DVP Presentation

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Project Title: **Restaurants near me - Uber Eats**

Introduction and Motivation

In 2014, Uber launched an online food ordering and delivery platform which is called Uber Eats. Users can use a mobile app, or through a web browser, to read menus, view restaurant locations and ratings, order and pay for food from participating restaurants. Besides, with Uber Eats delivery, all people favorite foods are right at doors with just a tap of phone.

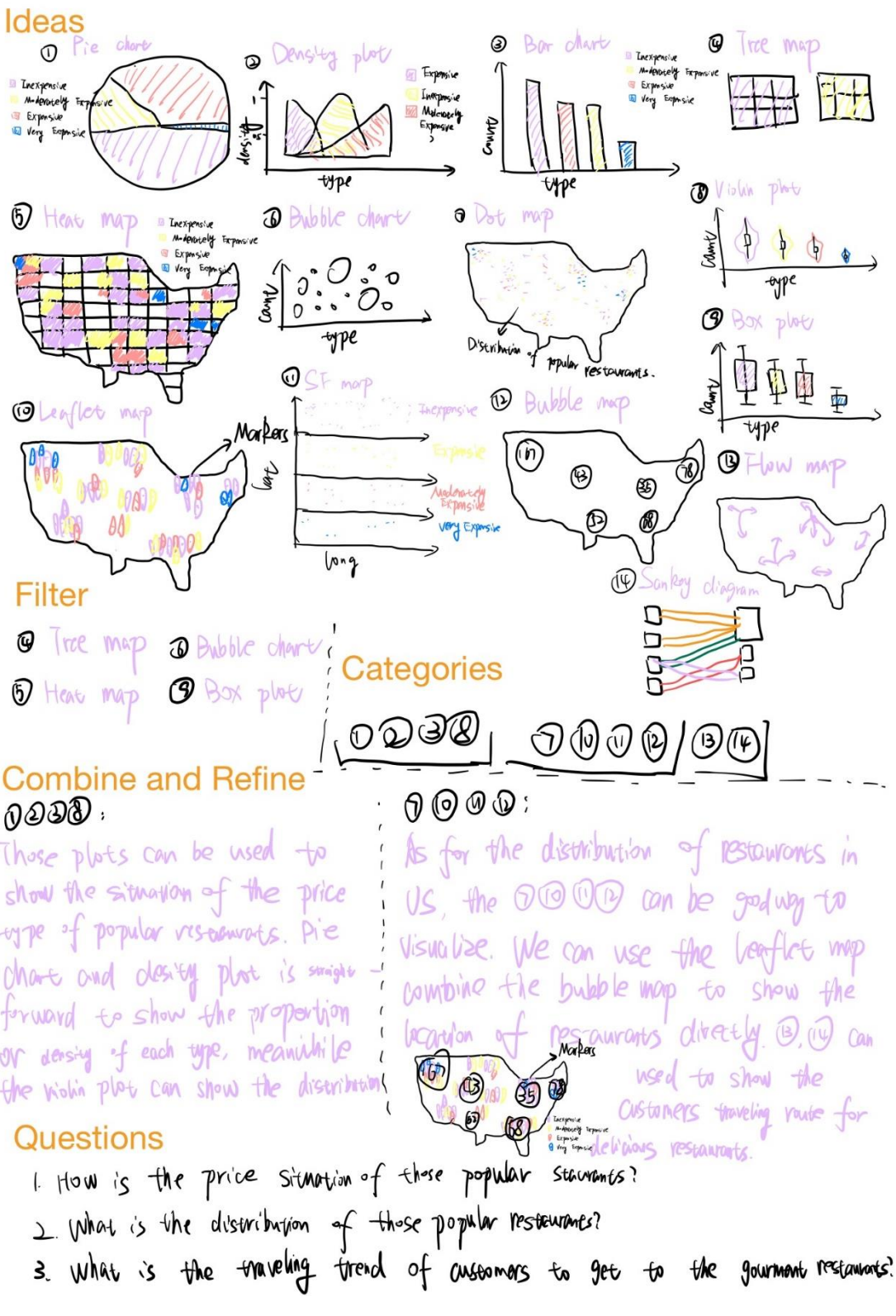
The questions I would like to study in DVP are:
1. How are the characteristics of the most popular restaurants?
2. How much cost can people expend for hot gourmet restaurants?

