America at 30,000 feet

Visualizing and Exploring US Flight Data (update

Introduction

Amazon is choosing HQ2 and has clear criteria in the RFP. We aim to create a tool that assists in selection of the HQ2 city based on information freely available, focusing on the air travel requirements.

1. **Near a population center**
2. **Airport proximity / direct-flight access to key cities, HQ1**
3. Good local colleges
4. Renewable energy
5. Fiber access
6. Quality of life
7. Diverse population
8. Labor and wages
9. Traffic congestion
10. Housing Cost & availability

Data, Tasks and Users

Data:

- Raw data from the Bureau of Transportation and Statistics T100D Domestic Segment (U.S. Carriers): contains domestic non-stop segment data reported by U.S. air carriers
- Enhance data with geotags, city population and distance to city center to form insights

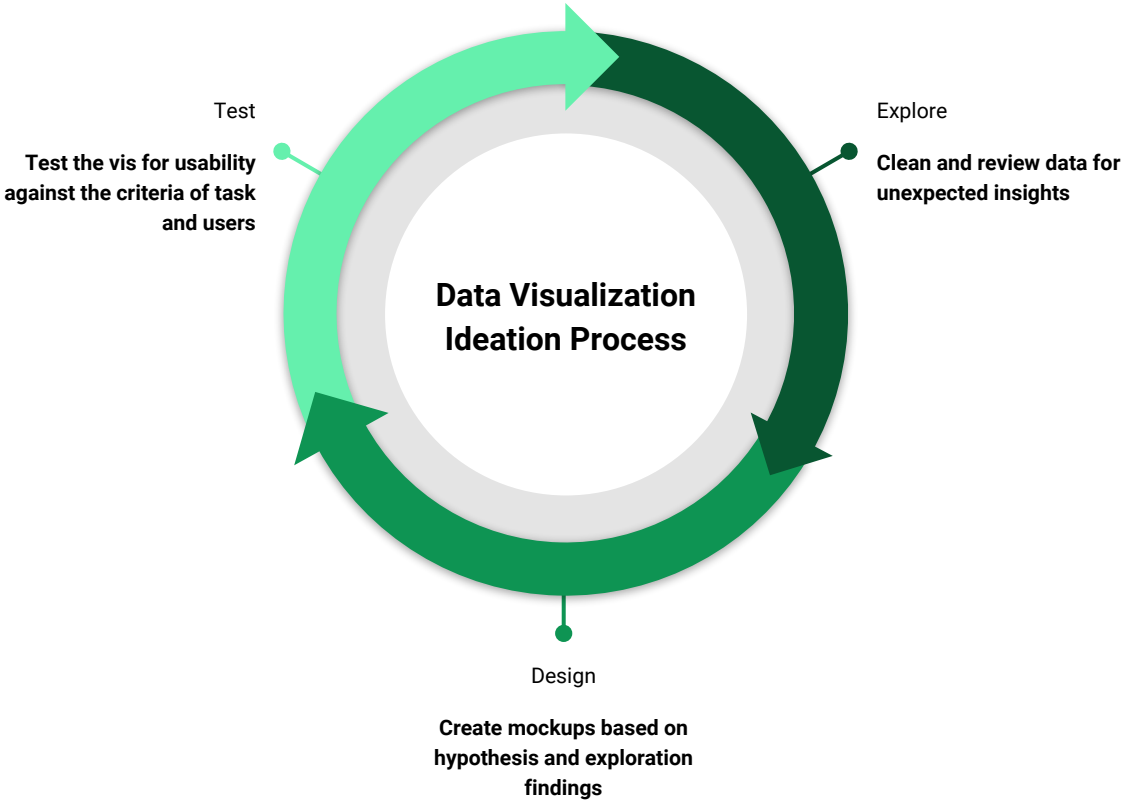
Tasks:

- Identify a new city for HQ2 expansion based on air traffic optimization
- Identify preferred airline to target for corporate premium access

Users:

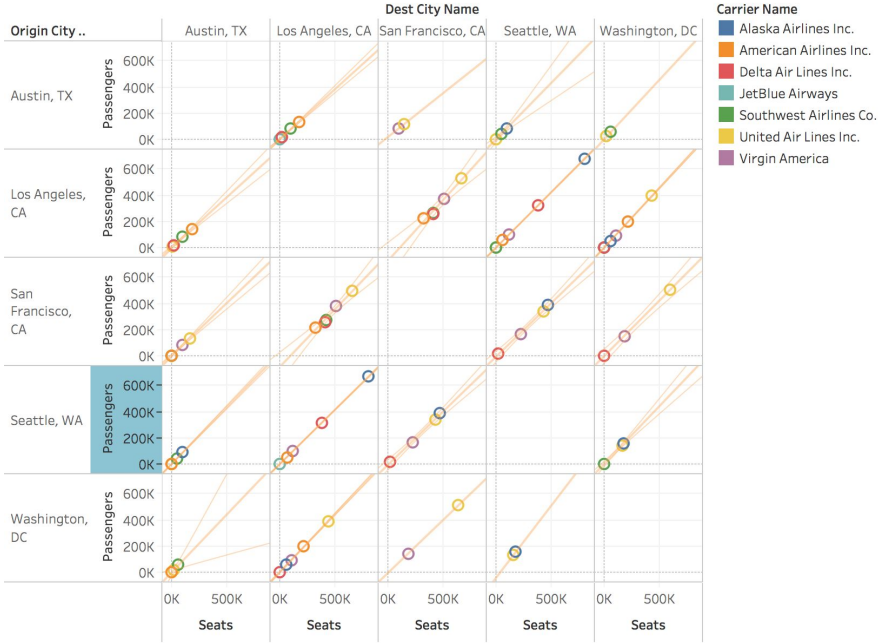
- Amazon HQ2 selection committe, HR departments, expanding large companies
- City councils
- Business travellers

