

TRAVELYTICS

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<https://github.com/CMPT-276-SUMMER-2025/final-project-1-sky>

Project Overview

The Travelytics web app is designed to simplify the trip preparation process by gathering essential information in one place. Users will be able to do the following on the app:

Get country/city info (flag, language, currency, etc.)

5-day weather forecast for the selected city

View Air Quality

View past weather

The Problem

Everyone enjoys traveling; however, having to gather small bits of information from multiple sites makes traveling feel daunting and time-consuming. This problem has plagued many, and our group members have all personally been affected by it. Our project, Travelytics, will help individuals who want to travel to Canada, without the tedious planning process.

Potential Users and their needs

1. Average Vacationer (Ava, 26)

Needs:

- A quick overview of cities and countries, including basic travel info (e.g., flag, language, currency).
- Weather updates to plan trips around favorable conditions.
- Good Air quality due to medical condition

How Travelytics Helps:

- Uses GeoDB Cities to provide city-level data like currency, language, and safety insights.
- Uses WeatherAPI or OpenWeatherMap to deliver real-time and forecasted weather conditions.
- Air quality information helps travelers with lung conditions to travel.

2. Outdoors Enthusiast (James, 20)

Needs:

- Detailed, accurate, and up-to-date weather forecasts for outdoor planning.
- Info on less popular or remote travel destinations.

How Travelytics Helps:

- OpenWeatherMap offers 5-day forecasts and gear suggestions.
- GeoDB Cities API helps find and display remote cities with data like elevation and population.

3. Business Traveler (Alex, 19)

Needs:

- Fast, reliable information to stay informed on the go.
- Cultural and environmental awareness (e.g., local currency, air quality).
- Professional planning support with accurate weather and timezone data.

How Travelytics Helps:

- WeatherAPI provides 3-day forecasts, historical weather, and air quality, key for health-conscious, time-sensitive travelers.
- GeoDB Cities API shows time zones and city data useful for scheduling.
- GeoDB Cities API supports understanding local language, flag, and currency for professional preparedness.

Personas

Persona 1: Average Vacationer Goer (Ava, 26)

I want a quick overview of cities, weather, and travel safety to prepare for trips on the go.

Goals:

- Align trips with good weather and seasonal activities
- Easy to learn the basics of the city

Problems I don't want:

- Struggling to find all the information in one place and having to use multiple websites anyway
- I worry about travelling in the wrong season
- Worried i may feel overwhelmed by too much info

My uses

- Check how safe my destinations are
- Use the forecast to assist in booking flights

Persona 2: Outdoorsy Type (James, 20)

I travel for the adventure, and seeing weather conditions for my trip is highly important; poor weather means I do not go.

Goals:

- Visit new cities while on break from university
- Time trips around good weather conditions
- Make sure there is good air quality and safety

Problems I don't want

- Inaccurate weather will disrupt travel plans
- Need simple and fast weather reports before booking

My uses

- Check for safety alerts
- Make sure weather is good

Persona 3: The business traveller (Alex, 19)

I need fast and reliable information on cities about their weather, safety, and culture to stay professional on my travels

Goals:

- Prepare myself quickly before meeting in different parts of the world
- Stay informed about time zone changes, weather, and safety
- Have this tool to travel efficiently

Problems I don't want:

- I am a busy person, I need quick and brief research on the country I am visiting
- I need local cultural information as I meet new clients
- Need accurate weather updates

My uses

- Rely on quick info as I don't have time to mess around going from app to app
- Comparing cities is important to know where to plan meetings

2 Primary APIs:

GeoDB cities

Weather API - <https://www.weatherapi.com/>

What each API does

- GeoDB Cities
 - Show population, elevation, timezone
 - City search with autocomplete
 - GPS location, current time (factors in daylight savings)
- WeatherAPI
 - Weather forecast 3 day
 - Past week weather
 - air quality

2 Backup APIs:

REST countries

OpenWeatherMap

Our two backup APIs were chosen because they closely overlap with the functionality provided by our primary APIs. REST Countries can provide country-level info like flags, currency, and

language, which can complement or substitute GeoDB cities. It can also be helpful for future expansion beyond Canada. OpenWeatherMap is a weather API that offers similar weather forecasting features to Weather API. This ensures that if either of our primary APIs becomes unavailable or limited, we'll still maintain core functionality.

