PedalStart - Task Management Application

Project Title: PedalStart - Task Management Application

Description

PedalStart is a task management application designed to help users create, view, edit, and delete tasks. The application consists of a frontend built with React and a backend powered by Node.js and Express, with data stored in a MongoDB database. This application demonstrates a full-stack implementation with RESTful APIs and a responsive user interface.

Links

- **Live Site Link:** http://pedalstart.s3-website-us-east-1.amazonaws.com/
- **GitHub Repository:** https://github.com/Ac-11/PedalStart-TaskManagementApplication
- **Backend API:** http://18.205.252.53:5000/api/tasks
- **Demo Video Link:** https://drive.google.com/file/d/1q6sBr2eNhHectlb2G91SfgFeToEkcNBd/view

Technologies Used

- Frontend: React, Bootstrap
- Backend: Node.js, Express
- Database: MongoDB
- Deployment: AWS EC2, S3, Netlify

Features

- Add new tasks with title, description, and due date.
- View a list of all tasks.
- Edit existing tasks.
- Delete tasks.
- Responsive design for mobile and desktop views.

Installation Instructions

Backend Setup

1. **Clone the repository:**

   ```
   sh
   Copy code
   git clone https://github.com/Ac-11/PedalStart-
   TaskManagementApplication.git
   cd PedalStart-TaskManagementApplication
   ```

2. **Install dependencies:**

   ```
   sh
   Copy code
   npm install
   ```

3. **Set up environment variables:** Create a `.env` file in the root directory and add the following:

   ```
   env
   Copy code
   MONGODB_URI=mongodb://localhost:27017/your-database-name
   PORT=5000
   ```

4. **Start the backend server:**

   ```
   sh
   Copy code
   pm2 start server.js
   pm2 startup
   pm2 save
   ```

Frontend Setup

1. **Navigate to the client directory:**

   ```
   sh
   Copy code
   cd client
   ```

2. **Install dependencies:**

   ```
   sh
   Copy code
   npm install
   ```

3. **Change API routes:** In the `src` folder, update the API URLs in the components to point to your backend server's IP address. For example, change:

   ```
   js
   Copy code
   const response = await axios.get('http://localhost:5000/api/tasks');
   ```

   to:

   ```
   js
   Copy code
   const response = await axios.get('http://<your-backend-
   ip>:5000/api/tasks');
   ```

4. **Build the frontend:**

   ```
   sh
   Copy code
   npm run build
   ```

5. **Serve the frontend:**

   ```
   sh
   Copy code
   pm2 serve build 3000 --spa
   ```

Deploying the Frontend on AWS S3

1. **Create a new S3 bucket:**
   - Name your bucket (e.g., `pedalstart`).
   - Enable static website hosting.
   - Upload the contents of the `build` folder to the S3 bucket.
2. **Set permissions:**
   - Go to the bucket permissions.
   - Add a bucket policy to make the contents publicly accessible.
3. **Access your site:**
   - Note the S3 bucket endpoint and access your site using the given URL.

Usage Instructions

1. **Adding a Task:**
   - Click on "Add New Task".
   - Fill in the Title, Description, and Due Date.
   - Click "Add Task".
   - If any field is empty, a browser pop-up will alert the user to fill in all fields.
2. **Viewing Tasks:**
   - The homepage displays a list of tasks.
   - Click "View" to see the details of a task.
3. **Editing a Task:**
   - Click "Edit" next to the task you want to update.
   - Modify the Title, Description, or Due Date.
   - Click "Update Task".

   - After successful update, you will be redirected to the task list page.
4. **Deleting a Task:**
   - Click "Delete" next to the task you want to remove.
   - Confirm the deletion by clicking "Yes".
   - After successful deletion, you will be redirected to the task list page.

Backend Changes

- **Database Connection:** Ensure the MongoDB connection string in `server.js` is set to your database:

