PPA Assignment 4 Report:

AirBnB GUI

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About the GUI, and its functionalities

Our GUI allows users to view the available Airbnbs in London. To start, run the JavaFX application on the AirbnbViewer class. The main application window contains two drop-down boxes which enable users to select their desired price range of property. There are also two buttons that allow the users to navigate through different panels. To operate the interface, the user needs to first select a valid price range. Then, users can move through the panels using the buttons at the bottom of the window.

The map panel will display a map of London's boroughs and the colour of each borough will represent the number of Airbnb available in that region within the price range the user selected. The bluer the borough means that there are more properties available. Upon clicking a borough, a pop up window will show all the listings of the selected boroughs within the designated price range. Each listing shows the host name, price, number of reviews and minimum nights the guest can stay. The popup listings provide sorting for price, reviews, and hostname, and also sorting by ascension or descension. Clicking on an individual listing will provide the user with a more detailed view of the listing in addition to the listings information in the list. Information such as room description and room type are added. Furthermore, it also provides the user with the distance between the listing and its corresponding borough's high street.

The shopping page panel will be displayed in the fourth panel. The functionality of the shopping page is to lead the viewers to the sign up form and introduce the essential products that we will be selling before customers get into the airbnb. The shopping page is mainly produced by the Scene Builder. In the page, it will display the four products' images and by clicking on the "interested!" button, it leads to the sign up form.

The additional statistics

The first additional statistic returns the owner with the most listings within a borough. This benefits users as some users may intend to visit a particular borough several times, and may wish to stay in different areas within the borough . Users may opt for properties under the same owner as it may grant them better deals such as a lower price and build a consumer-owner relationship.

The second statistic shows the population density. Different users tend to have different preferences of lifestyle, some may prefer a less populated borough as they would choose to remain far away from the hustle and bustle of central London. This aids the user in deciding on which borough to live in or suggests if the borough is worth the visit according to the user's preferences.

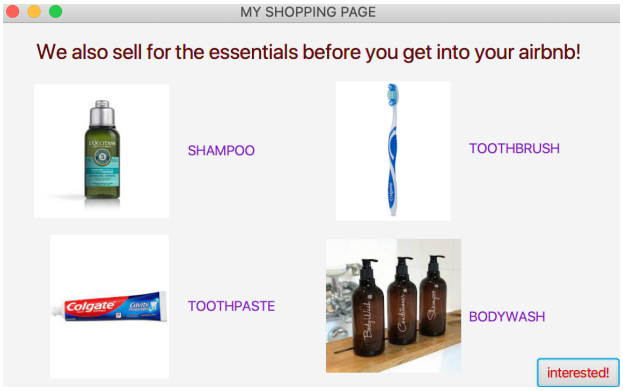
The third statistic shows the tourist attraction in the London borough. Certain users may be indecisive on which borough to live in. Ultimately, they would decide based on the borough with the most attractive activities or tourist attractions. Hence, this may assist the user in the decision-making process.

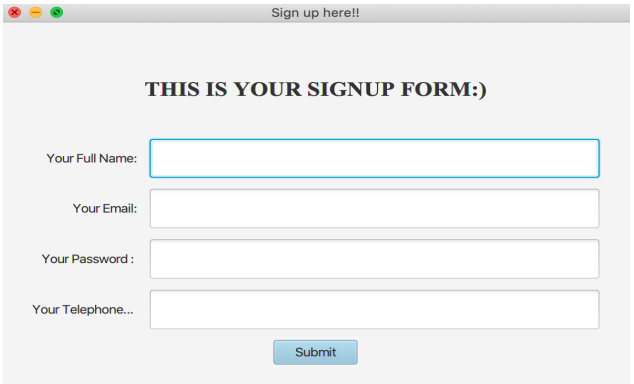
The fourth statistic shows the crime rate ranking by London boroughs. Many users not only travel for business purposes, at times it could be a getaway with their family or possibly a school trip. Displaying the crime rate by ranking gives the users an insight of which borough they should avoid staying in, if they lack the ability or confidence to protect themselves and the people around them.

The fifth statistic records the latitude and longitude of the location of high streets in each borough. We found those specific high street locations from google map, and we recorded and made a high street csv document at last. This is the data for one of the panel 4 functionalities.

Fourth Panel

Panel4 is a scene of essential products sold by airbnb. The title of the panel is “my shopping page”. The essentials that display in the panel include shampoo, toothbrush, toothpaste, and bodywash. The panel is created by scene builder and the function of the page is the sign up form. By clicking on the button in the products scene page, the sign up form will come out. It requires customers’ full name, password, email, and telephone number. If the customers didn’t fill up the form correctly or leave some space empty the error notification will pop out.





Unit Test

For the unit test, we tested for the class of borough data listing. Through this class, we checked the additional data and information that is correct for the borough name, population, size, population density, number of reported crime, crime rate, crime rank, and most visited place in the specific borough. To be specific, we checked that information for “Barnet”, and all of the additional data matches. The detailed unit testing methods are all shown in the unit testing class of the class of borough data listing.