Software Design Document

<Project Name>

Student Names

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# System Vision

## Problem Background

## System Overview

## Potential Benefits

# Requirements

## User Requirements

In this section you detail how a user is supposed to interact with or use your program. What do they ***need*** to be able to do? This should all be from the end users perspective. Can be a combination of narrative text and listing of needs.

**Assignment note: You have not been given a client/user, so you can make one up. Who do you think would be using your software?**

## Software Requirements

In this section you detail what the requirements for the software are. What functionality will it provide? This is usually a formal listing, with requirements often using the word ‘Shall’. IE:

R1.1 The program shall accept multiple file names as arguments from the command line.

R1.2 Each file name can be a simple file name or include the full path of the file with one or more levels.

etc …

Can be primarily functional requirements, though you may include other types if you think of them.

## Use Cases & Use Case Diagrams

In this section you provide some use cases showing how people may use your software.

# Software Design and System Components

## Software Design

A block diagram/flowchart of how your software might work

## System Components

### Functions

Preliminary list of all functions in the software. For each function in the list the following information is provided:

* a brief description of what it does (1 or 2 sentences);
* a list of the input parameters, and their data types, and what they are used for;
* a list of any side effects caused by the function (ie change global or member variables, changes data passed by reference from calling function etc)
* a description of the function’s return value

### Data Structures / Data Sources

List of all data structures in the software (eg linked lists, trees, arrays etc) or eternal data sources. For each data structure in the list the following information is provided:

* Type of structure (tree, list etc),
* Description of where and how it is used
* List of data members, and what each one is for do
* List of functions that use it

### Detailed Design

Pseudocode for all non-standard / non-trivial algorithms that operate on data structures

# User Interface Design

This is your initial interface design. Describe the tools you used for this design stage and any key findings that informed your design. This introduction is descriptive and should explain what you have completed for the actual design work you will present in the sub-sections below.

## Structural Design

Structural design refers to the navigational and information structure of your product – the structure that supports the interface layout. How will you structure your product? How will you group your information? How will you navigate through your product? Why? This can take the form of a diagram showing structure and hierarchy, supported by a discussion and justification of your choices. Why have you made these design choices? Describe and outline the structure of your interface and of your information.

IDEAS:

Home page:

Contains a search bar to enter suburb

Contains date bar to select date period

Once both are entered, click SEARCH button

ONCE ABOVE IS SELECTED:

1. Users are presented with a list of Airbnb listings in the chosen suburb and time period.
2. Each listing is displayed containing only basic info:
   1. Name
   2. Bedroom no.
   3. Bathroom no.
   4. No. of occupants
   5. Rating
   6. Price
   7. Type (ie. apartment, house, etc.)
   8. Superhost status

ANYMORE????

If the user wants to see all the info about the Airbnb, they click on a “View More” button next to the listing – could potentially link to url????

1. On the side of the search results, there are filtering options that allow users to narrow down the results based on certain criteria:
   1. Price Range: Users can set a minimum and maximum price to filter listings.
   2. Rating: Users can select a minimum rating to filter out lower-rated properties.
   3. Property Type: Users can select specific types of accommodations to display (e.g., apartments only).
   4. Etc.

Sorting Options:

Users can choose how to sort the search results using dropdown menus. Sorting options might include:

Price: Ascending or descending order.

Rating: Highest to lowest or vice versa.

1. Bottom right hand corner contains static text on how many listings there is that fit the current filters.
2. Button for price distribution chart on side of data listings.

* Opens new window

1. Button for keyword search

* Opens new window where user searches for keywords and all data in previously selected suburb and time range are displayed – once again only containing important info.

1. Customer reviews button

* Opens new window where user can search for a word or click on a “cleanliness” button which displays all listings in their chosen suburb and time frame that contain reviews about cleanliness:
  + Clean
  + Cleanliness
  + Hygiene
  + Tidy
  + Tidiness
  + Sanitary
  + Neat
  + Spotless
  + Well-kept
  + Dust
  + Dirty
  + Cleaned
  + Unclean
  + Dusty
  + Unsanitary
  + Messy
  + Filthy
  + Disgusting
  + Shiny
  + New

1. Another button that says “Recommended”?
   1. Opens up a new window that has listings sorted by totals of all reviews columns (CB to CH in listings\_dec18)

MAYBE EVEN MAKE A SECTION THAT HAS OPTIONS FOR RECOMMENDATIONS?

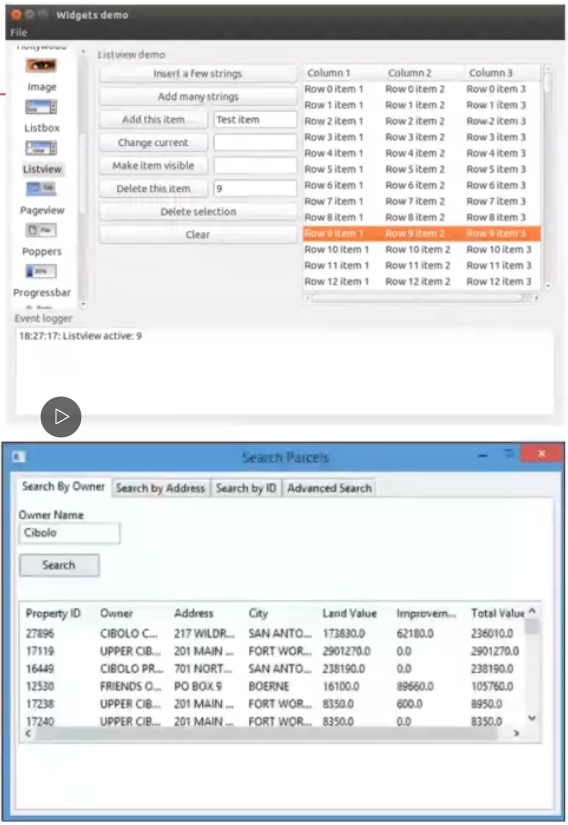
LIKE THEY COULD CLICK PRICE AND THEN IT’LL GIVE THEM THE BEST OPTIONS SORTED BY PRICE? IDK

OR

Another button that says “Busy/Quiet periods”

The application includes a section that provides insights into busy and quiet periods for the selected suburb.

This section also highlights price trends, indicating cheaper and more expensive times to travel.



## Visual Design

Detail your visual design: Layout, visual elements, icons, graphics, style, colour, fonts general screen designs. This can be sketches, wireframes, mockups etc, supported by a discussion, explanation, and justification of your choices.