

Design and Planning of Retirement Knowledge Exchange Center

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Abstract The pensioners' center is generally defined as a center designed specifically for the gathering of retirees from various fields, providing services for them, including places to spend their leisure time in a pleasant way, workshops, consulting and public services. The center aims to improve the culture, awareness and knowledge of the affairs of retirees, their status and abilities, and the importance of respecting and maintaining their rights. This study proposed four main zones for the project, namely administration, entertainment, cultural, and services. The site evaluation was conducted and the most appropriate site is located on King Abdulaziz road, one of the major streets in Jeddah, Saudi Arabia. In addition to this, the center also promoted their responsibilities, corrected the stereotypes of retirees and emphasized the importance of their past achievements and their expectations of the present and the future. Their contributions may be inexhaustible experience that can be used for future development.

Keywords Retirement, Pensioner, Exchange, Knowledge, Awareness, Culture

1. Introduction

Retirees are a group of society that exists in all global and human societies [1, 2]. Retirement is a real stage of every employee's stage, where the employee must retire one day and leave work to other people to complete the life cycle [3]. Some of them face difficult financial and life

problems, and perhaps the most difficult thing to face is the feeling that the retiree has become out of active life in society. And his retirement is an incorporeal end to his life and his knowledge and his experience.

There are some records taking care of retirees, such as the University of Retirees located in the city of Kalkogad in Japan; it was established in 1969 AD, and the first conditions for membership are that the person is over 60 years of age and the duration of study is 4 years. Also, the Association of Retired Volunteers established in 1969, this association works to help people aged 55 and over to find jobs to serve the local community and benefit from their local expertise. In addition, organizing the national archive such as a program organized by the American Association of Retired Persons, these retirees are more knowledgeable and experienced in such work, and formed integrated teams adopted by the Society for documenting the history of the United States of America in various aspects of life, socially, economically, culturally and politically. The campaign was launched in 1970.

Taking into account the proven risks and the increasing prevalence of the issue such as Social isolation and loneliness among older adults, Jeff Anderson [4] proposes some ways to promote social health and connection. The solutions are to provide transportation, promote a sense of mission, encourage religious elders to continue to attend their places of worship and provide pets or plants for the elders to take care of, encourage positive body image, provide adaptive technology, inform neighbors, and encourage dining with others, solve the problem of urinary incontinence, hug, provide extra support for the elderly who have recently lost their spouse, public health

professionals identify socially isolated elderly, and also provide a caregivers [4].

Since 2020, the outbreak of the COVID-19 epidemic has affected the health and well-being of the elderly. The social isolation and loneliness of the elderly in the context of COVID-19 has become a global challenge [5]. Wu [5] proposed some strategies to overcome this problem, such as raising awareness among medical staff and the public about the effect of social isolation and loneliness on health and healthcare; developing interventions based on innovative technologies to mobilize family members and community networks and in cooperation with the healthcare system, as well as to develop methods to identify social isolation and loneliness in the medical environment.

Even before the COVID-19 pandemic, some retirees are isolated from society and do not participate in social activities. Some of them have some symptoms of depression and the feeling of inferiority and the absence of a role of the person in the actual life of the community [6, 7]. This makes them isolated from the community and social activities and also feels that no one appreciates him because they became outside the scope of work. When they leave their jobs, they feel that others no longer appreciate them as much as they did when these retirees were in their positions. This may be an over-sensitivity of some people, and maybe some facts of what these retirees feel [8]. The number of retirees in Saudi Arabia has increased from time to time, which makes this phenomenon more prominent and requires solutions for this category.

2. Case Studies

This section analyzes case studies related to the project to gain insight into the requirements of the project. The case studies that are discussed do not reflect the idea typically but still reflect different aspects of the proposed project.

2.1. Flamborough Senior Center

The Flamborough Senior Center is located in Waterdown, Canada, designed by Rounthwaite, Dick and Hadley Architects (RDHA) (Figure 1). For the Waterdown Library and Civic Center, RDHA applied custom ready-made components from the studio to create an extraordinary building using common materials. This goal is combined with the location of the building on the Niagara cliffs, and the rocky ridge overlooking Lake Ontario provides the impetus for the design of the building. Multi-purpose 6 facilities, including libraries and heritage, social archives, police and municipal community service outlets, and elderly entertainment centers, integrate different population data into one building [9].

