Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur

Title of the Project
Feature-rich, Practical Online Application for the Training and Placement Department.

Abstract of the project
This project aims to create an efficient online platform for the Training and Placement Department (TP) at SKIT, Jaipur. The application provides centralized access to placement-related data and streamlines interactions between students, TPO, and recruiters. The platform will allow students to upload resumes, update profiles, receive job alerts, and communicate with TP administration. It includes a secure login system, real-time updates, and mobile compatibility to improve the overall experience for users and facilitate a seamless recruitment process.

Keywords

Generic Keywords:
Integration, Databases, User Interface

Specific Technology Keywords:
Android, Java, Firebase

Project Type keywords:
Mobile Application, Database Integration, Real-time Updates

Functional components of the project

Users of the system:
- TPOs: Manage placement records, track student applications, and communicate with companies.
- Students: Upload CVs, update profiles, view job listings, and receive real-time notifications.

Functionality:
The online application is designed to improve the efficiency of the Training and Placement Department by providing an intuitive and centralized platform with the following functionalities:

- **Dashboard**

  Provides a central hub for users to view updates, key metrics, and quick access to essential functions, improving efficiency and user engagement by consolidating information in one place.

- **Student Profile Management**

  Allows students to create a detailed online profile, enabling TPOs and recruiters to evaluate candidates effectively while reducing manual resume handling.

- **Job Listings and Application Tracking**

Displays job openings with application status updates, helping students apply easily and allowing TPOs to monitor application progress.

- **Search and Filters for Recruiters**

Enables recruiters to efficiently search for candidates by specific criteria, improving recruitment precision and saving time on candidate selection.

- **Real-Time Notification System**

Keeps users updated on new job postings, deadlines, and interview schedules, enhancing timely engagement with placement activities.

- **User Authentication and Access Control**

Ensures secure access to the platform with role-based permissions, protecting sensitive information and maintaining data integrity.

- **Admin Panel for TPO**

Gives TPOs control over student profiles, job postings, and system management, centralizing administration tasks for streamlined operations.

- **Mobile Responsiveness**

Ensure that our app is mobile-friendly so users can access it on various devices.

- **Security Measures**

Implement robust security measures to protect user data.

Non-Functional Requirements:

- **Performance**: The application must handle concurrent users without delays.
- **Scalability:** The system should be scalable to accommodate growing user numbers.
- **Reliability**: Ensure high uptime and data integrity.
- **Security**: Data protection for student profiles and company information.
- **Usability**: Simple and intuitive interface for all users.

- **Accessibility:** Ensure the application is accessible to users with disabilities.
- **Compatibility**: Accessible on major browsers and mobile devices.
- **Compliance**: Ensure that the application meets legal, regulatory, and industry standards.

Steps to start off the project:

Creating an application for TPO involves several steps and considerations to ensure its functionality, security, and user-friendliness. Here's an outline of the application making process:

1. Requirement Analysis and Planning:
- Conduct surveys to understand the requirements of TPO, students, and companies.
- Outline the objectives, user personas, and scope of the application.

2. Domain and Hosting:
- Select appropriate hosting for a scalable backend solution.

3. Platform and Technology Selection:
- Develop a mobile application using Android (Java) and Firebase as the backend.
- Android studio is used as a platform.

4. Application Design:
- Create a visually appealing and user-friendly design for the application.
- Ensure that the design is responsive and accessible on various devices (desktops, tablets, smartphones).

5. Frontend Development:
- Develop the UI, including profile pages, job listings, search options, and user registration forms.
- Optimize the frontend for a smooth user experience.

6. Backend Development:
- Set up the server and backend infrastructure.
- Configure Firebase for authentication, data storage, and real-time updates.

7. User Authentication and Security:
- Implement a secure user authentication system.
- Ensure the application follows best practices for data security and protection.

8. Testing and Quality Assurance:

- Conduct thorough testing to identify and fix any bugs or issues.
- Test the application on different devices and browsers to ensure compatibility.

9. Deployment and Launch:

- Launch the application and make it accessible to users.

10. Monitoring and Support:

- Regularly monitor application performance and user behavior.
- Gather user feedback to identify areas for improvement and future feature enhancements.

Requirements

Hardware requirements

Number	Description	Alternatives (If available)
1	PC with 5 GB hard-disk and 8 GB RAM	Not-Applicable

Software requirements

Number	Description	Alternatives (If available)
1	Windows 10 or Window 11	Not Applicable
2	Android Studio	Not Applicable
3	Firebase Console	Not Applicable
4	Windows	Linux

Manpower requirements

2 students can complete this in 4 – 6 months if they work part-time on it

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Milestones and Timelines

Number	Milestone Name	Milestone Description	Timeline (in weeks)	Remarks
1	Requirements Specification	Define the project requirements and objectives based on user needs.	2-3	Define key objectives based on user needs for students, companies, and admin. Ensure coverage of authentication, data handling, and notifications.
2	Technology familiarization	Research and become familiar with Android and Firebase.	4-5	Focus on Android, Firebase, and cloud services tailored for app needs. Apply this knowledge to enhance app efficiency and security.
3	Database Setup	Configure Firebase database for user profiles, job listings, and other data.	5-7	Finalize Firebase database structure for profiles, job postings, and applications. Ensure it supports real-time access and secure data storage.
4	High-level Detailed Design	Develop system architecture, including flowcharts and wireframes.	7-9	Create flowcharts and UI wireframes to map each requirement to scenarios. Design with accessibility and user-friendliness in mind.
5	Frontend Development	Implement the UI for different roles: student, TPO, and recruiter.	10-12	Build interfaces for student, company, and admin roles. Begin a basic test plan to cover UI functionality and usability.

6	Backend Integration	Connect the frontend with Firebase for real-time data access and updates.	12-13	Connect frontend with Firebase for real-time data handling and security. Ensure seamless data flow and role-based access control.
7	Integration Testing	Conduct thorough testing of all modules and fix issues.	14-15	Test all integrated modules to catch and resolve issues. Reserve extra time to address any critical fixes.
8	Final Review	Address any remaining issues and prepare for final demonstration.	16-18	Confirm all requirements are met and prepare for the final demonstration. Validate core functionalities and user flows.

Guidelines and References

- https://androidweekly.nets
- https://developer.android.com/docs
- https://developer.android.com/guide
- https://firebase.google.com/docs