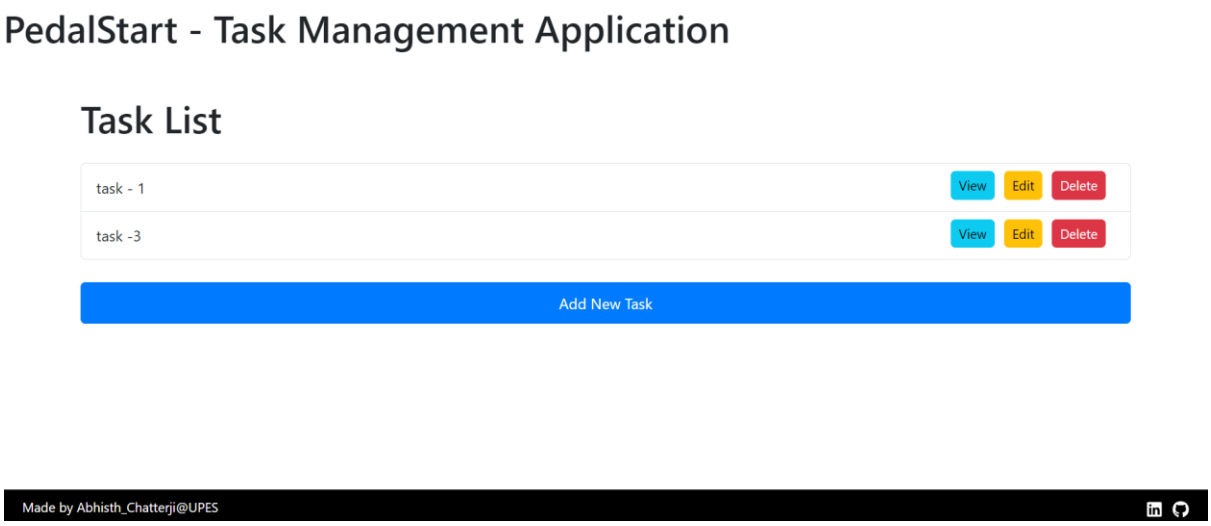
  ```
  js
  Copy code
  mongoose.connect(process.env.MONGODB_URI, { useNewUrlParser: true,
  useUnifiedTopology: true });
  ```

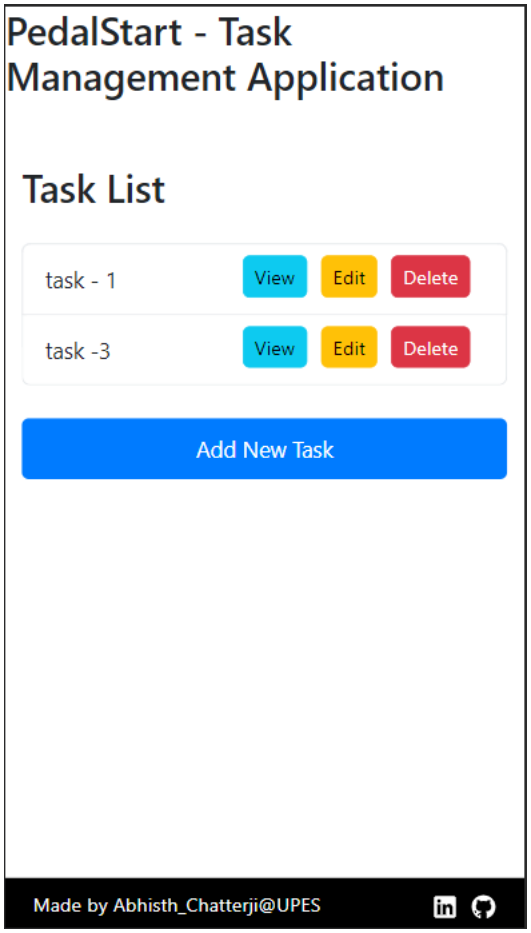
- **Server Port:** Ensure the backend server listens on the port specified in the `.env` file:

  ```
  js
  Copy code
  const port = process.env.PORT || 5000;
  app.listen(port, () => console.log(`Server running on port
  ${port}`));
  ```

