

STUDENT IDENTITY PROVISIONING SYSTEM WITH ADDITIONAL FORUM

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Abstract :

In the present world, almost every individual are graduates. This project targets reducing the works of the colleges, which take in students every year and sends out the graduated students. So there will be many students in a particular batch who should be onboarded and several graduated students needs to be offboarded. It is a hectic process to onboard each student and provision the rights for each student. As the same, he need to be offboarded (his provisioned rights should be taken back) de provisioned so that misuses can be prevented and the unwanted expenses can be managed for the organization. We can automate this process of provisioning and deprovisioning a student account using the student database and the target applications. For example, a student is being onboarded and his college email id is created. He can use the same email id to login to the GitHub as new account is created at the time of onboarding through the platform. He can enjoy its student benefits and the same account should be disabled in the GitHub after he completes the degree or graduation. It can be automated by this new platform we are going to develop and an additional forum will be there for graduated students to interact with their old organization as alumini.

Keyword : *StudentManagement ,IAM, StudentProvisioning, Identity*

1. INTRODUCTION

In today's educational landscape, colleges and universities grapple with the continuous challenge of managing student accounts efficiently. With each academic year, institutions witness a cycle of incoming students requiring onboarding and outgoing students necessitating offboarding.

This process of managing student accounts can be time-consuming, labor-intensive, and prone to errors. Our project seeks to address this issue by proposing a streamlined solution: a Student Account Provisioning System with an Additional Forum.

The primary goal of our project is to alleviate the administrative burden on college staff while also mitigating potential security risks and managing organizational expenses effectively. By automating the process of provisioning and deprovisioning student accounts, our system aims to optimize the workflow of account management tasks. Additionally, by incorporating an additional forum for alumni interaction, we aim to foster a sense of community and engagement between graduates and their alma mater.

2. RELATED WORK

Before embarking on our project, we conducted a thorough review of existing literature and research in the field of student account management and alumni engagement platforms. Prior studies have explored various approaches to automating administrative processes in institutions, including the development of identity management systems. However, many of these solutions have been found to lack the flexibility and scalability required to accommodate the dynamic nature of student populations and evolving technological landscapes.

Similarly, research on alumni engagement platforms has highlighted the importance of fostering meaningful connections between graduates and their alma mater. While existing forums and networking platforms serve as valuable tools for alumni interaction, they often fail to integrate seamlessly with institutional systems or provide personalized engagement experiences. Our project seeks to build upon these existing efforts by offering a comprehensive solution that addresses the specific needs of both colleges and alumni.

3. METHODOLOGY



Fig -1 : Provisioning (creating record in target) - Post Request



Fig -2 : De Provisioning (removing from target) - Delete Request

Our approach to developing the Student Account Provisioning System with an Additional Forum involved a systematic methodology encompassing requirements gathering, system design, implementation, and evaluation. We initiated the project by conducting interviews and surveys with college administrators, IT personnel, and students to understand their pain points and requirements regarding student account management and alumni engagement.

Based on the insights gathered from stakeholders, we proceeded to design a system architecture that would effectively address these requirements. The architecture comprises multiple components, including a provisioning engine, identity management module, and alumni forum platform, all seamlessly integrated to ensure smooth operation and interoperability. Throughout the development process, we adhered to best practices in software engineering, leveraging modern programming languages, frameworks, and tools to build a robust and scalable system.

4. SYSTEM ARCHITECTURE:

The system architecture of our solution is designed to be modular, scalable, and extensible, allowing for seamless integration with existing institutional systems and future enhancements. At its core, the architecture consists of distinct layers responsible for different aspects of the system functionality. The provisioning engine orchestrates the process of creating and removing student accounts across various applications and services, while the identity management module serves as the central repository for user authentication and authorization data.

Additionally, the alumni forum platform provides a dedicated space for graduates to connect, share experiences, and engage with their alma mater. These components are interconnected through secure APIs and protocols, enabling seamless data flow and communication between different parts of the system. By adopting a layered architecture approach, we ensure that our solution remains flexible and adaptable to evolving requirements and technological advancements.

5. IMPLEMENTATION DETAILS

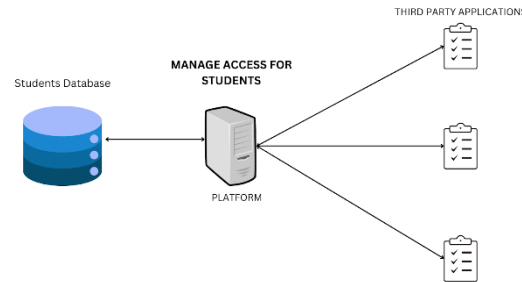


Fig -3 : System Architecture

The implementation of our solution involved leveraging modern software development practices and tools to build a functional prototype of the Student Account Provisioning System with an Additional Forum. We utilized a combination of programming languages, frameworks, and libraries to implement the various components of the system, ensuring compatibility, performance, and maintainability.

The backend infrastructure was developed using Python and Django, a high-level web framework, to handle user authentication, database management, and business logic. The frontend interfaces were implemented using HTML, CSS, and JavaScript, with libraries such as React.js and Bootstrap for responsive design and enhanced user experience.

Integration with external systems and APIs was achieved using RESTful APIs and OAuth authentication protocols, ensuring seamless interaction with existing institutional systems and third-party services.

6. RESULTS AND EVALUATION

The results of our evaluation demonstrate the effectiveness and utility of the Student Account Provisioning System with an Additional Forum in addressing the identified challenges in student account management and alumni engagement. Through quantitative metrics such as time saved in administrative tasks, reduction in errors, and cost savings, we observed significant improvements over manual processes. Qualitative feedback from college administrators, IT personnel, and students further validated the usability, functionality, and impact of the system.

Comparative analysis with existing solutions highlighted the unique features and advantages of our system in facilitating seamless student onboarding, offboarding, and alumni interaction. By providing a comprehensive solution that integrates student account management and alumni engagement functionalities, our system offers tangible benefits to educational institutions, including improved efficiency, enhanced security, and strengthened alumni relationships.

7. DISCUSSION

This section provides a critical analysis of the findings and the implications for educational institutions, IT professionals, and students. It explores the broader implications of automating student account provisioning processes, including enhanced security, compliance with regulatory requirements, and better resource allocation.

Additionally, the potential impact of the alumni forum on fostering lifelong connections between graduates and their college, driving philanthropy, and supporting career development initiatives. Limitations of the study, such as generalizability to different institutional contexts and scalability challenges, are also addressed, along with recommendations for future research and system enhancements. By fostering a dialogue around the implications of our findings, we aim to stimulate further discussion and collaboration in the field of student account management and alumni engagement, ultimately contributing to the advancement of educational technology and institutional practices.

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