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Snorelacks' Design Document Target Ship Date:
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SoftDev
P01: ArRESTed Development
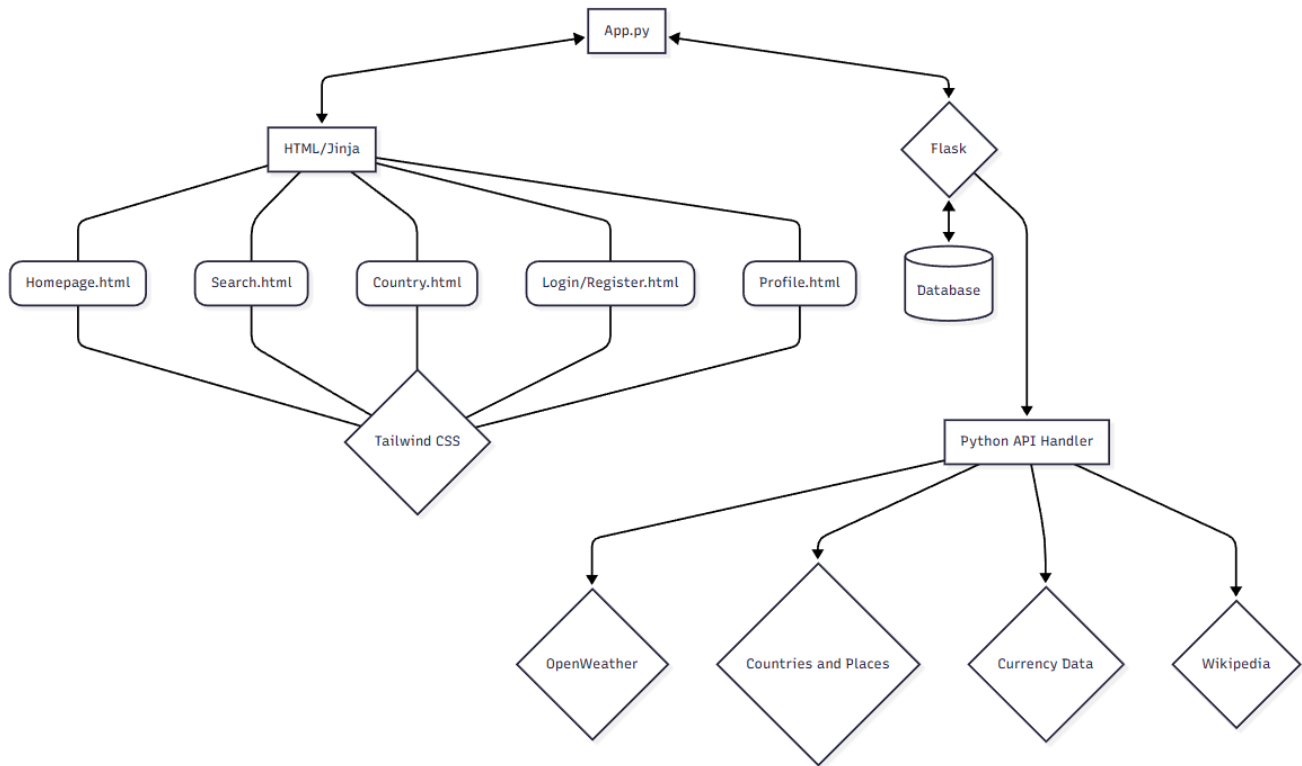
Travel Itinerary Website

**Choose a country, see its flag, weather, find famous landmarks to
visit, currency rates, population, possible routes to take; all to
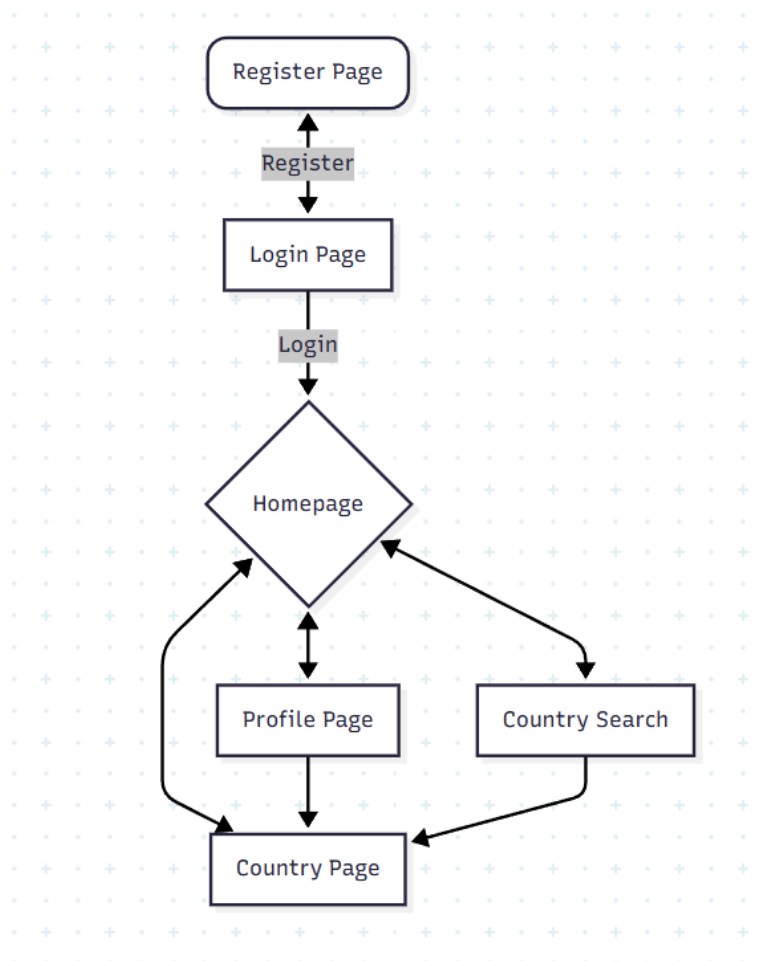find your perfect vacation!**

