

A Study on Teacher Information System

¹Nazish Khan, ²Samina Anjum, ³Rabiya Saba, ⁴Shruti Rangari

^{1,2}Assistant Professor CSE, RTMNU, Nagpur

^{3,4}Undergraduate Scholars CSE RTMNU, Nagpur

Anjuman College of Engineering and Technology, Maharashtra, India

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ABSTRACT

Government agencies hire a considerable number of teachers each year and assign them to various government schools. The need to maintain their information increases as the number of teachers rises. We are developing an app that will track teachers' employment information. In order to do this, the user app for teachers will have sections for accounts, education, careers, expertise, and more. A check-in option for attendance is also available. Since everyone has a smartphone these days, teachers will find it simpler to use the application. The admin side is a web portal. The administrator will verify the files and data that the teacher uploads and will maintain the validated data in the database acquired from the user app. If the information turns out to be incorrect, the administrator may take additional steps to reject it. This system will help reduce the amount of manual work currently needed.

Keywords :- Firebase, React, Android, server.

I. INTRODUCTION

India is known for its youth population, which makes up 55.4 percent of the country's total population and includes a sizable student population; as a result, there are many teachers assigned to every government school each year; however, when we discuss the number of teachers, the teachers' personal data is also available, which ultimately needs to be maintained efficiently, thus the need for the system to be upgraded is the need of an hour.

For the stated goal, we have developed two applications: One is a mobile app that teachers use to add information

about their academic backgrounds, professional experiences, and other relevant information.

Information, which also includes the teacher's documentation and even the video lectures and notes, the information is stored on the admin side, which is a web-based application, where the admin side can thoroughly check the information and maintain the database. Since almost every teacher has access to a mobile device, whether they teach in a government school in Mumbai or a school in a village near Amravati, we want to develop an application that will help teachers maintain their databases effectively and administrators update data in databases hassle-free.

II. LITERATURE REVIEW

1. In existing systems, both users (teachers) and administrators use the same website, which increases server load as well as response time. To overcome this problem, we are offering separate platforms for users and administrators, which will make the system more effective and simpler to use.[1]
2. In terms of usability and accessibility, Portal does not provide a good user experience. To overcome this problem, we are providing an Android app for user (teacher) data or information uploading and a separate admin panel for data verification.
3. To strengthen security from external users, the existing system's administrator or higher authority assigns a username and password to teachers. But the confidentiality between administrators and teachers is still vulnerable. But in our system, the basic registration and password generation are done by the user itself, which ensures that confidentiality and accessibility are within the user's control.[7]

III. PROPOSED SYSTEM

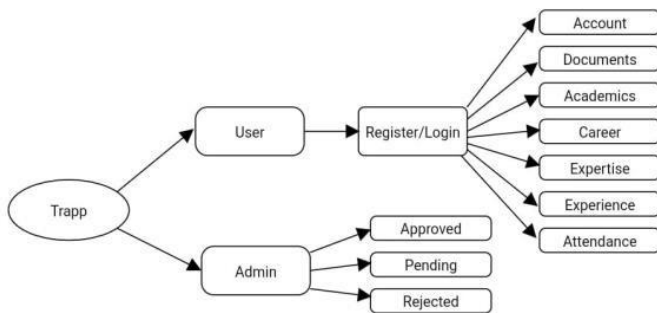


Figure 1: Classification of module.

The following is a detailed description of our suggested system:

Before logging into the application, users must first see the app logo, which is primarily displayed on the splash page. The login page then appears after that.

Users who haven't signed up for the app currently have to use the registration page and fill out the basic details. It

becomes more interactive and understandable with the addition of graphics. The following sections of information comply:

Figure 2 : Registration Form.

Figure 3: Sign up Form.

1. User: The user profile is kept as up-to-date as possible. Users can manage both their past documents and their ongoing progress on this page. Documents are kept in the Document field. Academics include any necessary academic information about the teacher. Users can now upload their lecture notes and other materials in the form of photos, videos, or other formats in the expertise section, which is an improvement over the previous design. The experience field is used to increase the teacher's or user's years of experience. The field's auto-increment function enables users to avoid manually calculating their years of experience.

The attendance field is used to record the teacher's daily presence and display a percentage-based calculation of their attendance. Teachers can record their attendance once every day.

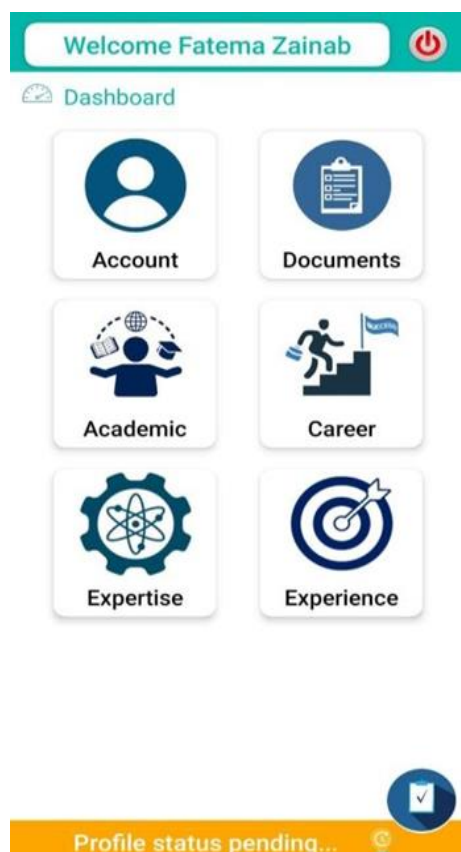


Figure 4: User Dashboard

2. Admin: Additionally, this module has a separate admin login page. This web application is used to provide admins with quick access to the database. There are a few

classification-related fields on the admin dashboard as well.

