

Udream - Study Abroad Information Exchange Platform

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Abstract

With the increasing complexity of studying abroad, students face challenges such as selecting suitable universities, managing applications, and adapting to new environments. However, the information gap complicates decision-making. Therefore, there is a growing need for a centralized platform to provide students with comprehensive guidance and facilitate a smoother transition to academic and professional life abroad.

This project aims to develop a unified exchange platform that aggregates and personalizes study abroad information. This project follows a structured workflow involving data collection, processing, and system development. First, data was gathered using web scraping techniques to collect university rankings and other relevant information. The raw data was then wrangled, prepared, and cleansed using Python for integration into a structured database. Next, a robust database design was implemented to manage the diverse datasets. Finally, use the Django framework to develop a web platform that connects the front end and back end, providing a friendly interface and interactive features.

The results demonstrate that the platform effectively simplifies the decision-making process for students and enhances access to relevant information. The system offers several advantages, including personalized data presentation, ease of use, and a community-driven forum for sharing experiences. This project shows strong potential in bridging the information gap for students planning to study abroad.

Introduction

Background: As studying abroad grows increasingly complex, students face challenges in selecting suitable universities, navigating application processes, and adapting to new environments. The current information landscape often presents fragmented, outdated, or overly generalized data. Therefore, it is important to design a platform where students can access reliable, tailored information.

Datasets Introduction: This platform integrates multiple datasets, including university rankings, personal profiles of students and professors, academic offers, and job opportunities. These datasets provide users with comprehensive information and recommendations, simplifying the decision-making process while also offering features like community forums for shared experiences.

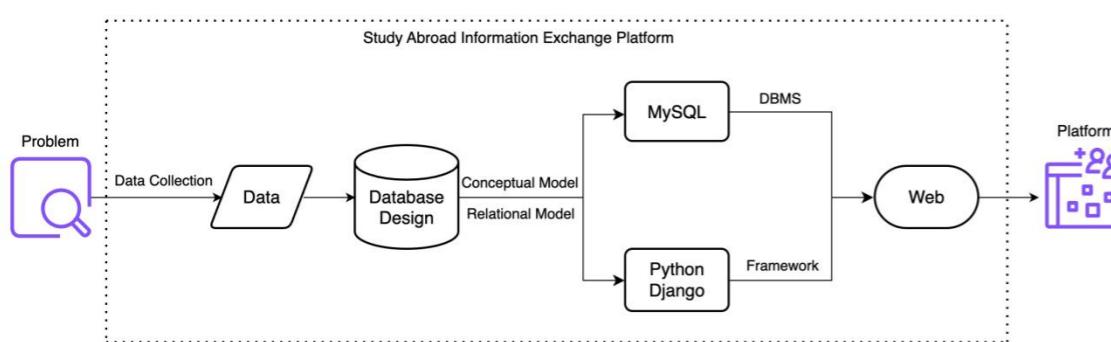
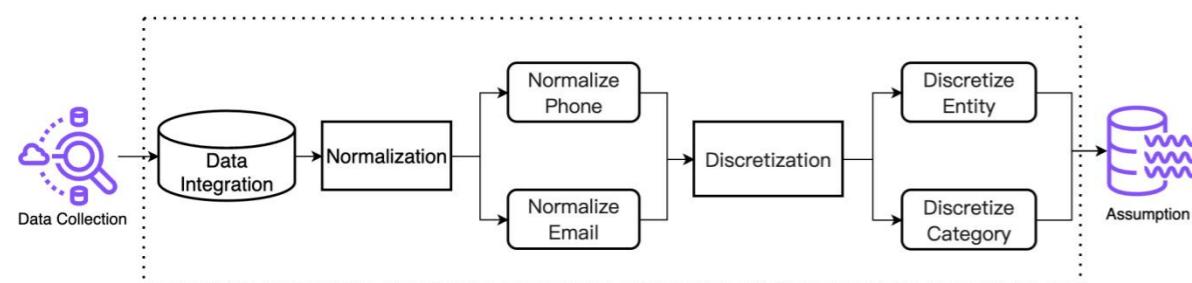


Fig.1: Information Exchange Platform Outline

Materials and Methods

Data Processing

Collecting, preparing and cleaning the data.



