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Urban Generation Z and Future Aspirations for Friendly Urban Public Spaces in the City: A Case Study of Central Park, New Damietta City

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ABSTRACT

Creating a healthy and sustainable environment has become a global imperative to address environmental, economic, social, and urban concerns. Children and adolescents, who account for the majority of society, require an environment that meets their future aspirations. The United Nations Convention on the Rights of the Child promotes child-friendly cities to meet their requirements. The study aims to establish a new planning approach to support the development of urban spaces for Generation Z.

The study presents a five-stage framework, including identifying the importance and objectives of a child-friendly city, analyzing global case studies, identifying the characteristics of Generation Z, and developing specifications for open public spaces for Generation Z that are compatible with the Sustainable Development Goals. Finally, applying AI-based design tools to propose a renewed design for the central park of New Damietta City. The design aligns with the richness of this generation's culture and is innovative, focusing on activities that align with environmental, social, cultural, and economic dimensions. It also reflects their needs, connection to technology, and future aspirations.

Keywords: Place Making, Urban Public Spaces, Children City, Generation Z, AI.

1 INTRODUCTION

Urban spaces are essential to the development of cities because they promote social relations and offer chances for leisure, sports, and relaxation. Whether man-made or natural, these spaces need to be carefully planned to serve the community's needs, particularly those of kids and teenagers [1]. Every age group should be involved in the planning process because well-designed cities should have areas that are visually attractive and rich in identity, particularly parks and outdoor spaces.

According to projections, by 2050, two-thirds of the population will reside in urban regions due to urbanisation trends [2]. In addition, there are challenges like climate change and rising energy use that have an impact on urban living conditions [3, 4] and public health [5]. Adults were the main target of earlier urban planning initiatives, particularly in the early 1970s and 1980s. Recreational spaces, as well as other artistic and cultural spaces, were created with their representation [6].

kids and teenagers, on the other hand, have been overlooked. They are predicted to make up 50% of the world's population by 2025 [7, 8]. Green spaces and public spaces devoted to them were few. As a result, efforts like UNICEF's promotion of kids' involvement in urban planning have gained attention. These initiatives include introducing the concept of child-friendly cities and prioritising their needs, including those with special needs and ethnic minorities [9, 10].

Nowadays, kids and teenagers are referred to as Generation Z. Generation Z is defined by a common birth time, as well as similar educational and temporal circumstances. Due to their upbringing in the era of contemporary technology, this generation, born around 1995, has distinct traits and goals from earlier generations. Although there are differing views on the precise year this generation began, most people believe it started after 1995.

The unique demands of Generation Z in urban public spaces have not been well studied, reflecting the growing interest in child-friendly cities. so this research main objective is to design urban spaces dedicated to

Generation Z through integrated urban planning that meets the needs of children and adolescents, and enhances urban awareness and youth engagement, with a focus on creating sustainable spaces that support individuals' rights and meet their future aspirations. It also seeks to make New Damietta a model for Generation Z-friendly cities and join global initiatives for friendly cities such as Sharjah City to promote innovation and empower future generations.

The research suggests a strategy for designing public places that respond to meet the evolving needs of Generation Z, thereby enhancing the quality of urban life.

1.1 Methodology

Researching the obstacles that harm the city and developing solutions and recommendations based on the foundations and standards of sustainable development, as well as the principles of designing a child-friendly city. The central part of New Damietta City served as a model for establishing Damietta City as a city friendly to the creativity and innovation of Generation Z, keeping pace with technology and artificial intelligence.

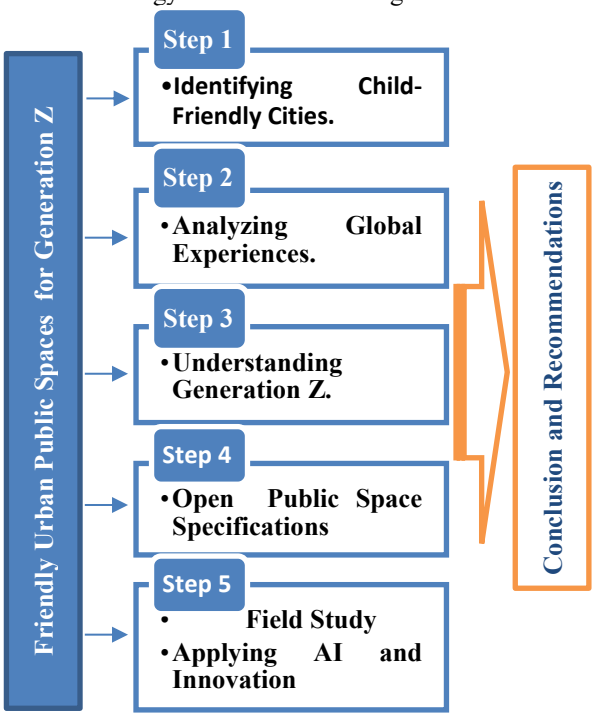

Figure 1: Research Methodology Flow for Creating Friendly Urban Public Spaces for Generation Z, [Author].

By following these steps, as shown in Figure (1):

First, identify child-friendly cities, understand their value, and determine the desired goals for achieving them. The second step is to analyze some of the global experiences that were selected based on: geographical spread and diversity, interaction with UNICEF principles, and finally the role of community participation and participatory planning. Third, identifying the most crucial traits of Generation Z, its influence on decision-making, and the part artificial intelligence plays in process of planning that appeal to this generation. Fourth, determine the specifications and size of open public space elements for Generation Z, as well as the procedures that incorporate sustainable development goals. Fifth, the field study focused on analysing the constructed environment of New Damietta City.

In addition to identifying the variables that contribute to the renewal and revitalisation of public spaces through oral discussions with citizens and local officials, questionnaires, and SWOT analyses will be analysed. Finally, it depended on New Damietta City's centre park, applying AI to a sketch for a group of young people. To establish a new approach to planning and its role in developing urban places for Generation Z.

2 CHILD-FRIENDLY CITIES AND THEIR SIGNIFICANCE

Child-friendly cities, have adopted the concepts of UNICEF's Convention on the Rights of the Child and established criteria and foundations. Children's rights, need countries to apply them to establish a just society for all members. This commitment elevates the child's position to that of adults and ensures his active participation in shaping a better future for his city. Children are the most vulnerable to poverty, disease, bad housing, and pollution [11].

2.1 Needs and Rights

According to the 1989 Convention on the Rights of the Child, a child is defined as any individual under the age of 18, however, this period includes multiple phases, beginning with early childhood and progressing through puberty. In keeping with current worldwide trends, we shall use the term "Generation Z" to refer to children and adolescents who are passing through these age stages, which we will address later.

A child like an adult, has rights and wants that must be met, but he requires more protection and care than adults. This agreement describes the rights that must be considered for children, whether legal, social, cultural, or other rights, to develop and care for the kid, as shown in Figure (2) [12].

The child has the right to play, because it has benefits in enhancing confidence, developing cognitive abilities and skills, the ability to make decisions, and stimulating mental and motor development [13].