The library is the most important thing in the project and takes a very large part of the building. The concept of the

project is single-story; the design of the split-level building cleverly uses the sloping site, and the use of terraces and sloping walkway systems to organize complex projects.



Figure 1. Flamborough Senior Center [9]

2.2. Senior Center of Guangxi

The Senior Center of Guangxi located in Nanning, Guangxi, China, is designed by Atelier Alter (Figure 2). The architecture of the Guangxi Senior Center deviates from the humanistic aspect behind the project. The project aims to create a space for retirees who spent most of their adolescence during the Cultural Revolution. Although the "common life" created by the Cultural Revolution has historical influence, it has always been the memory of the times. The sense of belonging in an uncertain era criticizes the isolation and indifference of modernity. [10].

This project attempts to arouse the sense of belonging to previous generation and future generations. Agriculture is the theme of "communal life", and natural land is the basis of their collective memory. The similar spaces are constructed by manipulating the ground.



Figure 2. Senior Center of Guangxi [10]

2.3. Overall Case Studies Conclude

The first case study shows that the building represents standards of sitting inflexible environment and more active.

The second case study shows that the life of the incubator provides a good cycle between sedation.

Regarding the new trend, the concept is not as categorical as to be or not to be. It is something subtler: it is pretending that it is not. This contemporary architectural trend uses optical camouflage and resorts to big screens, mirrors, reflecting surfaces, camcorders, tiny cameras and screens, mimetic mesh, and a range of techniques to “cover” any three-dimensional object regardless of size. The purpose is to make it “disappear” into a mirror and merge with the surrounding landscape. The double-layer exterior wall and the inner surface of the cover glass help to control the increase in heat while allowing natural light to enter. The grid façade helps to achieve this. The size of the grid changes according to the direction of the west. The façade allows less light to enter, while the north side allows lighter, while the south side controls its exposure to promote green roofs as well as green living walls [11].

Finally, these two projects are extensions of previous projects, especially affiliated or part of educational institutions. The case studies provide benefit in many different things that include the dimension spaces and the circulation the relation between different cases, the important trends in architectural design.

3. Space Program

The functional requirement of the proposed project consists of administration, culture, entertainment, and services. In general, the administration zone is made up of registration’s office, administrative manager’s office, human resources, and technical services. The educational zone is used for culture learning purposes consists of Lecture Theater, meeting rooms, workshops, and a library. Next, the entertainment zone compromises of the gym with locker and changing room, café with kitchen and also lounge with sitting area. In addition, the service area is composed of seating areas, waiting areas, shops and restaurants.

In terms of design criteria, the design should provide lighting and ventilation to 10-15 of the total area of the hall. Besides that, the design should avoid the presence of reflections or harmful surfaces, which can cause reflections of light that, obstruct the line of sight. Furthermore, the movement paths between the rows are increased, according to the area of the hall and the number of users, so that the width of the corridor is less than 90 m. A sufficient number of doors are provided for the duration of the removal of the maximum duration of five minutes for the rapid and effective transformation between the places and with the door. Regarding the management elements, the head room with a space of 20-23m² and a minimum followed by a secretarial room. Office space attached to an area of 15m² in the case of individual rooms. The offices are oriented towards the sun with the use of sun breakers. The building

capacity Occupant Load Factor (OLF) and gross floor area of each zone are presented in Table 1 and Table 2 respectively. In addition, the spatial planning of the main area and sub-area is demonstrated in Table 3, 4, 5 and 6.

