Entech- The Resource and Verification Application

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Abstract: The "Entech- One Point Student Verification" app is a convenient and innovative business model that leverages advanced technologies to eliminate the need for carrying physical documents or ID proofs. The app stands out from existing solutions by offering a unique feature of detecting any criminal record of students, making it valuable for job roles that require a clean background. Once verified, students can easily apply for examinations without having to fill in redundant details, and simply make a payment. The app utilizes various APIs such as Digi Locker, NAD API, Instant Aadhaar, and CCTNS to enable seamless verification processes. Security is a top priority, with custom encryption based on quantum computing and end-to-end encryption to protect sensitive information. The app also includes sponsored videos from reputable institutions for skills training and improvement. Moreover, it goes beyond just form auto-filling, as it helps students sort out job opportunities based on eligibility criteria, making it a comprehensive platform for student verification and career support.
Keywords- One Point Student Verification, Flutter, Firebase

1. Introduction

The proliferation of digital technology has revolutionized our lives, changing the way we communicate through smartphones, tablets, and web-enabled devices. Recognizing that a nation's greatest asset is its students, our app aims to capture and store comprehensive biometric and education details of students in a database. This information is sourced from reputable APIs such as Digi Locker, the National Academic Depository, Instant Aadhaar, and the Crime and Criminal Tracking Network and Systems (CCTNS) of the Ministry of Home Affairs, which also checks for any criminal charges against the students. Our app offers unparalleled convenience to candidates, streamlining processes such as form filling, counselling, and scholarship verification. With a simple click on the payment button, students can complete the payment process without the hassle of manually entering details, as data is automatically retrieved from the aforementioned APIs. This streamlined process is also extended to student counselling and scholarship applications. In addition to providing convenience to students, our app has immense potential in the corporate sector, saving on server, networking, and publication costs, which are often marred by last-minute network shutdowns. Moreover, the app addresses the issue of students graduating from educational institutes without adequate knowledge of recent job openings. By categorizing students based on their educational background, our app triggers alerts to inform them of relevant job opportunities posted by recruiters. Employers can register their industry norms and provide detailed information about their industry on the app's recruiter platform, including the required skill set for employment. The app then sorts candidates based on job eligibility criteria provided by employers and sends job alerts to qualified candidates. Furthermore, our app offers free

training courses and lectures to students, enabling them to learn new skills and stay updated with ongoing curriculum subjects without the need to search the internet. The app also suggests new free training options to broaden users' skill sets. From a business perspective, the app also incorporates content from reputable institutes and coaching centres at affordable prices, providing students with one-stop access to all resources.

2. Problem Statement

With over 6 crore graduates entering colleges in India annually, tracking and sending job alerts to such a large number of students is a challenging task. AICTE and MHRD aim to streamline this process by providing ease of student identification, tracking AICTE-approved colleges, and facilitating distribution of fellowships, grants, and training. However, the lack of a single point of data collection and reliance on manual processes result in time-consuming and inefficient tracking methods, potentially causing students to miss important opportunities. The proposed solution is a modern mobile application that stores students' biometric and college details to enable efficient tracking for job alerts, fellowships, and schemes, by integrating with National Academic Depository, Digital Locker, and Instant Aadhaar. The objective is to establish a link between Aadhaar Number and Roll Number, allowing students to update their data on the National Academic Depository, streamlining the verification process for AICTE-approved institutes and students, and facilitating message services for students, such as job alerts.

3. Working Model

The working model is divided into four categories:
- Gathering Student Details and Background Verification
- Ease of use and rebates
- Clustering the Students for Sending Job Alerts and education
- Business Viewpoint

Gathering Student Details and Background Verification

The collection of student information offers several significant benefits, including the consolidation of personal and professional data into a single application, which facilitates assessment of the student's profile and tracking of their academic records for future reference. To ensure efficient updating of student information, an application that utilizes the student's Aadhaar number, which contains biometric and personal details such as Name, Origin, Place of Domicile, Father Name, Mobile Number, and Aadhaar Number, is required. This allows for individual record tracking using the Instant Aadhaar API. Additionally, Digi locker and the National Academic Depository will be used to collect students' track records and past marksheets, while the Crime and Criminal Tracking Network and System (CCTNS) API will be utilized to obtain information on candidates' criminal histories.

