



PROPOSED APPLICATION FOR AIR BNB

PREPARED BY: TADIWA KUNAKA AND ALI GHAFARI
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Contents

1.0	SYSTEM VISION	3
1.1	PROBLEM BACKGROUND	3
1.2	SYSTEM OVERVIEW.....	3
1.3	POTENTIAL BENEFITS	3
2.0	REQUIREMENTS	4
2.1	USER REQUIREMENTS	4
2.2	SOFTWARE REQUIREMENTS.....	4
2.3	USE CASES	4
3.0	SYSTEM COMPONENTS AND SOFTWARE DESIGN	5
3.1	SOFTWARE DESIGN	5
3.2	SYSTEM COMPONENTS	5
3.2.1	FUNCTIONS	5
3.2.2	DATA STRUCTURE/DATA SOURCES	5
3.2.3	DETAILED DESIGN	6
4.0	USER INTERFACE DESIGN.....	7
4.1	STRUCTURAL DESIGN	7
4.2	VISUAL DESIGN	8

1.0 SYSTEM VISION

1.1 PROBLEM BACKGROUND

Manually looking at houses through the Airbnb Database is not ideal for a customer. Typically, customers who wish to rent a house do not want to learn data structure to rent. A lack of user interface is not ideal for a business as it does not make it easy to use the service. Most people who are computer literate lack coding knowledge, due to this having a user interface is important. This makes the service more appealing to use.

1.2 SYSTEM OVERVIEW

The 'Info calculator' will ask you for a suburb after you've entered a valid suburb, then the app will display houses that you can click on which display the prices for the rent and will also display the reviews.

1.3 POTENTIAL BENEFITS

The benefits may include easier, quicker time and more pleasant time navigating through the house listings. With the 'Info Calculator' the user will have a filter system, rather than manually looking through the house listings. The filter will also display the prices with the reviews, so the user can make the decision of which house they prefer.

2.0 REQUIREMENTS

2.1 USER REQUIREMENTS

The application “Info Calculator” is mainly used for comparing Airbnb houses, in order to see what is more suitable for you. This is done by comparing things like, pricing, how much the property has been rated, and where the suburb is located. The Objective of the “Info Calculator” is to see what suits you the best, in order to speed up productivity and spend less time looking and comparing them yourself. The program is made for customers who are looking for a particular property. Customers who wish to use this application need to know basic app navigation skills with primary school level of English and mathematics.

