A Major Project Synopsis on

Rizzume Builder

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by

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Introduction

In today's competitive job market, a well-crafted, ATS-optimized resume is crucial for career success. Rizzume is a B2B white-label SaaS platform designed to empower universities, HR consultancies, and enterprises with a custom-branded, AI-driven resume-building solution. By integrating automated data extraction, ATS compliance, and AI-powered personalization, Rizzume simplifies resume creation while ensuring professional quality and branding consistency for organizations. The platform offers seamless onboarding with SSO, multi-role access, and white-label customization, allowing institutions to deploy resume-building tools under their own branding. Key features include AI-powered extraction from existing resumes/LinkedIn profiles, ATS-friendly templates, and dynamic editing tools. Additionally, Rizzume supports cover letter generation with AI suggestions, further enhancing job application readiness. Built for scalability, Rizzume serves as a turnkey solution for institutions aiming to provide career support while maintaining their brand identity. Whether for students, job seekers, or recruiters, Rizzume bridges the gap between user-friendly design and enterprise-grade functionality, making professional resume creation effortless and efficient.

Why should you choose us?

Rizzume stands out as the premier white-label resume-building platform by combining cutting-edge AI, seamless ATS optimization, and unmatched customization for businesses and institutions. Unlike generic resume builders, we offer fully branded, enterprise-ready solutions tailored to universities, HR firms, and corporations, ensuring a professional, experience for end-users. Our automated data extraction, smart template suggestions, and AI-driven enhancements save time while maximizing resume impact. With easy integration, multi-format exports, and scalable white-labeling, Rizzume empowers organizations to deliver high-value career tools under their own brand—making us the smart choice for modern, efficient, and branded resume creation.

Problem Statement

Lack of ATS-Optimized Resumes

- Many job seekers submit resumes that are not compatible with Applicant Tracking Systems (ATS), leading to automatic rejection.
- Generic templates fail to highlight industry-specific keywords and formatting standards.

Inefficient Resume Creation Process

- Manually transferring data from LinkedIn or old resumes is time-consuming.
- Users struggle with structuring content effectively, leading to weak resumes.

Limited Branding & Customization for Institutions

- Universities, HR firms, and enterprises lack white-label solutions to offer resume-building tools under their own branding.
- Existing platforms provide no customization for organizational needs, reducing engagement.

Poor Cover Letter Support

- Many candidates submit generic, ineffective cover letters due to a lack of guidance.
- AI-driven suggestions for tone, structure, and keyword optimization are missing in most tools.

Career Support Ecosystem

- Job seekers use multiple tools (resume builders, LinkedIn, ATS checkers) without a unified solution.
- Institutions struggle to provide a seamless career-support platform for students and employees.

I. Methodology/ Planning of work:

The project follows an Agile development methodology, utilizing Next.js (Frontend), Node.js + Express (Backend), MongoDB (Database), and Cloudinary (User profile Storage) to build a scalable, AI-powered white-label resume-building platform. The development process is divided into structured phases to ensure efficiency and quality.

Phase 1: Research & Requirement Analysis

- Conduct market research on existing resume builders and identify gaps.
- Define ATS (Applicant Tracking System) compliance requirements for optimal resume formatting.
- Finalize AI-driven features: data extraction, template suggestions, cover letter generation.
- Outline user roles and their permissions.
- Establish performance metrics for resume generation speed and accuracy.

Phase 2: System Architecture & Design

Frontend (Next.js)

- Design responsive UI/UX with dynamic resume editing.
- Implement drag-and-drop template customization.
- Set up real-time resume preview functionality.
- Plan SSR (Server-Side Rendering) for SEO optimization.

Backend (Node.js + Express)

- Develop RESTful APIs for user authentication, resume CRUD operations.
- Build template management system (pre-built + custom templates).
- Configure JWT authentication and role-based access control.

Phase 3: Development & Integration

Frontend (Next.js)

- Develop dynamic pages (Dashboard, Resume Editor, Admin Panel).
- Add PDF export functionality for resume downloads.

Backend (Node.js + Express)

- Implement rate limiting and API security best practices.
- Connect MongoDB Atlas for cloud-based database management.

Testing & QA

- **Unit Testing:** Jest for backend APIs, React Testing Library for frontend.
- **Integration Testing:** Postman/Insomnia for API workflows.
- **User Acceptance Testing (UAT):** Feedback from beta testers.

Phase 4: Deployment & Optimization

- Deploy Next.js frontend on Vercel (optimized for Next.js).
- Host Node.js backend on AWS/Azure with load balancing.
- Set up CI/CD pipeline (GitHub Actions).
- Optimize MongoDB queries.

II. Requirements for proposed work:

To successfully develop and deploy Rizzume, the AI-powered white-label resume-building platform, the following hardware, software, infrastructure, and tools are required:

1. Hardware Requirements

- Cloud-based servers (AWS/Azure/GCP) to handle AI processing and high traffic.
- Scalable storage for user resumes, templates, and media (logos/branding).
- High-speed network infrastructure for seamless document uploads/downloads.

2. Software Requirements

Frontend Development

- Next.js (v14+) – React-based framework for dynamic, SEO-friendly UI.
- Tailwind CSS / Shadcn-UI – For responsive and customizable styling.

Backend Development

- Node.js (v18+) – JavaScript runtime for backend logic.
- Express.js – Framework for building RESTful APIs.
- MongoDB (v6+) – NoSQL database for storing user profiles, resumes, and templates.
- Cloudinary API – For image/logo storage and CDN delivery.

DevOps & Deployment

- Vercel – For hosting Next.js frontend.
- AWS EC2 / Azure App Service – For Node.js backend deployment.
- GitHub Actions – CI/CD pipelines for automated testing and deployment.

3. Infrastructure Requirements

- MongoDB Atlas – Managed cloud database with encryption and backups.
- JWT / OAuth 2.0 – Secure authentication (Google, LinkedIn, email).

4. Additional Tools & Libraries

- Jest / React Testing Library – Unit and integration testing.
- Postman / Insomnia – API testing and documentation.
- ESLint / Prettier – Code quality and formatting.

III. Bibliography/References

- *Next.js Documentation* : https://nextjs.org/docs
- React Team. (2024). *React Documentation* : https://react.dev/learn
- Tailwind Labs. (2024). *Tailwind CSS Docs* : https://tailwindcss.com/docs
- Node.js Foundation. (2024). *Node.js Docs* : https://nodejs.org/en/docs
- MongoDB, Inc. (2024). *MongoDB Documentation* : https://www.mongodb.com/docs/
- Express.js. (2024). *Express.js API Reference* : https://expressjs.com/
- Cloudinary. (2024). *Cloudinary API Docs* : https://cloudinary.com/documentation
- Amazon Web Services. (2024). *AWS Documentation* : https://docs.aws.amazon.com/ec2/
- Vercel. (2024). *Vercel Deployment Guide* : https://vercel.com/docs
- GitHub. (2024). *GitHub Actions Docs* : https://docs.github.com/en/actions