Travel Tracker

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Chapter 1

Purpose

Travel Tracker is a web application that aims to streamline vacation planning into one central location. Our application allows users to manage the logistics of their trip(s) such as budgeting, flight information, stay information, itinerary, and track interests such as excursions, activities, and additional notes. Travel Tracker is a user-friendly planner to ease travel stress and encourage strong organization. Our budgeting services, equipped with real-time currency conversions, advise users when to save money on international trips and permit users to set allowances, alleviate uncertainty, and allow users to budget accordingly.

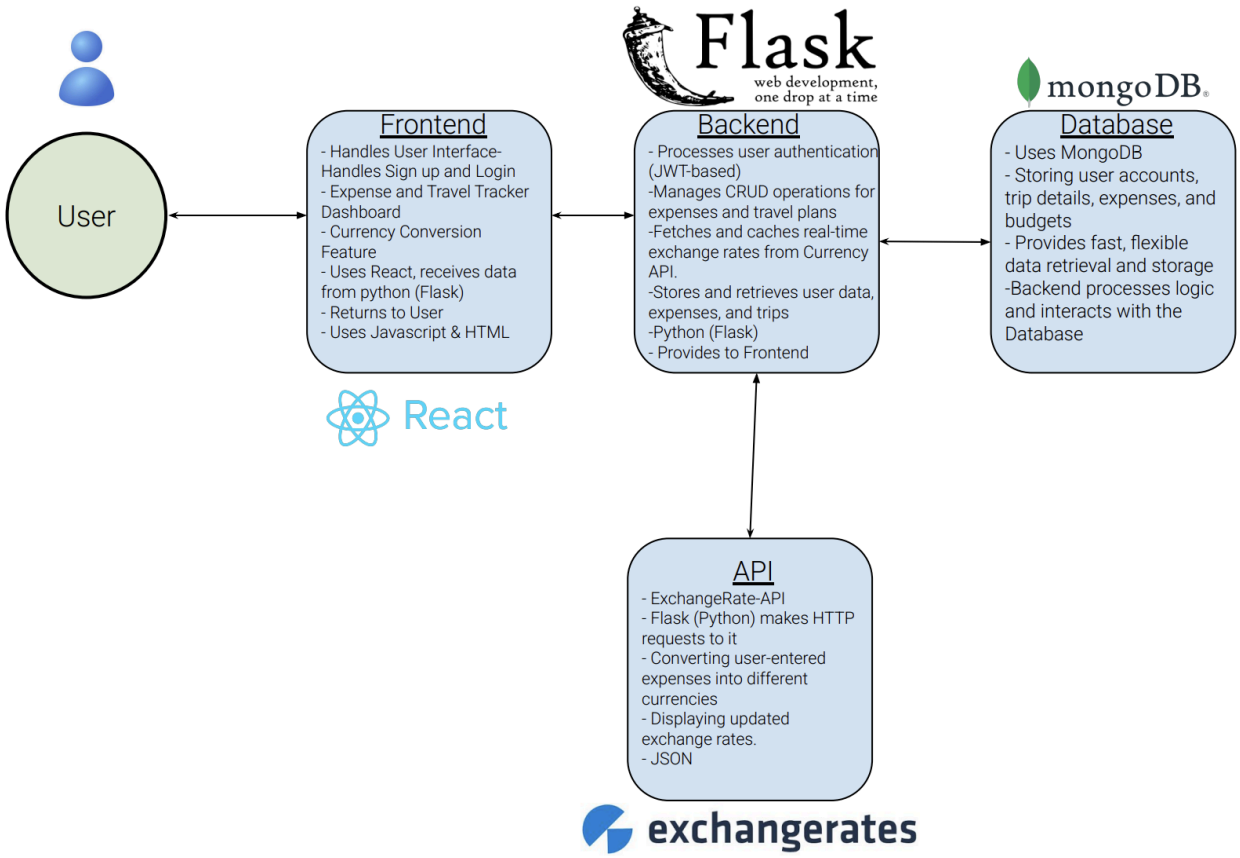
Planning vacations can be stressful and time-consuming, especially when managing multiple factors like expenses, itineraries, and currency conversions. Travelers often use separate tools to budget, convert currency, and organize their schedules, which can lead to inefficiencies and disorganization. Travel Tracker provides a user-friendly and secure platform that brings all these features together.

