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Class: SDET

Final Project: Developing a Cloud-Based Web Application

Due Date: 11-11-2025

A Simple Language Learning App

Introduction

This project is a Language Learning App that helps users learn new vocabulary and practice words in another language. The app will allow users to learn step-by-step, track their progress, and review words they learned before. The goal is to make language learning simple, fun, and easy to use for beginners.

Problem Statement (why is this needed?)

Many people want to learn a new language, but they struggle to stay motivated or find good practice tools. Some apps are too complicated or require payment. This project will provide a simple and free way to learn and practice vocabulary.

Language Learning Feature

The app will allow users to enter a word and select the language they want to learn. The system will use an online translation tool to find the meaning of the word in the chosen language. Once translated, the word and its meaning will be saved in the user's personal vocabulary list. This allows users to review, practice, and track the new words they have learned over time.

Quiz Feature

The app will create short quizzes based on the words the user has already saved. For each quiz question, the app will show a word and ask the user to choose or type the correct meaning from their vocabulary list. After each answer, the app will show whether the user was right or wrong. At the end of the quiz, the app will display the user's score and show which words need more practice.

Goals

- Help users learn new vocabulary.
- Track the user's learning progress.
- Make learning easy and enjoyable.

- Give immediate feedback on quizzes.

Core features

- **User login and registration**
Users will be able to make an account with username and password. Password will be safely stored
- **Task storage**
 - Create new task
 - Read/view tasks
 - Update task(edit)
 - Delete tasks
- **Task display dashboard**
This app will show all the tasks, including which ones are completed or still due.

Additional feature

Email Reminder Notification

Users can choose to get a reminder email for tasks with a deadline.

Technology Stack

Part Front-End	Tools HTML, CSS, Java Script
Back-End	Python(flask)
Database	SQLite(simple and built-in)
Deployment	Vercel
Authentication	Falsk-Login
Security	Password hashing using werkzeug

Database design

1. User table

Column Name	Type	Purpose
User_id	Integer (primary key)	Identifies each user
username	Text	User's login name
email	Text	User's email
password-hash	Text	Securely Stored password

2. Task Table

Column Name	Type	Purpose
task_id	Integer (primary key)	Identifies each task
user_id	Foreign key	Connects the task to the user who created it
task_name	Text	The task description
due_date	Date	When the task is due
is_completed	Boolean (yes/no)	Show if the task is finished

Expected outcome

At the end of the project, the application will allow users to organize their daily tasks easily. Users will be able to keep track of what they need to do, complete tasks, and stay more organized. Later improvements can include categories, color coding, and calendar view.