Table 1. Building capacity (OLF)

The education	450 People
The Admin	50 People
The activity	700 People
The Total of the building	1200 People

Table 2. Gross Floor Area

Zones	Use %	Net Area	Gross Area
Administration	5%	505	606
Entertainment	25%	2612	3134.4
Cultural	56%	5815	6978
Services	14%	1420	1704
Total	100%	10352	12422.4

Table 3. Space program of Administration

Description	Number of users	Area of space (m ²)	Number of Spaces	Total area (m ²)
Entrance	80	50	1	50
Waiting area		40	1	40
Registration Office	1	80	1	80
Administration manager’s office	1	20	1	20
Human resources	1	50	3	150
Meeting room	12	45	2	90
Prying room		20	1	20
Electrical room	1	20	1	20
Mechanical room	1	35	1	35
Total				505

Table 4. Space program of Entertainment

Description	Number of users	Area of space (m ²)	Number of Spaces	Total area (m ²)
Café shops	100	80	5	400
Lounge	100	4	24	96
Information desk	2	12	1	12
Stage	300	120	1	120
Fitness Gym	70	30	2	60
Swimming pool		1300	1	1300
Praying room	36	20	1	20
Total				2612

Table 5. Space program of Cultural

Description	Number of users	Area of space (m ²)	Number of Spaces	Total area (m ²)
Information desk	2	20	1	20
Lecture theater	300	3600	1	3600
Meeting room	14	45	3	125
Workshops	20	80	3	240
Library	300	1810	1	1810
Prying room	36	20	1	20
Total				5815

Table 6. Space program of Services

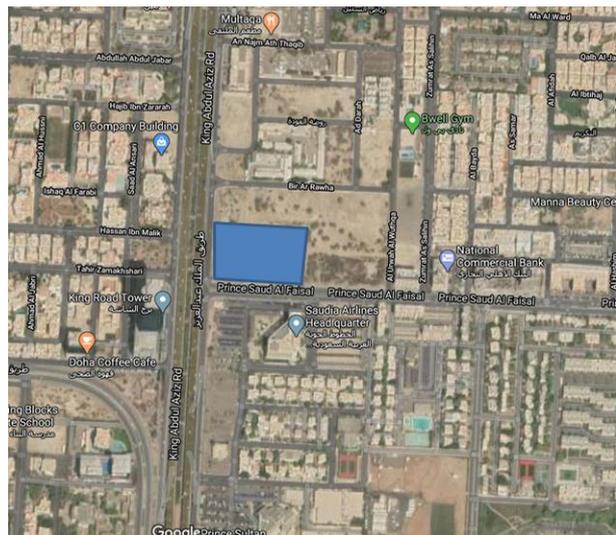
Description	Number of users	Area of space (m ²)	Number of Spaces	Total area (m ²)
Seating area		150	2	300
Waiting area		150	2	300
Shops		25	4	100
Restaurant		180	4	720
Total				1420

4. Site Selection and Analysis

Choosing the right location is one of the most important factors in determining the success of the proposed project, because it will affect the entire environment. The site must be selected based on several criteria related to the nature of the service, street, climate, community, and users. This section discusses selected criteria to suit the project function, making it successful and an add value to the district.

This study recommends location selection at two site locations in Jeddah, Saudi Arabia. Figure 3 depicts Site 1 which is located at the intersection of King Abdullah Road and Abdullah Al Sulaiman Road near King Fahd Road (60th Street) and Prince Majid Road (70th Street). In addition, the surroundings of the site have many landmarks such as King Abdulaziz University, King Abdulaziz Square, Al-Andalus Mall and Al-Salam mall. Figure 4 illustrates that Site 2 is situated on King Abdulaziz road, one of the most significant streets of Jeddah, interconnecting with Saud Al-Faisal Street. Furthermore, the site is surrounded by many landmarks such as screen

tower and Saudi Airlines Building.

**Figure 3.** Site 1 [12]**Figure 4.** Site 2 [13]

The site selection criteria were defined for site selection. The center will be located in the main traffic area where people will represent the main retirement in Jeddah and the most important criteria that the design look for are location which situated in the middle of activity in Jeddah. The accessibility is convenient with at least two streets, and lastly, the surrounding site were preferentially select communities with high user density to achieve project goals.

