

# ONLINE INTERIOR DESIGN PLANNING

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**Abstract:** A system and method are provided in a client-server computing environment to generate and render a three-dimensional photorealistic (3D) view in perspective of a 3D object selectively positioned within a 3D scene. A client is configured to communicatively access a server and includes a client application configured for the editing and representation of scenes, through a graphical user interface (GUI). The 3D scene can be selectively displayed in a plurality of views, and a 3D object can be retrieved from the server and imported into the 3D scene to generate a composite. A person to person business model is provided, comprising for a client's selecting a single service, selecting of corresponding service modules, and selecting providers according to the client's selecting of the single service, the server's providing information and a listed price of each of the providers in response to the client's selecting; the client's communicating via a limited messenger with the preferred group of service providers, the client and each of the provider's discussing and agreeing on parameters (a variety of variables for the service task) for further prices.

**Index Terms – Renovation, 2D-3D Visualization, Interior Designing.**

## I. INTRODUCTION

Interior design is the art and science of improving the interior of a building to achieve a healthier and aesthetically pleasing environment for people who use the space. An interior designer is someone who plans, researches, coordinates and manages such projects. Interior design is a multifaceted profession that includes conceptual development, space planning, site inspections, programming, research, communication with those interested in a project, construction management and design execution.

The goal is to make the interiors of your home a reflection of your personality. Home should be something that you and your family take pride in and love to spend time with. The efficient and personalized home interior designs incorporate your needs in every corner of your home, so that your space meets all your requirements. Dedicated interior designers work with you tirelessly to link your style with your design experience, creating the perfect interior design plan. It is responsible for painting walls, wood and metal surfaces, waterproofing, textures and wall / wallpaper coverings, to transform your home.

The 3D scene can be selectively displayed in a plurality of views, and a 3D object can be retrieved from the server and imported into the 3D scene to generate a composite. The 3D object can also be manipulated within the composite for placement and orientation. A 3D image of the compound can be processed in the client and selectively reconfigured in real time.

## II. Literature Survey:

Ji Young Cho, Ph.D. [1] proposed (1) general spatial ability tests and (2) the Specific Space Capability Test of the architecture and interior design domain (AISAT), developed for this study. The spatial ability scores of 40 interior design careers at a university in South Korea were compared to the scores they received from three experts in design projects they completed. The results show that (1) the 2D to 3D visualization domain in the AISAT correlates with the original and three-dimensional quality of the design product, design product, and (3) the masculine performance was found only in the overall spatial capacity. The results highlight the need to promote the mastery of 2D to 3D visualization to improve design performance in interior design education.

Charles A. Peters proposed A network-based computer system is revealed to design products. The system comprises a network server, such as an Internet web server operable to manage the interaction of the system with external computers, and a product design module that communicates with the network server. The product design module is operable to generate product designs. The system further comprises a live agent support system that communicates with the network server. The live agent support system is operable to provide live assistance to a customer of the system. An agent of the live agent support system and a client of the system simultaneously see the same page of the design tool. The client and the agent also communicate with each other while they manipulate the page collaboratively.

Seok Hee Bae proposed an O2O business communication system is made to connect the shops and the client's. It is communication done for a limited period of time and the middle man or the business man can get the information of the communication to know more about the client. It will help to bargain for price with the shops with is beneficial for the client benefits.