What each API does

- Rest countries
 - Show flag, currency, and language
 - Show Safety
 - Show bordering countries
- OpenWeatherMap
 - 5-day weather forecast
 - Weather-based gear suggestions
 - Compare two cities' weather

PAID API AGREEMENT:

It was mentioned in the comments that we need to fill out a paid API usage agreement form if we are using paid APIs. We are using APIs that have paid options, but for our usage, we can use the free plan as our website does not require a 14-day forecast. Our website will not see enough traffic to warrant the paid subscription either.

User Stories

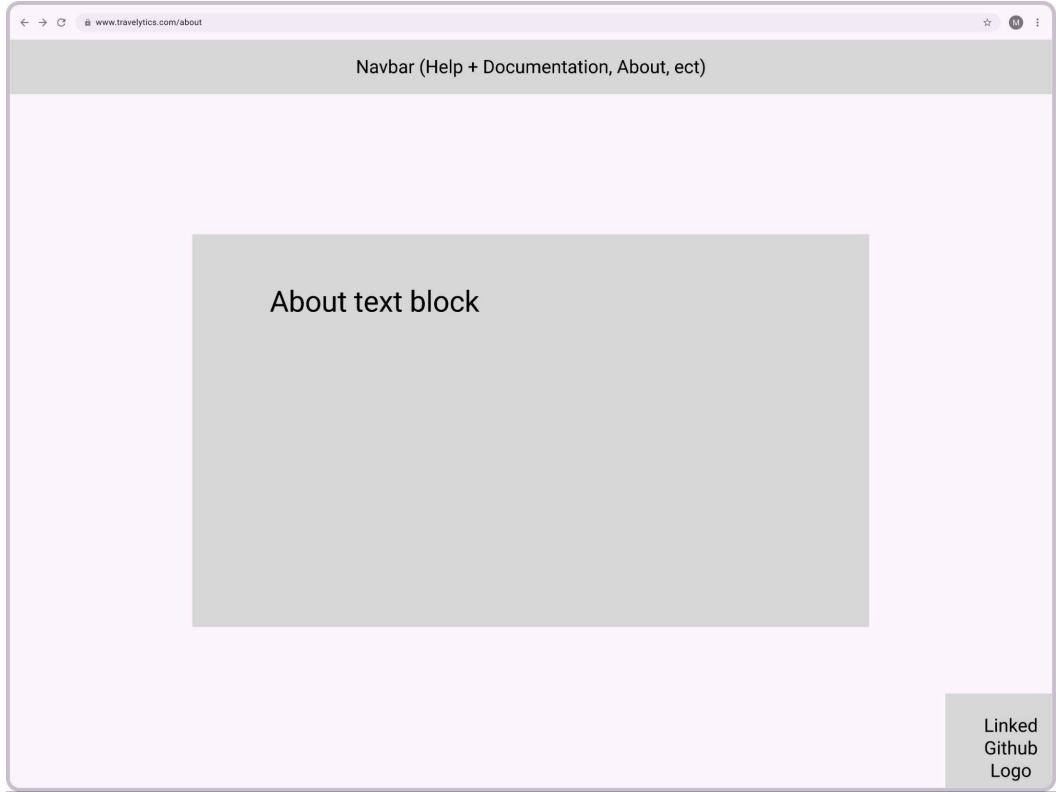
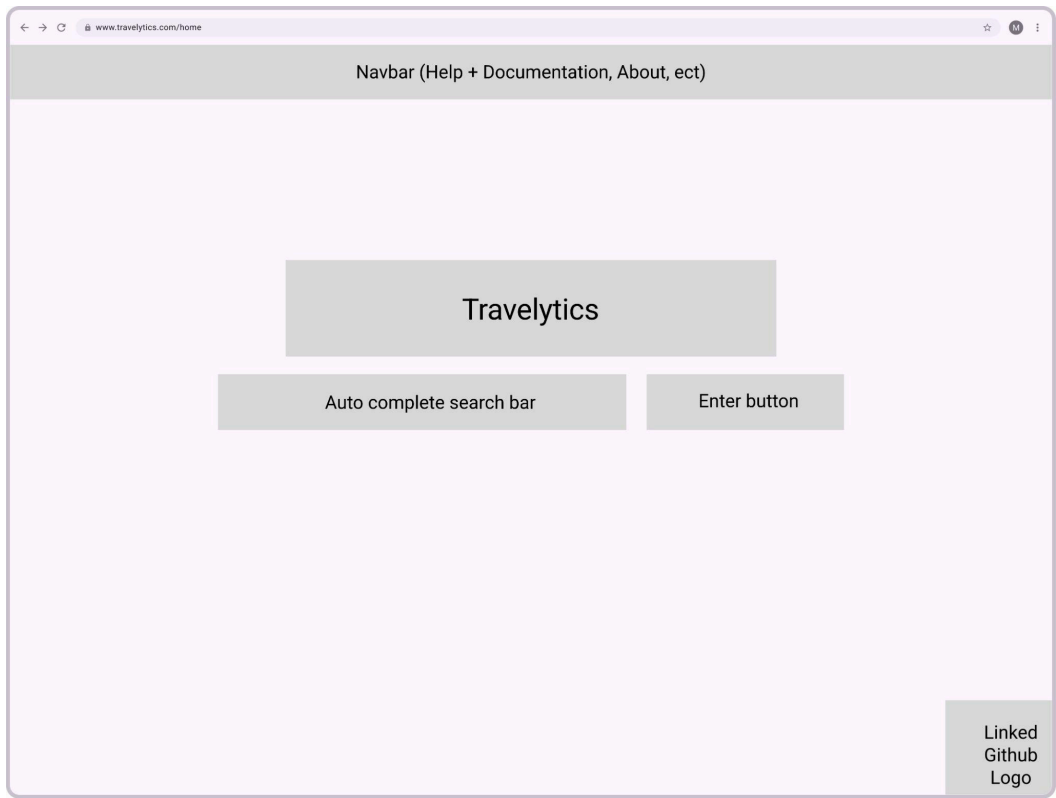
GeoDB Cities

