

SYNOPSIS

Report on

JobAng

by

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ABSTRACT

JobAng is an innovative job portal developed using the MERN stack (MongoDB, Express.js, React.js, Node.js), designed to cater specifically to freshers seeking employment opportunities.

This project aims to bridge the gap between job seekers and employers by providing a comprehensive and user-friendly platform where fresh graduates can create profiles, upload resumes, and apply for jobs that match their skills and qualifications.

The platform also enables employers to post job openings, search for potential candidates, and manage applications efficiently.

Key features of JobAng include user authentication, real-time job notifications, an intuitive search and filter mechanism, and an interactive user interface designed to enhance user experience.

Through this project, we aim to address the challenges freshers face in the job market by providing a streamlined and accessible platform that connects them with suitable employment opportunities.

The development of JobAng involved a meticulous process of planning, designing, coding, and testing to ensure it meets the needs of its target users.

This report details the project's development lifecycle, the technologies used, the challenges encountered, and the solutions implemented to overcome these challenges.

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Introduction

JobAng is a comprehensive job portal specifically designed to support fresh graduates in their search for employment opportunities. Fresh graduates often face numerous challenges in the job market, including a lack of industry connections and limited experience.

JobAng aims to address these challenges by providing a user-friendly platform where freshers can create detailed profiles, upload their resumes, and apply for jobs that align with their skills and qualifications.

The platform also serves employers by offering an efficient means to post job vacancies, search for suitable candidates, and manage the entire recruitment process. Good job placement relies on effective matching of candidate profiles with job requirements, timely communication, and streamlined application management.

JobAng ensures accurate, comprehensive, and up-to-date information is accessible to both job seekers and employers, facilitating better decision-making and quicker hiring processes.

Literature Review

Introduction

The development of JobAng, a job portal leveraging the MERN (MongoDB, Express.js, React, Node.js) stack, requires a thorough understanding of several aspects of web development, database management, and user experience design. This literature review explores key literature in these areas to provide a solid foundation for the JobAng project.

Web Development Technologies

The MERN stack, comprising MongoDB, Express.js, React, and Node.js, has gained popularity for building robust and scalable web applications. The literature provides extensive insights into each component of the MERN stack and their collective use in full-stack development.

MongoDB

MongoDB is a NoSQL database known for its flexibility and scalability. Chodorow (2013) offers a comprehensive guide to MongoDB, emphasizing its schema-less architecture and suitability for handling large volumes of data. This flexibility is crucial for a job portal like JobAng, which must manage diverse and extensive job listings and user profiles.

Express.js

Express.js is a minimal and flexible Node.js web application framework that provides a robust set of features for web and mobile applications. Brown (2019) discusses the architecture of Express.js and its middleware, which simplifies the development of server-side logic and routing. This is essential for creating a responsive and efficient backend for JobAng.

React

React is a JavaScript library for building user interfaces, particularly single-page applications where data can change dynamically. Grider (2017) details how React's component-based architecture enables the development of reusable and maintainable UI components. This

modularity is beneficial for JobAng, allowing the creation of dynamic job listing and application interfaces.

Node.js

Node.js is a runtime environment that enables server-side scripting using JavaScript. Tilkov and Vinoski (2010) highlight the event-driven architecture of Node.js, which is ideal for handling asynchronous operations and real-time applications . This capability is vital for JobAng, which needs to manage concurrent user interactions efficiently.

Project Objective

1. Create an Intuitive User Interface

Develop a user-friendly and intuitive interface that caters to both job seekers and employers.

2. Implement Robust User Authentication and Authorization

Ensure secure and reliable user authentication and authorization mechanisms.

3. Develop Comprehensive Job Management Features

Provide a comprehensive suite of features for job posting, searching, and application.

4. Ensure Data Security and Privacy

Protect user data and ensure compliance with relevant data protection regulations.

5. Implement Analytics and Reporting

Provide detailed analytics and reporting features for both job seekers and employers.

6. Ensure Scalability and Performance

Build a scalable architecture that can handle growing user bases and data volumes without performance degradation.

7. Enhance Accessibility and Localization

Make the platform accessible to a broader audience by supporting multiple languages and adhering to accessibility standards.

Modules

User Registration and Authentication:

Users should be able to register accounts using email. Users must log in to access features like asking questions, answering, and voting.

User Profiles:

Users should have profiles with customizable avatars, display names, and a brief bio.

Admin Panel:

To provide administrative control over the system, allows admins to view, edit, and delete user accounts.

Job Search and Application Module:

To facilitate job searching and application for job seekers.

Research Methodology

Requirements Gathering: Begin by conducting extensive research and surveys to understand the specific needs and preferences of your target audience, such as students and job seekers. Create detailed user personas and user stories to define the project requirements accurately.

Database Design: Design a well-structured database schema to efficiently store and manage user profiles, study materials, schedules, and other relevant data. Utilize normalized database tables to maintain data integrity.

Front-End Development: Develop the front-end of the application using HTML, CSS, and JavaScript to create responsive and visually appealing user interfaces. Implement a mobile-first approach to ensure accessibility on different devices.

Back-End Development (PHP): Create a secure back-end using PHP to handle user authentication, data storage, and retrieval. Implement RESTful API endpoints for seamless communication between the front-end and back-end.

Security Measures: Implement security best practices to protect user data, including encryption for sensitive information, input validation to prevent SQL injection, and user authentication mechanisms. Regularly update and patch software components to address security vulnerabilities.

Project Outcome

The development of JobAng, a MERN-based job portal, has culminated in a robust, scalable, and user-friendly platform designed to meet the diverse needs of both job seekers and employers. The project outcomes demonstrate significant enhancements in user experience through an intuitive and responsive interface that facilitates easy navigation across devices. Job seekers benefit from advanced search filters, real-time job alerts, and a streamlined application process, making it easier to find and apply for relevant opportunities. Employers are provided with simplified job posting capabilities, application tracking tools, and the ability to create detailed company profiles, all of which aid in attracting and managing potential candidates efficiently. Improved communication and engagement are achieved through an integrated messaging system and community features, fostering a supportive environment for users to interact and share insights. Administrative tools such as a comprehensive admin dashboard and content moderation capabilities ensure the platform's smooth operation and maintain the quality of job listings and user interactions. Additionally, the adoption of a microservices architecture guarantees that the platform is scalable and capable of handling increased user loads and future growth, ultimately delivering a powerful and versatile solution for the job market.

Gantt Chart

Task Name	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Requirement and Feasibility								
Planning and Analysis								
Design								
Coding								
Reporting								

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