Kabul University
Computer Science Faculty
Software Engineering Department

Software Requirement

Specification

For Currency Converter Website

Version: 1.0
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Contents

1. Introduction

1.1 Purpose

The purpose of this document is to define the software requirements for the Currency Converter Application. This application allows users to convert a specific amount of money from one currency to another using real-time exchange rates.

1.2 Document Conventions

- API: Application Programming Interface
- UI: User Interface
- UX: User Experience

1.3 Intended Audience

- University instructors and evaluators
- Developers
- Testers
- Project supervisors

1.4 Scope

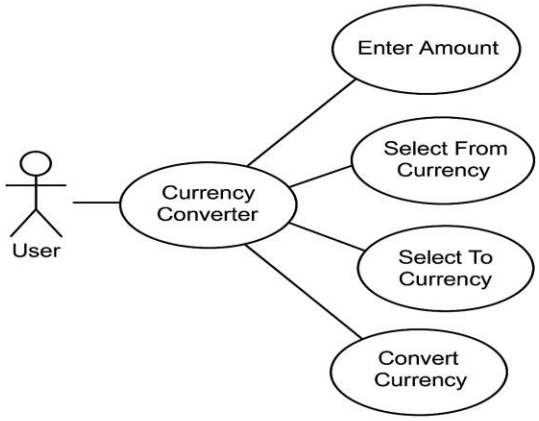
This system will be a web-based application that allows users to convert currency values dynamically. It will fetch real-time exchange rates from a third-party API and display results to the user. The application will also store history, provide visual graphs, and support responsive design for various devices.

1.5 Definitions

- **Base Currency**: The currency from which conversion is made
- **Target Currency**: The currency to which conversion is made
- **Exchange Rate**: The rate used to convert one currency into another

2. Overall Description

Use Case Diagram of Currency Converter Website



2.1 Product Perspective

The Currency Converter is a standalone web application that uses the Frankfurter API for fetching exchange rates and provides UI for users to interact.

2.2 Product Functions

- Convert currency from one type to another
- Display real-time exchange rate
- Store and display conversion history
- Display charts of currency rate trends
- Responsive design for desktop and mobile
- Light/Dark mode toggle

2.3 User Characteristics

- Basic internet users
- Students, travelers, traders, developers
- No technical knowledge required to use the interface

2.4 Constraints

- Internet connection required to fetch real-time data
- API limits (rate-limiting may apply)
- Limited browser storage (for history)

2.5 Assumptions and Dependencies

- API is online and accessible
- User’s browser supports modern JavaScript (ES6+)
- Application runs on latest versions of browsers (Chrome, Firefox, Edge)

3. Specific Requirements

3.1 Functional Requirements

- FR1: The system shall allow the user to input an amount to convert.
- FR2: The system shall allow the user to select a base and target currency.
- FR3: The system shall fetch real-time exchange rates from an external API.
- FR4: The system shall display the converted result.
- FR5: The system shall store the user's conversion history.
- FR6: The system shall allow the user to view past conversions.
- FR7: The system shall allow the user to toggle between light and dark mode.

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4. External Interface Requirements

4.1 User Interface

- A responsive form to input amount and select currencies

- Result display panel
- Navigation menu
- History page
- Contact page
- Graph visualization for selected currency pair

4.2 Hardware Interfaces

- None required (web-based only)

4.3 Software Interfaces

- Frankfurter API (https://www.frankfurter.app)
- Chart.js for graph rendering
- LocalStorage for storing history

4.4 Communication Interfaces

- HTTPS protocol for secure API communication

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5. Non-Functional Requirements

5.1 Performance

- Conversion should happen within 1 second of user input.

5.2 Availability

- 99% uptime assumed with dependency on third-party API.

5.3 Security

- Data transmission via HTTPS

- No sensitive user data stored

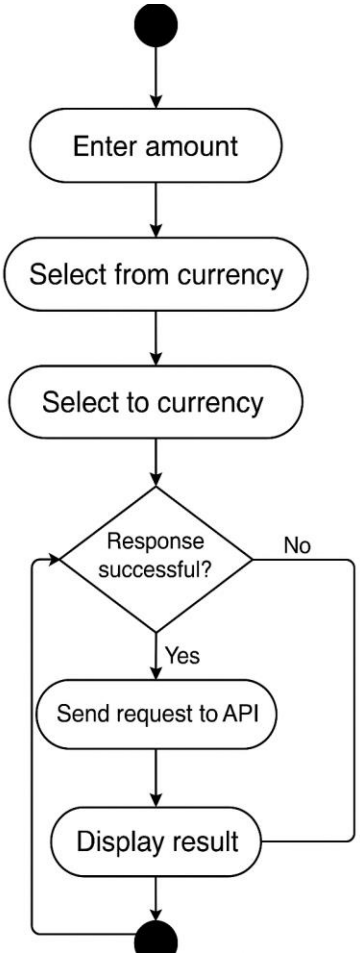
5.4 Usability

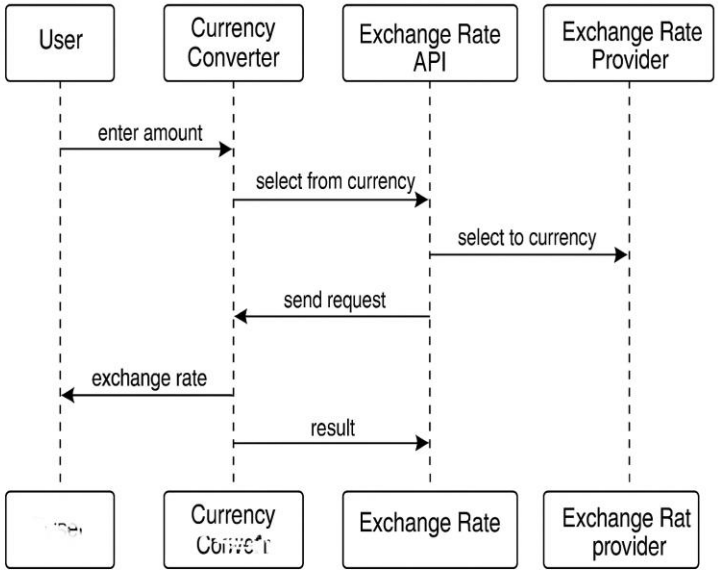
- Simple and intuitive user interface
- Mobile-first design
- Accessible colors and fonts

5.5 Maintainability

- Modular code written in clean JavaScript
- Well-documented source code

Activity Diagram and Sequence Diagram for Currency Converter Website





6. Appendix

6.1 Glossary

- API: Application Programming Interface
- UI: User Interface
- UX: User Experience

6.2 References

- Frankfurter API Documentation: https://www.frankfurter.app
- Chart.js Documentation: https://www.chartjs.org
- Mozilla Developer Docs: https://developer.mozilla.org