Objective: Develop a simplified version of a project management system with user roles, project tracking, and task management capabilities. The application will include backend setup using Rails with API endpoints and frontend integration using React.

Technologies:

- Backend: Rails 6
- Frontend: React
- Database: PostgreSQL
- Testing: RSpec (bonus)
- Documentation: Any format (bonus)

Models:

1. **User** - Fields: `name`, `email`, `role` (Admin, User)
2. **Project** - Fields: `name`, `start_date`, `duration` (e.g., 2 days, 1 week, 3 months)
3. **Task** - Fields: `name`, `description`, `start_time`, `end_time`, duration.

Seeding Data:

- Create sample users including at least one admin.
- Create several projects with varying start dates and durations.

API Endpoints:

1. **Admin API Endpoints:**
   - Get a list of all active projects (A project is active if the current date is between its start date and the end date calculated from the duration).
   - Assign or unassign projects to users.
   - Endpoint to provide a detailed breakdown of each task's duration as well as the total duration for all tasks within a specific project. For example, if it have 2 tasks then it will show llike follwing
     i. **Task 1:** Homepage Design, 1 hour (10:00 AM - 11:00 AM, Jan 1)
     ii. **Task 2:** Backend Setup, 2 hours (5:00 PM - 7:00 PM, Jan 2)
     iii. **Total Time on Tasks:** 3 hours
2. **User API Endpoints:**
   - Add tasks to an assigned and active project.
   - Get a list of projects assigned to the logged-in user.

Admin Functions:

- View all projects that are currently active.
- Assign projects to users and remove users from projects.

User Functions:

- Add tasks only to projects that are active and assigned to them.
- View only their assigned projects.

Frontend Requirements:

- Implement React views to interact with the API:
  - Admin view to list all active projects and manage project assignments.
  - User view to display assigned projects and add tasks to active projects.

Testing (Bonus):

- Write RSpec tests for models and requests.

Documentation (Bonus):

- Provide a simple documentation of API endpoints and basic project setup.

Deliverables:

- A GitHub repository containing all code with setup instructions in the README.
- Demo Video
- API Postman Collection
- API Documentation (Bonus)