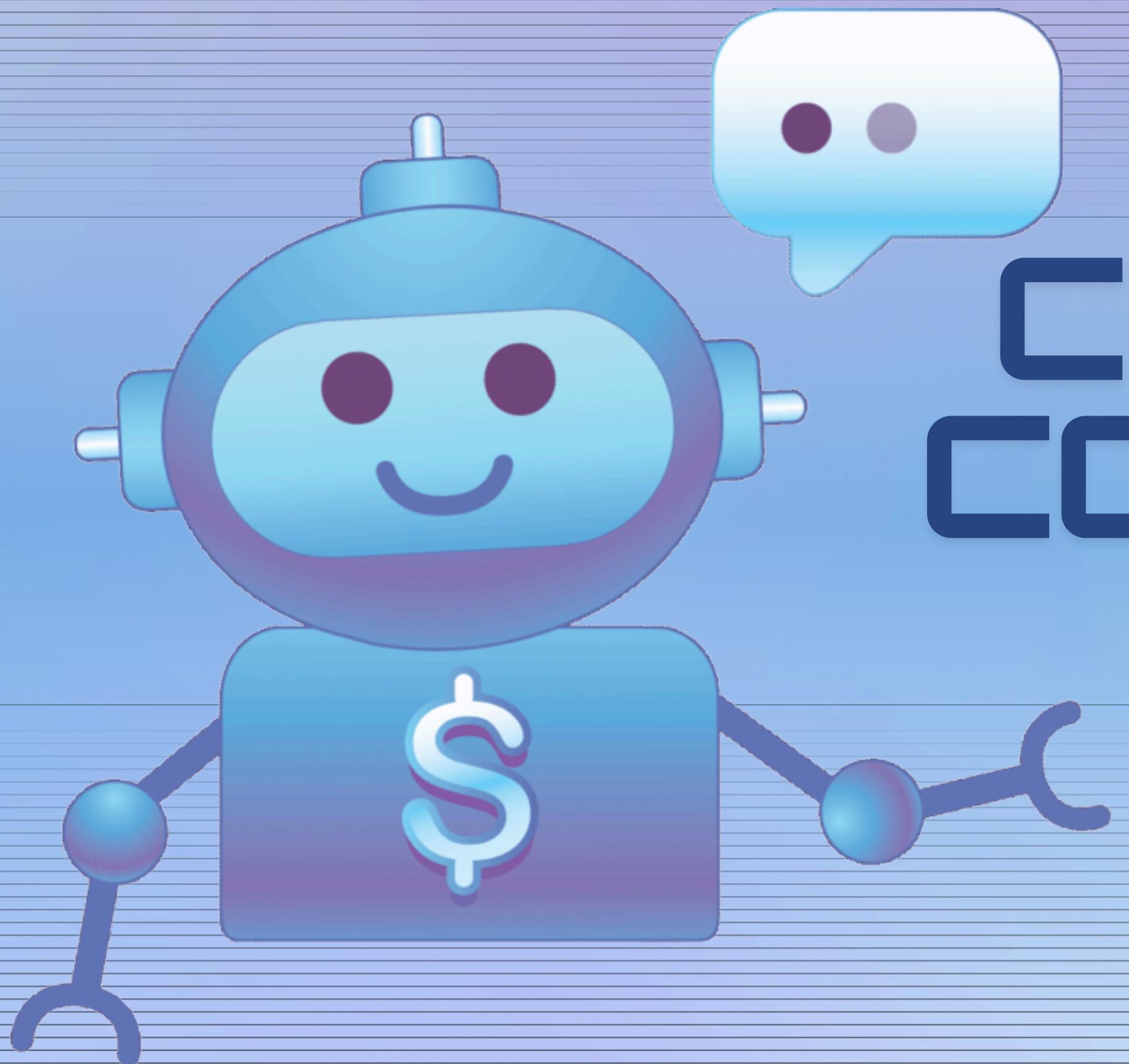


01



CURRENCY CONVERTER

Presented By: NIKHILA.G

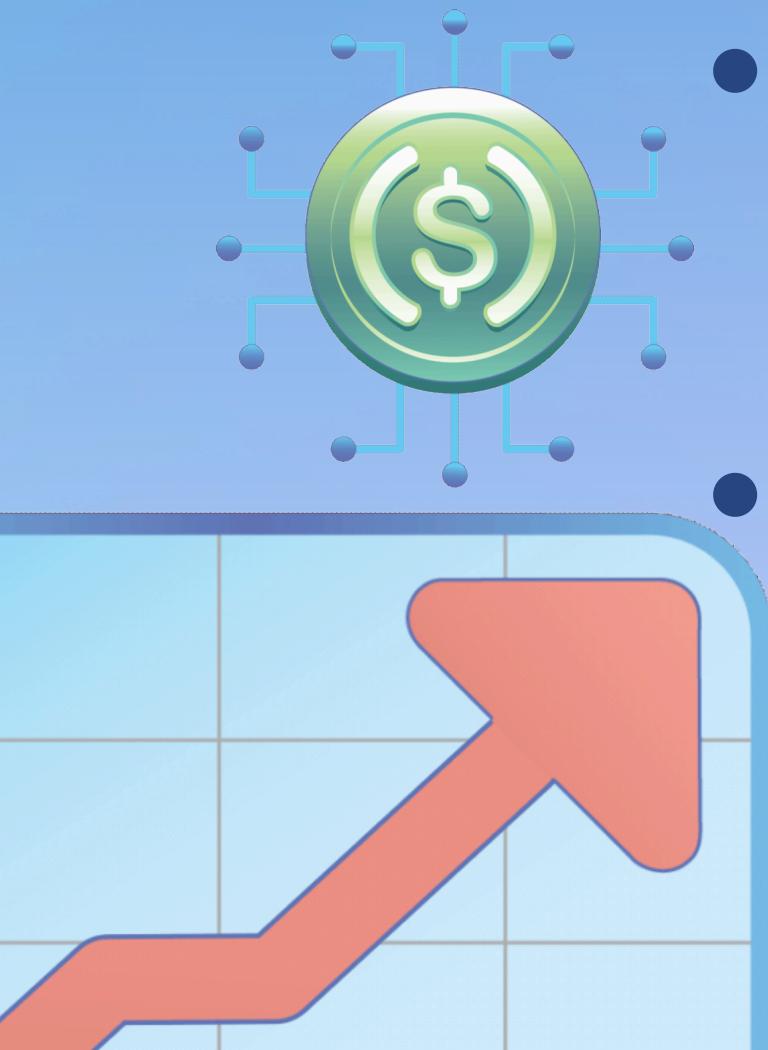
ABSTRACT

- **Objective:** Engineered a Full-Stack, RESTful financial application integrating real-time fiat/crypto conversion, a Global Tax System, and portfolio tracking.
- **Backend:** Built on Python (Flask) with SQLAlchemy/SQLite for secure data management.
- **Frontend:** Dynamic interface created with JavaScript (ES6+) and a mobile-first HTML/CSS design, utilizing Chart.js for data visualization.
- **Data Sources:** Integrates ExchangeRate-API (fiat) and CoinGecko API (crypto) for live data accuracy.



Existing System

- Inaccurate data due to **lack of real-time rates.**
- **No integrated tax calculation or portfolio tracking.**
- Limited to current rates; lacks **historical trend analysis.**