Ease of use and Rebates

In today's fast-paced world, time is of the essence, yet over 15 lakh students spend valuable time each year filling out repetitive forms with the same details, even in a digitalized environment where important documents like marksheets and resumes can be burdensome to carry. This issue needs a solution to alleviate the burden and streamline the process. To address this concern, we have developed an innovative system that allows students to fill out any form without redundant data entry, as the required information is already stored in our databases. This eliminates the need for companies to invest in costly server and networking infrastructure, which can be unreliable during critical moments. Additionally, our app offers individualized discounts to students, further enhancing the benefits of using our solution.

Clustering of students for sending job alerts and education

Our system collects detailed information on each student and groups them based on their profiles and educational qualifications. The entire list of registered students is divided into smaller groups with common educational backgrounds, enabling us to compile a list of students who meet the eligibility requirements for specific job openings. When a company wants to hire a group of students, they can specify the eligibility criteria, and our system displays a list of students who meet those criteria to

the employer while also pushing job alerts to eligible candidates this is possible by using K-Means Clustering Algorithm.

Additionally, our system recommends free courses and trainings to candidates based on their educational qualifications, and students can also learn new skills based on their interests, benefiting businesses by reducing training costs and ensuring the availability of trained employees.

Business Viewpoint

From a business perspective, the app will integrate information from renowned institutes and coaching centres at reasonable prices, providing students with one-stop access to all resources. This will not only create job opportunities but also diversify employment streams. The existing student verification system lacks a country-wide authentication process and does not share information with other fields. Additionally, it does not consider biometric information or document the complete educational history of a student who may have obtained multiple degrees from different educational institutes. In contrast, this application records and manages all relevant information of students, regardless of their educational institute, ensuring comprehensive and accurate documentation.

4. Proposed System

The proposed system aims to streamline student verification and provide convenient one-click services such as payment and exam form filling, student discounts, job alerts, and study materials all in one place. Additionally, the system features a chatbot for academic assistance. The application is designed as a mobile app using Flutter framework with a database on Google Firebase, and users can securely log in through email and password authentication.

System Architecture

The application employs Google Firebase as its database, allowing for real-time data synchronization and updates. The hosting of study materials is facilitated through Amazon S3 containers, with the app retrieving these materials based on internet connectivity and packet reception. Flutter framework is used for the app's front-end development, an open-source mobile application development platform that uses Dart programming language. The app includes a login screen that authenticates users through email and password credentials.

One Click exam Form Filling

The one-click exam form filling feature of the app streamlines the process by utilizing the Aadhaar number of each student for tracking personal information. Aadhaar, which contains biometric and personal details such as name, origin, domicile, father's name, mobile number, and Aadhaar number, enables individual record tracing. The Instant Aadhaar API is used to collect this data. Additionally, Digi locker and the National Academic Depository are utilized to gather past marksheets and track records of students. The Crime and Criminal Tracking Network and System (CCTNS) API is utilized to obtain information about candidates' criminal histories, ensuring a comprehensive and efficient verification process. This method of processing data is accurate, and it cannot change this will also help in background verification after getting the jobs.

Job Portal and Alerts

The job portal and alerts feature of the app provides a streamlined platform for employers to search for and hire eligible candidates. After specifying the eligibility requirements for a job opening, the app generates a list of students who meet those criteria, based on their educational qualifications and other relevant information. This list is displayed to the employer, along with job alerts that are pushed to eligible candidates. This simplifies the recruitment process for employers and increases the chances of qualified candidates finding suitable job opportunities. It also helps students by providing them with job alerts tailored to their eligibility, improving their chances of securing employment in their desired field.

One Click Referral

The app's "One Click Referral" feature allows users to request referrals from employees based on specific companies. When making these referral requests, users have the option to share their complete academic history with employees. This includes details such as their educational qualifications, achievements, past experiences, and other relevant information. By sharing their complete academic history, users can provide a comprehensive overview of their qualifications and experiences, increasing their chances of being recommended for job opportunities. This feature streamlines the referral process and enables employees to make informed referrals based on the user's academic

background, facilitating efficient job referrals within the app.