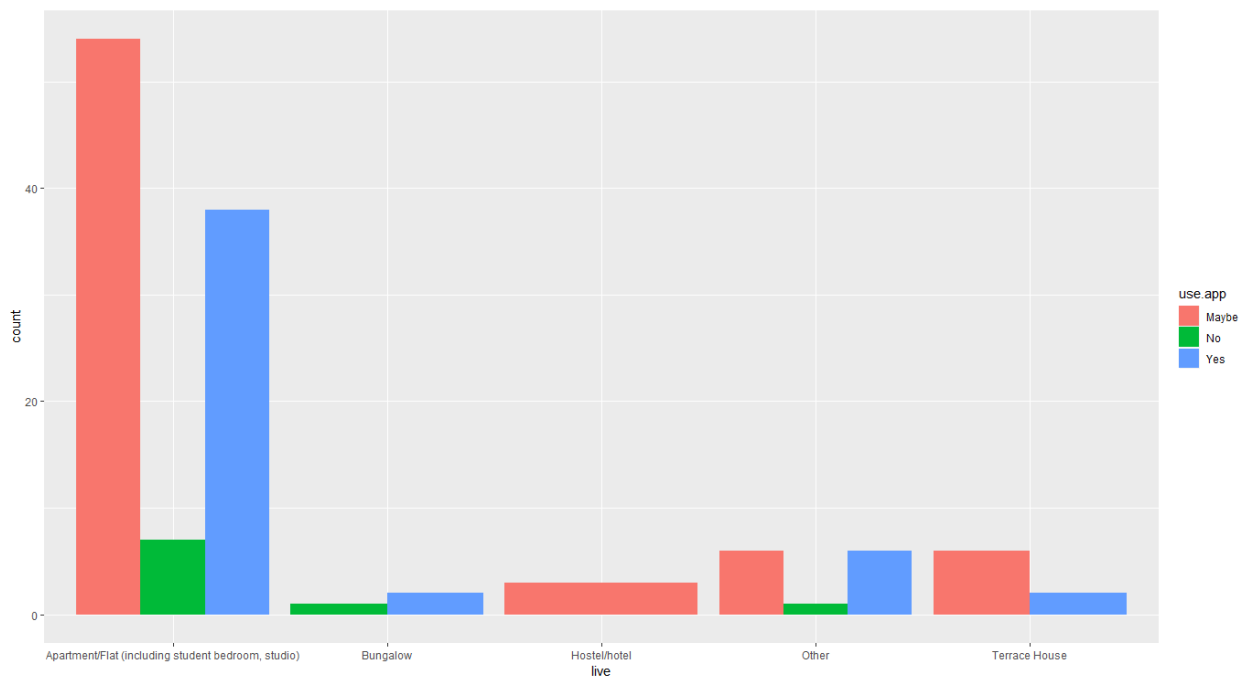
### I. Dataset Description:

The dataset for the research paper is collect by conducting a survey which is made by google form and spread with different messenger. The dataset contains of total 16 attributes and 126 rows. The data is collected within the two months of January and February of 2019. The survey was based on question form on the basses of their status, living style, their interest of getting new home, etc.