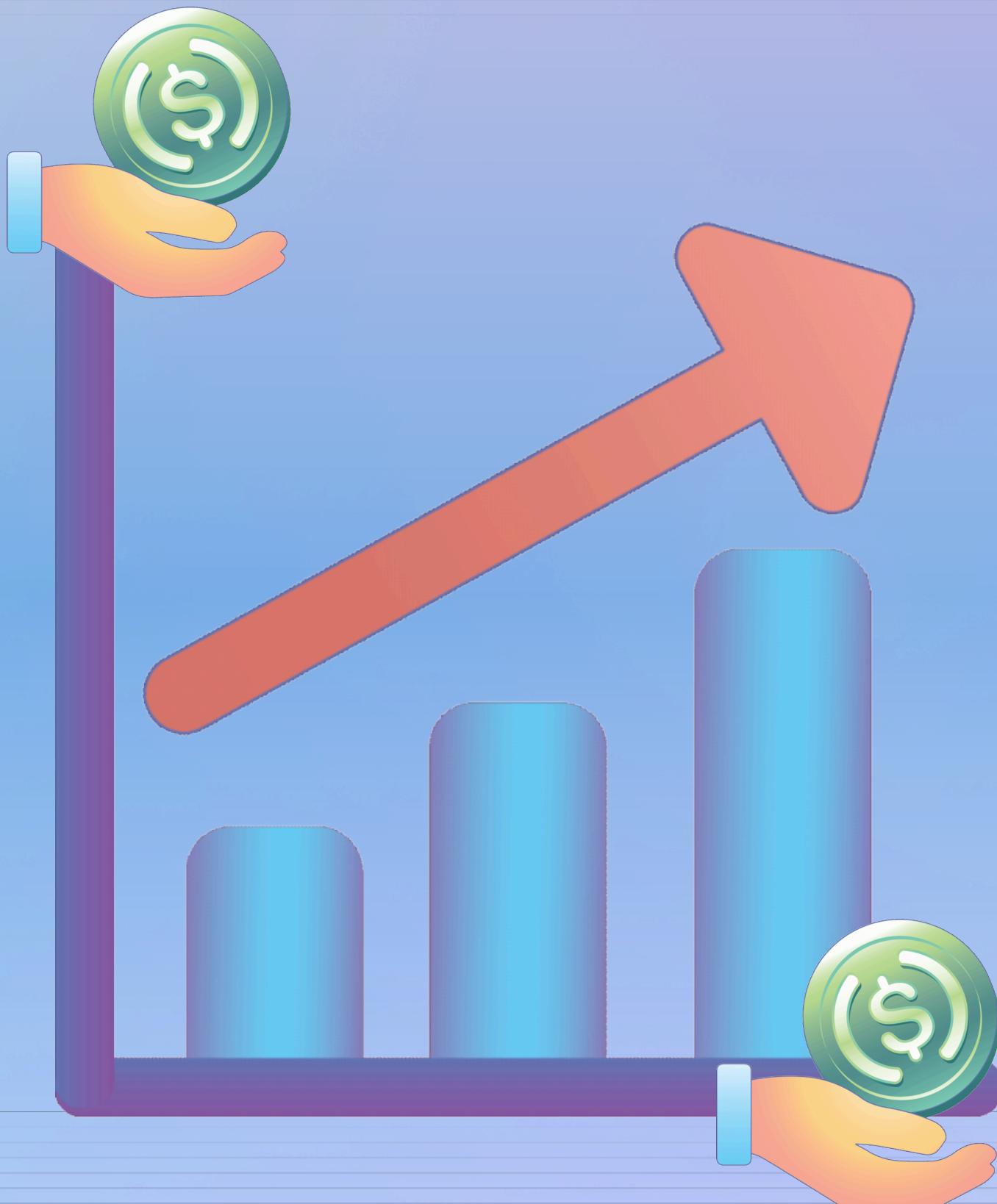


Proposed System

- **Unified Platform:** Integrates 50+ Fiat Currencies and 15+ Major Cryptocurrencies (via CoinGecko and ExchangeRate-API).
- **Intelligent Financial Tools:** Features a **Portfolio Tracker** (real-time P&L) and a **Global Tax System** (country-specific fee calculation).
- **Dynamic UX:** **JavaScript** and **Chart.js** provide interactive **7/14/30-Day Historical Charts** and a responsive **Mobile-First Design**.
- **Robust Architecture:** Utilizes a secure, scalable **Python (Flask)** backend with a **RESTful API** design for all core services.



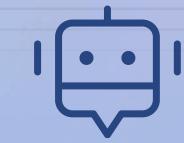
ADVANTAGES



- **Superior Accuracy:** Guaranteed real-time rates.
- **Financial Insights:** Provides P&L analysis and 7/14/30-day historical charts (Chart.js).
- **Modern UX:** Responsive, mobile-first design (HTML/CSS/Bootstrap).
- **Full Compliance:** Integrated Global Tax System.

DISADVANTAGES

- Reliance on **external API uptime** (ExchangeRate-API, CoinGecko).
- Scalability is restricted by **API rate limits.**
- Current **lack of user authentication** for cloud-stored portfolios.