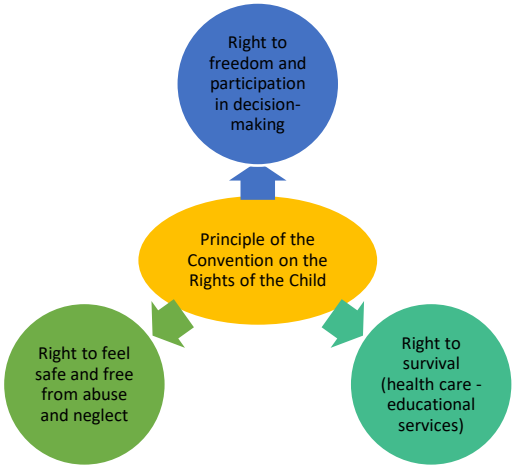

Figure 2: Principle of the Convention on the Rights of the Child, [Author].

2.2 Children's Needs

Children have unique physical movement qualities that necessitate settings where they can move and release energy continuously. Parks and natural spaces can provide youngsters with opportunities to play that will help them develop their senses and social skills. Table (1) shows how children's needs differ depending on age and the planning scale.

Table 1. Urban planning scale for the children, [10].

Uses	Scale		
	■	■	■
Entertainment	Playgrounds	Sports Facilities	Recreational Areas
Green Area	Courtyards	Park	Ecologic Area
Age group	2-6	6-12	12-18
Level of participation in decision-making	Consultation and cooperation	Child-led participation	Civic engagement based on trust
■ City	■ Neighborhood	■ Street	

2.3 Urban Planning and Child

Respecting children's rights is the fundamental premise of child-friendly planning, which improves their abilities and promotes their development. In addition, to assuring safety, health, and participation while promoting sustainability and environmental conservation. Children and teenagers have various ideas that should be considered, particularly in the design of public areas. In addition to the UNICEF report [10].

They adopted the principles of children's planning rights, which were limited to ten principles:

(1) Investments, (2) Sanitation and water management, (3) Housing and land tenure, (4) Dietary system, (5) Public facilities, (6) Waste management system, (7) Public places, (8) Energy systems, (9) Means of transportation, and (10) Technology and information network.

All of the above can be applied in urban planning:

- Planning public places, such as streets and squares - Parks and playgrounds - Sports Facilities
- Open space planning, including walkways, sidewalks, and bike paths. - public parks and squares
- Planning green spaces: green spaces within urban areas.

2.3.1 Guidelines for Designing a Child-Friendly City

A Child-Friendly City is a place, city, or community designed to provide an optimal environment for children while adhering to the United Nations Convention on the Rights of the Child for all age groups, as shown in Figure (3).

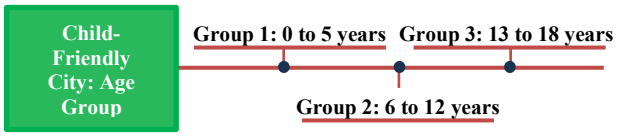

Figure 3: Age groups for child-friendly cities, [Author].

This convention comprises 54 articles, but establishing a Child-Friendly City requires the implementation of four fundamental articles[14]:

- **Article Two:** Non-discrimination: All children have equal rights that are respected regardless of any reasons or classification.
- **Article Three:** The child's best interests: These interests are the primary consideration in decision-making, requiring the government to prioritize care and protection
- **Article Six:** The right to life, survival and healthy development.
- **Article Twelve:** Respect for the child's opinions.

Additionally, the following principles must be applied to realize the concept of a Child-Friendly City:

- Equitability and inclusivity, ensuring fair geographic distribution of public spaces.
- Involving children in decision-making processes.
- Effectiveness and responsiveness in guaranteeing children's rights across all age groups and cultural contexts.
- Accessibility to green spaces and regular maintenance of these areas.
- Thoughtful planning of play areas to meet children's needs.

- Ensuring safety and security in all aspects of the urban environment.
- Enhancing learning through a city's culture and history.
- Promoting health via active lifestyles, including walking and cycling activities.

By implementing these elements, a city can foster an environment that ensures:

- Safety and protection from all forms of exploitation and violence.
- Encouragement of health and well-being.
- Access to quality education, freedom of expression, and participation in decision-making.
- Provision of essential services and infrastructure.
- Support for a healthy, socially and culturally enriching family life in a clean, green environment.
- Availability of play areas and recreational facilities.
- Equality and respect for people of all races, religions, and nationalities.

2.3.2 Children's Public Places

Attractive places where children can enjoy, play, interact, grow socially and culturally, improve and develop their skills, and are easily accessible.

Conditions for a child-friendly public space:

- Accessible by walking, bicycle or any other means.
- Social access is achieved through management, maintenance, and containment.
- Free entry
- Existence of infrastructure and regulations.

3 GLOBAL EXPERIENCES WITH PLANNING CHILD-FRIENDLY CITIES

Child-friendly city initiatives have been implemented over the past years, reaching 49 initiatives worldwide, as shown in Figure (4). However, the current initiatives reach 40, as shown in Table (2) [15].

Table 2. Locations of current initiatives worldwide, [15]

#	Location	No.
1	Americas	7
2	East Asia and the Pacific	5
3	Eastern and Southern Africa	1
4	Europe and Central Asia	23
5	Middle East and North Africa	3
6	South Asia	1
	Total	**40**

The following important criteria were used to choose the experiences:

1. Geographical spread and diversity: Examples were chosen from a variety of global geographic locations, including Europe (Besancon), the Middle East (Sharjah), and Germany (Berlin). This illustrates the range of applications of these initiatives worldwide and their reach across the Americas, Asia, and the Middle East.
2. Engagement with UNICEF principles: Sharjah, which has specifically included these ideas into its plans and orientations, is one city that has embraced UNICEF standards and principles for child-friendly cities.
3. Participatory planning and community involvement: Cities that use a participatory approach to planning are chosen, involving local communities and children in the process of making decisions about the layout of public areas. Sharjah, for instance, used strategies like field surveys and Minecraft to attract kids and young people at various stages.

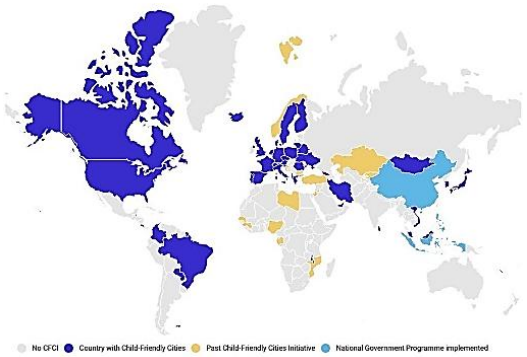

Figure 4: Child-Friendly Cities Initiatives Worldwide, [15].

3.1 Besançon City

Besancon is a child-friendly French city in eastern France. France boasts over 299 child-friendly cities, but this city has a unique history and geography due to its location on the Swiss border. It is on the World Heritage List because of its architectural and cultural significance. It was dubbed the first green city because of its dense greenery and high percentage of trees. It earned the Participatory Democracy Cup in 2002 for its diversity of religions and population, and in 2007 it was named the Flowering City. UNICEF designated it as a child-friendly city [16].