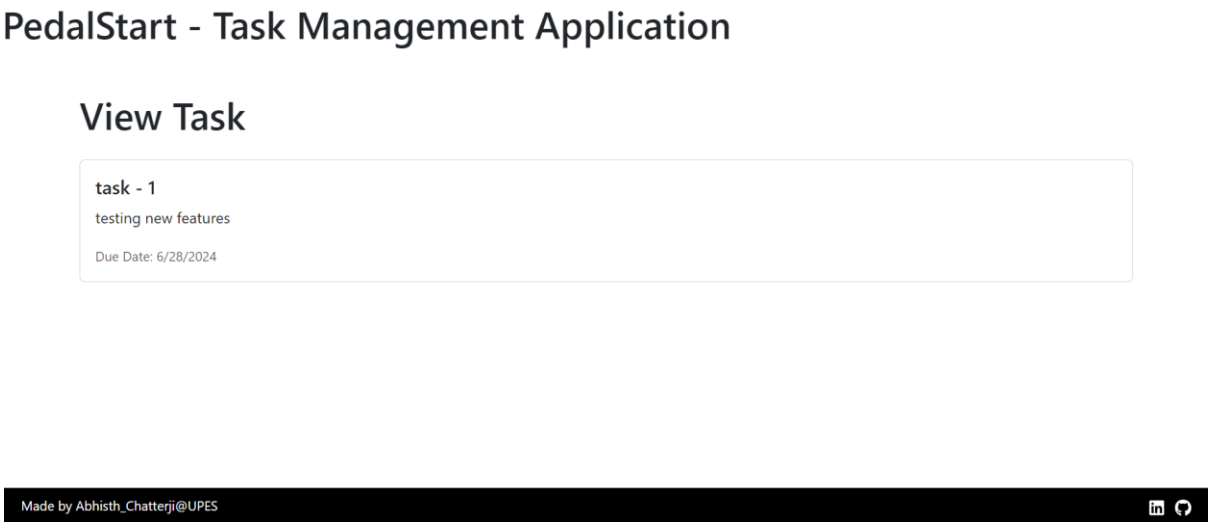
Screenshots on desktop and phone preview

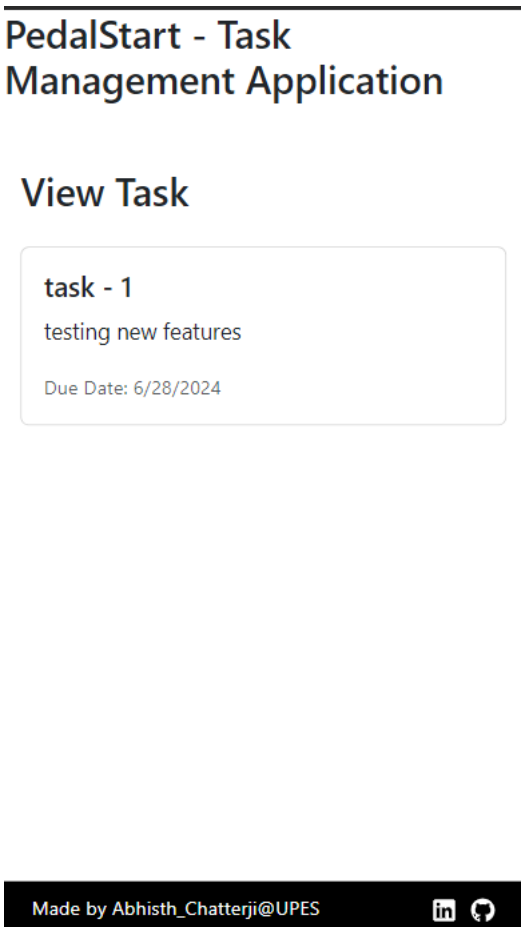
1. **Task List:**



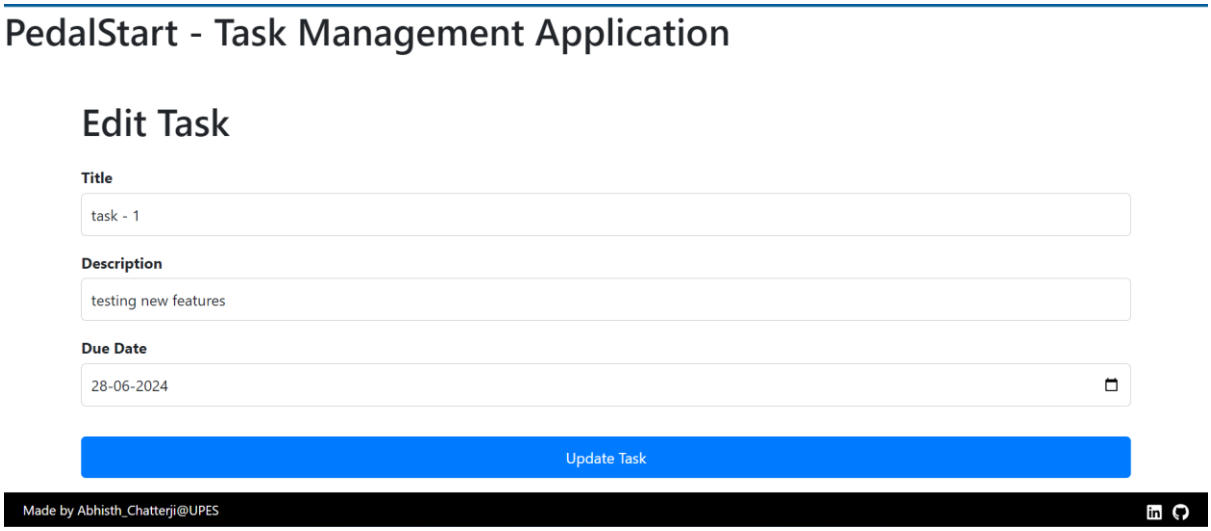

PedalStart - Task Management Application
Task List
task - 1
View
Edit
Delete
task -3
View
Edit
Delete
Add New Task
Made by Abhisth_Chatterji@UPES

