INFO 215 Project Proposal (Revised)
Data Visualization on Paris Airbnb Datasets
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Motivations
Airbnb has been developing rapidly in the past few years as part of the sharing economy boom. This not only allows people with available rooms to earn extra income, but also offers travelers the comfort of a home for a reasonable price. Therefore, Airbnb hosts and travelers play an integral part in Airbnb's business model. Our main motivation for this project is to help Airbnb owners increase revenues from bookings and set listing price that is still attractive to travelers.

As data scientists at Airbnb, we are eager to uncover and leverage insights from the Airbnb datasets to help hosts better manage their listings through pricing recommendations. We would like to see what factors contribute to higher listing price and what can increase the number of bookings. Then we can help Airbnb develop optimized listing price range for each property and it can serve as guide for its hosts. With the list of factors that affects price, Airbnb hosts can decide if their listing can be improved to the next level. Additionally, an optimized price range allows the hosts to maximize their revenue and still attracts high number of bookings. Travelers are also more likely to accept the price and make the booking.

For this project, we will focus on the data for Airbnb in Paris, France. The dataset is acquired directly from Airbnb website and it contains comprehensive data on the listed property, owner information and status, and reviews and ratings. The analysis will be done with a combination of Python and Tableau.

Problems to Study
Based on the motivations discussed above, we will focus on four aspects of pricing and its future pricing trend to help hosts better manage their listings through pricing recommendations.

1. We plan to analyze seasonal patterns and travel trends reflected in the listing prices of Airbnb in Paris. What is the busiest time to visit and what days of the month are most likely to be booked. Time series data could be a good indicator for visitors demand, which could be taken into consideration in designing price.

2. Next we will investigate how locations impact pricing. We will analyze which area/neighborhood is the most expensive and how does location attractiveness affect listing price.

3. Then we will look into how Superhost status will impact listing price. We plan to explore if there are any relationships between hosts as individuals and their listing price.

4. Finally we will examine how review scores impact price. We want to explore which category of review scores (accuracy, cleanliness, communication, location) has the most impact on price.

Last but not least, to make better pricing recommendation for the hosts, we want to predict the trend of listing prices for next year and future growth rate for Airbnb in Paris. We believe a predictive analysis will be beneficial for Airbnb hosts.