Psybertherapy

Psybertherapy feature is a cutting-edge mental health application that brings professional therapy services to the fingertips of students. With just a few clicks, students can access confidential and secure online therapy sessions with qualified therapists through video conferencing or chat-based counseling. The app provides a user-friendly interface that allows students to easily schedule appointments, communicate with therapists, and track their progress. Students can also securely share their entire academic history with their therapists to facilitate a holistic approach to therapy. The app ensures strict privacy and data protection measures to safeguard students' personal information. It offers a convenient and accessible solution for students seeking mental health support in the digital era.

Entech Patent Service

Entech Patent Service, the innovative platform feature that simplifies the process of filing patents for students with just one click! With Entech Patent Service, students can easily file their patents for their inventions, ideas, and innovations with a seamless and user-friendly interface. Gone are the days of complex and time-consuming patent filing procedures. Entech Patent Service streamlines the process, making it accessible and convenient for students to protect their intellectual property. With comprehensive support, including guidance on patent requirements, documentation, and legal considerations, Entech Patent Service empowers students to secure their inventions and unleash their creativity without any hassle.
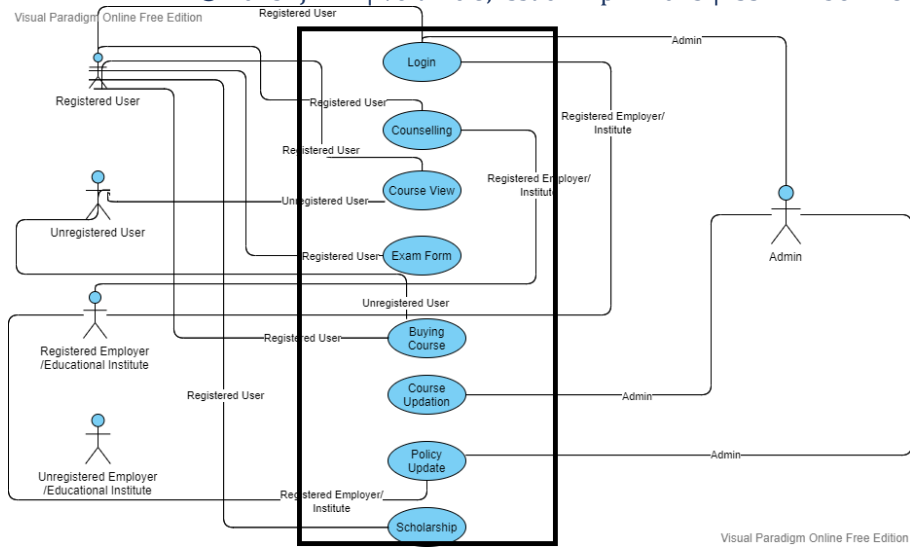
EduPro

EduPro, the ultimate platform for educational content and video training! EduPro is designed to provide students with access to a wide range of high-quality educational content and video training materials, all in one place. From academic subjects to professional skills, EduPro offers a comprehensive library of content that students can easily access and learn from at their own pace. With interactive videos, tutorials, and engaging educational materials, EduPro aims to enhance students' learning experience and help them achieve their educational and career goals. Whether it's exam preparation, skill development, or personal growth, EduPro has it all.

Entech Chat

Introducing Entech Chat, the ultimate AI chatbot powered by ChatGPT for students to enhance their knowledge and support their studying efforts. Entech Chat offers a cutting-edge platform for interactive and engaging conversations, allowing students to seek answers, learn new concepts, and access study materials with ease. With its advanced capabilities, Entech Chat provides personalized recommendations based on students' individual learning needs, making it a valuable companion in their educational journey. Whether it's for exam preparation, homework help, or general knowledge acquisition, Entech Chat is the go-to AI chatbot for students who want to excel in their studies.
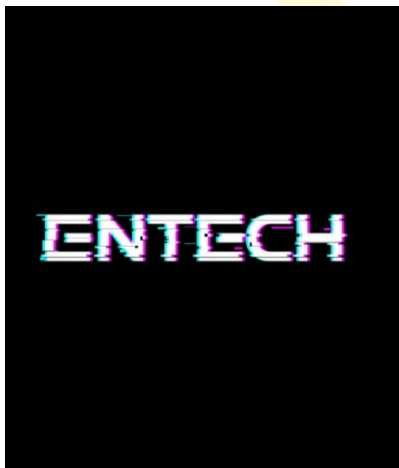
4.1 Use Case Diagram