2.2 SOFTWARE REQUIREMENTS

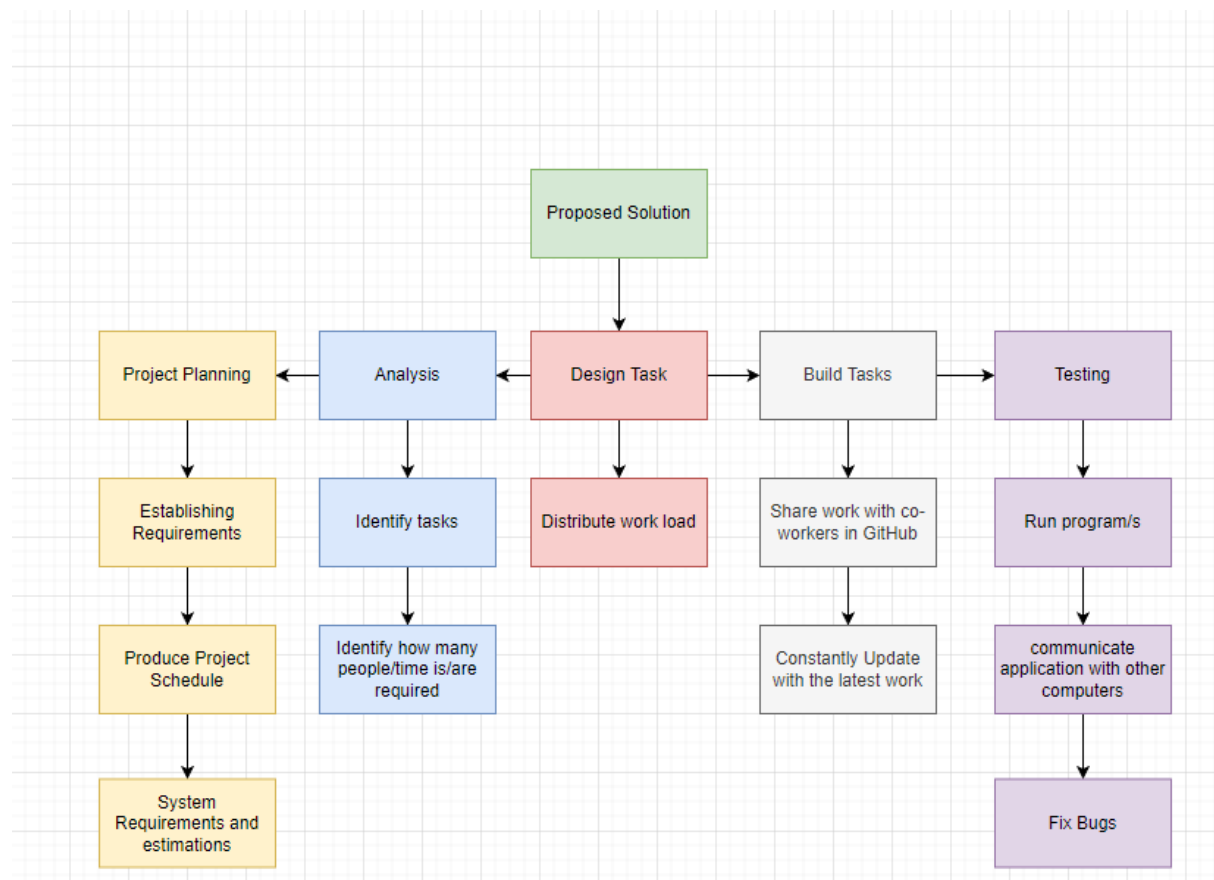
The requirement for the user using this software is a laptop. Python is the language used in developing this program. Making this GUI program from python will require packages from the wx series.

2.3 USE CASES

The Use of the Software “Info Calculator” is diverse and can be used for many situations. For a tourist wishing to travel abroad might want to plan their trip, they may want to book a property before arriving. Instead calling hotels and manually asking questions, the use of this software could be beneficial by using less time in order to get the answers they wanted without needing to call. Other instances of how this software could be useful is if Airbnb wanted to see what houses perform the best and why, they could use this information to better their services.

3.0 SYSTEM COMPONENTS AND SOFTWARE DESIGN

3.1 SOFTWARE DESIGN



3.2 SYSTEM COMPONENTS

3.2.1 FUNCTIONS

The program will ask for a suburb, which then will give you the price ranges and the reviews with the dates they were reviewed.

When entering a value such as a suburb the software will search the dataset and look for the cost of the property, the reviews will be displayed.

3.2.2 DATA STRUCTURE/DATA SOURCES

A tree data structure is implemented in order to navigate through the application. while loops are used to loop through the reviews and houses, without while loops it would be difficult and would take a long time to use for loops.

3.2.3 DETAILED DESIGN

Display 'Search for suburb'

Display 'Type a suburb'

Display 'Go'

If search not found then

Display 'ERROR! invalid input.'