3.2 Berlin city

56 German communities are taking part in the Child Friendly communities Initiative. Berlin is one of these participating cities, offering a variety of interesting activities for both young and old, including balloon rides, boats, and bicycles. There are also lovely natural landscapes, parks, water parks, and architectural structures, including museums dedicated to children. In addition to mountain safaris that instill a sense of adventure, the city gives all of the resources that children need to exercise their rights, such as education, health care, and participation in municipal councils.

3.3 Sharjah City

In 2019, Sharjah became one of the world's first child-friendly cities, as well as the first in the Middle East. Sharjah incorporated UNICEF ideas and standards into its planning and published a guide to child-friendly planning principles. The city has about 66 green parks and play spaces [17].

The concept arose from collaboration with the United Nations Human Settlements Programme to host a series of workshops and activities. The purpose of the United Nations Habitat was to develop future public spaces based on the ideas of children and adolescents in order to provide a safe and stimulating environment for their abilities while also meeting their needs and rights.

- **This was completed in three stages:** Children aged 9 to 11: Using Minecraft to understand children's aspirations, imaginations, and innovative ideas for planning public spaces in their virtual city.
- Children aged 8 to 18: Conducting a scouting tour to evaluate the venue based on accessibility, safety procedures, comfort, and other criteria.
- Young adults (20-22): Evaluating 230 public sites in Sharjah based on factors such as safety protocols, site accessibility, and the extent to which residents' requirements in various areas of the city are addressed.

The concept of a child-friendly city has grown as a result of worldwide initiatives and changes that have occurred since the Convention on the Rights of the Child. It can be tackled from two perspectives: rights and the environment. The rights viewpoint is based on the goals of current generations of Generation Z, as well as their rights, needs, and interests. The environmental perspective is expressed through the vision of the city in which Generation Z lives, a city that values place-making quality, considers climate change, and achieves sustainable development goals.

In other words, a city that is welcoming to Generation Z has a large number of public urban areas that are welcoming to the generation and offer all the positive aspects and components that enable them to engage with the places daily. Valuing their interests and rights and highlighting their involvement in local decision-making strengthens, develops, and advances Generation Z.

4 GENERATION Z

By worldwide standards, the current generation of kids and teenagers is known as Generation Z. In other words, the generation that was born during the same time. A generation that shares a common historical epoch and way of upbringing [18]. From 1995 forward, this generation was born [19].

In the past, there was Generation X, Generation Y, and the Millennial Generation. When the annual birth rate rose from 3 to 4 million, the concept of naming generations was born. Following that, successive generations were given names, beginning in 1991 with Generation X. The most widely used term was Millennial Generation, although Generation Y followed [20].

Due to their upbringing in the age of contemporary technology, Generation Z has distinct traits and goals from earlier generations. There is agreement on the year of birth, which is after 1995, notwithstanding the disagreements on which year to assign to Generation Z [21].

The United Nations estimates that by 2020, there will be over 2.6 billion members of Generation Z worldwide or roughly one-third of the global population. Each region has a different number of this generation. Their frequent and frequent travels inside metropolitan areas also have an impact on the development of these places. Because of this, public spaces need to be planned with their behaviour in mind and offer appealing services [22].

4.1 Lifestyles and Aspirations of Generation Z

Children and teenagers from Generation Z have a big impact on society. Technology, information, entertainment, travel, food, and fashion are just a few of the industries that this generation consumes. Particularly in the areas of education, employment, and entertainment, the virtual world and the Internet are extremely significant and inextricably linked. They have a different mindset than earlier generations as a result of this link.

An attitude with a distinct culture, way of thinking, vision, and unorthodox objectives. Because they understand the value of a clean, sustainable environmental outlook, its values are tied to contemporary global trends like employing renewable energy sources, bicycles and motorcycles, and alternate modes of transportation. They can use the Internet to work, learn, shop, and conduct remote meetings [23].

Numerous names for this generation reflect its traits, including [24]: Gen Tech - I Generation - Generation C (connected) - Facebook Generation – etc.,

A generation that lives differently from their parents' generation and approaches childhood differently from earlier generations. They are a free-spirited generation that travels and spends differently. Information is obtained through computer browsing and visual skills rather than books [25]. This generation has grown up with the advancement of technology and can connect with friends and family via Facebook, Instagram, and LinkedIn [21].

4.2 Characteristics of Generation Z

- This generation can now communicate and voice their ideas easily thanks to social networking [26].

- An educated, responsible, and ecologically conscious generation that upholds values and beliefs.
- E-shopping made him a good consumer.
- It possesses a variety of abilities in the digital realm, including the use of video games and artificial intelligence.
- A generation with unorthodox investing and saving objectives.
- It can work remotely, conduct meetings, and conduct online shopping.
- It has various qualities, including intelligence, confidence, independence, creativity, ambition, teamwork, practicality, and flexibility [27].

As a result of their frequent travel patterns, this generation has an impact on the development of urban areas; therefore, appealing urban places and services that cater to their needs and preferences must be created.

4.3 Urban Areas and Generation Z

The world's population is demographically diverse, with different percentages of men, women, and children in industrialised and developing nations. Children make up 60% of the population in emerging nations and a third of the world's population overall [28]. Like their global counterparts, the Egyptian Generation Z is a creative and dualistic generation that lives in both the actual world and the virtual reality that allows them to realise their aspirations. This is a result of reality's intricacy and day-to-day difficulties.

4.3.1 Urban Planning and The Art of Making Places and Cities

To reformulate urban spaces, many towns have embraced the art of placemaking, which lends cities a beauty that is appropriate for the requirements of their citizens. Because urban settings provide obstacles, the urban designer depends on aesthetic ideals that emerge from social relations. In addition, there is interest in the place's visual and aesthetic image and how users interact with it effectively to create a sustainable and healthy environment with a unique identity, aesthetic character, and visitor attraction that improves the quality of life [29].

Urban planning is the process of organizing resources within a specific period to solve a problem and provide alternatives to achieve the satisfaction and happiness of citizens and raise the quality of life. The available resources referred to are natural resources, cultural resources, arts, architectural heritage and human resources.

In order for cities to become beautiful, attention must be paid to how to attract all segments of society, especially Generation Z, which represents the largest percentage, and to attract them from inside or outside the city.

This is done by investing in elements that support the development of the city, which are represented in the arts and cultural centres or the restoration of heritage buildings and promoting them. When this generation feels that there is an economic incentive return related to the development of the city and urban projects related to it, then the importance will be entrenched within it and it will try to participate and care about this aesthetic aspect of the city, as shown in Figure in (5).

Figure 5: Gen Z Space, [Author].

The proportions of beauty differ from each person's perspective, and when we talk about beauty, the picturesque views embodied in water bodies and green areas always come to mind. Green spaces are designed by the authorities responsible for city planning and are always linked to the concept of open spaces and have services. These places are provided with local plants according to the nature and climate of the city [30].

Places from which life emerges and reflect social, cultural, recreational and environmental dimensions [30].