Iteration Process



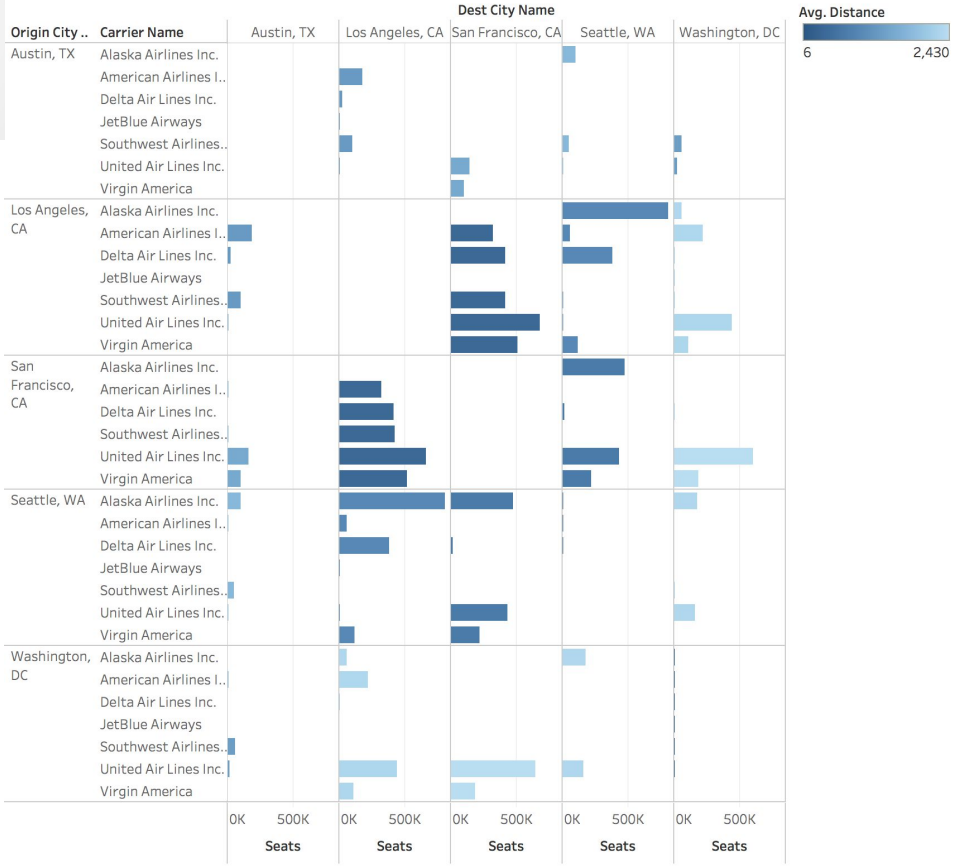
Data Exploration

Initial Exploration



Sum of Seats vs. sum of Passengers broken down by Dest City Name vs. Origin City Name. Color shows details about Carrier Name. The view is filtered on Dest City Name, Origin City Name, Carrier Name, sum of Passengers and Exclusions (Carrier Name,Dest City Name,Origin City Name). The Dest City Name filter keeps Austin, TX, Los Angeles, CA, San Francisco, CA, Seattle, WA and Washington, DC. The Origin City Name filter keeps Austin, TX, Los Angeles, CA, San Francisco, CA, Seattle, WA and Washington, DC. The Carrier Name filter keeps 7 members. The sum of Passengers filter includes greater than and or equal to 0 and keeps Null values. The Exclusions (Carrier Name,Dest City Name,Origin City Name) filter keeps 51,676 members.