Table 7. Site examination result

Site criteria	WF	Site 1		Site 2	
		Score	WF x Score	Score	WF x Score
Site capacity	3	5	15	5	15
Shape/ proportional	3	4	12	5	15
Topography	2	3	6	5	10
Access/ traffic	3	5	15	4	12
Noise level	2	1	2	4	8
Utilities	1	3	3	4	4
Security and safety	2	4	8	5	10
Image/ visual quality	2	3	6	4	8
Visibility	2	5	10	5	10
Future development plans	3	2	6	4	12
Demographic patterns	2	4	8	5	10
Surrounding	3	3	9	5	15
Views	1	3	3	4	4
Total			103		133

Table 7 comprehensively considers the criteria of site capacity, scale, terrain, traffic, noise level, utilities, security and safety, visual quality, visibility, future development plans, population patterns, surrounding environment and landscape standards. The criteria are labeled with a weight factor (WF) range from 1 to 3, where 1 is unimportant, 2 is less significant and 3 is vital. The sites were evaluated with score 1 (less important) to 5 (very important).

According to the site evaluation results in Table 7, the best location is site 2 which is located on King Abdulaziz Road. The site historical is important; the land has no past, but it is private property. The site is located on King Abdulaziz Road, one of the most important main streets in Jeddah, which intersects with Saudi Al-Faisal Street. Around the selected site, there are many landmarks such as screen tower and Saudi Airlines Building.

Regarding the site's regulations, the main and secondary trading axes have passed/penetrate. The standard implementation system is not supported within the minimum width of the design axis upon request. The

building system adopted by the building regulations, and regulations is aligned with the commercial areas. The areas of 601 - 1000 square meters allow the height of a maximum of 10 floors. The spaces of 1001-3000 square meters allow the height up to a maximum of 12 floors as long as the commitment to the coefficient of construction. In areas larger than 3000 square meters, height can be allowed for any number of floors as long as the construction surface is complied with. The main and secondary commercial areas that pass or penetrate the villas' designs are the building system according to the axis system, taking into consideration the local plan of Atlas. In the slums: sites and buildings that face regulatory lines and organizational streets are not allowed to be built.

Figure 5 illustrates the site accessibility. The site can be reachable from two main streets namely Al Urwah Al Wuthqa Street (Al-Khalidiyah) and the Bir Ar Rawha Street. Figure 6 demonstrates the neighborhood analysis, where the site is surrounded by commercials, empty land and residential area.