Q1	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	status	live	current	re-d curre	plan-n hor	re-d n hon	renovatioi	shop	book	online	internet	website	own idea	buy	use app	price	Do yo
2	Student	Apartment	Rent	Maybe	Yes	Maybe	Hiring someone					to see what is in style	Find speci	Yes	3,00,000 - 5,00,000		
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4	Student	Bungalow	Rent	Maybe	Maybe	Yes	Do it with	to see hov	to see hov	to see hov	to see hov	to see hov	to see hov	to see hov	Find speci	Yes	Less then Rs 1,00,000
5	Student	Apartment	Live with y	No	Yes	No	Do it myse	to see wh	to see wh	to see wh	to see wh	to see wh	to see wh	to see wh	Go to anti	No	Less then Rs 1,00,000
6	Student	Apartment	Live with y	Maybe	Yes	No	Hiring someone						to see wh	Find speci	No	Rs 1,00,000 - Rs 3,00,000	
7	Student	Hostel/hot	Rent	No	Maybe	Maybe	Hiring someone							Go to anti	Maybe	Less then Rs 1,00,000	
8	Student	Apartment	Live with y	Maybe	Yes	Maybe	Hiring som	to see wh	to see wh	to see wh	to see wh	to see wh	to see wh	to see wh	Special fur	Maybe	Less then Rs 1,00,000
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10	Student	Apartment	Live with y	No	Yes	Yes	Hiring som	to see hov	to see wh	to see wh	to see wh	to see wh	to see wh	to see wh	Designer r	Yes	Less then Rs 1,00,000
11	Housewife	Apartment	Own	Yes	Yes	Yes	Do it myself	to see hov	to see hov	to see hov	to see hov	to see hov	to see hov	to see hov	Others	Yes	Rs 3,00,000 No
12	Student	Apartment	Live with y	No	Yes	Yes	Hiring someone							Go to anti	Yes	Rs 1,00,000 It's all	
13	Student	Terrace Hc	Live with y	Yes	Maybe	Maybe	Hiring someone							Special fur	Maybe	Less then Rs 1,00,000	
14	Student	Apartment	Live with y	Maybe	Yes	Yes	Hiring som	to see wh	to see hov	to see wh	to see hov	to see hov	to see hov	to see hov	Find speci	Yes	Rs 9,00,000 or m
15	Employed,	Apartment	Live with y	No	No	Maybe	Hiring som	to see wh	to see hov	to see wh	to see hov	to see hov	to see hov	to see wh	Go to anti	No	Rs 5,00,000 No
16	Housewife	Apartment	Live with y	No	Maybe	No	Do it myself						to see hov	Others	Maybe	Less then Rs 1,00,000	
17	Student	Apartment	Live with y	No	Maybe	Maybe	Hiring som	to see hov	to see hov	to see wh	to see hov	to see wh	to see wh	to see wh	Find speci	No	Less then Rs 1,00,000
18	Student	Apartment	Live with y	Maybe	Maybe	Maybe	Hiring someone						to see hov	Go to anti	Maybe	Less then Rs 1,00,000	
19	Student	Apartment	Live with y	Maybe	Yes	Yes	Hiring someone					to see how to design rooms	Internet se	Maybe	Rs 1,00,000 - Rs 3,00,000		
20	Employed,	Apartment	Own	Yes	Yes	Yes	Do it myself	to see how to design rooms					Others	Yes	Rs 1,00,000 - Rs 3,00,000		

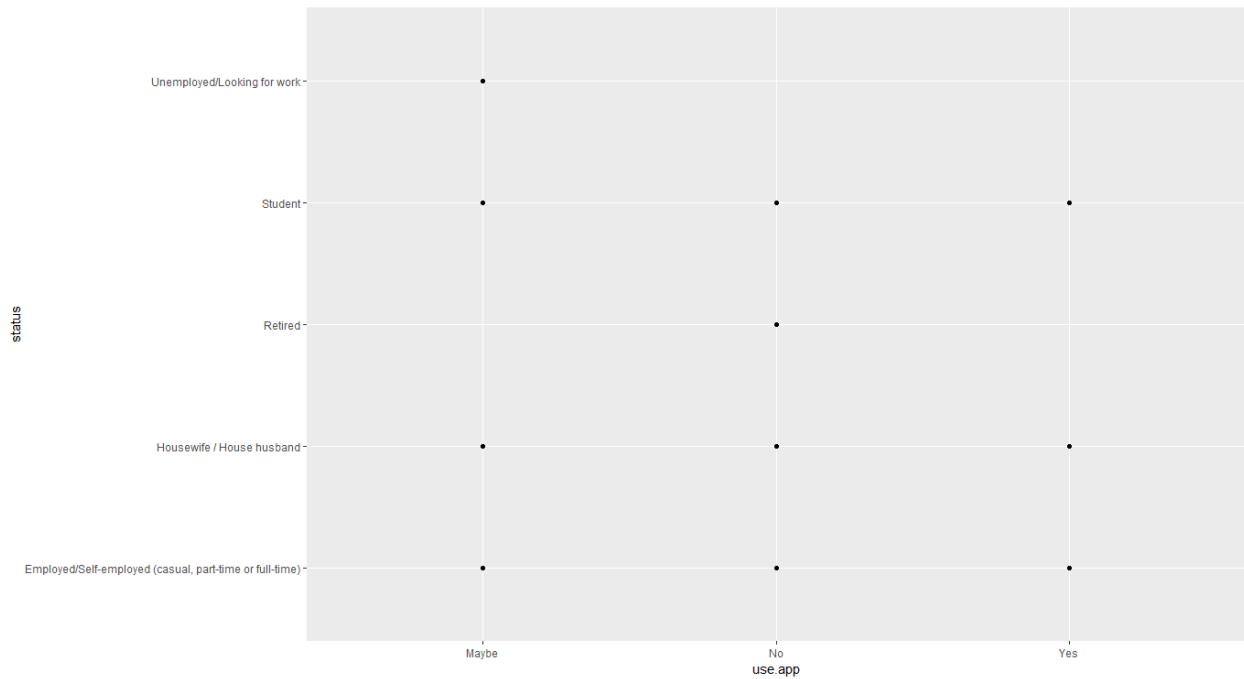
### II. Data Visualization:

#### 1. BAR PLOT



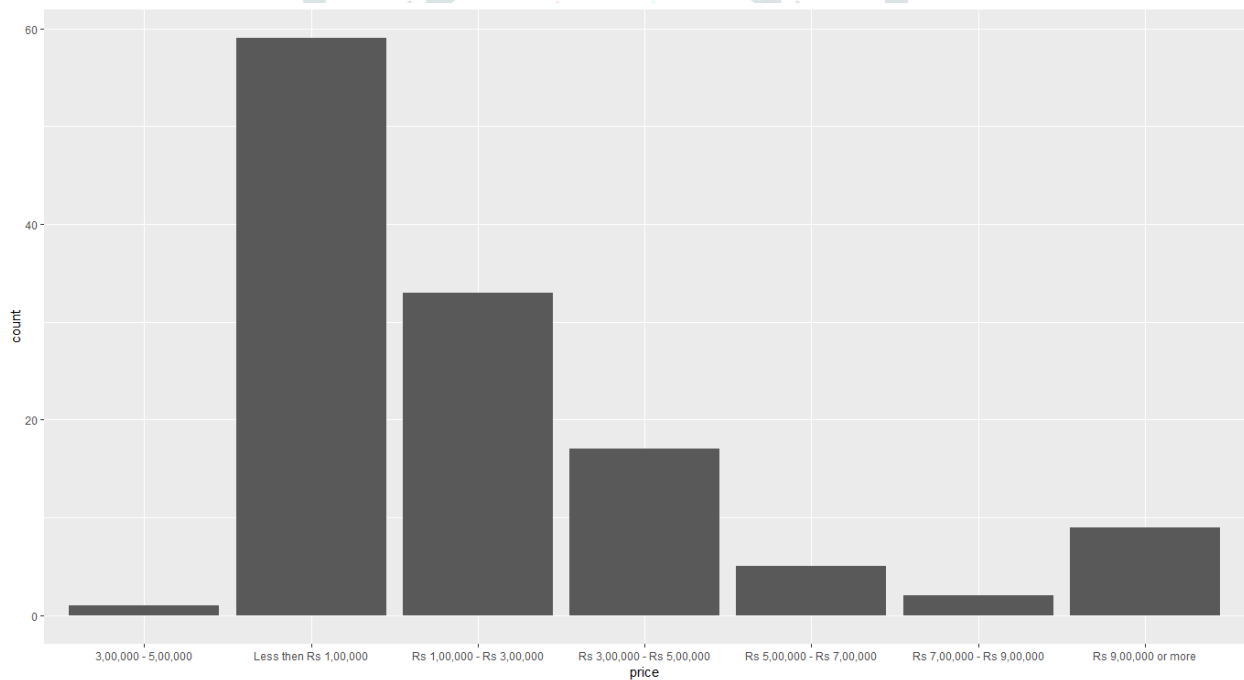
Bar plot for the people currently living in which accommodation with the fill aesthesis of whether they want to use the app or not.

