Project Title:

GlobalScholar: International Student Financial Navigator

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Project Summary:

GlobalScholar is an innovative web application designed to assist students in planning their finances for studying abroad. By integrating comprehensive datasets on global cost of living, university tuition fees, and student expenses, the platform provides personalized financial estimates and budgeting tools. GlobalScholar aims to empower students with the knowledge and resources needed to make informed decisions about their education, offering a holistic view of the financial requirements for studying in different countries and universities.

The application not only estimates costs but also matches students with suitable universities based on their financial profiles, and provides interactive visualizations to help users understand their financial situations. By combining real-world data with user-specific inputs, GlobalScholar enhances the study abroad experience by reducing financial uncertainty and enabling better planning.

Description of the Application:

GlobalScholar addresses the significant challenge faced by international students in understanding and managing the financial aspects of studying abroad. Many students struggle to accurately estimate the total cost of their education, including tuition fees, living expenses, and other hidden costs associated with different destinations. This lack of comprehensive financial planning can lead to stress, inadequate budgeting, and even the inability to complete studies due to unforeseen expenses.

Our application solves this problem by providing a user-friendly platform that combines multiple data sources to give students a clear picture of their financial requirements. Users can input preferences such as desired study destinations, universities of interest, and personal budget constraints. GlobalScholar processes this information along with its extensive database to generate personalized financial estimates, suggest suitable universities, and offer budgeting tools tailored to each student's unique situation.

Creative Component:

The creative component of GlobalScholar is its advanced interactive financial visualizations. The matching algorithm goes beyond simple budget comparisons by incorporating factors such as academic rankings, scholarship opportunities, and cost-of-living adjustments. It uses machine learning techniques to weigh these factors based on user preferences and historical data from successful international students.

Interactive visualizations allow users to explore their financial data dynamically. For example, a Sankey diagram shows how changes in one aspect of their budget (e.g., choosing a different city or university) affect other areas of their finances. Users can also compare multiple scenarios side-by-side using a custom-built comparison tool that highlights differences in costs and potential outcomes. These features not only enhance functionality but also provide users with deeper insights into their financial planning.

Usefulness:

GlobalScholar offers a unique solution for international students planning to study in the US. While existing websites provide information on university fees or cost of living in different countries, our application stands out by offering a personalized, data-driven approach to financial planning for international education. Basic functions include user profile creation, university search and comparison, personalized expense estimation, budget creation and tracking, and university matching based on financial criteria.

Complex features include interactive visualizations, machine learning-based university matching algorithms, currency conversion, and scholarship integration. Similar websites exist (e.g., Mastersportal - https://www.mastersportal.com), but GlobalScholar differentiates itself by offering a more personalized approach that considers individual user preferences and constraints while providing comprehensive tools that combine university information with cost-of-living data.

Realness:

GlobalScholar will utilize real datasets from multiple sources:

Data Sources

1. College Tuition, Diversity, and Pay
    - Source: Kaggle
    - Link:https://www.kaggle.com/datasets/jessemostipak/college-tuition-diversity-and-pay
    - Format: CSV
    - Data Size:
        - Cardinality: Approximately 1,500 records (representing various colleges and universities)
        - Degree: 15 columns
    - Information Captured: This dataset provides essential details about U.S. colleges, including tuition costs (both in-state and out-of-state), demographic diversity of students, and average post-graduation salaries. It offers insights into the financial and social landscape of higher education institutions.
2. U.S. Cost of Living Dataset
    - Source: Kaggle
    - Link:https://www.kaggle.com/datasets/asaniczka/us-cost-of-living-dataset-3171-counties
    - Format: CSV
    - Data Size:
        - Cardinality: Approximately 3,171 records (representing U.S. counties)
        - Degree: 10 columns
    - Information Captured: This dataset provides data on the cost of living across different U.S. counties, detailing factors such as median household income, housing costs, and overall cost of living indices. It is crucial for understanding the economic context that impacts students while attending college.

We will integrate these datasets to analyze how college tuition is influenced by the cost of living and demographic diversity across various counties. By examining these relationships, the app aims to help students navigate their educational choices more effectively.

Functionality Description:

GlobalScholar offers rich functionalities designed to support international students throughout their financial planning process:

1. User Registration and Profile Management: Users can create profiles specifying study preferences such as destinations and budget constraints.

2. University Search and Comparison: Users can search for universities based on criteria like location or budget and compare them side-by-side.

3. Expense Estimation and Budgeting: The app generates personalized expense estimates based on chosen universities/locations; users can create/manage budgets.

4. University Matching: Students receive recommendations based on financial criteria; they can adjust parameters for refined results.

5. Interactive Visualizations: Users explore data through dynamic charts/graphs showing budget allocation/spending patterns; scenario comparisons are available.

6. Currency Conversion/Financial Goal Setting: Users set goals/track progress; all info converts into preferred currency with alerts for fluctuations.

7. Scholarship Integration: Search relevant scholarships/financial aid opportunities integrated into budget calculations.

Low-fidelity UI Mockup:

https://drive.google.com/file/d/1LSz-zLtxTj0-Ln7ZA9fvidDqMVBR7TGi/view?usp=sharing

Project Work Distribution:

1. Backend Development:
   - Sharvari Gadiwan: Database design/management
   - Neel Harip: Data processing algorithms
   - Sejal Pekam, Sakshil Verma: Data synchronization, university matching algorithm

2. Frontend Development:
   - Sharvari Gadiwan: User interface design/responsive layout implementation
   - Sakshil Verma: Interactive visualizations/client-side functionality

3. Data Management:
   - Neel Harip: Data collection/cleaning/integration
   - Sejal Pekam: Ongoing data updates/quality assurance

4. Testing/Deployment:
   - All team members participate in testing
   - Sharvari Gadiwan: manages deployment/server management

5. Documentation/Project Management:
   - Sejal Pekam, Neel Harip: handles technical documentation/user guide creation
   - Sakshil Verma: coordinates project/timeline management