Green spaces are classified in cities according to several dimensions, including: purpose, location and management. They also depend on several criteria: (ownership, usage pattern, area and function), as follows:

- In residential areas: In residential areas (individual or clusters).
- Independent green spaces: urban park - square.
- Green spaces related to equipment: yards (for walking - for sports - for entertainment - schools - ....).

4.3.2 Artificial Intelligence's Contribution to Fulfilling Generation Z's Goals of Friendly Planning

Generation Z aspires to sustainable and smart cities that include urban spaces that keep pace with global changes and enhance social, economic and environmental aspects. Artificial intelligence has started to contribute to sustainable development through a variety of applications, such as city management, transportation, the environment, and urban fabric design, thanks to digital progress. Because of this, urban data is now easier to acquire and more adaptable, which helps with correct urban planning decisions and highlights the role artificial intelligence plays in fulfilling Generation Z's ambitions and enhancing quality of life. Lastly, the case study will demonstrate how artificial intelligence is being used from this generation's point of view [31].

4.3.3 The Role of Generation Z in the Decision-Making Process

In the decision-making process, the role of children and adolescents and taking their opinion depends on their age group and level of intellectual maturity. This role

will be clearly demonstrated through the support provided by the local community and non-profit institutions [32]. Here a question must be asked: Will the participation of Generation Z in the decision-making process have an impact on the planning and development of cities and make them better?

To answer this question, let's look at some examples that show the importance of participation in decision-making. This is what happened when Curitiba, Brazil was named the "Green Capital." In 1971, children were involved in making Ruaquinzi a pedestrian area. Because the city's mayor, Jimmy Lerner, allowed children to have their say and participate in meeting protesting motorists. This is in addition to The Youth Hub in Tacloban, a UNICEF-sponsored youth centre in the Philippines, where the KID mob team collaborated with the Tacloban community to build this centre through community workshops. Over 100 youth participated in these workshops to participate in presenting design ideas and creative solutions for 10 projects at the centre.

As for PASSA Youth, the idea started from the International Federation of Red Cross and Red Crescent Societies and the emphasis on the importance of youth participation as members, volunteers and leaders in affected communities to reduce risks related to shelter safety. This project stems from the PASSA program and targets youth between 13 and 17 years old to draw maps and find solutions to communicate with stakeholders and work to change their community and reduce urban violence. In addition to raising awareness in shaping the environment in urban areas and making them safer [33].

From the previous examples, it is clear how important participation in the decision-making process is and how influential the power of young people is in creating change and promoting development for the better.

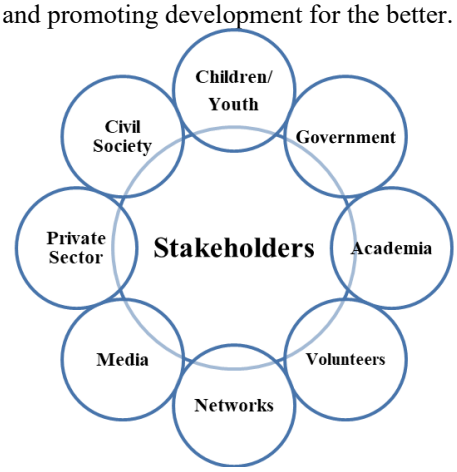

Figure 6: Participants in the decision-making process, [Author].

Creating principles for the design of open public spaces and using them as a guide for the relevant parties to make the city more kid-friendly requires a focus on the idea of participation in the decision-making process related to urban planning development [34].

Therefore, as shown in Figure (6), a strategy needs to be created for execution using the subsequent steps:

1. Establishing an administration for public spaces under the control of local governments and municipalities to guarantee the delivery of services that support young people's healthy development.
2. Assessing every metropolitan public space with the involvement of all societal groups (children and teenagers).
3. Creating a plan to bring about change and present it to kids through participatory methods.
4. Creating public spaces that are welcoming to Generation Z is an investment with numerous returns, therefore implementation and sustainability require follow-up.

4.4 Environmental Dimension and Sustainability

Generation Z is a generation aware of climate change and enhancing the environment and its resources. An active generation for environmental issues and a supporter of recycling and sustainability. This generation seeks to use all means to protect the planet such as sustainable transportation, volunteering in clean-up campaigns and demanding change. University students of this generation are familiar with the Sustainable Development Goals agenda (17 goals).

They think about sustainability, participate and seek to find jobs related to the environment. Therefore, when planning the city and its public spaces, it is necessary to make them attractive by emphasizing their quality, which indicates enhancing the sense of quality of life by achieving the sustainable development goals to attract this active generation.

5 GENERATION Z: FEATURES AND DIMENSIONS OF PUBLIC AREAS

This can be accomplished by implementing a strategy to enhance land use or revitalise green spaces or public areas in urban areas as part of the development plans to highlight the interaction and spatial community cohesion of young people. Teenagers interact differently in different cities and on different continents. In contrast to certain other nations that lack them, European nations are distinguished by the existence of gorgeous green natural landscapes. The kinds of activities that teenagers engage in across various nations reflect this. Teenagers' engagement and communication with the natural world should be emphasised [35].

This analytical approach requires reviewing urban planning in several directions to find requirements that meet the needs of Generation Z. If this is done, cities will be strengthened for the children and youth of the future, as shown in Table (3), by emphasizing the following principles:

First: Principles of planning child-friendly cities.

Table 3. Proposal Urban Approach for Successful Friendly Gen Z City, [Author].

Farmwork		Indicator	The Implementation	Scale Size	The Role of Institutions			
				Building - Neighborhood -City - City Level Development- Public Policy	Public Institutions	Private Sector	Civil Society	Specialists
Gen Z Behaviors	Environmental Approach	Respect the Environment	- Providing smart tools to save energy, use technology and the Internet. - Recycling through smart street furniture	City Level Development	●	●	●	●
		Green Materials and Plants	- To get the best thermal cooling, increase the variety of plants and the thickness of the vegetation cover [36]. - A space with trees and fruit gardens (like basil plants to improve the sense of smell) - Urban farming [37]. - Planting trees in front of and inside facilities [38].	City Level Development	●			●
		Provide Comfort and Spirituality	- Places for lounging near water features (like waterfalls and ponds) [39, 40]. - A space where spiritual sports and physical exercises like yoga are practiced [41].	Neighborhood	●			●
	Socio-Cultural Approach	Provide Peace and Comfort	- Family BBQ area.	Neighborhood	●			
		Provide a Play Area	- Children's play areas (Sensory Games). - Educational path.	Neighborhood	●			●
		Enhance Harmony with the Environment	- The park's walking trails and connections between its various sections [42] - The animal section [43] - The presence of green places can improve behavior and health [44].	City – Neighborhood	●	●		●
		Diversity of Activities	- Creating an identity for each neighborhood in the city with spatial diversity that serves different hobbies and emphasizes beauty. - Open theater[45] . - Special track for bicycles. - Smart outdoor library - Innovation areas .	City Level Development	●	●		●