If a suburb is entered then

Display houses with costs listed in the same suburb

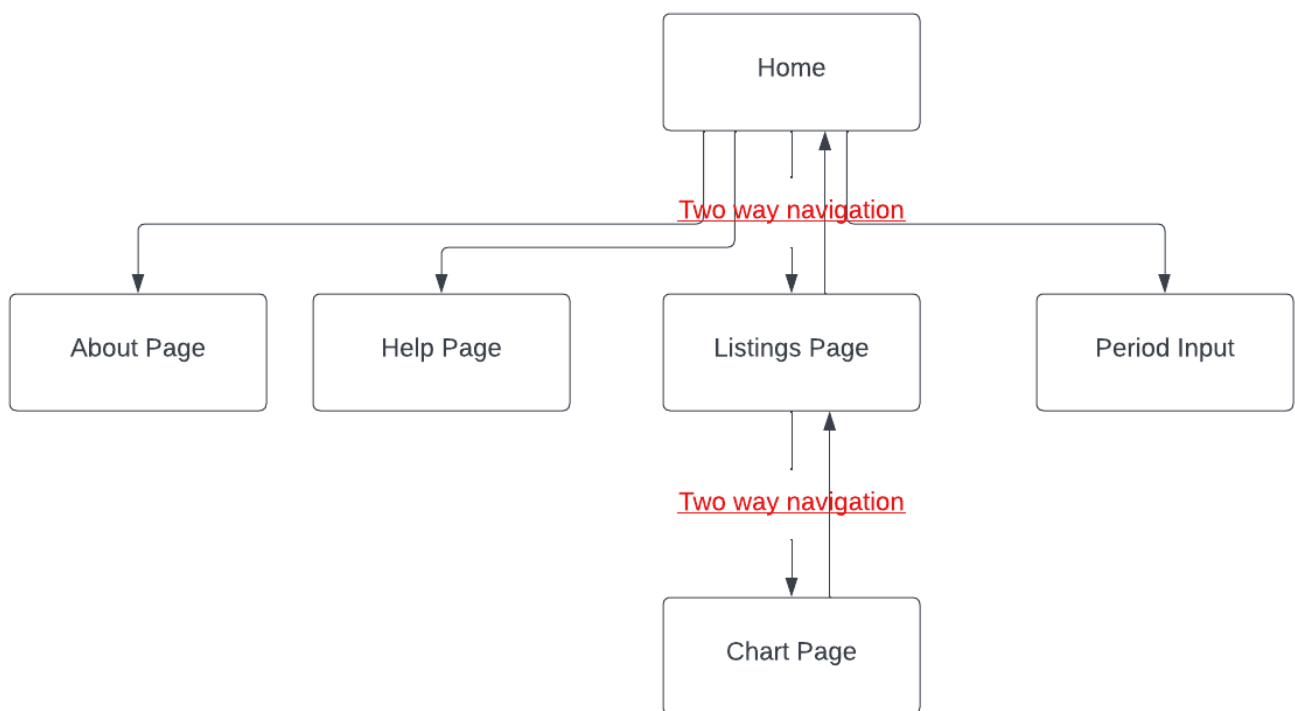
If a house is clicked then

Display Reviews

4.0 USER INTERFACE DESIGN

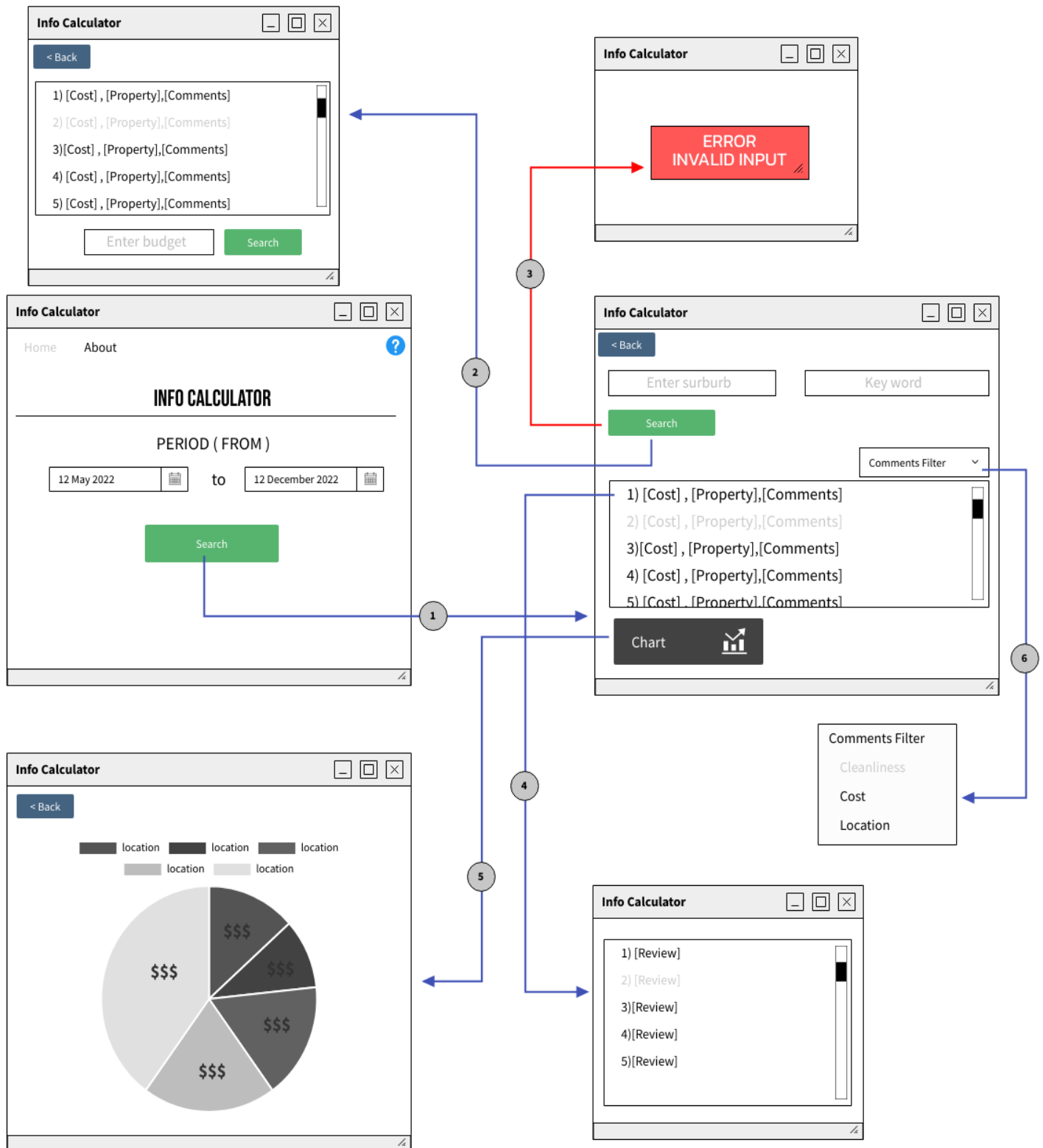
The design process was done in Mock flow, this is done to get a preview of what the software will look like and how it will operate. By using Mock flow, the design of the application was made with ease. The layout of this application was carefully thought out and various design principles had to be put into practice to come up with the best interface possible.