Initial Exploration

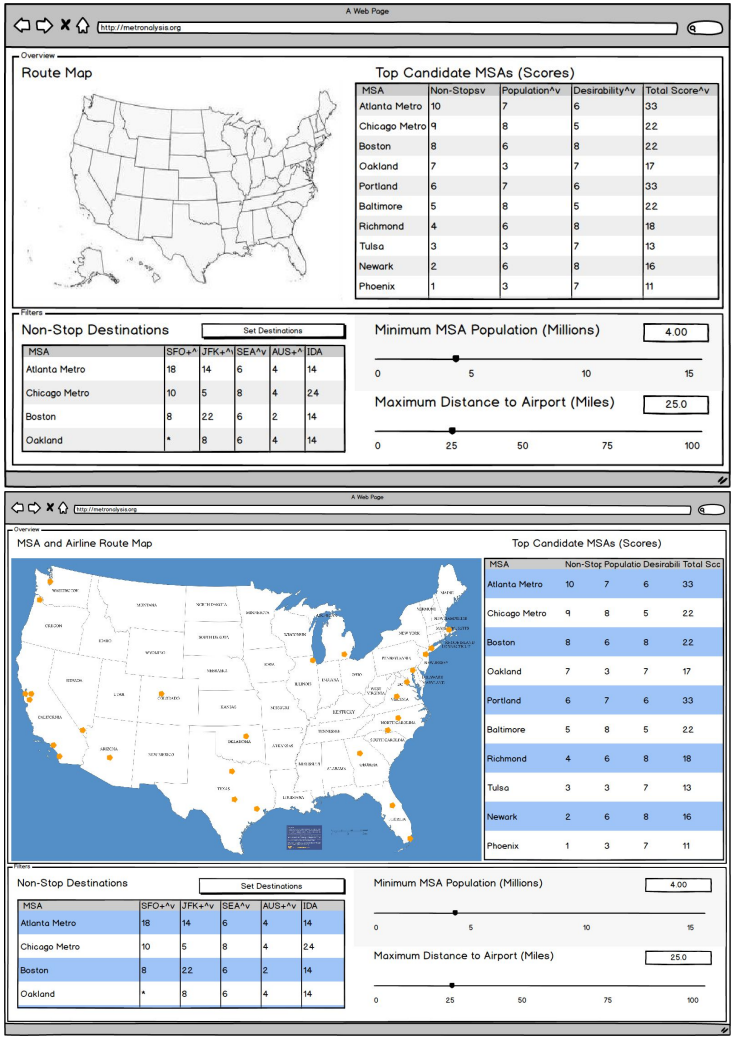


Sum of Seats for each Carrier Name broken down by Dest City Name vs. Origin City Name. Color shows average of Distance. The view is filtered on Dest City Name, Origin City Name and Carrier Name. The Dest City Name filter keeps Austin, TX, Los Angeles, CA, San Francisco, CA, Seattle, WA and Washington, DC. The Origin City Name filter keeps Austin, TX, Los Angeles, CA, San Francisco, CA, Seattle, WA and Washington, DC. The Carrier Name filter keeps 7 members.

Prototyping & Design

balsamiq

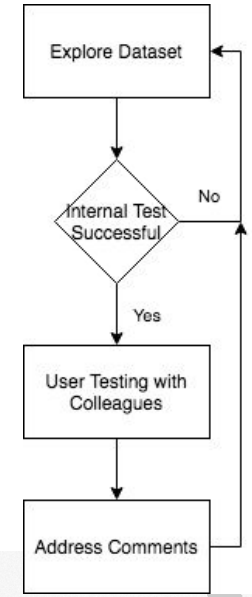
- Balsamiq is a fast-prototyping design tool
- There is an active community building free public libraries of interactive display and interaction capabilities (buttons, sliders, selectors, containers, etc.)
- Provides cartoon-realistic view of the interface. Easy to add links and simulate functionality.

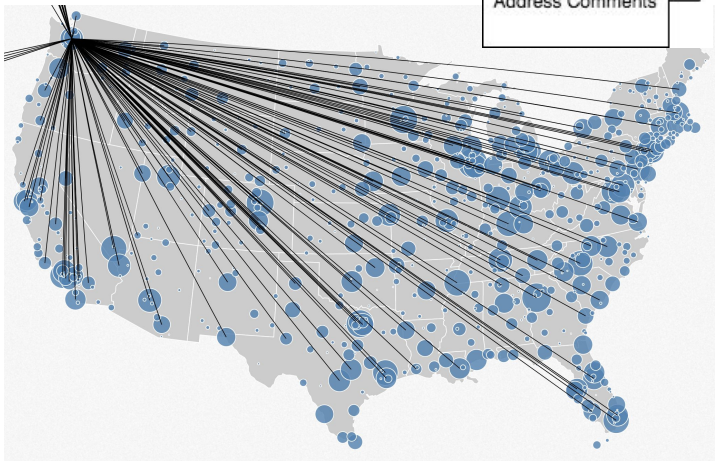


Test

Testing occurs at every stage of our development, expanding to user test near after passing internal criteria

- Exploration: publish as a dashboard for public consumption
- Mockup: design the interactions and UX layout
- Test: identify strengths and weaknesses
- Iterate: improve the design





Questions and Feedback

Next Steps (needs work or perhaps cut - we have a lot of content already for 15 minutes)

Continue ideation process to explore, design, test until we are satisfied or time runs out

Immediate steps, add thickness to line plots to indicate number of seats

Split by airlines - exploration reveals united has most options, but this may change based on unique city choice

> More seats = more options for direct flights, preferred for business travellers.
>
> Assume connectivity to amazon prime (haha) is of highest value