		Participation	- In order to comprehend and evaluate their choices in the built environment and incorporate them into future urban policy, Generation Z can participate using gaming technology [46].
			- Citizens are offered with options during the strategic planning, urban area development, and redevelopment processes so they may help select the best option.
			- Participation of different age groups to ensure that the needs of the residents of this area concerned with development are met, these participations can be limited to:
			  - Periodic meetings.
			  - Electronic participation [47].
			  - Reinforcement by images and videos based on media [48].
				Public Policy	●	●	●	●

		Providing Protection	- Increase smart night lighting	City	●			
	Economic Approach	Activities	- Cafe area. - Commercial Markets. - Workspace	Neighborhood		●		
		Follow-up	- Create an application that uses a QR code to assess users following their visit [49].	Public Policy	●	●		●
Planning principles for children's rights	Investments	Urban Planning for Children	- Participatory sessions	Public Policy	●	●	●	●
			- Urban expansion according to development principles [50].	City Level Development				
	Housing and Land Tenure	Safe and Secure Housing	- Sufficient spaces for playing, ventilation and lighting for a good healthy environment. - Maintenance of old residential buildings. - Safe housing with specifications and design requirements suitable for living in [51].	Building	●			
			- Building heights and construction requirements.	City				
			- examining laws and enforcing certain regulations - Land use development - Examining GIS monitoring.	Public Policy				
	Public Facilities	Provide Scalable Infrastructure	- The creation of special education schools, libraries, children's and adolescent centres, a children's parliament, and a hotline for children's assistance. - Road maintenance. - Increasing lighting - Increasing the percentage of afforestation throughout the city as a whole.	Neighborhood	●	●		●
	Public Places	Public Places and Green Spaces	- Sustainable public parks. - Improving areas and spaces in streets and public places by planting urban pockets. - Exploiting vacant lands by increasing green spaces [52]. - Planting rooftops or front yards of some homes as they work to reduce the temperature [53].	Neighborhood	●	●	●	●
	Transportation	Enhancing Transportation for Easy Use	- Providing transportation close to the residence to reach the vital areas of the city. - Sustainable and clean transportation [54]. - Adding bicycle paths.	City	●	●		●
	Sanitation and Water Management	Maintaining Sanitary Conditions and Pure Water	- Raising awareness through educational curricula - Recycling - Encouraging investment and companies	Public Policy	●	●		

	The Nutrition	Healthy, productive food	- Healthy and sustainable community gardens.	City Level Development	●			●
	Waste Management system	Sustainable and Advanced Management	- Recycling. - No child labor for cleaning [55].	Public Policy	●	●	●	●
	Energy Systems	Clean and Continuous Energy	- Safer Streets with Continuous Lighting with Clean Energy [56].	City	●			
	Technology and Information Network	Enhancing Digital Communication	- This technology can be used to monitor environmental pollution, whether water or air quality [57]. - Developing the work environment. - Ease of communication. - Enhancing emergency services.	Public Policy	●	●	●	●
Child-friendly city planning principles	Equity and Inclusiveness	Identifying Neighborhoods that Lack Public Spaces	- Updating and creating play areas [58].	City According to age: (0:5) (6:14) (15:18)	●			
	Children's Participation in Decision-Making	Cooperation and Participatory Planning	- Designing, managing and financing public spaces. - Holding workshops according to age group and involving Generation Z in the design [59].	Public Policy	●	●	●	●
	Responsiveness to Achieve Children's Rights	Considering Children with Disabilities	- Usage according to user type (boy or girl) - Promoting activities that stimulate the senses [60].	Neighborhood	●	●		●
	Enhance learning	The Right to Play and Plan Recreational Activities	- Library and workshops - Educational games (different ages - people with disabilities).	Neighborhood	●	●	●	●
	Adaptability to Climate Change	Suitable for Climate Conditions and Disasters	- Provide shaded areas - Use appropriate materials - Use local plants - Provide blue spaces - Reduce hard areas	City	●	●		
	Easy Access to Green Spaces	Public Spaces with a focus on green Landscapes and Nature, as well as Accessibility	- Urban farms and gardening to promote children's culture of agriculture [61].	City Level Development	●	●	●	●

	Maintenance	Planning for High Quality Public Space Management by Enhancing Maintenance and Sustainability		- Regulatory compliance is the application of laws and guidelines to protect visitors' health [62]. - Professional Maintenance: Hiring specialised companies to maintain certain areas. - Creating a system that allows visitors to ask questions regarding maintenance and get updates on reports made by management is an example of transparent communication. - Customer feedback: Giving visitors a way to voice their issues and recommendations.	Public Policy	●			
	Play Area Planning	Standards and Agreements		- Implementation and achievement of standards and agreements	Public Policy	●	●	●	●
	Safety and Security	Safety and Security		- Play areas should be designed with sustainable upkeep, materials, and spacing in mind. Lighting up.	City Level Development	●	●		
	Health Promotion	Motivating Healthy Living		- Encourage bicycling and walking by creating pathways through green areas in public areas. These pathways are both appealing and secure [63].	City Level Development	●	●	●	
Sustainable Development Goals	Improving the Quality of Education	SDG: 4,11, 15		- Providing a community with leisure facilities that accommodate all groups and non-traditional educational facilities - Fostering an environment that is both healthy and educational for the community. - Achieving education through cultural urban spaces for all children, especially people of determination and disabilities.	Public Policy	●	●	●	●
	Improving Public Health and Recreational Facilities	SDG: 3,11, 13, 15		- Providing a clean environment and easy access to open spaces - Increasing the green footprint of parks and developing existing open spaces and recreational facilities. - Increasing and improving green areas that enhance air quality. - Reducing global warming in the city. - Healthy building materials	Public Policy	●	●	●	●
	Enhancing the Role of Children in Societies	SDG: 4, 11, 13,15,16		- Emphasizing the importance of the child's role in participating and communicating his voice in society (educational and environmental issues). - Rebuilding and improving green urban recreational spaces. - Promoting sustainable clean energy projects.	Public Policy	●	●	●	●

Second: Following planning principles according to UNICEF

Third: Generation Z behaviors

Fourth: Adopting some sustainable development goals to determine the interventions that must be implemented. These goals are:

- **Goal 3**: Good Health and Well Being: Expand health centers, develop hospitals, and ensure a clean environment with accessible open spaces.
- **Goal 4**: Education: Achieving education through educational urban spaces for all children, especially people of determination and disabilities

- **Goal 11**: Sustainable Cities & Communities: Increasing the green footprint of parks and developing existing open spaces.
- **Goal 13**: Climate Change: Increasing and improving green areas works to enhance air quality.
- **Goal 15**: Life on land: Increasing green spaces in urban spaces to enhance the environment
- **Goal 16**: Peace, justice and strong institutions: The role of children in participation and communicating their voice.

New Damietta City, is one of the new cities located on the northern coast of the Delta region. It extends over 26.30 km2, and the population is 71,342 people. A moderate climate generally characterizes the city and has been witnessing increasing growth recently. The region is also characterized by good components and opportunities for development, as shown in Figure (7) [64].

Figure 7: New Damietta City is located on the Mediterranean Sea in the Damietta Governorate, Egypt.