Aim

The key message that I hope to convey to the target audience is how to show the distribution of popular restaurants by price type and the geographical location of popular restaurants on the US map. Besides, as for how much cost people spend on food, I also want to express through some visual methods, rather than using tables just like what I did in DEP to elaborate on this issue.

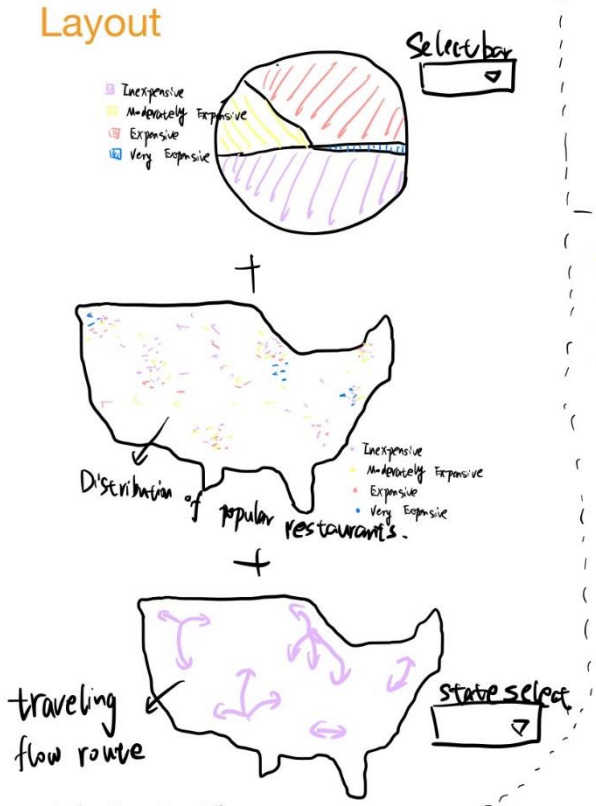
The intended target audience for communicating this key information will be uber eats users, who will have a new perspective on U.S. restaurant data by communicating key information about nearby restaurants, choosing restaurants more informative and mutually beneficial for both restaurants and customers, thus contributing to the economic growth of the restaurant industry and even the take-out industry. The integration of restaurant data also makes it easier for people to understand the overall information of the nation's gourmet restaurants and provides a more comprehensive picture for data analysts.

Sheet1


Ideas
① Pie chart
Inexpensive
Moderately Expensive
Expensive
Very Expensive
② Density plot
density
type
Expensive
Inexpensive
Moderately Expensive
③ Bar chart
count
type
④ Tree map
⑤ Heat map
⑥ Bubble chart
count
type
⑦ Dot map
Distribution of popular restaurants.
⑧ Violin plot
count
type
⑨ Box plot
count
type
⑩ Leaflet map
Markers
⑪ SF map
cost
long
Inexpensive
Expensive
Moderately Expensive
Very Expensive
⑫ Bubble map
⑬ Flow map
⑭ Sankey diagram
Filter
④ Tree map
⑥ Bubble chart
⑤ Heat map
⑨ Box plot
Categories
① ② ③ ⑧
⑦ ⑩ ⑪ ⑫ ⑬ ⑭
Combine and Refine
① ② ③ ⑧ :
Those plots can be used to show the situation of the price type of popular restaurants. Pie chart and density plot is straight forward to show the proportion or density of each type, meanwhile the violin plot can show the distribution
⑦ ⑩ ⑪ ⑫ :
As for the distribution of restaurants in US, the ⑦ ⑩ ⑪ ⑫ can be good way to visualize. We can use the leaflet map combine the bubble map to show the location of restaurants directly. ⑬, ⑭ can used to show the customers traveling route for delicious restaurants.
Markers
Questions
1. How is the price situation of those popular staurants?
2. What is the distribution of those popular restaurants?
3. What is the traveling trend of customers to get to the gourmant restaurants?

Sheet2

Layout



INFO

Title: Restaurants near me – Uber Eats
Author: Yunzhi Chen
Date: 5/10/2022
Sheet Number: 2

Operation

1. Pie chart: Has a select panel to choose the choice of different judgment of popular restaurants, in order to output the proportion of different price type.
2. Dot map: Using ggplotly to have a interactive plot of distribution of restaurants in US
3. Flow chart: By choosing different zip_code (which represents variance region), interactively showing the traveling flow in different area of US.