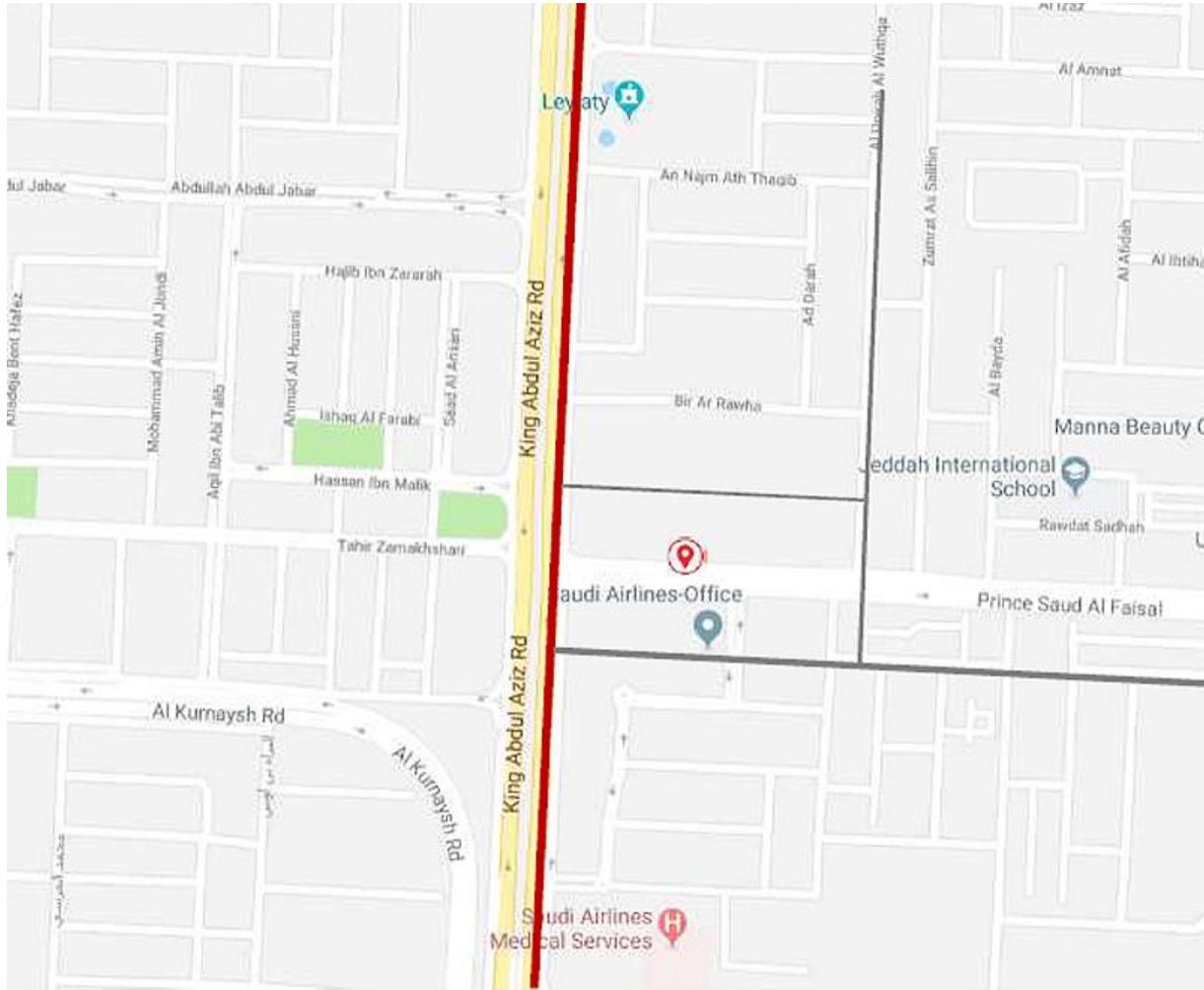


Figure 5. Accessibility



Figure 6. Neighborhood analysis

Figure 7 illustrates the sun path diagram. The earliest sunrise time in June is 5:39 in the morning, and the latest sunset time in July is 7:11 in the evening. The latest sunrise

time in January is 7:04 am, and the earliest sunset time in November is 5:39 pm. The sun shines for a long time, so it can naturally illuminate the unit during the day.