Public spaces are a type of network that must be accessible on foot and are present throughout the city to provide justice for all of its residents. The reconstruction of the central park must be taken into consideration because, as is well known, the size of these areas is always proportionate to the size of the population density. Enhancing and energising the city's green environment for Generation Z is the aim. As a first step, start on a small scale within the city and then expand to a larger scale in the neighbourhoods.

The master plan of the city included many green spaces such as the Olympic Village, which were not implemented and were converted by the city authority into plots of land to attract investment. Consequently, green spaces decreased and the per capita share also decreased from the national standard for green spaces. The central park has become the only park in the city. Human interaction plays a fundamental role with

The table clarified the following by integrating broad policies and developing them based on adopted approaches:

The city must adopt multi-level strategies (building, neighbourhood, city, general policy) and service gradation, serving as a model for public spaces like New Damietta City's central park.

6 CASE STUDY "NEW DAMIETTA CITY: CENTRAL PARK"

environmental systems to change land uses. Consequently, a change in urban development results in the new environment [65].

6.1 Central Park's Current State

One of the largest parks in Egypt with an area of 55 acres. In the Delta area, it is regarded as one of the most significant entertainment initiatives. It is situated in front of the New Damietta City Police Department and the Housing and Reconstruction Authority in the second district's entertainment area, which extends to the central area. It opened in 2009 after being finished in 2007. As shown in Figure (8), it has a lot of green space, including kid-friendly entertainment areas, a jogging and walking path, several seating places, an open Roman theatre, a parking lot, a restaurant building, a canteen and a mosque.

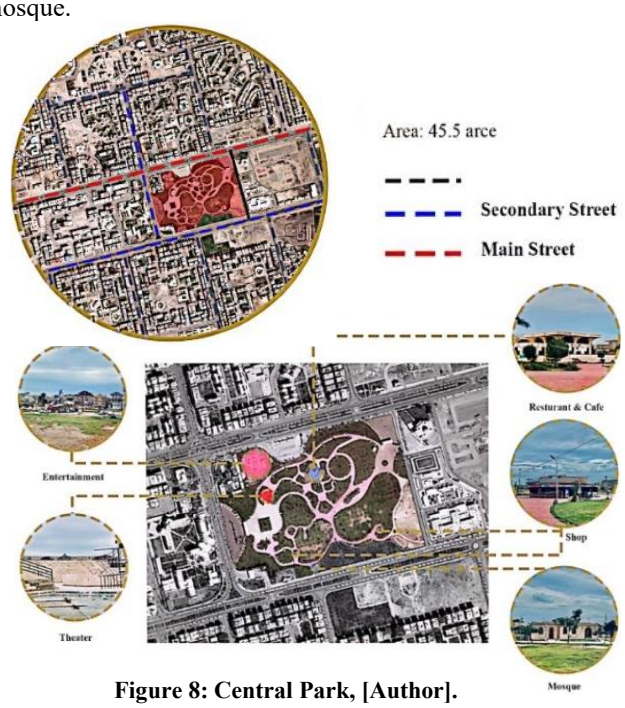

Figure 8: Central Park, [Author].

With its multiple elements, the park serves as both a community hub and a major local attraction. Through its activities, it targets all age groups and improves social life. The park lacks adequate green space and appropriate architecture despite its positive aspects. Additionally, it has been neglected and lacks sufficient shaded spaces,

thus its activities are scarce and unsuitable for the city's overall circumstances. It also requires upkeep and improvement, as Figure (9) illustrates.

Figure 9: The garden, including buildings, floors and seating areas, [Author].

The goal is to create New Damietta City the first city that is welcoming to Generation Z to stay up with the changes occurring throughout the world and to join the global movement for cities that are kid and youth-friendly, like Sharjah City. The city has to build public spaces that are kid-friendly since it has an environment that encourages creativity and capabilities. As a result, the central park is seen as the place to start when putting the friendly city plan into practice.

6.1.1 Specific justifications

The central park was selected for several of reasons, such as:

- New Damietta City has Damietta University, which includes several colleges and Horus University. In addition to several institutes, which makes the park an attractive place for a large group of Generation Z.
- New places in the city have been opened to attract these young people and meet their demands, but they do not have the capabilities and components of the central park.
- Not making the best use of it in light of its positive aspects and prospects, as well as the lack of a place-making concept.
- In keeping with the next stage of the nation's integrated urban rebirth and current international standards, the chairman of the New Damietta City Development Authority wants to improve the park and create a strategy to do so. which are depicted in:
    - Emphasizing the concept of place-making in cities.
    - Enhancing the balance between urban and development planning.
    - Enhancing activities with land uses.
    - Creating an environment that stimulates innovation and creativity.
- By the UN-Habitat report on Damietta City, which included a study of the population context and a spatial analysis, infrastructure investment projects were chosen, and an action plan was created to be carried out over three time periods (2024–2035). During the first period, initiatives that were designated for implementation included urban agriculture gardens and green projects for urban areas [66].
- 8,511 refugees in New Damietta City (8,458 Syrians and 53 other countries), adding to Generation Z's cultural variety.
- In March 2017, the Governor of Damietta, the National Council for Motherhood and Childhood, and the United Nations Children's Fund (UNICEF) signed an agreement that emphasised the activation of the cooperation protocol and the role of the Child Protection Organisation in the Damietta Governorate.
- In New Damietta City, there are committees such as the Child Protection Committee, which is a volunteer organisation that helps children who are in danger.

6.1.2 Site Investigation in the Field

A field investigation of the location was carried out, as seen in Figure (10), and an analysis of the site is displayed in Figure (11), where it was discovered that:

Figure 10: Relationship between Paths, Green Areas and Buildings, [Author].

Figure 11: Site Analysis, [Author].

- The percentage of buildings is about 6% and green areas are 71%. Due to its size and the fact that there aren't many buildings, the park may easily be developed with a variety of activities to make it dynamic, instructive, and appealing to a wide range of groups. There aren't any connecting routes in the park, which makes it seem boring. There are no visitor-friendly shaded spots. One cause of traffic congestion is the main streets around the park.
- The questionnaire was conducted for visitors to the central park in New Damietta City. The sample was determined based on the number of visitors to the park throughout the week. The youth and children (Generation Z) were targeted as park visitors.
  The questionnaire sample reached about 220 and the questionnaire covered the following main topics:
  - Availability of public parks and green spaces suitable for children.
  - Extent of the concept of sustainability in the city?
  - Availability of public facilities and services.
  - Availability of recreational areas for youth and children (Generation Z).
  - Feeling of safety and availability of transportation in the city.

  The results of the questionnaire can be summarized as follows:
  - Public parks and green spaces: Visitors pointed out the need to pay attention to green areas and maintain them.
  - Public facilities and services: Lack of sufficient toilets and the need to provide small service shops
  - Recreational areas: The need to provide recreational areas for children, in addition to allocating a place for a mini zoo and also allocating a play area for people with special needs. In addition to providing a mini public library, a music kiosk, artificial lakes and an open playground.
  - Feeling safe and the availability of transportation in the city: Some visitors suggested enhancing lighting and the sound system and installing a monitoring system.