Program Components:

- Frontend
  - HTMl Templates
    - Country Search
      - Links to Wikipedia API
    - Each Country's page
    - Login Page
    - Register Page
    - Profile page
    - Homepage
  - CSS
    - *Tailwind* Frontend
- Backend
  - Database(Through SQLite3)
    - Python Backend handling updates and requests
    - User login DB
      - Stores Username, PW, Default settings (country of origin/address, default currency)
  - Flask Functionality (Through Jinja2)
    - Python Backend handling routing
  - API
    - OpenWeather
    - Countries
    - Currency Data
    - Wikipedia API
    - Places API

Component Map:

```
                              App.py
                             /      \
                            /        \
                     HTML/Jinja      Flask
                    /  |  |  |  \     /    \
                   /   |  |  |   \  Database
                  /    |  |  |    \        \
          Homepage  Search  Country  Login/Register  Profile
           .html    .html   .html      .html         .html
                  \    |  |  |    /              Python API Handler
                   \   |  |  |   /              /    |     |     \
                    Tailwind CSS              /      |     |      \
                                        OpenWeather  Countries  Currency  Wikipedia
                                                    and Places   Data
```

Sitemap:

```
              Register Page
                   ↕
                Register
                   ↕
               Login Page
                   ↓
                 Login
                   ↓
               Homepage
                /  ↕  \
               /   |   \
          Profile Page  Country Search
               \   |   /
            Country Page
```

Database Organization:

Users		
String	Username	No duplicates, unique string
String	Password	Password of the user
String	Country of Origin/Address	The location of the user
String	Default Currency	The currency that the user uses

API Section:

Countries API	OpenWeather	CurrencyData	Wikipedia API	Places API
https://rest countries.co m/	https://open weathermap.o rg/api	https://mark etplace.apil ayer.com/cur rency_data-a pi	https://en.w ikipedia.org /w/rest.php/ v1/	https://apid ocs.geoapify .com/docs/pl aces/
Pull information about certain countries' population, capital, currency, etc.	Pull weather data based on current timestamp and defined location	Provides exchange rate for different currencies	Provides wikipedia pages based on queries	Provides places parsed by category
https://restcountrie s.com/v3.1/all Auth: None(Public) Parameters: name, all currency Endpoints: /all /name /currency /alpha	https://api.openweat hermap.org/data/2.5/ weather Auth: appid in query Parameters: lat, lon Endpoints: assistant/session data/2.5/weather data/3.0/onecall	https://api.apilayer .com/currency_data Auth: apikey in header Parameters: source, currencies, amount, from, to, date Endpoints: /live /convert /historical	https://en.wikipedia .org/w/rest.php/v1 Auth: None(Public) o rUser-Agent Parameters: q(search),limit(max results) Endpoints: /page/html/ /page/summary/ /search/page	https://api.geoapify .com/v2 Auth: apiKey in query Parameters: categories, filter, bias, limit Endpoints: /places /routing /geocode/search

Frontend Framework:

Tailwind will provide us with much more flexibility to build our own styled elements and components compared to other frameworks, it'll allow us to create much more unique designs for our traveling website

- Gallery: provide image cards that will display country flags, landmarks, etc. Wrapped in gallery component with custom slides per image
- Search form: Provide a card containing text input that will facilitate searching countries, will be reusable and placed both in homepage and country search
- Top-bar: nav bar that provides linkage to user profile, country search, also simple drop-down for currency selection
- Hover effects: pretty-fy our site using built in hover components, ideally wrap it in all buttons that are interactable
- Sign-in/Sign-out: login card, reusable so that it will cover the login/logout pages and also ideally be callable whenever necessary

Task Breakdown:

- API Setup (Mustafa)
  - Get Access Keys, parse data
- HTML Templates Design (Yu)
  - Create Frontend Framework and structure
- Python Flask Scripting (Ricky)
  - Routes to frontend and handles user input
- Python DB and API Scripting (Andrew)
  - Interacts w/ DB and fetches data from API to present to user