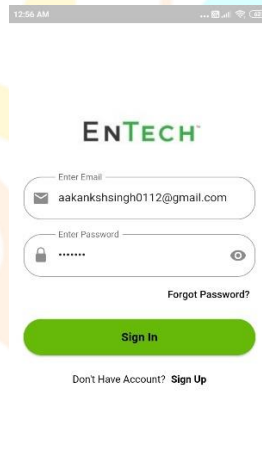## 4.2 USER INTERFACE

Figure 1(a): Application Name

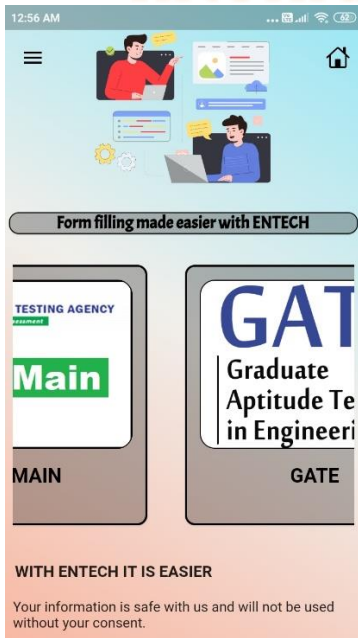**Figure 1(b): Login Page**

Figure 1(c): Home Page

Figure 1(d): Forms Screen

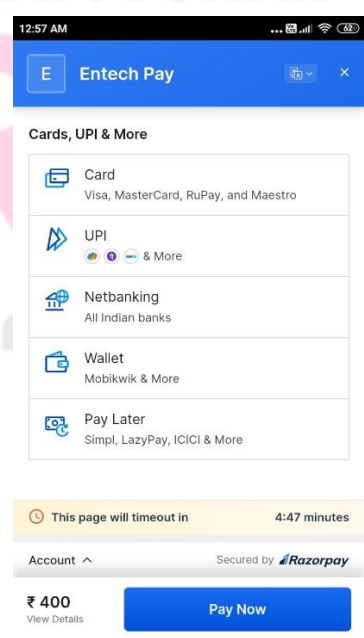**Figure 1(e): Fetched Info Screen**
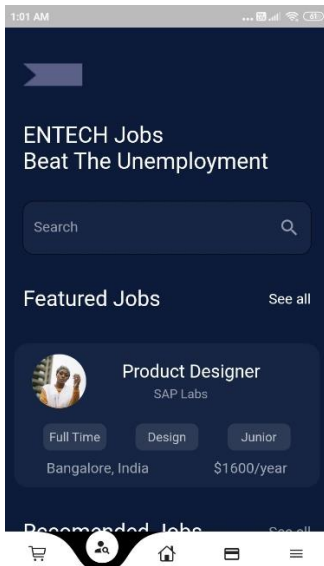

Figure 1(f): Single Click Pay
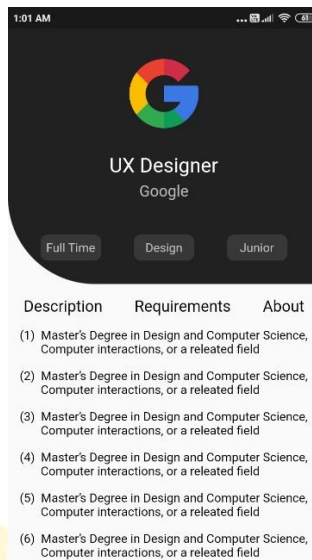
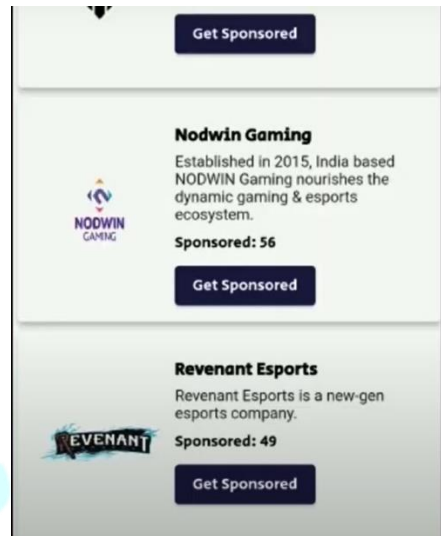**Figure 1(g): Job Portal**