Focus

Select bar

high score
high ranking
high score and ranking

State select

zip-code of each state (represent different region of US)

Discuss

+VE

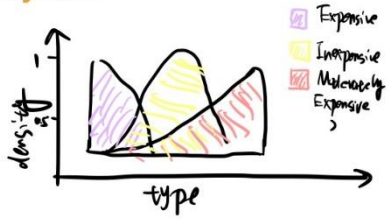
- Flow map can vividly expresses the trip routes that people in different states spend on food

-VE

- Pie chart can't show information in detail, and people don't really understand the size of circles and angles.
- The information brought by dot map is intuitively flat and single, which is not enough to have visual impact.

Sheet3

Layout



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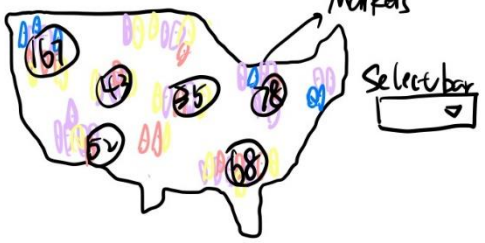

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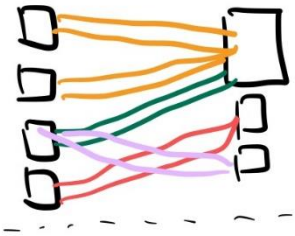
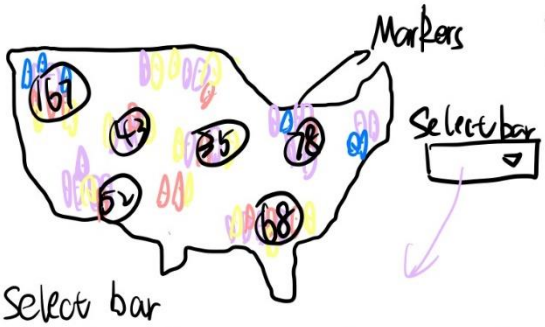


Focus



Select bar

Select bar is used to choose different type of price to show the geographical distribution of hot places.

INFO

Title: Restaurants near me – Uber Eats

Author: Yunshi Chen

Date: 5/10/2022

Sheet Number: 3

Operation

1. Desity plot: Has a select panel to choose the choice of different judgment of popular restaurants, in order to output the density of different price type.
2. Leaflet plot: Using leaflet function to display the count of this areas' restaurants with marker to represent each place, by selecting various price type to see diverce map.
3. The overall trip diagram is obtained by populating the origin and destination in the sankey diagram.

Discuss

+VE

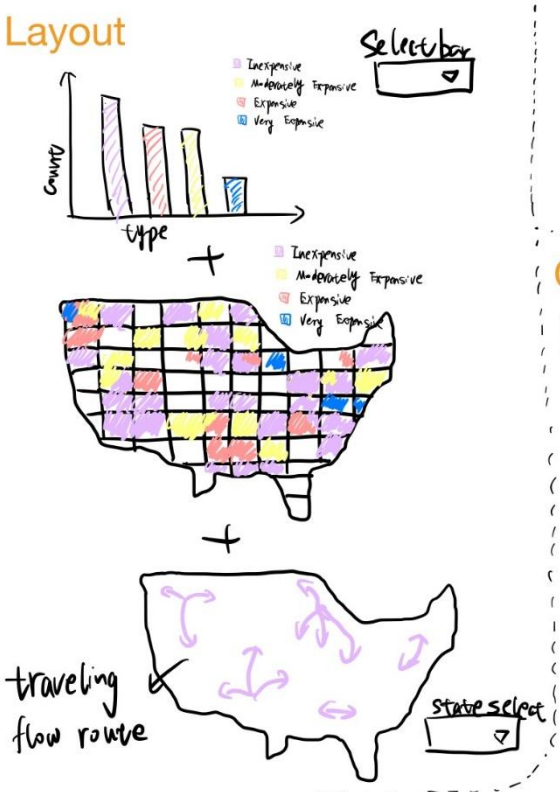
- Leaflet is a very useful visual tool, which can display data information using makers and popups.

-VE

- Sankey map can only simply show where to start and end, not how long the path is and whether the trip crosses state line.