4.1 STRUCTURAL DESIGN



The diagram above shows the structure of the application. The user is greeted with the home page when they first interact with the application. At the core of the home page the user will be able to specify a time period in order to view the available listing corresponding to that period. This design choice was influenced by the fact that most features of the application will heavily depend on this time period. Moreover, the homepage will have a top navigation bar which most people have gotten accustomed to, this navigation bar will contain the help and about page links as first-time users are keen on accessing these two pages. The listings page will be generated after the user has specified the period; this page will display a number of listings which fall under the specified period additionally this page will have a link to the graph page which shows the distribution of property prices. Linking the chart page via the listings page is practical considering the data for the chart comes from the listings page. All the pages of this application will have a back button to make the navigation more fluent

4.2 VISUAL DESIGN



The design is simple, the primary colours are in Blue, but the background and edges of texts/boxes are black. This is so it is not too messy and easy to navigate through. Having a simple design is sometimes better than trying to design the app in a complicated way, this is to make it easier for customers.

After the user-selected period has been input the user has to click on a search button which will take them to the listings page. The button was made green as most people associate green with “good to go”. The text was made white to create contrast with the green colour and centrally aligned for visibility. The home screen has a ? at the top right which represents the help feature. This icon has been associated with the help feature for a very long time which makes it hard for first time users to miss.

1The listing page has been laid out in some a manner that components are spaced out not crumbled to one side/corner which allows the user’s eyes to scan through the page with ease at the top of this page the user can input the suburb or a key word to get records that pertain to those constraints.

After successfully entering a suburb or key word the user is directed to another page that lists all the properties that fall under that suburb **2**. As an addition feature the user can input a budget and click on search and the results are further refined to match the user’s budget.

In the case that the input is invalid an error box will pop up **3**, this box was made to be red as red is associated with errors/ warnings. This page will display a list of available properties to book. Each item within this list is a link which allows the user to look at the reviews posted about that listing.**4**The user can filter these listing to only view listing with review that have the keywords cleanliness, location and cost. Most people looking for Airbnb listing reviews are very particular about these three things hence the choice to include them in the filter.**6**

Lastly the chart button which as an icon takes the user to the chart page which will display a chart showing the distribution of property prices **5**