2. SCATTER PLOT



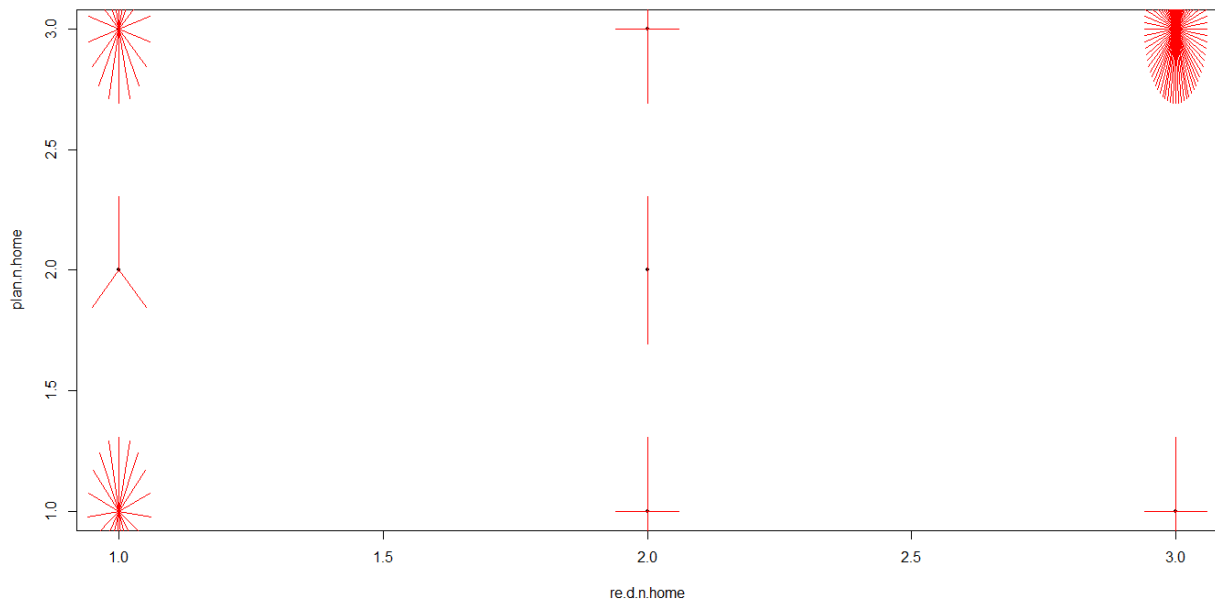
Scatter plot shows the comparison number of people’s want to use the app on according their current working status.

3. HISTOGRAM



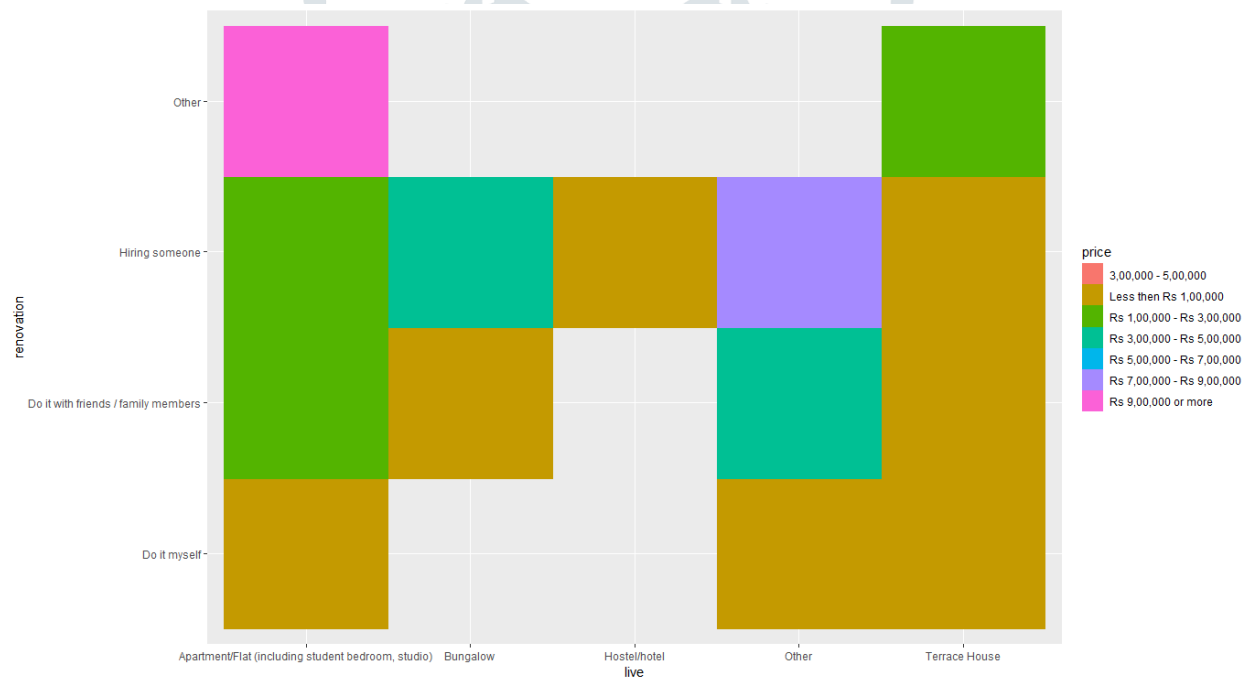
Histogram of number of people’s willing to pay for their home renovation process.