DBMS Design

This project is designed with datasets that cover multiple entities, including universities, professors, students, jobs, experiences and so on. These datasets encompass various key areas such as study abroad applications, professor contacts, and career development. The project not only integrates multiple data sources but also enables cross-dataset relationships and synchronization. Through various identifiers (such as p_id, u_id, etc.), the system links different datasets, allowing complex relational queries. For example, the connection between students and universities, jobs, and experiences enables the platform to present a complete study abroad pathway, helping users understand the full picture of career development and academic achievements.

Table	Trigger
people	gender (invalid gender: 'M' or 'F')
student	GPA(reasonable scope: 1.00 - 4.00), login password(password must be 8 characters long), gender (invalid gender: 'M' or 'F')
professor	gender (invalid gender: 'M' or 'F')
test	score limit and format for each exam*, date(not future)
experience	*: IELTS(4.0-9.0, with 0.5 increments), TOEFL(50-120), GRE(260-340), GMAT(200-800) start_date less than end_date

Table 1: Trigger Design Outline

This ER diagram effectively models the interactions between student, university, people, professor, job, forum, test, experience and offer, supporting various functionalities within a study abroad platform.

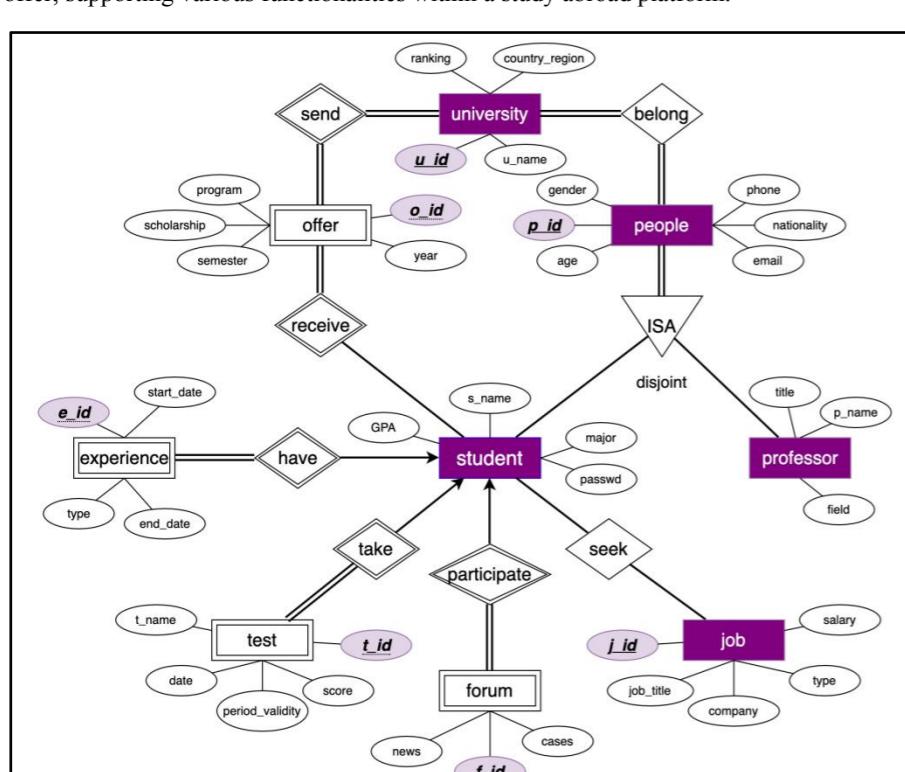


Fig.2: ER-Diagram

Total participation relationship between students and universities*. In this project, students include both newly registered users and those with archived records. They are or were undergraduate students and they must be linked to at least one university record.

