Currency Converter Web Application

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by ReDi - Python Foundation

Project Overview

1 Objective

Provide a web-based tool for converting currency amounts using skills learned during the ReDi Python Foundation

2 Key Features

Input validation for currencies and amounts, real-time exchange rate retrieval, and a simple and user-friendly web interface.

3 Technologies

Git/GitHub, Python, Flask, Fixer API, HTML/CSS

Application Architecture

Modular Components

- currency_validation.py
- amount_validation.py
- currency_converter.py
- main.py
- allinone.py

Framework

Flask for web server

External API

Fixer API for real-time currency rates

Currency Validation

1. **Input Currencies**

   User enters currencies to convert from and to.

2. **API Request**

   Send request to Fixer API for valid currency symbols.

3. **Validation Check**

   Check if entered currencies exist in API's symbols.

4. **Result**

   Return valid currencies or prompt for re-entry.

Amount Validation

Purpose

Ensure the input amount is a valid positive number.

Input

User enters the amount to be converted.

Validation

Check if input is a positive float.

Result

Return valid amount or prompt for re-entry.

Currency Conversion Logic

1

Inputs

Validated from_currency, to_currency, and amount.

2

API Request

Send conversion request to Fixer API.

3

Response Processing

Extract conversion result from API response.

4

Output

Return converted amount.

Running the Application

1. **Setup**

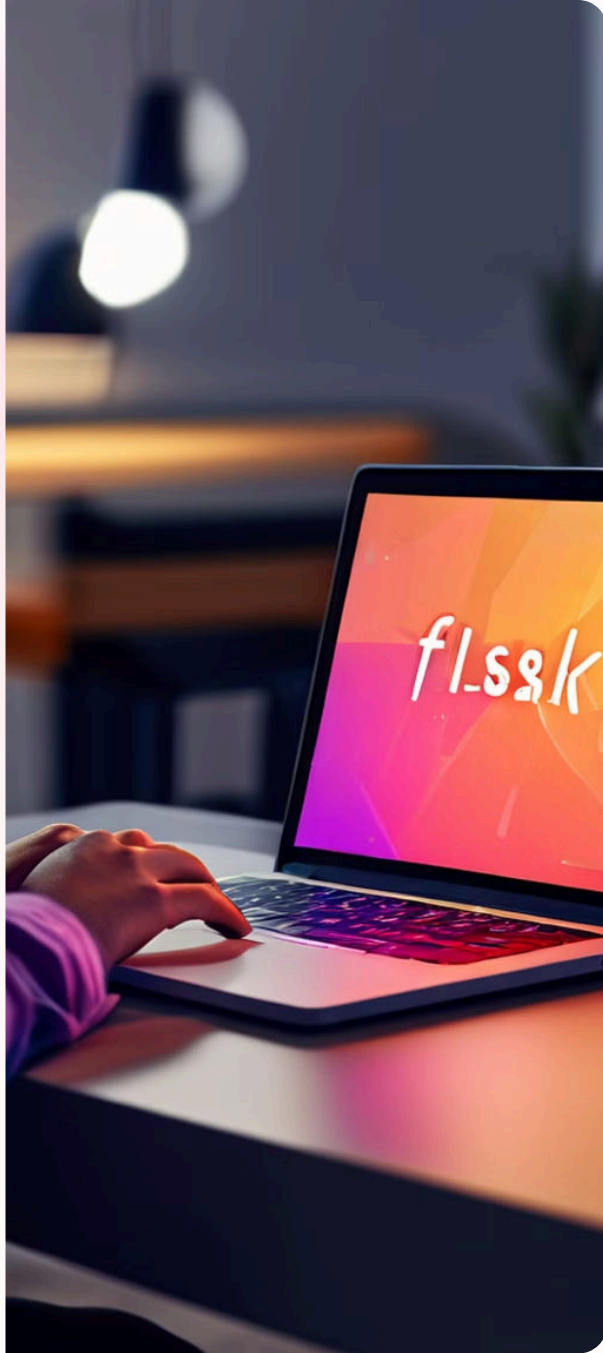
   Ensure all modules are in the same directory.

2. **Execution**

   Run the Flask application with python main.py.

3. **Access**

   Open the web app at http://127.0.0.1:5000.



Web Interface and User Experience

HTML Form

Includes input fields for 'Convert from', 'Convert to', and 'Amount', along with a 'Convert' button.

Flask Route

Handles GET and POST requests, processes form inputs, and renders the result.

User Interaction

Users input currencies and amount, submit the form, and receive the converted amount.