All of the above-mentioned reasons, along with the study that was conducted to evaluate all the activities required to develop the park to meet the needs of Generation Z, give it a distinctive character to create a strong, attractive image that has an impact on the memory of this generation.

7 DESIGN CRITERIA FOR NEW DAMIETTA CITY'S CENTRAL PARK DEVELOPMENT.

Central Park is a lively location enhanced with green spaces, bike lanes, pedestrian walkways, and other recreational places. The human scale, planning, place-making, and future goals of Generation Z form the basis of this development's scope. The ideal course of action for developing and enhancing Central Park is to integrate with the business sector and the city apparatus while also taking into account the behavioral tendencies of Generation Z.

7.1 Context of Future Vision

For the park to be developed as a model for other cities, the following must be present, as shown in Table (4):

Table 4. Future Vision Framework for Developing New Damietta City's Central Park, [Author].

Key Aspect	Procedure	Indicators
1- Vision and Leadership	**Forming a specialized committee (city apparatus, urban planners, architects, computer engineers, sociologists, Gen Z representatives).**	- Completion and approval of the vision document. - Number of periodic committee meetings.
2- Integrating Social Factors and Future Desires	**Conducting surveys and interviews with Generation Z to understand future visions and expectations.**	- Sample size of participants. - Analysis, publication, and documentation of opinions.
3- Determining Clear Goals for Generation Z	**Determining SMART goals (specific, measurable and achievable within a specific time period) that are in line with global changes.**	- Number of goals defined. - Determining SMART goals (specific, measurable and achievable within a specific time period) that are in line with global changes.
4- Marketing & Analysis & Feasibility Study	**Sustainable environmental design, land acquisition, and financing plans.**	- Environmental impact assessment. - Models for land acquisition and financing.
5- Community & Awareness & Participation	**Organizing informational seminars and workshops.**	- Number of events held. - Survey and participation rates.
6- Stakeholder Alliances for Structural Transformation	**Forming alliances with the private sector, academic institutions, NGOs, and community leaders.**	- Number of partnerships formed. - Community agreements and initiatives.
7- Planner Participation in & Design Development	**Providing specialized training and guidance for city planners on global trends.**	- Number of trained planners. - Number of projects related to Generation Z.
8- Enhancing Public Spaces & Park Design	**a. Site evaluation & identity emphasis**	- Improved and scalable design elements. - User feedback on public square development.
	b. Enhancing pathways & interactive spaces	- Length of new paths. - Proposed design elements.
	c. Urban connectivity improvement plan	- Number of internal spaces improved. - Pedestrian movement rate. - User satisfaction.
	d. Designing a sustainable environment	- Design stages and completion. - Environmental performance metrics.

This approach could make Damietta a model that can be replicated for urban areas in other cities.

7.2 Public accessibility to the site

Public spaces are the backbone of the city and attractive areas for its residents. The presence of the central park is an outlet for the city as a whole after the cancellation of the Olympic city in the city.

- The concentration of the various activities mentioned above will create a continuous dynamic movement for the area.
- The park is in a good place and is easy to access due to its distinguished location.
- The diverse frequency of people and families for entertainment and relaxation purposes increases economic activity.

7.3 Design and function

The success of the design can be determined by the extent to which the function is achieved at all levels.

- To ensure continuity and ensure that the function is achieved, visitors must be continuously evaluated, and this will be

achieved through the presence of a QR Code, which allows the number of visitors to be monitored and their evaluation of the place to be known.

- There is infiltration in the spaces allocated for each activity.
- The presence of diverse spaces for all activities such as an open theatre, relaxation areas, yoga, cycling paths, cafeterias, etc.
- The activities available meet all age groups.

7.4 Trend and environmental technologies

Focus on sustainable design and the use of renewable energy sources to achieve comfort, sustainable building materials have recently emerged and are used for real estate and public squares. These materials include natural and recycled materials, as well as new and innovative materials, such as [67]:

- **Natural materials:**
  - Wood or bamboo: It is characterized by flexibility, strength and beauty, which allows it to be used in creative designs.
  - Cork: It is used in floors as it is renewable and mold-resistant. It can be used in children's play areas and in the open theater on the walls because it is able to absorb sound.

These materials face some challenges, whether in the maintenance process or the economic aspect in terms of cost and applicability.

- **Recycled materials:**
  - Steel, metals, glass, plastic and rubber: Corrosion-resistant, low carbon footprint and resistant to harsh climatic factors.

In coastal areas, steel requires many treatments, which increases its cost and environmental impact.

- **New and innovative materials:**
  - Fiber-reinforced composites- Self-Healing materials- Thermal energy storage materials: They have durability and flexibility and are recommended for use in coastal areas because of their features that withstand such climatic conditions. This is in addition to achieving energy efficiency.

8 THE SUGGESTED DEVELOPMENT

The development is done by presenting an attractive design simulation that is in line with the cultural wealth of Generation Z and the planning scale of its behaviors, which determines the type of future activities desired for a sustainable design that takes into account the dimensions of sustainable development under the following three dimensions:

- Environmental Approach
- Socio-Cultural Approach
- Economic Approach

The simulation was achieved by a sketch made by many young people ranging from 5-15 young people from Generation Z, aged between 17 and 20 years old, young architects, in which they put their visions. Then, according to their behaviors and aspirations, they entered this sketch for site layout alone into the Promeai.pro website to try to develop their design using artificial intelligence, then entered the rest of the interior details such as seating areas, pedestrian paths, etc., each separately to get the best results [68].

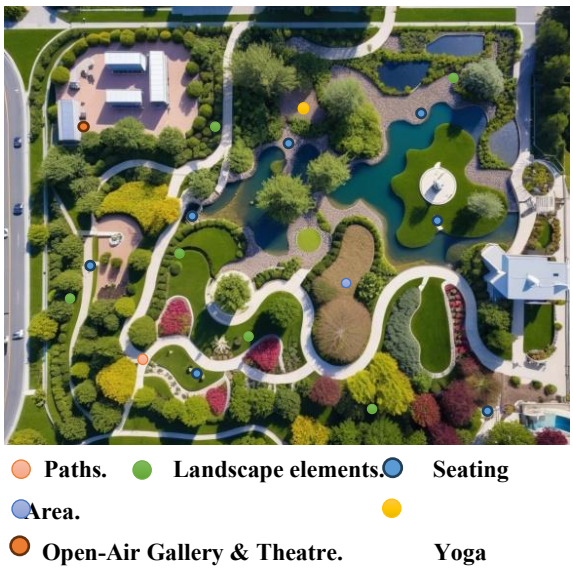

Figure 12: Proposed design using AI application,

The results were as shown in Figure (12) and matched what was entered and writing a prompt related to all the behaviors of Generation Z and under the three previously mentioned trends and determining the activities according to them and their needs and according to the questionnaire.

Site in general After multiple efforts, this was one of the best outcomes.

