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| Sydney AirBnB Search Executive Summary |
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# Abstract

All functions in the system passed testing, returning the correct values for each test. Dummy values were inputted into each function, which correctly restricted the search results. Inputs were provided for price restricting, suburb restricting, Cleanliness measures, keyword searching and room type, and all inputs returned the expected results. Initially, testing of each function found errors in the code, though these errors were found and amended. Though there are measures to prevent incorrect inputs, further development could improve the current measures. Present measures are mostly incorporated in the user interface. A slider is used to restrict prices to floating point numbers, while a drop-down select is used to restrict the room type.

# Introduction

This executive summary details the components of the completed project. The project collects its data by loading several csv files, containing data for listings, description, and a calendar of bookings for each listing. This data is stored using pandas. A testing class is used to test the uploaded files for errors. Each of the analysis tasks is also defined in a specific function, which has a corresponding testing function.

There is a function which can restrict the price of listings. This function works by looping through all the listings and only selecting listings which have prices between the range specified by the user.

Another function restricts the displayed listings to only those listings which occur within a given suburb. If a suburb has been specified, only listings from that suburb will be displayed. There is also a function which restricts the listings to only listings of a given room type.

If a user has inputted keywords for the description of the house, such as a requirement for a listing to be close to the shops, then there is a function which places listings containing these keywords further up the list of results.

If a user wishes to stay in a clean listing, there is a function which searches the reviews for each listing to search for reviews mentioning cleanliness. Reviews with more cleanliness appear further up on the results.

The user interface is designed by importing the wx python module, which can generate a user interface. Located at the top of the frame is a search bar, which can be used to refine a user search. Additionally, there is a page containing a form, which contains text fields for users to input values for max price, min price, suburb, check-in date, check-out date, room type or specific keywords. There is a field to input a value for the number of reviews mentioning cleanliness and a submit button to restrict the search.

The results of a search are set out in a grid format, with two listings in each row, and with the most relevant listings on the top of the list.

# Testing for price restricting

A screenshot of a computer program

Description automatically generated

The test code for price restricting passed the test, returning the correct number of results for properties with a nightly cost between $130 and $300.

# **Testing for suburb restricting**

To test the suburb-restricting function, test code was run, which passed in possible user inputs for suburb. An incorrect suburb was dealt with correctly, as when there were 0 returned listings, it returned the correct error message without causing the system to crash.

# **Testing for Cleanliness Measures**

The reviews.csv file was successfully loaded and linked to the listings.csv file correctly. For each listing, the system managed to find the number of reviews that commented on the cleanliness of the property, by checking various keywords.

# **Testing for Keyword Search**

Searching for a keyword or phrase only returned results with the specified keyword or phrase. One way to improve the system would be to prevent a user entering an input that manages to bypass the measures to keep the inputs as strings and input the Boolean ‘TRUE’ in its place. Further development can remove this issue.

**Testing for Room Type**

The testing for each room types correctly restricted the search. To test this, an incorrect input was also tested, and this returned the correct error message.