

Synopsis

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Title of Project: QBankPro – An interview preparation platform

Abstract:

QBankPro is an interview preparation platform designed to help users prepare for job interviews across various roles and industries. Built using Django, it combines AI-driven question generation, mock tests, and progress tracking to create a personalized and adaptive learning experience. Users can securely log in, access a vast question bank tailored to specific job roles, save important questions, and take mock tests with instant scoring and feedback.

Motivation/Purpose:

In today's competitive job market, candidates struggle to find structured and role-specific interview preparation resources. Existing platforms either offer generic questions or lack personalized test experiences. QBankPro bridges this gap by offering customized, real-time question banks and aptitude mock tests, helping users practice efficiently and improve their chances of success.

Related Work:

Existing platforms like 'LeetCode', 'HackerRank', and 'Mettl' focus heavily on programming and technical roles, offering coding challenges and aptitude tests. While these platforms are useful for technical interviews, they lack support for non-technical roles and general interview preparation. Platforms like 'Glassdoor' and 'GeeksforGeeks' provide interview questions but do not offer a structured testing environment or personalized learning features.

QBankPro uniqueness:

1. Versatility:

- Supports preparation for both technical and non-technical roles, including aptitude tests and general interview questions.

2. Customization:

- Provides AI-driven question generation tailored to user needs, levels and job-specific requirements.

3. Structured Testing Environment:

- Offers aptitude question mock tests with instant scoring , creating a realistic interview experience.

4. User-Centric Features:

- Includes a bookmarking system to save important questions and a progress tracking for personalized learning.

5. Secure and User-Friendly:

- Ensures secure authentication and session management for a seamless user experience.

Problem formulation:

The primary problem QBankPro aims to solve is the lack of a comprehensive, structured, and personalized platform for interview preparation across various job roles.

Objectives:

1. To provide a comprehensive question bank for various job roles (technical, non-technical, managerial, etc.)
2. Enable users to save important questions so the important questions can be revisited again.
3. Provide users with the ability to take mock aptitude tests and receive instant scores
4. Ensure user-friendly access

Methodology/ Planning of work:

1. Plan project scope, features, and wireframes.
2. Set up Django project and SQLite or MySQL database.
3. Implement user authentication and session management.
4. Develop AI-generated and predefined question models.
5. Add bookmarking feature to save and retrieve questions.
6. Build mock tests with automated scoring.
7. Design UI with profile display and session-based navigation.
8. Connect frontend to backend APIs for seamless interaction.
9. Perform unit and integration testing.
10. Deploy on cloud platforms if possible.
11. Monitor, maintain, and add new features post-deployment.

Software Specifications:

- **Backend:** Django (Python)
- **Frontend:** HTML, CSS, JavaScript
- **Database:** MySQL / SQLite(default database in-built with Django)
- **AI Integration:** OpenAI API

Hardware Specifications:

- **Laptop/Desktop:** 8 GB RAM
- **Internet:** For dependencies and testing.