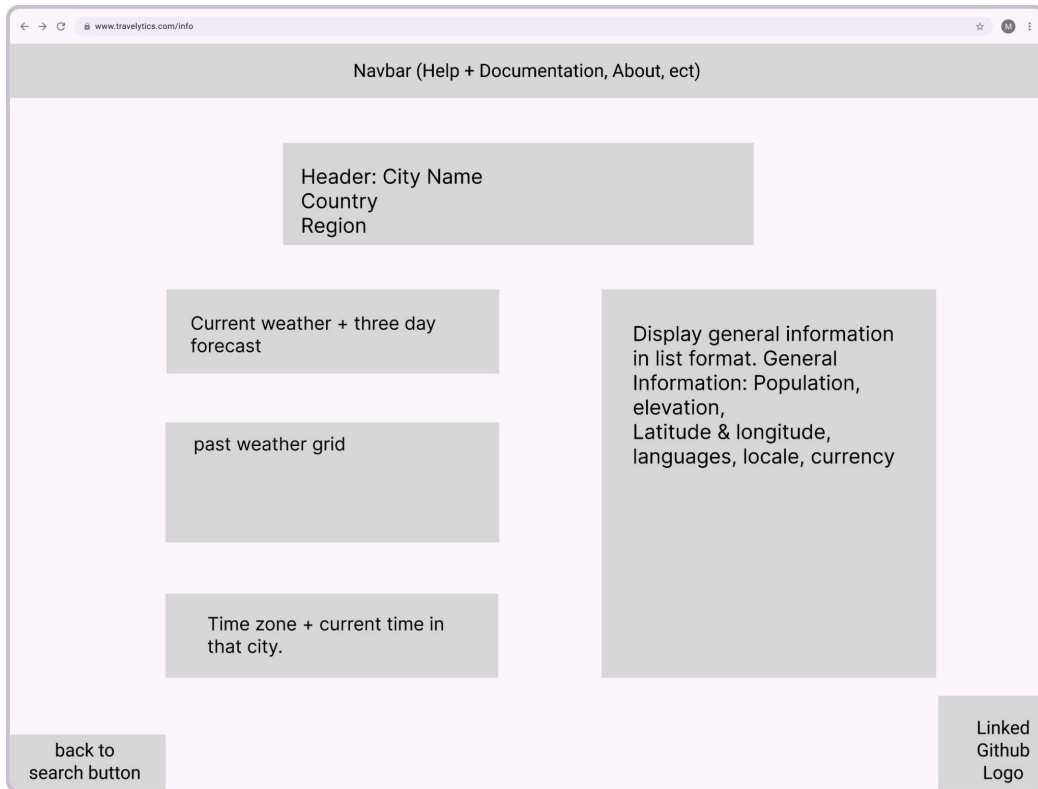
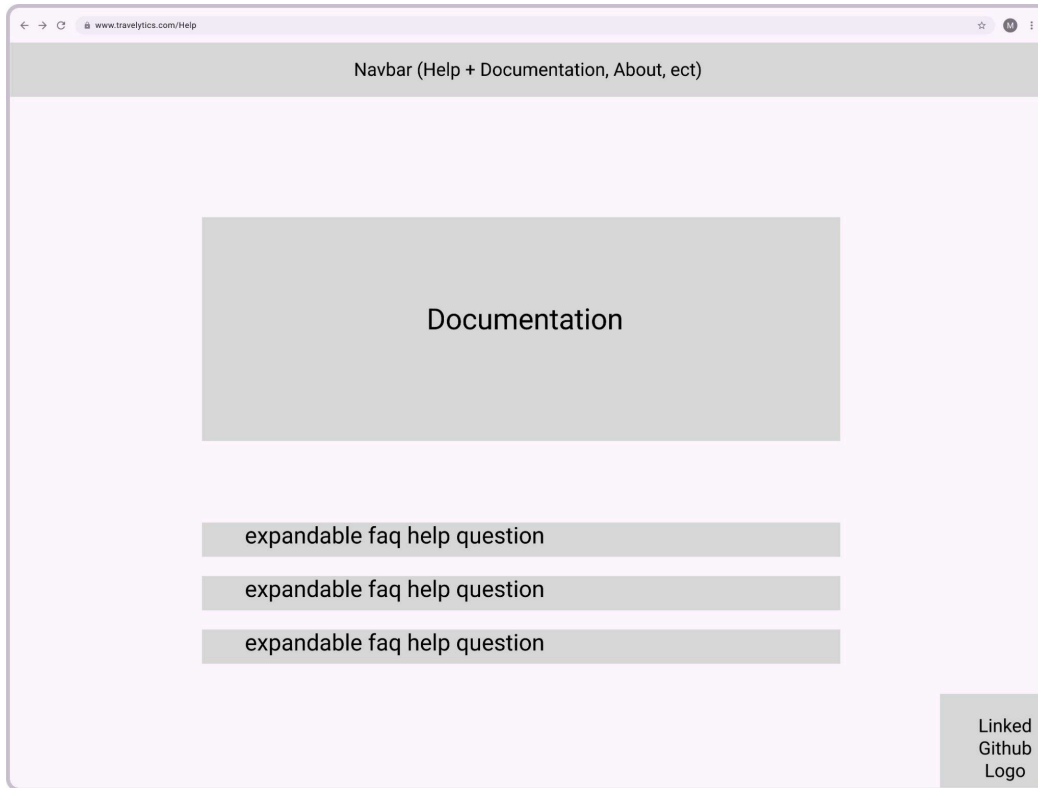
- Show population
 - As a traveler, I want to view a city's population so that I can better understand the size of the place I'm planning to visit.
- Show timezone
 - As a user, I want to view a city's time zone so that I can know the local time before traveling or communicating with someone there.
- Show elevation
 - As a traveler, I want to view a city's elevation so that I can prepare for altitude-related conditions like thinner air or weather changes.

Weather API

- Weather forecast 3 day
 - Users want to plan for a few days in advance
- Past week weather
 - Users want to get a rough idea of the general weather of the location based on past data.
- Air quality
 - Users with respiratory issues want to view the air quality of their travel destination

Wireframe





Front-end technology stack

We plan on using next.js for our front-end technology stack. It allows us to use libraries like tailwind css for customized buttons and fonts. Next.js works on top of react, which provides routing, a feature that we will want to use in our project to work with APIs. For tailwind, we decided on it because it allows us to create UI items faster. Since we are using Next.js, we realized it would be most efficient to host our site using Vercel.