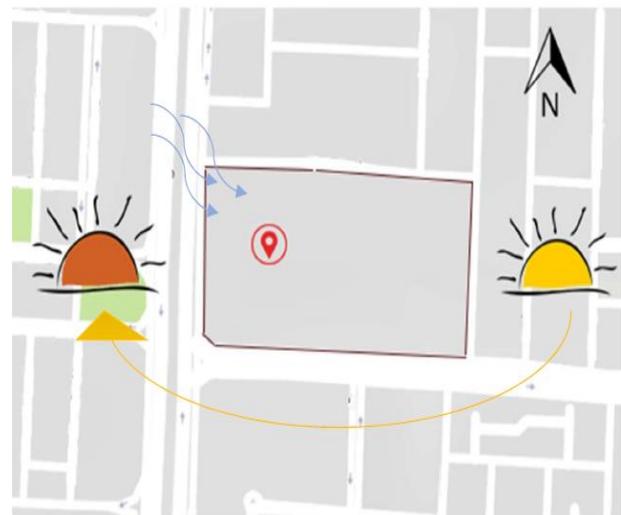


Figure 7. Site's Climate

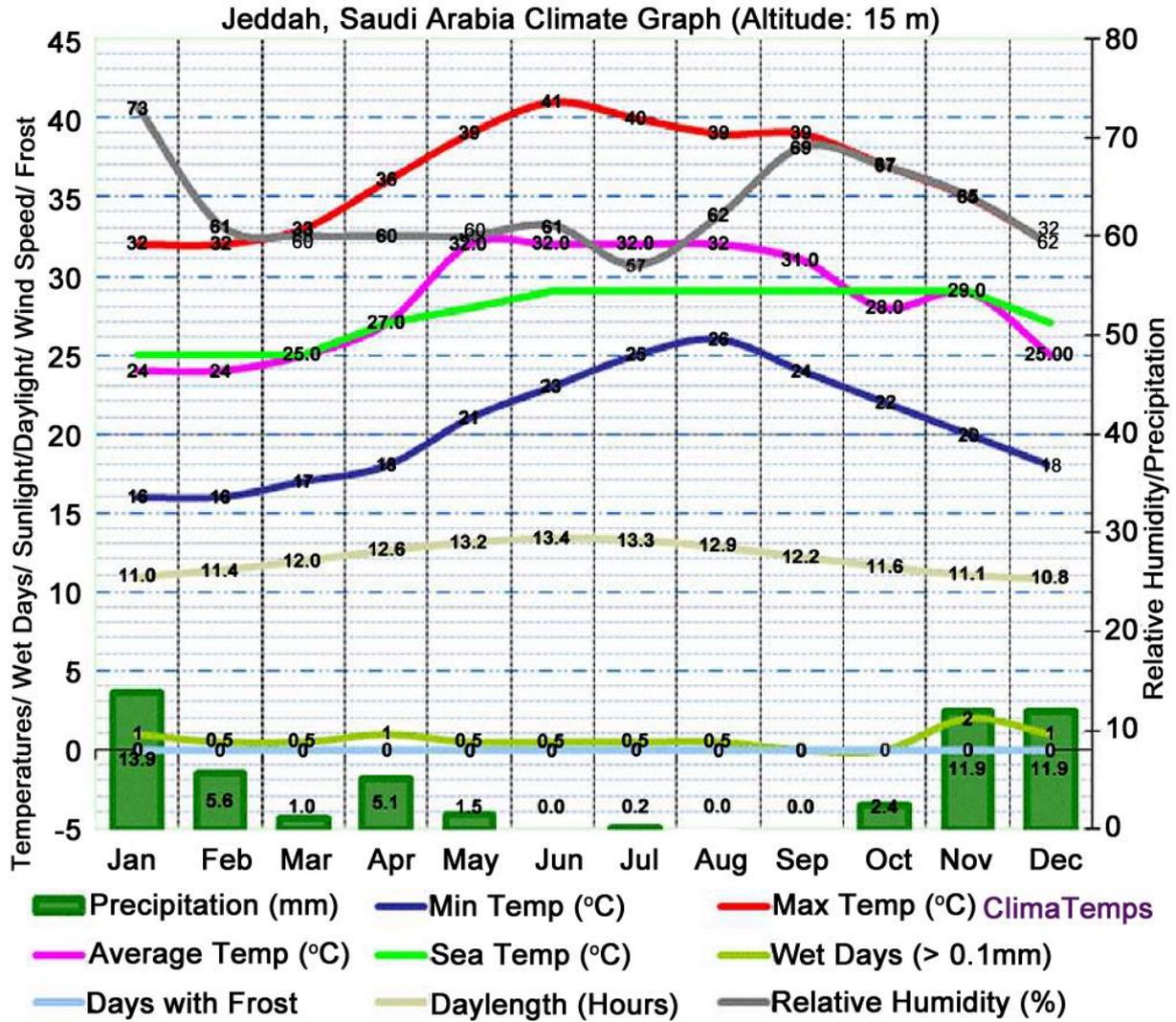


Figure 8. Site’s weather conditions

Figure 8 demonstrates the site’s weather conditions. The wind experienced by the site most often comes from the north, northwest, and west directions at 26%, 23%, and 12%, respectively. But, the winds in the southeast, east, and south directions are 1%, 2%, and 2%, respectively. Based on Figure 8, the annual average relative humidity of the site is about 62.8%, the highest average relative humidity in January is about 73%, and the lowest in July is about 57%. Besides that, the noise in site is also less.