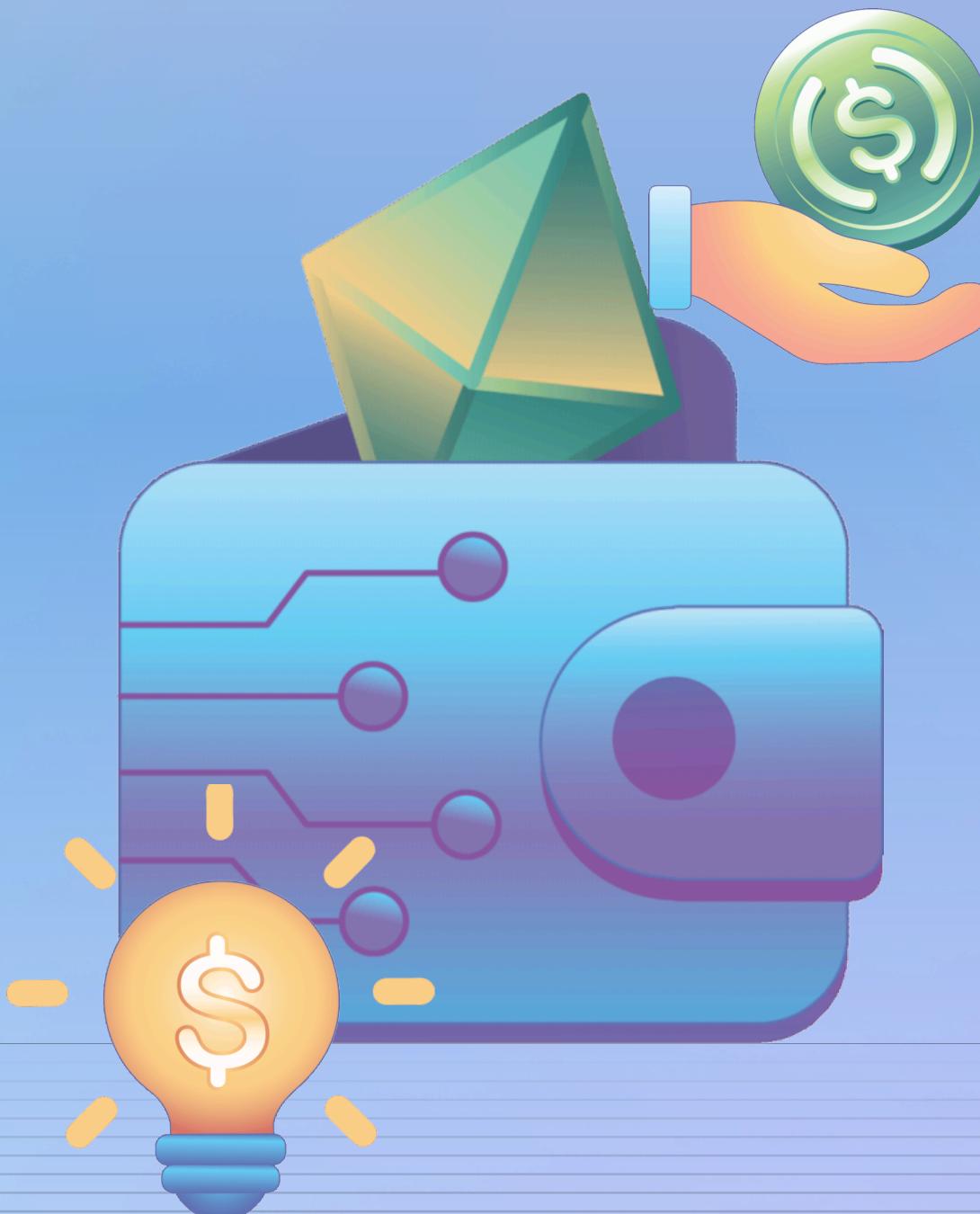


HARDWARE REQUIREMENTS

- **Development:** Modern PC/Laptop with 4GB+ RAM and a standard processor.
- **User Access:** Any device (Desktop, Mobile, Tablet) with internet access.