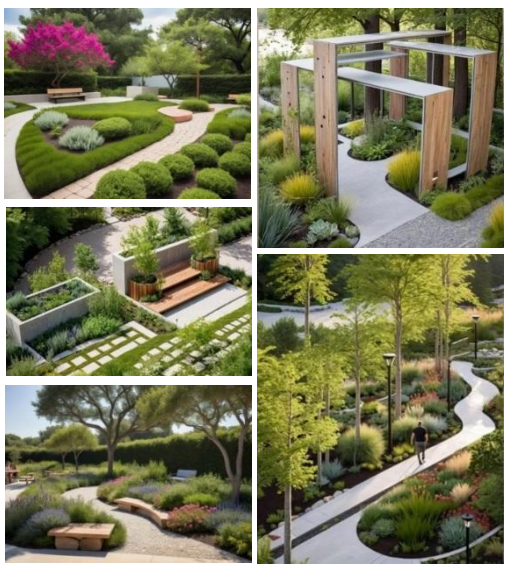

Figure 13: Seating areas, paths and landscaping according to the virtual designs, [68].

Figure 14: Seating areas, paths and landscaping according to the virtual designs, [68].

The prompt used is:
Design Elements for Central Park

- **Sustainable Green Spaces:**
  - Community Gardens: Spaces where locals can grow their own plants, herbs, and vegetables.
  - Pollinator Gardens: Native plants that attract bees and butterflies.
  - Urban agriculture
- **Interactive Zones:**
  - Augmented Reality Experiences: Installations that incorporate AR for educational or artistic experiences.
  - Art Installations: Areas for street art, murals, and sculptures created by local artists.
- **Wellness Areas:**
  - Yoga and Meditation Zones: Quiet spots with natural landscaping for relaxation and mindfulness.
  - Outdoor Gyms: Fitness equipment and trails for jogging, cycling, and group fitness classes.
- **Social Hubs:**
  - Food Trucks and Cafés: Spaces for local vendors, providing diverse food options and a place to hang out.
  - Event Spaces: Amphitheaters for concerts, movie nights, and cultural festivals.
  - Small stores
  - Disabled area
  - Family areas
- **Technology Integration:**
  - Free Wi-Fi Zones: Areas with high-speed internet access for studying or socializing.
  - Charging Stations: Solar-powered stations for charging devices.
  - QR: application to evaluate the park
- **Adventure Areas:**
  - Skate Parks: Designated spaces for skating and biking.
  - Climbing Walls: Natural rock formations or artificial walls for climbing.
- **Sustainable Practices:**
  - Rain Gardens: To manage stormwater and promote biodiversity.
  - Solar Lighting: Energy-efficient lighting throug
  - hout the park.
  - Friendly spaces with waterscape and seat area using Green and Recycling materials.
  - Kids area with a small zoo
  - Natural pattern
- **Visual Concept**
  - Paths and Layout: Create winding paths that promote exploration and discovery.
  - Vibrant Color Schemes: Use bright, engaging colours in furniture and landscaping to attract younger visitors.
  - Flexible Spaces: Open areas that can be used for various activities, from picnics to performances.
  - Creative spaces.
  - Smart mobile library.

As illustrated in Figures (13) & (14), the interior features include running and cycling trails, pedestrian pathways, seating spots, and covered areas. The young people also envisioned rooms for yoga, an outdoor theatre, exhibition and innovation areas, and a digital library, as seen in Figure (15) & (16)

These designs were the result of assumptions that were entered into the Promeai.pro website based on the writing style and the established standards. As a result, the designs emerged in a manner that is in line with the requirements and maintains up with the modern technological methods and ways of thinking of this creative generation.

Figure 15: Proposed Digital Library, and Open-Air Gallery, [68].

Figure 16: Proposed Yoga Practice Areas and Open-Air Theatre, [68].

RECOMMENDATIONS

First: Special Recommendations for Citizens

1. **Awareness and Community Participation**
- Enhance awareness of environmental preservation and encourage community involvement in the decision-making process.
- Promote joint cooperation between citizens and local administrations to beautify neighborhoods and enhance the city's aesthetics.

2. **Management and Stakeholder Engagement**
- Establish independent bodies to manage, follow up, and coordinate public places, involving stakeholders from both public and private sectors.
- Strengthen the role of civil society organizations in defining and improving services in urban public spaces for children.

Second: Planning for Children to Build Better Cities

1. **Urban Governance and Environmental Adaptation**
- Implement smart, interactive, and flexible urban governance that proactively addresses challenges.
- Promote the cultivation of rooftops and utilize vacant urban spaces for greenery and sustainable development.

2. **Stakeholder and Community Awareness**
- Raise awareness among stakeholders about the importance of the child-environment connection.
- Emphasize the need for developing urban environments that cater specifically to children's needs.
- Encourage the participation of children in decision-making processes across urban and environmental sectors.

3. **Urban Enhancements for Children**
- Identify urban spaces that can be enhanced and planned with children in mind.
- Foster investments in projects and services that benefit children.
- Use child-friendly materials in playgrounds, such as rubber flooring, to ensure safety and accessibility.
- Install clear and engaging guiding signs for visual communication and information sharing.

4. **Inclusive and Accessible Design**
- Incorporate elements that enhance children's sensory experiences, such as textures and surfaces.
- Design accessible slopes with suitable inclinations to facilitate movement for children with disabilities.

5. **Green Spaces and Environmental Sustainability**
- Regularly maintain green areas and gardens while working to increase the number of trees in urban areas.
- Promote sustainable urban practices to ensure a healthy environment for future generations.

CONCLUSION

The global challenges of establishing a successful urban space according to conventional criteria have become a prevalent trend, amid the obstacles of continual population expansion and unsuccessful experiments that neglect the world's demands for climate change and sustainability. These methods do not prioritise establishing an urban environment welcoming to all age groups, particularly Generation Z.

This study aimed to identify techniques for constructing urban environments that appeal to this generation. These techniques were developed by recognising efforts that began as child-friendly cities, understanding planning requirements, and analysing some successful experiences. This is in addition to researching trends and analysing this generation's behaviour to define the general qualities that must be present in its welcoming public spaces.

This study established several standards, which were then applied to a case study of the central park in New Damietta City. To emphasise this generation's thinking and behaviour, a design was created by young people of the same age group, as well as the generation's continuous connection with technology. This design was created using a virtual intelligence website to extract designs that are suitable with the thinking of the generation.

Furthermore, emphasise the importance of community participation and its impact on developing friendly planning that is compatible with the future objectives of a generation that thinks differently than traditional planning.

The research also emphasized the rise of a new industry for manufacturing urban spaces with unorthodox functions and shapes. Additionally, the study underscored the impact of the virtual world on urban planning and the importance of keeping pace with technological advancements to prepare for a rapidly changing future.

The study urges stakeholders to adopt inclusive urban planning that integrates sustainability, technology, and Generation Z's preferences, while actively involving them in decision-making. It emphasizes investing in adaptable urban spaces aligned with future trends.

For future research, it recommends exploring the impact of smart technologies, enhancing community participation, leveraging virtual reality and AI in urban design, and comparing the effectiveness of unconventional urban spaces across generations.

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