We plan to integrate expense tracking, budget management, itinerary planning, and real-time currency conversion into a single application :

1. Reduce travel planning stress through a centralized platform.
2. Enhance financial control by enabling users to track expenses, set allowances, and convert currencies seamlessly.
3. Improve organization with personalized itineraries and activity tracking.
4. Ensure security by safeguarding sensitive user data through robust authentication protocols.

This application encourages efficient planning, better financial management, and ultimately, a more enjoyable travel experience.

Architecture



Key Features:

- **User Authentication (Sign-up/Login)**
    - Users can create an account and log in securely using JWT authentication.
    - Ensures data privacy and secure access.
- **Vacation Budget Management**
    - Users can create a trip budget and track expenses for flights, hotels, food, and activities.
    - The budgeting tool ensures expenses stay within limits
- **Expense & Banking Tracker**
    - Users can manually enter their income, expenses, and recurring payments. It helps in tracking finances efficiently.
- **Real-Time Currency Conversion**
    - Integrated with an *Exchange Rate API* to provide up-to-date currency conversions.
    - Users can convert expenses and budgets into different currencies.
- **Trip Itinerary & Activity Planner**
    - Users can add and organize their travel itinerary, including flights, hotel stays, and activities.
    - It helps users plan each day efficiently.
- **Notes & Additional Travel Info**
    - Users can add custom notes related to their trip.
    - A personalized section for important travel details.
- **Backend Data Storage & Management**
    - All user data, trip details, and transactions are securely stored in *MongoDB*.
    - Provides fast data retrieval and storage.
- **User Interface**
    - Elegant and user-friendly UI designed with *React.js*.
    - Simple navigation between budgeting, itinerary, and expenses.
- **Secure API Communication**
    - *Flask* handles all API requests, authentication, and interactions with MongoDB.
    - Ensures smooth data flow between frontend and backend.

Chapter 2

Implementation

React: The client side of our application will be developed using **Javascript** and **React**. This allows for functionality for user experience for easy logins, a clean user interface, and robust performance. Users can access and manage their trip details such as budget, excursion plans, and notes. After logging in, users can input trip details stored in their user profile. This data is synchronized with the Python-based backend through API calls. Changes in currency exchange rates will be up-to-date and displayed to the user through the ExchangeRate API. Users will be able to monitor, edit, and save their trip plans and updates in real time.

Key Frontend Features:

- *Login/Signup Pages:* Secure authentication interfaces for user registration and login.
- *Tracker Page:* Users can log expenses, track budgets, and manage allowances. A dropdown menu allows users to convert finances into various currencies.
- *Travel Planner Page*: Users can create, manage, and edit vacation plans. The budgeting feature automatically compares expenses against the allocated budget and integrates with the currency conversion tool for international trips.
- *Currency Conversion Tool*: Real-time currency conversion using the in ExchangeRate API for accurate budgeting and financial tracking.

MongoDB: MongoDB will handle user data. Each user profile will be stored including username and password and user inputs for budget, flight information, stay information, itinerary planning, personal notes, and interests.

Python: The backend will be developed using Python to manage server-side logic. Python will talk to the client to user data and to communicate with the [currency API]. This will use Flask. The backend will interact with MongoDB for data storage and retrieval.

API: To provide real-time currency conversion, we will integrate the **ExchangeRate API**. This API supplies up-to-date exchange rates for various global currencies, ensuring that users can accurately budget for international trips.

Key API Functions:

- *Currency Conversion*: Fetch current exchange rates based on user-selected currencies.
- *Automated Updates*: Regularly update exchange rates to reflect the latest market changes.
- *Integration with Expense Tracker*: Convert user-entered expenses into different currencies using API data.