3 USER TYPES:

Administrator: This user type has the ability to make changes to the system configuration and manage user accounts.

Guest: This user type has limited authority, allowing the guest to view only news.

Normal User: This user type enjoys full access to all system functionalities.

Search: Multi-criteria filtering of country/region, university name and QS ranking.

University: Enter the university name and get the details of the school, including the complete information of the professors and the offers.

Info: Showcase data visualizations that may be of interest to the user.

Forum: Interactive world. The user can make a post, where he will get university-related news and cases. In addition, according to the user's registration information, personalized to provide him with job information and related salaries.

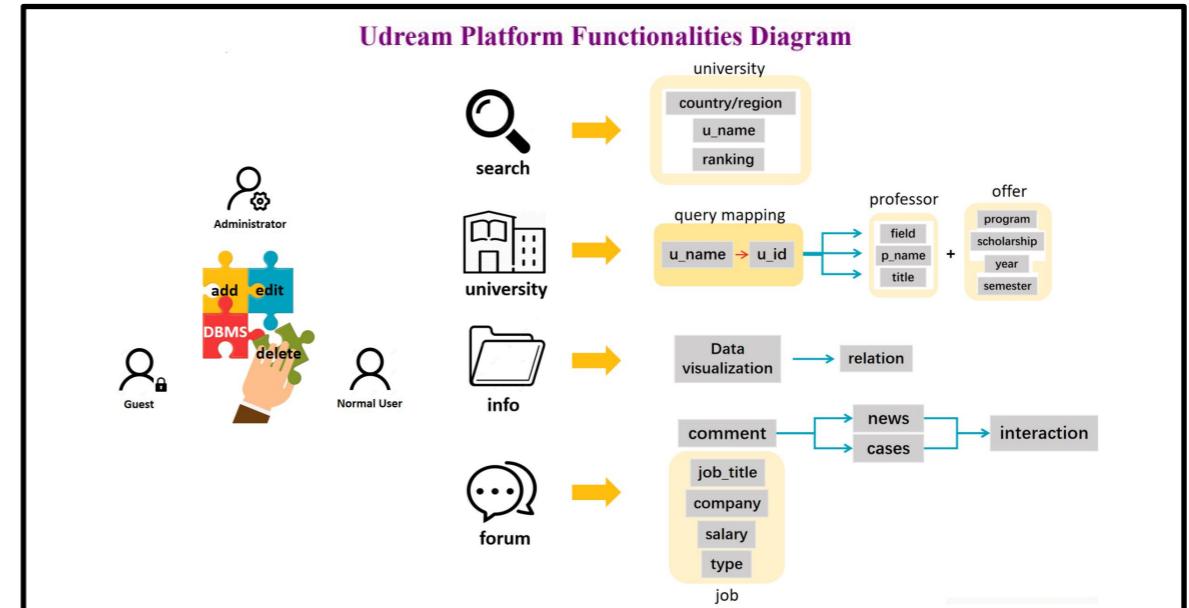


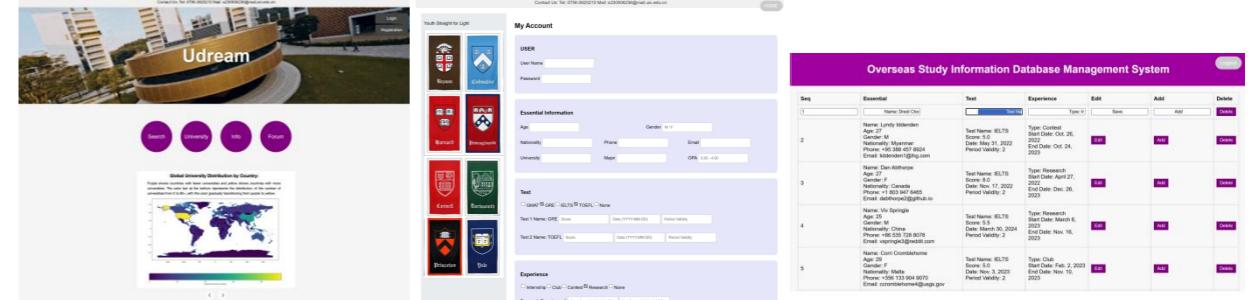
Fig.3: Functionalities Diagram

Results and Discussion

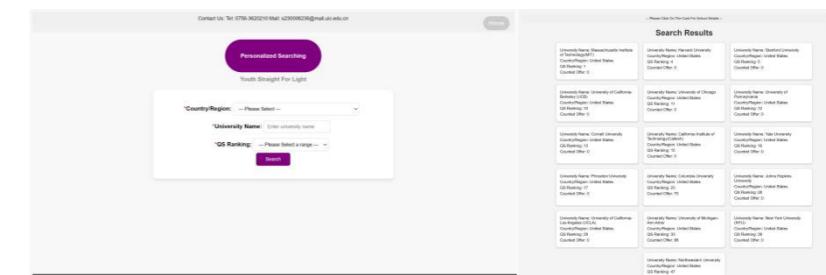
In this project, a platform with personalized data presentation, easy navigation, and real-time information display updates was implemented. By providing personalized user experience, it demonstrated its ability to simplify the decision-making process for studying abroad. Students are able to quickly retrieve relevant information, which improves the speed and accuracy of research. User feedback emphasizes the usefulness of the platform's intuitive interface and community driven forum, which allows for sharing of experiences and suggestions.

Web Display

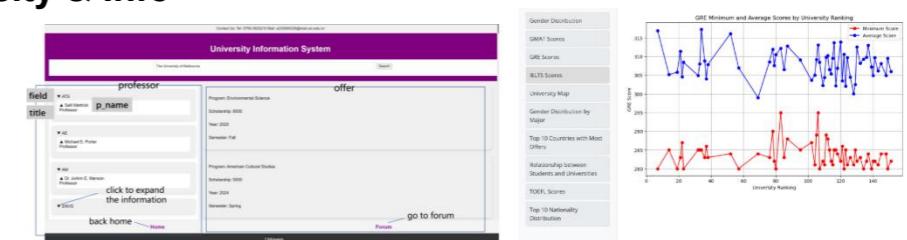
Home & Registration & Administration