5. Zoning and Project Design

The concept and philosophy of this project are outlined

as the association works to achieve the hopes of retirees and improve and develop their financial, health, moral, social and economic. This also will recognize the needs of those people and create a suitable environment for them through making them have social and therapeutic activities. Figure 9 illustrates the bubble diagram which shows the relationship between each zone. Figure 10 demonstrates the adjacency matrix between each component in the project. The zoning diagram and the stacking diagram are shown in Figure 11 and Figure 12 respectively. In addition, some safety incentive plans can be implemented to ensure the progress and construction quality as well as the safety of workers [14].

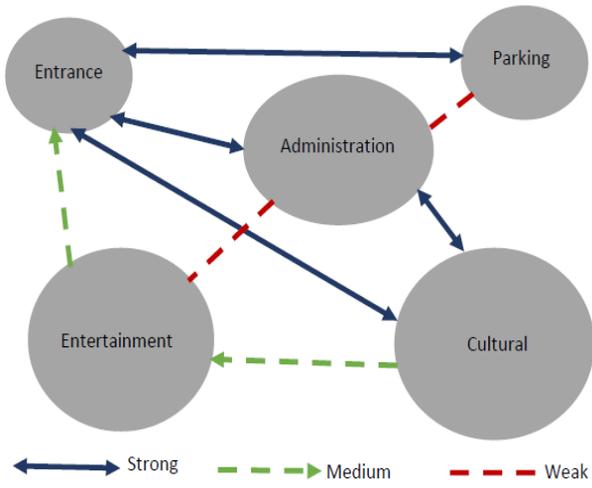


Figure 9. Bubble Diagram

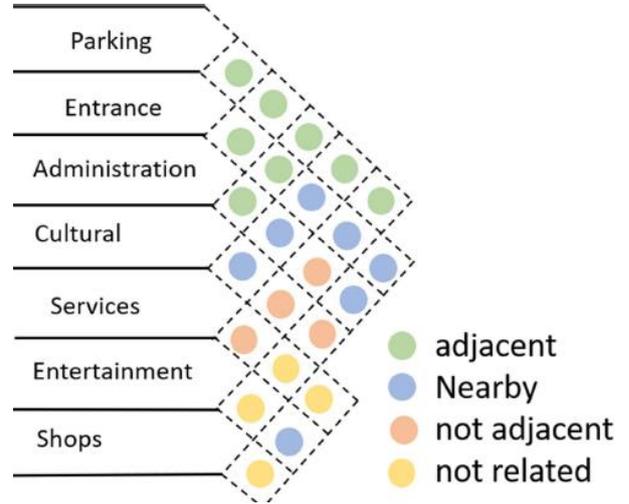


Figure 10. Adjacency Matrix

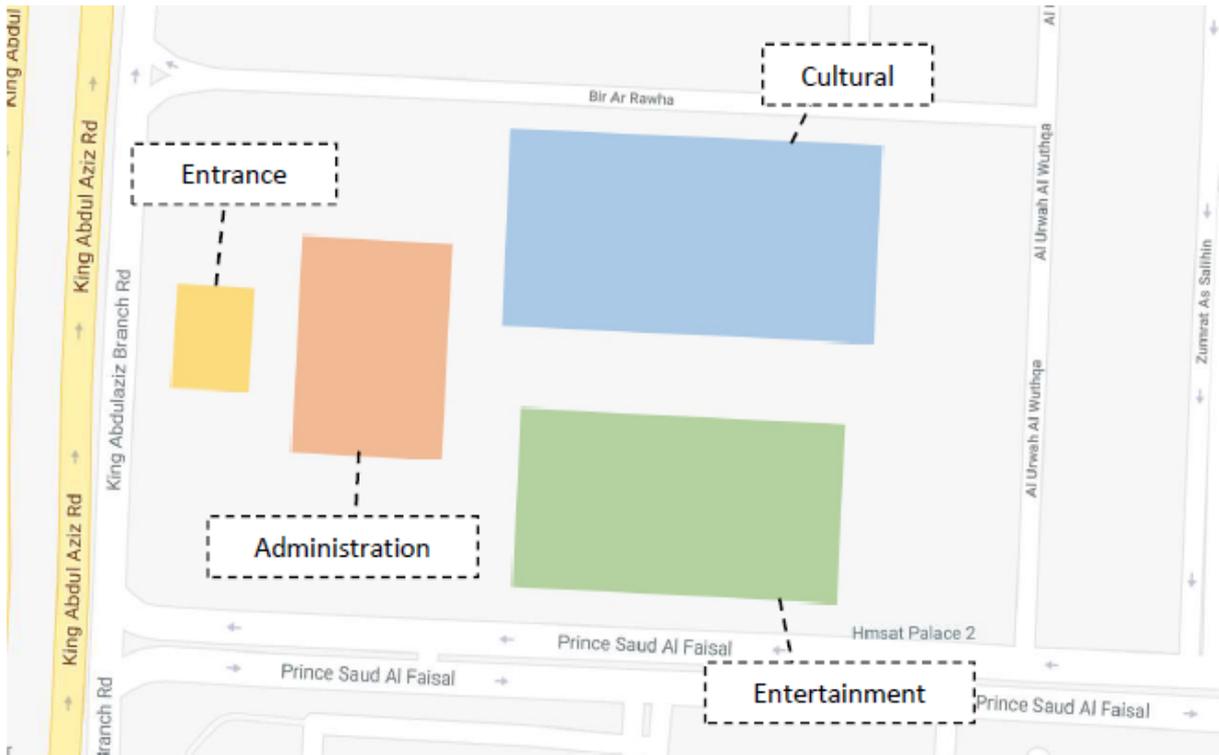


Figure 11. Zoning diagram

