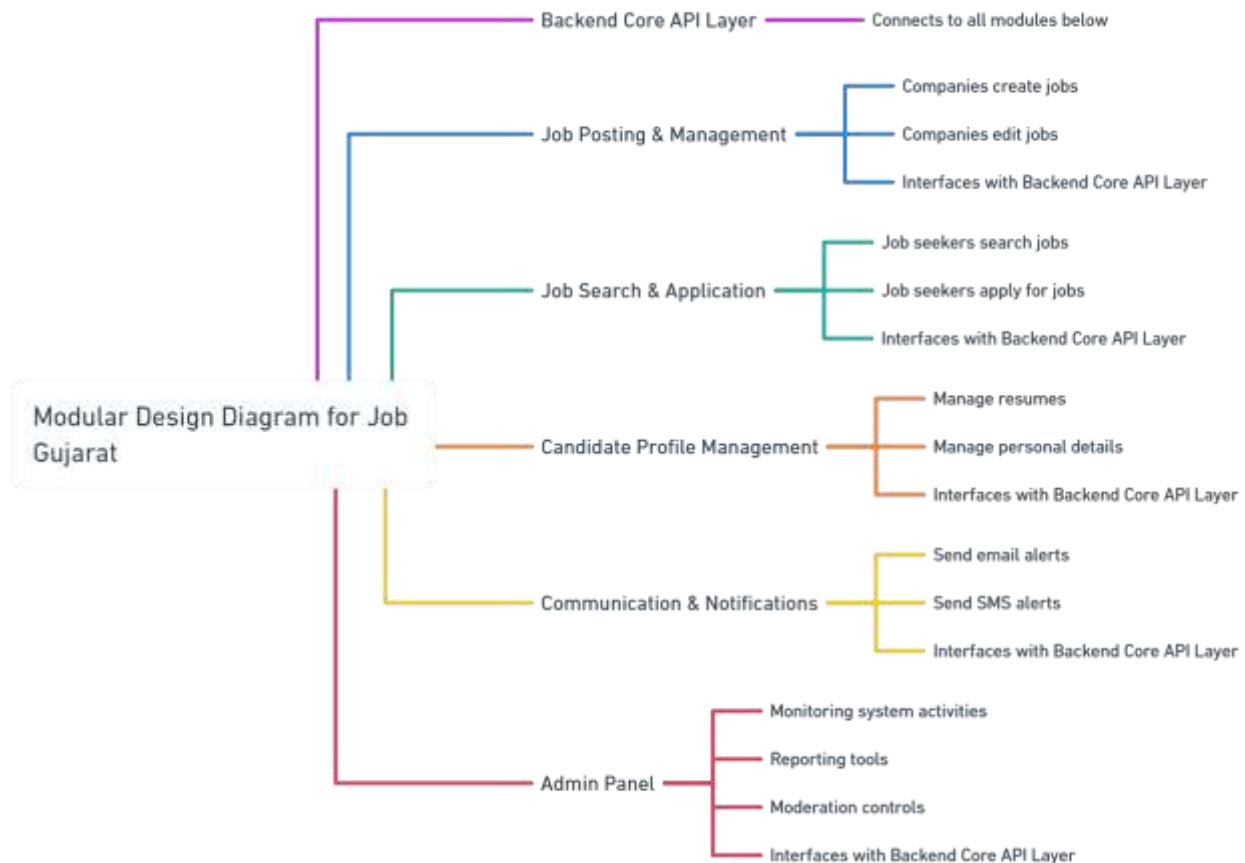|	Marwadi University Faculty of Engineering and Technology Department of Information and Communication Technology
Subject: Capstone Project	**System Design and Architecture Section**
Project : - Job Gujarat	**Date: 24-09-2025** **Enrolment No: 92310133019 & 92310133013**

Introduction

➢ Job Gujarat is a local job platform that we created to solve a real problem faced by our client. Earlier, our client was connecting companies and jobseekers only through a social media page, which gets around 300k–400k views on job-related reels. Because of this, he was getting too many calls and messages every day. Managing job posts, collecting details from candidates, and talking with companies only through phone calls and DMs had become slow, messy, and hard to manage. To make this process simple, we built a web-based job portal where companies can post jobs and handle applications in one place, jobseekers can create profiles, upload resumes, and apply directly, client can manage everything in a clear and trackable system. This platform changes the old social media-based process into a proper digital hiring system that is faster, organized, and scalable.

Modular Design

➢ The project follows a three-tier modular architecture:

➢ **Frontend Module (User Interface):**

- Provides jobseekers and companies with an interactive platform.
- Handles registration, job posting, search, and application features.

➢ **Backend Module (Application Logic):**

- Implements business rules, application workflows, and data validation.
- Exposes APIs for frontend-to-database communication.

➢ **Database Module (Data Storage):**

- Stores user profiles, job postings, applications, and admin logs.
- Ensures data integrity, security, and fast retrieval.

➢ **Admin Module (Management Panel):**

- Allows the admin to verify jobs, monitor platform activity, and manage users.

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Modular Design Diagram for Job Gujarat

Technology Stack

➢ **Frontend**
  • React (SPA) + Vite: Fast dev builds, large ecosystem.
  • Tailwind CSS: Utility-first, consistent responsive design.
  • Framer Motion: Smooth micro-interactions and animated transitions.
  • Shadcn UI + Lucide Icons: Accessible, composable UI primitives.

➢ **Backend**
  • Node.js + Express: Widely adopted, performant for I/O-bound APIs.
  • Prisma ORM: Type-safe database access, faster schema evolution.

➢ **Authentication**
  • Auth0: Enterprise-grade auth/OIDC, secure token lifecycle, social login support.
  • Justification: Offloads auth complexity and also reduces risk and time-to-market.

➢ **Database**
  • PostgreSQL (via Prisma): Relational integrity, indexing, JSONB support, reliability at scale.
  • Justification: Standard for transactional workloads; cloud-friendly.

- ➢ **Storage**
  - • Supabase (S3-compatible alternative ok): Simple SDKs, public/private buckets, CDN-backed.
  - • Justification: Optimized for file handling, reduces backend storage complexity.

- ➢ **Payment**
  - • Razorpay: India-first gateway with mature APIs and signature verification.
  - • Justification: Compliance, reliability, strong developer support.

Scalability
- ➢ **Database**
  - • Start with PostgreSQL (single primary).
  - • Add read replicas for reporting/analytics.
  - • Use proper indexes (status, dates, foreign keys).
  - • Plan for partitioning/sharding if data grows large.

- ➢ **File storage**
  - • Store files (resume/photo/Aadhaar) in object storage (e.g., Supabase/S3).
  - • Serve via CDN to reduce backend load.

Conclusion
Our project directly solves our client's real problem of handling too many job inquiries from social media. With this job portal, the process becomes simple, organized, and efficient for both companies and jobseekers. The system is technically feasible, cost-effective, and can easily scale in the future. It also matches the real market need, as Gujarat has a large number of jobseekers and companies, and the client already has a strong base of 300k–400k views on social media reels. This project makes recruitment faster, easier, and more professional for everyone involved.