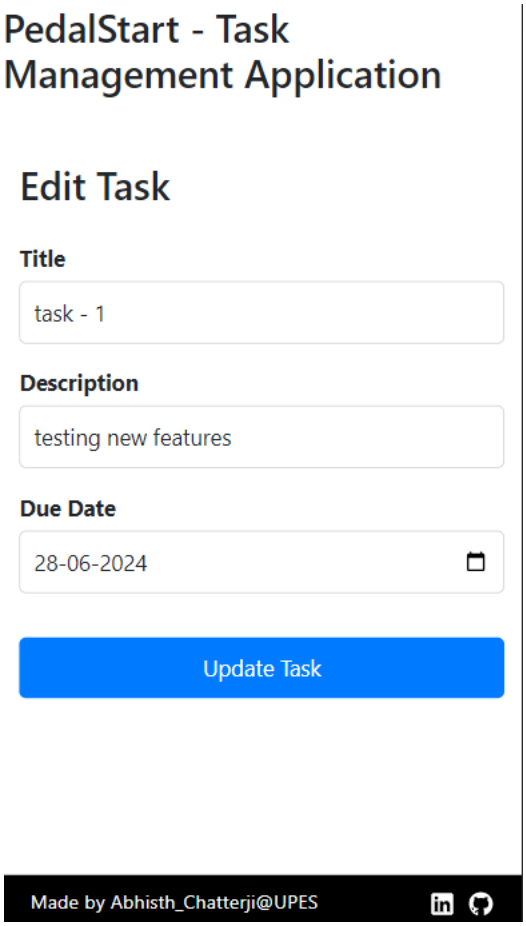
2. **View Task:**


PedalStart - Task Management Application
View Task
task - 1
testing new features
Due Date: 6/28/2024
Made by Abhisth_Chatterji@UPES

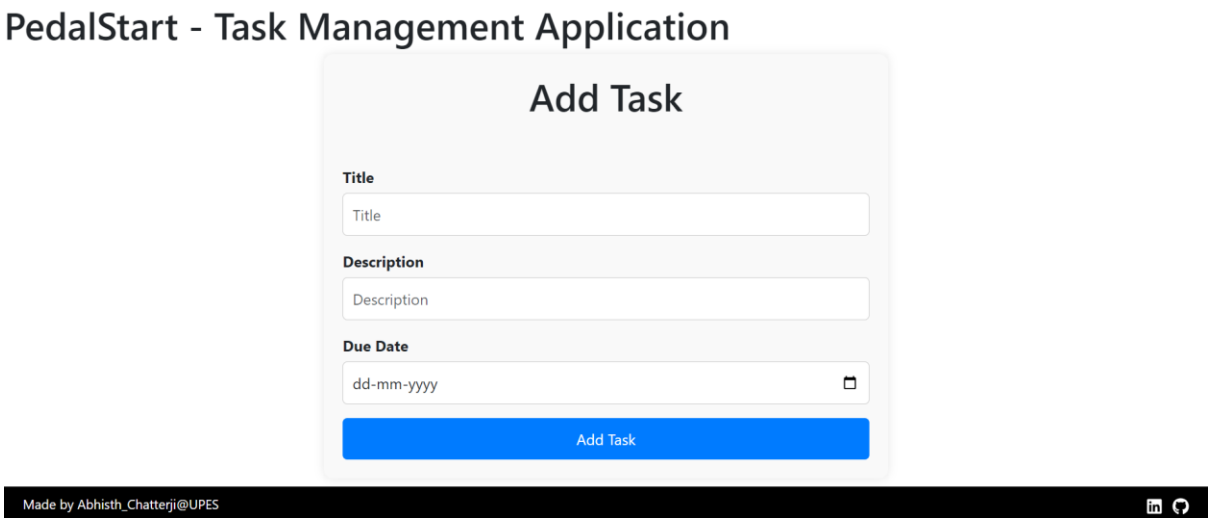

PedalStart - Task Management Application
View Task
task - 1
testing new features
Due Date: 6/28/2024
Made by Abhisth_Chatterji@UPES

