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Lab7 Flask Web Application

README Document

# Language Translator Web Application

## Description Overview

The Language Translator is a dynamic web application designed to facilitate seamless translation services across a wide array of languages. Built using Flask, HTML, JavaScript, and CSS, this application offers a user-friendly interface coupled with robust backend functionality in Python. It leverages PostgreSQL as the active database, hosted on Render.com, ensuring efficient data management and retrieval.

## Key Features:

* User Registration and Login: Users can register with their unique Student ID, ensuring a secure and personalized experience. Upon successful registration, users are redirected to the dashboard. The login system utilizes session cookies, allowing users to stay logged in until they manually log out or close their browser.
* User Dashboard: Upon logging in, users are greeted with a personalized dashboard that serves as the central hub for accessing translation services and other features.
* Translator: The Translator feature supports over 100 languages, empowering users to effortlessly translate text between various linguistic contexts. Users can either type or paste text into the interface or upload a file for translation, with a character limit of 5,000 characters per input.
* File Upload: Users have the option to upload text files for translation, providing flexibility and convenience in handling larger documents or content.
* Miscellaneous Pages: In addition to translation services, the application offers miscellaneous pages such as Maps, News, and Events, enriching the user experience with supplementary content and functionality.

## User Experience:

Upon registration and login, users are greeted with an intuitive interface that streamlines the translation process. They can select the desired language from a dropdown menu, input text, and with a simple click, obtain translated results. The application prioritizes simplicity and efficiency, ensuring smooth navigation and quick access to essential features.

## Database Management:

The application's live PostgreSQL database, hosted on Render.com, ensures real-time data storage and retrieval. This live database architecture guarantees seamless integration with the web application, providing users with reliable and up-to-date information.

## Conclusion:

The Language Translator Web Application offers a comprehensive solution for multilingual communication needs. With its user-friendly interface, extensive language support, and robust backend infrastructure, it serves as an invaluable tool for individuals seeking efficient and accurate translation services. Whether for academic, professional, or personal use, this application empowers users to bridge language barriers and connect with global audiences effortlessly.

# Program Features

1. Type: Web Application (Flask)

2. Program Name: Language Translator

3. Coding Languages

* - Frontend Language: HTML/JavaScript/CSS
* - Backend Language: Python

4. Active Database:

* Database Type: PostgreSQL
* Database Service: Render.com

5. Web Pages:

* - User Login
* - User Registration
* - User Dashboard
* - Translator featuring over 100 languages
* - File Upload: Limited characters (5,000)
* - Misc. Pages (Map, News, Events, etc.)

# Webpage Descriptions

## 6. User Registration:

* Enter Student ID (must be exactly 7 numeric characters)
* Enter First Name/ Last Name
* Enter Password
* Submit Registration (Redirect page Successful-Registration.html)
* New user will be added to the database

## 7. User Login:

* Login with Student ID
* Enter Password
* Submit login (redirect page dashboard.html)
* Session cookie is stored until the user closes the browser
* Note: Refer to the table below to log in to existing user accounts or register for an account.

## 8. Translator:

* Choose a language from the dropdown menu
* Enter a sentence or paragraph to be translated or upload a file
* There is a 5,000-character limit
* Click the translate button to translate to the desired language

## 9. User Logout

* Click the logout link to return to the Home page
* Close the browser to kill the cookie session

|  |  |
| --- | --- |
| **User Login Table** | |
| Student ID | Password |
| 1234567 | Password123 |
| 7654321 | pass |
| 1111111 | pass |
|  |  |