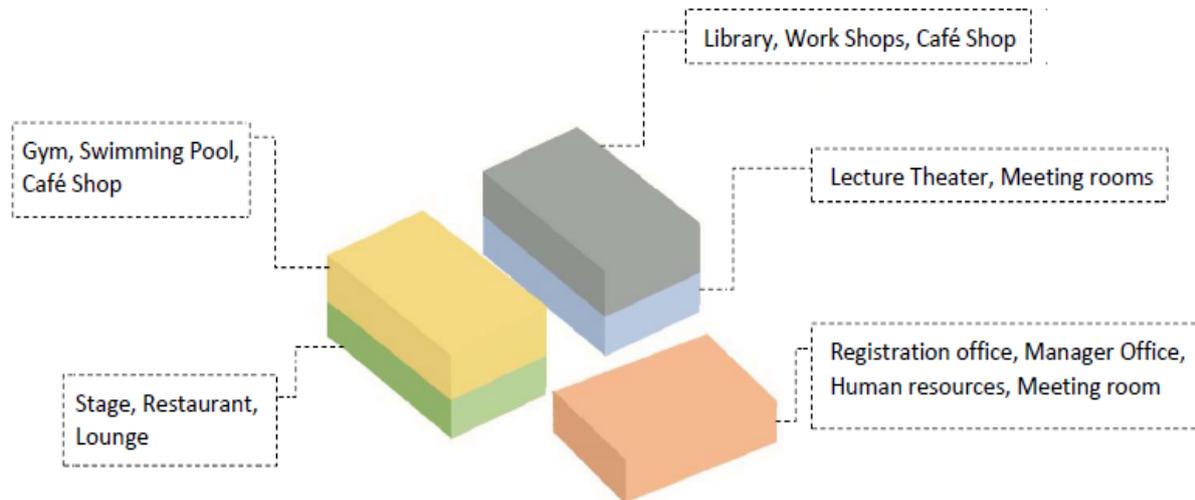


Figure 12. Stacking Diagram

6. Conclusion

The project's goals are to improve the financial, health, moral, recreational, cultural, social and economic conditions of the retirees, thus contributing to their happiness and dignity. The establishment of a practical database containing information and data on the experiences and qualifications of retirees and their addresses is updated periodically to be available for retirees and government agencies and the civil population for the purpose of communicating with retirees, which leads to the investment of the experience of retirees. The proposed project provides training and advisory services and studies in various fields that contribute to the development and employment of the experiences and skills of retirees. Also, this project creates a place for retirees to get to know each other and practice sports activities and reactivating social activities.

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