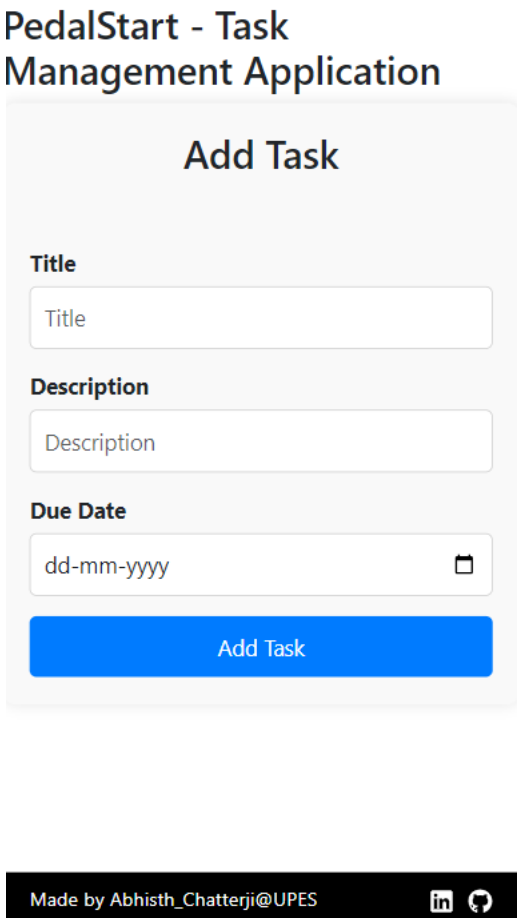
3. **Edit Task:**


PedalStart - Task Management Application
Edit Task
Title
task - 1
Description
testing new features
Due Date
28-06-2024
Update Task
Made by Abhisth_Chatterji@UPES

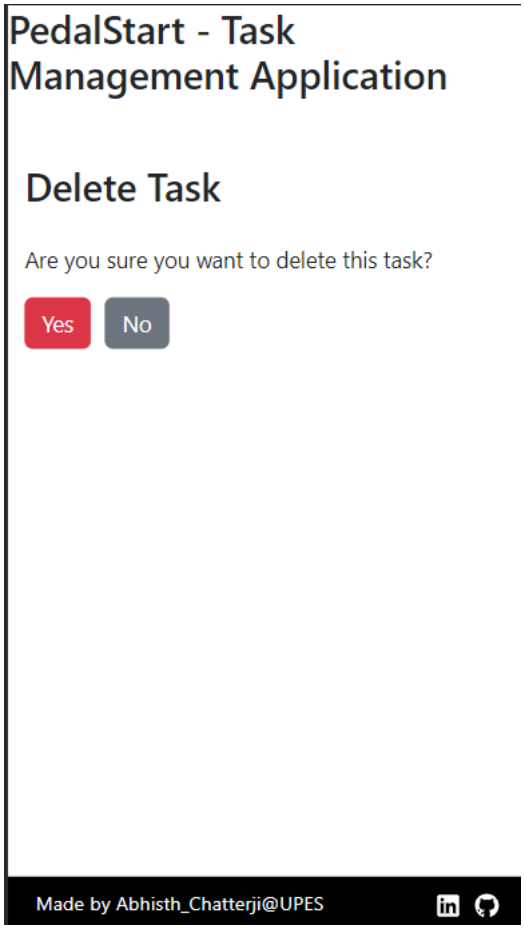

PedalStart - Task Management Application
Edit Task
Title
task - 1
Description
testing new features
Due Date
28-06-2024
Update Task
Made by Abhisth_Chatterji@UPES

4. **Add Task:**


PedalStart - Task Management Application
Add Task
Title
Title
Description
Description
Due Date
dd-mm-yyyy
Add Task
Made by Abhisth_Chatterji@UPES



5. **Delete Task:**



Additional Notes

Design Choices

- **Responsive Design:** The application is designed to be responsive, ensuring usability on both mobile and desktop devices.
- **User Experience:** Browser pop-ups are used for validation and confirmation to provide immediate feedback to the user.

Challenges Faced

- **API Integration:** Ensuring the frontend communicates effectively with the backend, especially when deployed on different servers.
- **Deployment:** Configuring the EC2 instance and S3 bucket for seamless deployment.

Future Improvements

- **Authentication:** Implement user authentication to secure the application.
- **Advanced Features:** Add features like task categorization, priority settings, and notifications.
- **Enhanced UI:** Improve the user interface with more interactive elements and animations.