The "Approved" field is used to verify each of the users or teacher's supporting documents and information. Admin will accept the teacher's application if the documents and information are accurate.

The section "Pending" is used to display information about teachers or users who have already filled out the application but are still awaiting approval.

This "rejected" field is used to display forms that have been declined because they contained insufficient incorrect information or supporting documentation.

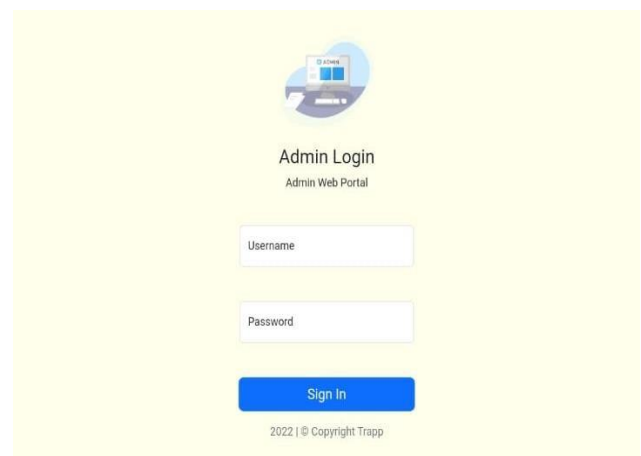


Figure 5: Admin Login

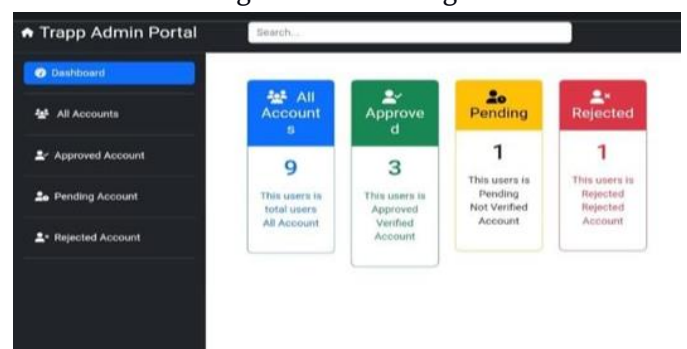


Figure 6: Admin Dashboard

Technology used:

A web page is a piece of writing that can be viewed in a browser window or as HTML source code. Even when the document is identical in both instances, changes can be made to the Document Object Model (DOM) representation. The web page can be altered using a programming language like JavaScript because it is represented in an object-oriented manner.[8]

[1] React native:

A JavaScript framework called React Native allows developers to build natively rendered mobile and web applications. React, Facebook's JavaScript library for building user interfaces for mobile and web browser applications, was used in its construction. React Native also makes it simple to develop web and Android applications at the same time because a great deal of the code you compose can be shared between platforms [9].

[2] Android Studio:

Android Studio, which has a Gradle-based build system, an Android emulator, code templates, and GitHub integration, supports the development of Android applications. Each Android Studio project comes with one or more modules that are composed of source code and resource files. Google App Engine modules, library modules, and modules for Android apps are a few examples of these modalities [10].

[3] Firebase:

A cloud-based NoSQL database is called Firebase. It works well with other programs and mobile applications that are used on different devices. Firebase is made for offline use and has strong user- based security that supports server less apps. Among Firebase's features are analytics, authentication, performance monitoring, messaging, crash reporting, and many more. A Firebase project is a collection of resources that can be shared by a

number of client applications, including databases, user accounts, analytics, and other items.

IV. ANALYSIS AND DISCUSSION

The use of Android libraries and React Native to implement a teacher information tracking system was covered in this paper. This system makes our work simpler compared to other available systems.

Since the administration department mostly prefers the use of manual methods to manage teacher records, we experience difficulties securing teacher records and retrieving teacher data quickly.

Our application can address teachers' issues with requesting information and reports from the administration's office while keeping data secure from loss or alteration.

This application will consequently facilitate information sharing between teachers and administrators and support the effective maintenance of teachers' data profiles.

V. FUTURE SCOPE

In the future, we will be able to validate the data virtually to determine whether the data provided by teachers is correct or not. The system is highly flexible and efficient, allowing for easy interaction between management and teachers. The system will be flexible enough to adopt any type of change needed.

VI. CONCLUSION

In this paper, we discuss the implementation of a teacher recruiting tracking system using Android libraries and React Native. We face some problems securing teacher records, searching, and retrieving faculty details because the administration's office prefers manual procedures for keeping the teachers' records. Our system will help to

overcome this problem and will contribute to increase security and quick access to data. As a result, this application will make it easier for teachers and administrators to exchange information, as well as aid in the efficient maintenance of teacher data profiles.

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