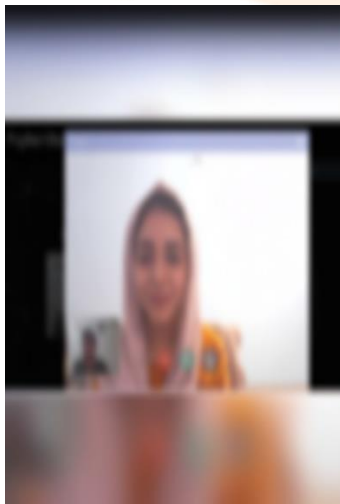**Figure 1(h): Job Listing**

Figure 1(i): One Click Referral
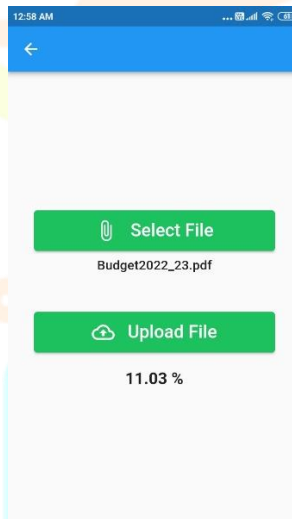

Figure 1(j): Psybertherapy

Figure 1(k): Entech Patent Service
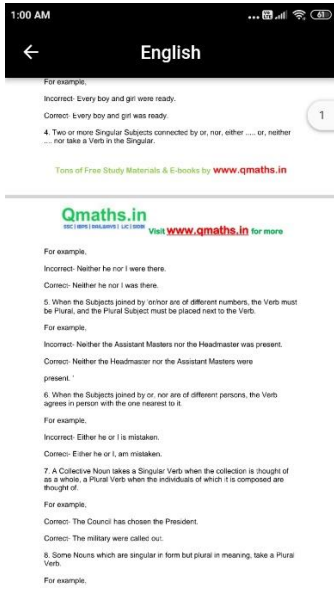

Figure 1(l): EduPro
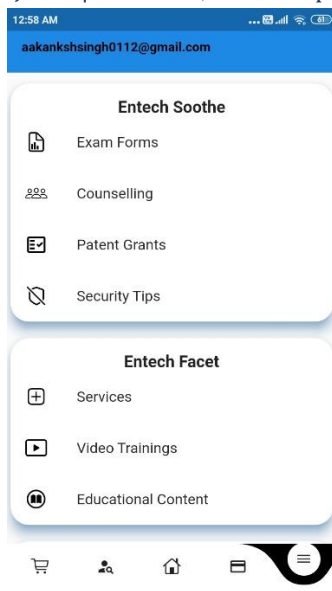
Figure 1(m): EduPro

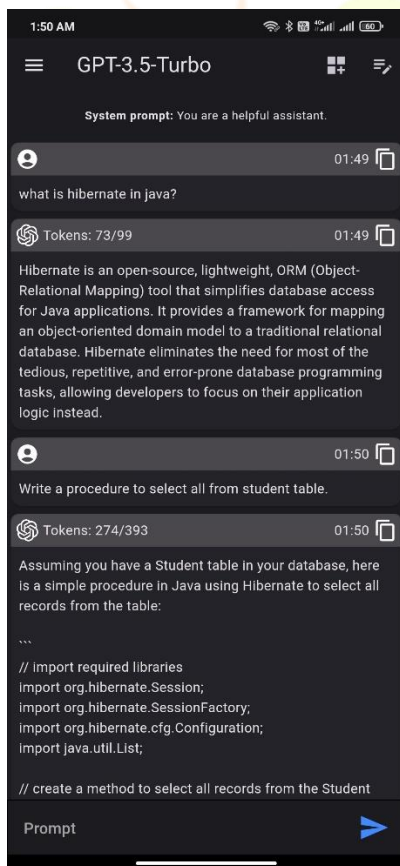Figure 1(n): Feature Screen

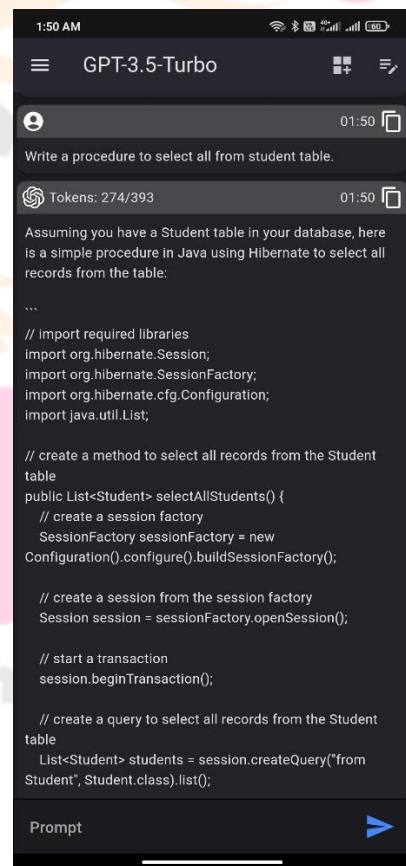Figure 1(o): My Profile

Figure 1(p): Entech Chat

Figure 1(q): Entech Chat

5. Future Scope of Project

1. Integration with more verification methods: Currently, the system may rely on Aadhaar, Digilocker, and other APIs for student verification. However, there is potential for integration with additional verification methods, such as biometric authentication, blockchain-based verification, or other emerging technologies, to further strengthen the verification process.

2. Expansion to other educational institutions: The system can be extended to cover a wider range of educational institutions beyond schools and universities, such as online learning platforms, vocational institutes, and skill development programs, to provide a comprehensive verification solution for students across different educational domains.

3. Enhanced features for students: The system can be further enhanced with additional features that benefit students, such as personalized career guidance, skill development resources, job search assistance, and access to educational materials or resources to support their academic and professional growth.

4. Collaboration with employers and recruiters: The system can establish collaborations with employers and recruiters to streamline the hiring process by providing verified student credentials directly to employers, saving time and effort in the verification process.

5. Integration with international education systems: The system can explore integration with international education systems and verification methods to facilitate the verification process for students who have completed their education from international institutions, making it easier for them to seek employment or pursue further education in other countries.

