# Currency Converter Web Application

# Project Documentation

## Project Overview:

The Currency Converter Web Application is a Flask-based project that allows users to convert a monetary value from one currency to another using pre-defined static exchange rates. It is designed to provide a simple and user-friendly interface to perform currency conversions and demonstrate core web development skills in Python and Flask.

## Objectives:

* To build a basic web application using Python and Flask.
* To perform currency conversions using static exchange rates.
* To demonstrate input validation and error handling.
* To apply frontend design with Jinja2 templates and HTML/CSS.

## Technologies Used:

* Backend: Python, Flask
* Frontend: HTML, CSS, Jinja2
* Styling: Basic CSS
* IDE: Jupyter Notebook
* Deployment: Localhost
* Version Control: GitHub

## Project Structure:

currency\_converter/  
├── app.py # Main Flask application  
├── templates/  
│ └── index.html # HTML template for the web interface and CSS style   
├── LICENSE # MIT License  
└── README.md # Project overview and instructions

## Exchange Rates

* USD: 1.00
* INR: 85.60
* EUR: 0.90
* YUAN: 7.21 # The app uses static exchange rates
* YEN: 145.94
* WON: 1401.13
* DIRHAM: 3.67
* POUND: 0.75

## How It Works:

* User enters amount, source currency, and target currency.
* Flask receives input via POST request.
* The conversion function:  
   - Converts the amount to USD.  
   - Converts from USD to the target currency.
* Result is rendered back on the same page.

## How to Run Locally:

* Requirements:  
  - Python 3.13.3  
  - Flask (Install with pip install flask)
* Steps:  
  - cd currency\_converter  
  - Currency\_converter\_flask.py  
  - Visit http://127.0.0.1:5000/ in your browser.

## Features:

* Convert between 8 different currencies.
* Input validation with custom error messages.
* Auto-launches browser on run.
* Minimal, responsive HTML interface.
* Modular code structure with clean logic.

## License:

This project is licensed under the MIT License. See the LICENSE file for details.

## Future Enhancements:

* Add live exchange rate API.
* Include swap currencies button.
* Add currency symbols dynamically.
* Responsive mobile-friendly UI.
* Support for user authentication and history tracking.

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