SOFTWARE REQUIREMENTS

- **Frontend:** HTML5, CSS3, JavaScript (ES6+),
Chart.js.
- **Backend:** Python (Flask), SQLite (Database),
SQLAlchemy.
- **APIs:** ExchangeRate-API (Fiat Rates) and
CoinGecko API (Crypto Data).
- **Environment:** Modern Web Browser.



MODULES



- 1. **User Interface (UI) Module:** Handles all visual presentation and user interactions.
- 2. **Core Conversion Module:** Fetches live rates and calculates conversions (Fiat & Crypto).
- 3. **Global Tax Module:** Calculates country-specific taxes and service fees.
- 4. **Portfolio Tracker Module:** Stores holdings and computes real-time P&L.
- 5. **Analytics & Chart Module:** Processes historical data and renders interactive charts.



MODULE DESCRIPTION



- **Core Logic:** The Python (Flask) backend securely handles API communication (Fiat/Crypto) and performs complex tax calculations.
- **Data Management:** The Portfolio Tracker uses a Python database cursor to execute `\text{SQL}` commands for managing holdings in the SQLite database.
- **Visualization:** The Analytics Module relies on JavaScript (Chart.js) to receive historical data and dynamically generate the responsive 7/14/30-day trend charts.

Currency Converter

Convert your money with real-time exchange rates

Amount to Convert: 100000

From Currency: INR - Indian Rupee

To Currency: USD - US Dollar

Exchange Location [for tax calculation]: United States (USD)

Convert Currency

Exchange Cost Breakdown

Grass Amount [Before Tax]	1,127.541
Exchange Tax	0
Service Fee	16.913
Total Fees	16.913
Net Amount [After Tax]	1,110.628

Exchange Location: United States
Tax Rate: 0%
Service Fee Rate: 1.5%

Converter Results Portfolio

Conversion Results

Your currency conversion breakdown

What You're Looking At
This page shows you exactly how much money you'll receive when exchanging currency at a real exchange location. The **Net Amount** is what goes into your pocket after all taxes and fees are deducted.

107.754

10000 INR = 107.754 USD (after taxes)

Where Did Your Money Go?

See exactly how much was deducted and what you'll receive

Before Fees 112.754 Your money before any deductions	Exchange Tax 0 Rate: 0%	Service Fee 5 Rate: 1.5%
Total Deducted 5 Everything taken from your money	YOU RECEIVE 107.754 This is what goes in your pocket!	

Exchange Rate Information

0.0113 10:09:01 PM ECB

Current Rate Last Updated Data Source

Exchange Rate Trend

7 Days 14 Days 30 Days

Conversion Details

Amount: 10000
From: INR
To: USD
Rate: 0.0113
Result: 107.754

Timing Information

Converted: 10/28/2025, 10:09:01 PM
Rate Updated: 10:09:01 PM
Next Update: 1 hour
Data Freshness: Real-time

Currency Information

From Country: United States
To Country: European Union
Currency Symbol: €
Market Status: Open

+ New Conversion

Portfolio Tracker

Track your currency and cryptocurrency investments

Converter Results Portfolio

Add to Portfolio

Currency Amount Purchase Rate [USD] Notes
Select Currency Optional notes + Add to Portfolio

Crypto Market Trends

BINANCECOIN	\$1,139.39	↓ -0.90%	BITCOIN	\$115,130	↓ -0.28%	CARDANO	\$0.685	↓ -1.98%	ETHEREUM	\$4,119.11	↓ -2.02%	RIPPLE	\$2.84	↓ -1.04%	SOLANA	\$199.12	↓ -1.07%
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Your Portfolio

Total Value: \$112.75

INR	Amount: 10,000 Purchase Rate: \$15.000000 Current Rate: \$0.011275 Current Value: \$112.75 P&L: -\$148,887.25	↓ -99.82%
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CONCLUSION

- Successfully developed an integrated, Full-Stack financial utility using a secure Python (Flask) backend and a dynamic JavaScript frontend. The system now provides real-time conversion, crypto integration, and portfolio tracking.
- **Future Scope:**
 - Implement Machine Learning for price predictions.
 - Integrate a real-time Currency News Feed.
 - Develop a native Mobile App for wider reach.



THANK YOU!

