**Country Explorer Documentation**

**1.Overview**

Country Explorer is a web application that allows users to explore information about countries around the world. The application provides features such as country search, detailed country information, user authentication, favorites management, and theme customization.

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6. Architecture

Country Explorer is built using Next.js with a client-side rendering approach for dynamic components. The application uses context providers to manage global state for themes and authentication. The UI is built with reusable components following modern design principles.

**2.Core Features**

* Country Search: Search and filter countries by name, region, or other criteria
* Country Details: View detailed information about a specific country
* User Authentication: Register, login, and manage user sessions
* Favorites Management: Save and manage favorite countries
* Theme Switching: Toggle between light and dark themes
* Global State Management
* The application uses React Context API to manage global state
* **ThemeContext: Manages the application theme (light/dark mode)**
* **AuthContext: Handles user authentication and favorites management**

**3.API Endpoints**

The application consumes the following external REST API endpoints:

REST Countries API

Base URL: [**https://restcountries.com/v3.1**](https://restcountries.com/v3.1)

|  |  |  |
| --- | --- | --- |
| Endpoint | Method | Description |
| /all | GET | Retrieve information about all countries |
| /name/{name} | GET | Search countries by name |
| /alpha/{code} | GET | country by country code |
| /region/{region} | GET | Filter countries by region |

Internal API Routes

The application provides the following internal API routes:

|  |  |  |
| --- | --- | --- |
| Endpoint | Method | Description |
| /api/auth/register | POST | Register a new user |
| /api/auth/login | POST | Authenticate a user |
| /api/countries/favorites | GET | Get user's favorite countries |
| /api/countries/favorites | POST | Add a country to favorites |
| /api/countries/favorites/{id} | DELETE | Remove a country from favorites |

**4.Authentication**

Country Explorer uses a simple authentication system with client-side storage for demonstration purposes. In a production environment, this would be replaced with a more secure authentication method.

**Register User Flow:**

User provides registration details (username, email, password)

User data is stored in localStorage

User is automatically logged in

**Login Flow:**

User provides credentials (email, password)

Credentials are validated against stored user data

On successful validation, user is logged in and favorites are loaded

**5.User Session Management:**

User session is maintained in localStorage

Favorites are stored per user

Session is checked on application start to restore user state

Note: This simplified authentication is for demonstration purposes only and should not be used in production environments.