Sheet4

Layout



INFO

Title: Restaurants near me – Uber Eats
Author: Yunshi Chen
Date: 5/10/2022
Sheet Number: 4

Operation

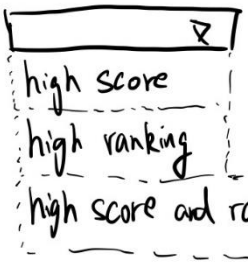
1. Bar chart: Has a select panel to choose the choice of different judgment of popular restaurants, in order to output the count of different price type.

2. Heat map: By mapping the hot spots of restaurants with diverce price levels, we can get a visudisation of the price type of popular restaurants and their geographical locations.

3. Flow chart: By choosing different zip_code (which represents variance region), interactively showing the traveling flow in different area of US.

Focus

Select bar



State select

zip-code of each state (represent different region of US)

Discuss

+VE

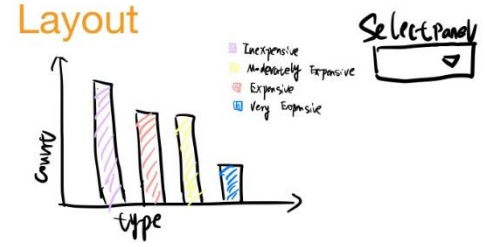
- Flow map can vividly expresses the trip routes that people in diffrent states spend on food
- Bar chart is clear and straight-fawrd.

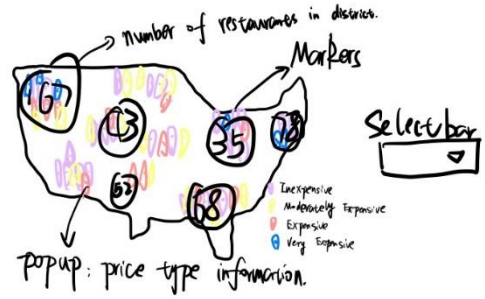
-VE

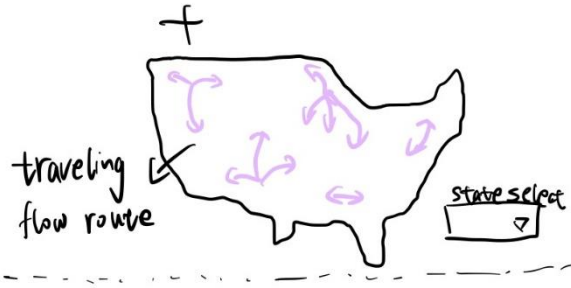
- Heat map doesn't accurately show precise message and can't easily indentify specific values.

Sheet5

Layout







INFO

Title: Restaurants near me – Uber Eats

Author: Yunzhi Chen

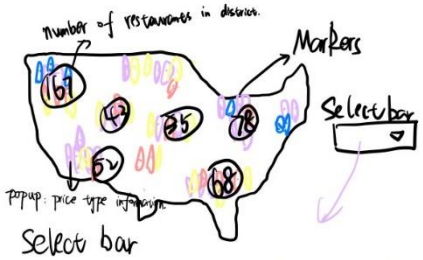
Date: 5/10/2022

Sheet Number: 5

Operation

1. Bar chart: Has a select panel to choose the choice of different judgment of popular restaurants, in order to output the count of different price type.
2. Leaflet plot: Using leaflet function to display the count of this areas' restaurants with marker to represent each place, by selecting various price type to get divorce map. with the popups showing the price type information.
3. Flow chart: By choosing different zip-code (which represents variance region), interactively showing the traveling flow in different area of US.

Focus



Select panel

- high score
- high ranking
- high score and ranking

Select bar

- Inexpensive
- Expensive
- Moderately Expensive
- Very Expensive

select bar is used to choose different type of price to show the geographical distribution of two places.

State select

zip-code of each state (represent different region of US)

Details

Dataset

Restaurant data has dimension of 40338 rows × 11 columns, has the information of rating, price, and geographic location.

Uber data has 1156 rows and 7 columns, which is based on Uber drivers trips and contains variables such as trip start/end times, departure and arrival locations.

Dependencies

R Shiny

Estimate

Before 20/10/2022:
Shiny structure construction and graphs completion

Before 27/10/2022:
User Interaction: select

30/10/2022: Overall design and report ready.