GetLitty

Summary

Our project aims to build a concert travel planner web application that helps users decide the most cost-effective city to attend a concert or live event. The application will combine data from Ticketmaster's Discovery API (concert and event information) and Airbnb's open datasets (lodging availability and cost). By merging these sources, the application will recommend where users should travel for an event based not only on availability but also on affordability. This makes the application especially useful for attendees who want to plan trips while keeping expenses low.

Description

The problem we want to solve is the difficulty of planning affordable concert trips. Fans often know an artist is touring but don't know which city might offer the cheapest or best experience. Instead of manually searching ticket sites and then cross-referencing hotel prices, our application centralizes this process.

Users will be able to:

- Search for an artist or event.
- Filter by state, distance, and dates.
- View upcoming concerts in different cities.
- Compare the cheapest Airbnb accommodation prices for those cities on the event date.

By combining two live, real-world data sources, the application provides meaningful insights that a user could not get from either dataset alone.

Creative Component

Our creative component has two parts:

1. Surprise Me Button (Randomized Genre)

In addition to searching by a chosen artist or genre, users can click a "Surprise Me" button that randomly selects a genre and shows the cheapest options available. This feature adds a fun, exploratory element for users who might not know exactly what they want to see but are open to discovering new concerts. While the genre is randomized, the system still guarantees that the recommendation shown is the minimum-cost option for that genre.

2. Interactive Map Visualization

Top concert locations will be displayed on an interactive map, with markers sized or colored based on combined "cost score" (tickets + lodging). Clicking on a location in the map/legend zooms in on that location. This makes comparing cities more intuitive and visually engaging.

Usefulness

This application is highly useful for concert attendees and travelers. While ticket sites show prices and hotel sites show lodging, no existing platform combines these to give travel cost insights specific to events.

Similar platforms:

- Ticketmaster: Shows events, but not lodging costs.
- Airbnb: Shows lodging prices, but not events.
- Trip planning apps: Focus on flights/hotels, but don't connect to live events.

Our application is different because it combines concert and lodging data in one place, helping users make smarter, cost-based travel decisions.

Realness (Data Sources)

1. **Ticketmaster Discovery API**
   - **Source:** Ticketmaster Developer Portal
   - **Format:** JSON (API responses)
   - **Size:** Millions of events globally; users can filter by artist, location, or date
   - **Fields Used:** Event name, date, venue, ticket price ranges, city
2. **Airbnb Dataset (InsideAirbnb)**
   - **Source:** InsideAirbnb Open Data
   - **Format:** CSV datasets. We would use the available data here, which only includes around data for 20 states, as artists are more likely to perform in larger cities anyways
   - **Size:** Tens of thousands of listings per city; updated monthly
   - **Fields Used:** Average nightly price, location (lat/long), availability, room type

Ticketmaster gives us the event information, Airbnb provides local lodging costs.

Functionality

- **Search**: Users can search for concerts by artist name or genre, and the system queries Ticketmaster's API and returns matching concerts.
  - **Event Listings**: The site will display event details including city, venue, and ticket price range.
  - **Cost Comparison**: For each city, the application will calculate an estimated total cost (ticket + average Airbnb nightly cost).
- **Filters**
  - **State Filter**: Users can restrict results to concerts happening in specific U.S. states.
  - **Date Filter**: Users can filter to a date range for the concerts.
  - **Distance Filter**: Users can set a maximum distance (in miles) between the concert venue and their Airbnb accommodation. Only options within that range will be considered in cost calculations.

- **Read**
  - **Table View**: The user can see all event + airbnb results in a table, sorted by monetary value.
- **Recommendation**: The system will rank events by affordability and output the cheapest valid option based on the filters (state + distance).
  - **Randomized Recommendation**: This is our creative component, and it is a "Surprise Me" button that allows the system to randomly select a genre and pick the cheapest valid concert option in that genre.
- **Interactive Map**: Concert locations will be displayed on a map for the top 5 venue combinations (of concert location and lodging with that state).

Low-Fidelity UI Mockup

SEARCH:
- Search bar for artist or genre
- Dropdown filter for U.S. state selection
- Slide bar for "Maximum Distance (miles) from concert to hotel"
- "Surprise Me" button to randomize genre and find the cheapest option
- Search button

RESULT:
- Table of upcoming concerts showing:
  City | State | Date | Venue | Ticket Price Range | Avg Airbnb Price | Total Cost Score.
- "Best Option" panel at the top summarizing cheapest valid option
- Interactive map with pins showing concert locations
- The pins are numbered, and there is a legend showing information:
  - Ticket price range
  - Average Airbnb cost
  - Venue to hotel distance.
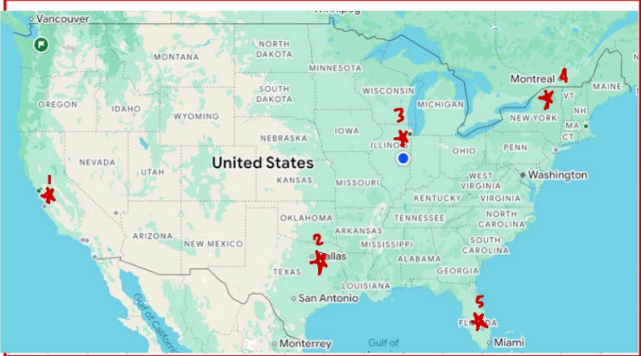
Project Work Distribution:

Our team has four members, and responsibilities are divided to ensure balanced contributions across backend, frontend, and integration tasks:

- **Michelle – Ticketmaster API & Event Data**

Responsible for integrating the Ticketmaster Discovery API and implementing event search/filtering by artist, genre, and date. Will also ensure event details (venue, ticket price ranges, and city/state information) are correctly structured for the backend.

- **Ashley – Airbnb Dataset & Cost Calculations**

Responsible for processing Airbnb's open dataset, calculating average nightly lodging costs, and applying the distance filter between concert venues and nearby accommodations. Will also help generate the combined "cost score" for each event.

- **Ananya – Backend Integration & Features**

Responsible for combining the Ticketmaster and Airbnb data into a unified backend pipeline. This includes implementing filtering logic (state/date/distance), building the "Surprise Me" random genre feature, and ensuring affordability rankings are accurate.

- **Ana – Frontend & Interactive Map**

Responsible for developing the user interface, including the search bar, filters, results table, and "Best Option" panel. Will also create the interactive map visualization with pins representing concert locations, styled by cost score, and clickable details for ticket and lodging costs.

All members will collaborate on testing, debugging, and integration.