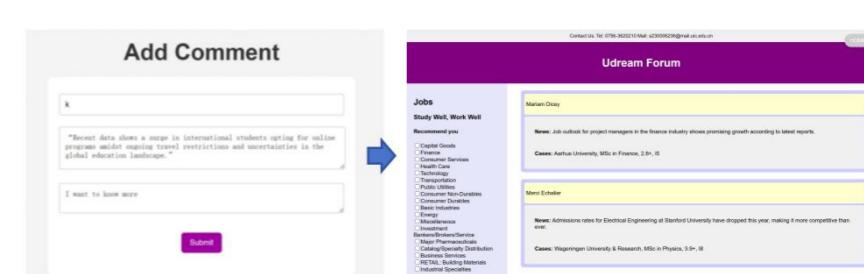
Search



University & Info



Forum



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However, there are also limitations, such as slow response to editing operations on the web page due to the large amount of stored data. Future improvements can focus on strengthening the correlation between attributes in the database and enhancing the user interface to reduce processing times, speed up calculations, support a wider range of functions, such as attribute classification to improve correlation, and achieve personalized university recommendations based on user preferences and historical trends. This project demonstrates enormous potential to bridge the information gap for students planning to study abroad, making the decision-making process more informed and less time-consuming.

Conclusion

This project successfully streamlines the study abroad process by providing a centralized platform that offers personalized, up-to-date information, helping students make informed decisions and ease their transition. It aggregates data from educational institutions and personal experiences, delivering tailored services and fostering a supportive community where students and alumni share advice. The platform's real-time updates ensure access to the latest details on programs, scholarships, and job opportunities. Its impact is evident in reducing stress for students, improving institutional communication, and promoting cultural exchange. Future plans include expanding services, enhancing technology, and strengthening data security.

References

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