4. SUNFLOWER PLOT



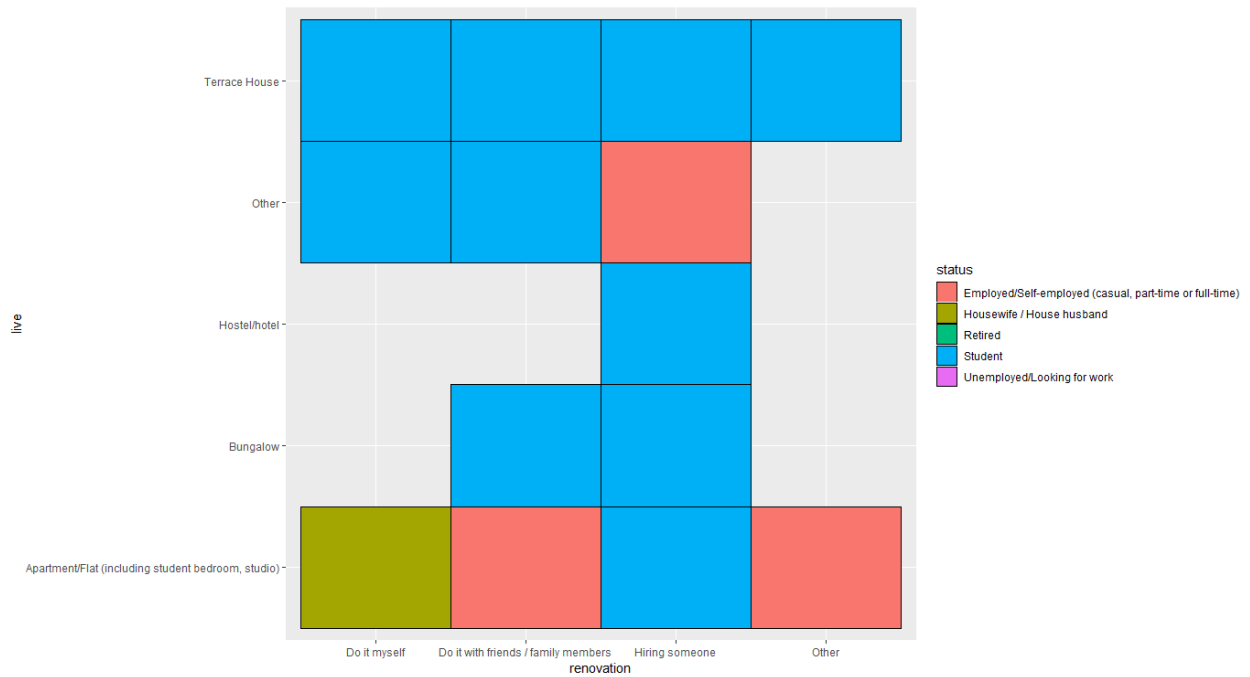
Sunflower plot of comparison between people plan their new home and want to redesign their new home.

