{user.name}</TableCell>

              <TableCell>{user.email}</TableCell>

              <TableCell>{user.phone}</TableCell>

            </TableRow>

          ))}

        </TableBody>

      </Table>

    </TableContainer>

  );

};

export default UserTable;

Group 6:

## Task 2: Reservation Management ----------- TEAM USMAN SULTAN

**Goal**: Create a form to add reservations and display them in a table.

### Step 2.1: Create the Reservation Form Component

The ReservationForm will allow users to add reservation details.

**File**: src/components/ReservationForm.js

import React from 'react';

import { useForm } from 'react-hook-form';

import { TextField, Button } from '@mui/material';

import { yupResolver } from '@hookform/resolvers/yup';

import \* as yup from 'yup';

// Define validation schema with Yup

const reservationSchema = yup.object({

  date: yup.string().required("Date is required"),

  time: yup.string().required("Time is required"),

  partySize: yup.number().min(1, "At least 1 person required").required("Party size is required"),

});

const ReservationForm = ({ onSubmit }) => {

  const { register, handleSubmit, formState: { errors }, reset } = useForm({

    resolver: yupResolver(reservationSchema),

  });

  const submitForm = (data) => {

    onSubmit(data);

    reset();  // Clear the form after submission

  };

  return (

    <form onSubmit={handleSubmit(submitForm)}>

      <TextField

        label="Date"

        type="date"

        {...register("date")}

        InputLabelProps={{ shrink: true }}

        error={!!errors.date}

        helperText={errors.date?.message}

        fullWidth

        margin="normal"

      />

      <TextField

        label="Time"

        type="time"

        {...register("time")}

        InputLabelProps={{ shrink: true }}

        error={!!errors.time}

        helperText={errors.time?.message}

        fullWidth

        margin="normal"

      />

      <TextField

        label="Party Size"

        type="number"

        {...register("partySize")}

        error={!!errors.partySize}

        helperText={errors.partySize?.message}

        fullWidth

        margin="normal"

      />

      <Button type="submit" variant="contained" color="primary">

        Add Reservation

      </Button>

    </form>

  );

};

export default ReservationForm;

Task 2 : Create a reservation table

import React from 'react';

import { Table, TableBody, TableCell, TableContainer, TableHead, TableRow, Paper } from '@mui/material';

const ReservationTable = () => {

  export const reservations = [

    { id: 1, date: "2024-11-10", time: "18:30", partySize: 4 },

    { id: 2, date: "2024-11-12", time: "19:00", partySize: 2 },

  ];

  return (

    <TableContainer component={Paper}>

      <Table>

        <TableHead>

          <TableRow>

            <TableCell>Date</TableCell>

            <TableCell>Time</TableCell>

            <TableCell>Party Size</TableCell>

          </TableRow>

        </TableHead>

        <TableBody>

          {reservations.map((reservation, index) => (

            <TableRow key={index}>

              <TableCell>{reservation.date}</TableCell>

              <TableCell>{reservation.time}</TableCell>

              <TableCell>{reservation.partySize}</TableCell>

            </TableRow>

          ))}

        </TableBody>

      </Table>

    </TableContainer>

  );

};

export default ReservationTable;