6. Data analytics and insights: The system can leverage data analytics and insights to provide valuable information to educational institutions, employers, and students themselves, helping them make informed decisions related to academic and career choices.

7. Enhanced security and privacy measures: The system can continuously evolve to adopt the latest security measures and comply with data privacy regulations to ensure the confidentiality and security of student information.

6. Conclusion

In conclusion, the future scope of a One Point Student Verification system is highly promising, with potential for expansion and enhancement through the integration of additional verification methods, such as biometric authentication and blockchain-based verification. The system can be extended to cover a wider range of educational institutions and domains, providing comprehensive verification solutions. Additional features such as personalized career guidance, skill development resources, and job search assistance can be added, along with collaboration with employers and recruiters to streamline the hiring process. Integration with international education systems, data analytics, and compliance with data privacy regulations can enhance the system's functionality. Furthermore, the integration of psybertherapy and Entech Chat ChatGPT based AI bot can offer mental health support to students, promoting overall student success and resilience. With continuous improvement and innovation, the future scope of a One Point Student Verification system is promising, offering enhanced features and addressing the mental health needs of students.

The app's database is designed on Google Firebase, a cloud based platform that ensures the reliability and scalability of the application. This means that users can rely on the app to deliver their orders promptly and efficiently, regardless of the number of users on the platform.

The app's success is a testament to the power of technology in transforming the way we live our lives, and it is a harbinger of more exciting innovations to come. With its range of features and seamless interface, this app has set the standard and it is sure to continue to be a popular choice for users in the years to come

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