5. HEATMAP



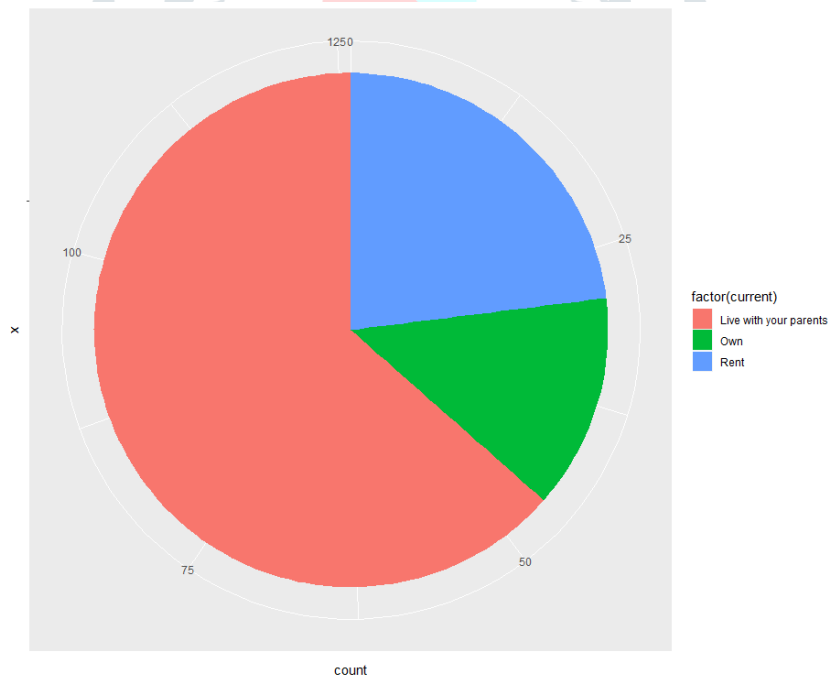
Heatmap of the people living in different accommodation and want to renovate their home and with the fill aesthesis of their price budgets.

6. WAFFLE CHART



Waffle chart shows the comparison between the people’s current living accommodation and whether they want to renovate their home and it is with the fill aesthesis of people current status.

7. PIE CHART



Pie chart shows the number of people’s own or rent their currently living accommodations.

### III. Observations:

In the survey dataset there were maximum numbers of students. For the buying of their furniture the greatest number of people will prefer to go to the antique market and ask their family members or take their friend recommendation. To renovate their accommodation maximum number of people will like to spend less than 1lakh. According to the dataset, in future maximum people are interested of buying new homes and they are willing to renovate their new homes. According to the dataset most of the peoples are not sure of using the interior designing application.

### IV. Propose System:

An application is to make in which a client can get all the services which is needed to renovate your interior design of your accommodation. The goal is to make the interiors of your home a reflection of your personality. Home should be something that you and your family take pride in and love to spend time with. The efficient and personalized home interior designs incorporate your needs in every corner of your home, so that your space meets all your requirements. Dedicated interior designers work with you tirelessly to link your style with your design experience, creating the perfect interior design plan. It undertakes painting of walls, wooden and metal surfaces, waterproofing, textures and wall-coverings/wallpapers, to transform your home. A 3D visualization is also given in the application to get the 3D view of your home and you can renovate its interior or wall with texture and color as you want. When the interior is finalized the client can use the messenger available in it to get connect with the antiques and the furniture shops for the product details and know the price value of it.

### V. Conclusion:

By conducting this survey, we have analysis about the number of people interested for using this new online application for interior design to renovate their houses which is half people agree to use it and half disagree to use it. Also got the result of maximum people willing to buy new homes in the future and what they prefer the most is purchasing furniture and materials from the shops and mostly avoiding buying online.

### VI. References:

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