**Overview of the Career Connect Job System Application**

The Career Connect Job System is designed to streamline the job application and hiring process for companies and job seekers. The application will help job seekers find and apply for jobs, track their applications, and manage their profiles. It will also help companies post job openings, manage applicants, and schedule interviews.

**Core Features**

**User Roles & Authentication**

* **Job Seeker**: Manages profile, searches for jobs, applies, and tracks application status.
* **Company/Recruiter**: Posts job openings, manages applications, and reviews candidate profiles.
* **Admin**: Oversees the entire system, manages user accounts, and generates reports.
* Secure login system with role-based access control (RBAC).

**Job Posting & Management**

* Companies can post new job openings with details like title, description, requirements, and location.
* Job seekers can search and filter job listings.
* Companies can manage and edit their job postings.

**Profile & Resume Management**

* Job seekers create and manage their profiles.
* Upload and store resumes and other relevant documents.
* Companies can view and download candidate profiles and resumes.

**Application Tracking**

* Job seekers can apply for jobs and track the status of their applications (e.g., submitted, in review, interview scheduled).
* Companies can manage incoming applications, change status, and add notes.

**Notifications & Communication**

* Automated email notifications for new job alerts, application status updates, and interview schedules.
* In-app messaging for communication between job seekers and companies.

**Admin Dashboard & Analytics**

* Overview of job postings, user activity, and application trends.
* Generate reports on popular jobs, successful hires, and user engagement.

**Step-by-Step Plan to Develop the Career Connect Job System Application**

This plan is structured to ensure a methodical approach to development while also considering a learning curve, following best practices like the **SOLID** principles.

**Phase 1: Requirement Gathering & Planning**

* **Define Core Functionalities**: Create a detailed list of features based on the user roles (Job Seeker, Company, Admin).
* **Sketch the System Architecture**: Define how the frontend, backend, and database will communicate. Identify APIs and data flow.
* **Choose the Tech Stack**: Research and decide on the technologies for the frontend, backend, and database.
* **Define Folder Structure**: Establish a clear, modular folder structure for maintainability.
* **Output**: Project roadmap, detailed feature list, and high-level system architecture.

**Phase 2: Database & API Design**

* **Design the Database Schema**: Define tables for users, job postings, applications, resumes, etc. Establish relationships between them (e.g., jobseeker ↔ applications ↔ job postings).
* **Create API Endpoints**: Define RESTful API routes for authentication, job searching, profile management, and application management.
* **Output**: Database schema and API documentation.

**Phase 3: Backend Development**

* **Set Up the Backend**: Initialize the project and set up the server. Implement secure authentication (e.g., JWT).
* **Develop Core Functionalities**: Implement CRUD operations for job postings, user profiles, and applications. Apply business logic following SOLID principles.
* **Write Unit Tests**: Write unit tests for backend APIs to ensure reliability.
* **Output**: Backend with working endpoints.

**Phase 4: Frontend Development**

* **Set Up the Frontend**: Create the frontend project and set up routing and authentication flows.
* **Develop UI Components**: Build user interfaces for the Job Seeker dashboard, Company dashboard, job search page, and application forms.
* **Integrate Backend APIs**: Connect the UI components to the backend APIs to fetch and send data.
* **Output**: A functional UI with working backend integration.

**Phase 5: Testing & Debugging**

* **Test Backend APIs**: Use tools like Postman to test all API endpoints.
* **Perform UI Testing**: Conduct manual or automated UI tests to ensure all features work as expected.
* **Fix Bugs & Optimize**: Address any bugs and optimize the performance of the system.
* **Output**: A stable and tested system ready for deployment.

**Phase 6: Deployment & Documentation**

* **Deploy Backend**: Deploy the backend service to a cloud provider.
* **Deploy Frontend**: Deploy the frontend application to a hosting service.
* **Set Up Production Database**: Configure and secure the production database.
* **Write Documentation**: Create documentation for users and developers.
* **Output**: Live Career Connect Job System ready for use.

The roadmap is designed to guide the development process from initial planning and design through to deployment, with a focus on creating a stable, functional system. By following the outlined steps, the project will result in a live, user-friendly platform that successfully connects job seekers with employment opportunities.