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PLANNING AND DESIGNING ESPORTS TRAINING CENTER WITH FUTURISTIC ARCHITECTURE APPROACH

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ABSTRAK

Kemajuan dalam bidang teknologi informasi dan komunikasi merupakan salah satu produk lompatan revolusi industri 4.0 guna memetik efisiensi dan keuntungan setinggi-tingginya. Esports merupakan jenis olahraga prestasi yang menggunakan video game secara online sebagai media pelaksanaannya. Berbagai kegiatan pesta olahraga, skala daerah, nasional, hingga internasional, sudah menjadikan esports sebagai bagian dari cabang pertandingan. Perencanaan dan perancangan pusat pelatihan esports bertujuan untuk mendapatkan desain bangunan yang modern secara visual, dilengkapi dengan teknologi terkini pada fasilitas di dalamnya. Metode perancangan menggunakan pendekatan tema arsitektur futuristik sejalan dengan konteks Kota Jakarta Selatan sebagai kota metropolitan. Terdapat dua massa bangunan, yaitu massa kantor dengan ketinggian empat lantai dan massa tower dengan ketinggian sepuluh lantai. level ketinggian pada fasad yang tidak sama merupakan implementasi tema arsitektur futuristik ditinjau dari unsur bentuk fasad yang dinamis dan menggambarkan tingkatan level-level yang berbeda pada olahraga esports. Bentuk fasad yang estetik ditampilkan dengan desain yang berbeda dengan bangunan disekitarnya yang menggambarkan bahwa olahraga esports merupakan cabang olahraga yang estetik dan berbeda dengan jenis olah raga pada umumnya. Fasad dengan bentuk garis menekuk memanjang, diterjemahkan sebagai gerak dan kecepatan yang mengilustrasikan bahwa olahraga esports membutuhkan motorik halus para pemainnya. Fasad dengan bahan ACP berwarna putih dan abu-abu menggambarkan kejujuran bahan dan tampilan karakter polos sebagai wujud perilaku sportivitas pemain esports dalam pertandingan. Kombinasi bahan ACP, kaca laminasi dan rangka curtain wall mencerminkan penggunaan bahan bangunan yang praktis dan meminimasi terjadinya polusi terhadap lingkungan.

***Kata Kunci**: esports; metropolitan; futuristik*

ABSTRACT

Advances in the field of information and communication technology are one of the leapfrogging products of the industrial revolution 4.0 to reap high efficiency and profits. Esports is a type of achievement sport that uses online video games as a medium for its implementation. Various sports party activities, regional, national, and international, have made esports part of the competition. This research aims to get a visually modern building design, equipped with the latest technology in the facilities. The design method uses a futuristic architectural theme approach in line with the context of South Jakarta as a metropolitan city. There are two building masses, the office mass with four floors and the tower mass with ten floors. The different height level on the façade is an implementation of the futuristic architecture and illustrates the different levels of levels in esports. The aesthetic shape of the façade is displayed with a different design from the surroundings which illustrates that esports is an aesthetic sport and is different from other types of sports. The façade with the shape of longitudinal bent lines, translated as motion and speed illustrates that esports requires the fine motor skills of its players. The façade with white and gray ACP material illustrates the honesty of the material and the appearance of innocent characters as a form of sportsmanship behavior of esports players in matches. The combination of ACP material, laminated glass, and curtain wall frame reflects the practical use of building materials and minimizes pollution to the environment.

Keyword: esports; metropolitan; futuristic

1. Introduction

Esports is a term that emerged as part of the leap of the industrial revolution 4.0 where information and communication technology is fully utilized to reap high efficiency and profits. Esports is an acronym for electronic sports, which is a type of achievement sport that uses video games as a medium for implementation. As one part of the trending creative industry, esports activities continue to increase rapidly and have even been legalized as a sport. Various sports party activities, regional, national, and international, have made esports part of the competition held with the lure of lucrative prizes.

Since April 17, 2017, the Olympic Council of Asia (OCA) has designated esports as a sport. Located in Ashgabat, Turkmenistan held the 5th Asian Indoor and Martial Art Games (5th AIMAG) on September 17-27, 2017. Esports is included in the category of sports that involve the fine motor skills of the players, as also happens in chess and bridge matches (Kurniawan et al., 2019).

In 2018, one of the international level sports party activities, namely ASIAN Games made esports as one of the sports, with six types of online games being competed, namely League of Legends, Pro Evolution Soccer, Arena of Valor, Starcraft II, Hearthstone, and Clash Royale (Andarningtyas & Ariwibowo, 2018). The success of esports as a branch of competition at the 5th AIMAG and ASIAN Games 2018, made esports again included in sports party activities, including at the XX 2021 National Sports Week (Arnani & Nugroho, 2021), SEA Games 2021 (Laksono, 2022) and ASIAN Games 2022 (Saleh, 2023). Not only that, esports have even been used as a branch of competition at the 2022 South Kalimantan Provincial Games (Pertiwi & Widianjono, 2022).

Seeing the potential of this esports development, the Indonesian government finally recognized the existence of esports as a sport of achievement. The government formed a special organization called the Indonesian Esports Executive Board (PB ESI) under the National Sports Committee. PB ESI has the task of regulating the esports industry to be more organized so that it can produce a good esports ecosystem for Indonesia (Sibarani, 2020). With the formation of a good esports ecosystem, good esports players will also be created. That way, these esports players can be recognized and appointed as esports athletes so that they can achieve more achievements to make Indonesia proud in the international arena.

Reporting from https://pedulicovid19.kemenparekraf.go.id/ PB ESI plans to build training center facilities and infrastructure for esports athletes in Indonesia. The infrastructure of this training center will later be used by esports athletes from all over Indonesia to conduct National Training (Pelatnas) and Regional Training (Pelatda). With the realization of the construction of training center facilities and infrastructure, it is hoped that later esports athletes in Indonesia can train optimally and in the end can make more achievements for the nation.

The training activities to improve the ability of athletes are divided into two types, namely athlete performance improvement activities and athlete health management activities. These two activities will be the main considerations in planning the facilities and infrastructure of the esports athlete training center. In addition, the esports Athlete National Training activity, which lasts for several days, requires lodging for athlete accommodation during the training period.

Furthermore, the esports athlete training center building will also accommodate office functions for PB ESI. This aims to facilitate the process of monitoring and regulating esports activities in Indonesia. Moreover, currently, PB ESI is still renting an office in Gandaria City Tower. With its own special office, PB ESI will have a special dignity for the existence of its organization.

This training center will be built in DKI Jakarta Province, which is the center of national-scale activities and administration in Indonesia. To be more precise, this training center will be built in South Jakarta. This is seen from the location of PB ESI's temporary office in South Jakarta as well. So that the process of moving offices is expected not to be too constrained because it is still in the same area.

The design of this training center building will use a futuristic architectural theme approach. This theme was chosen because it looks at the context of South Jakarta which is a metropolitan city. The design of the building will have a visually modern shape and be

equipped with the latest technology in the facilities inside.

2. Literature Review

History of Futuristic Architectural Theory

Eero Saarinen was born on August 20, 1910 in Kirkkonummi, Finland. Although Eero Saarinen was born in Finland, he lived and worked extensively in America as an architect. Saarinen was the founder and pioneer in futuristic architectural theory. He was one of the leaders in the trend of exploration and experimentation in American architectural design during the 1950s. Eero Saarinen presents a series of design works that are very different from most architects of his day. He was able to present richer and more diverse ideas, such as introducing sculptural forms rich in architectural character and visual appearance that were not adopted by architects in previous years. Eero Saarinen's work was welcomed and delighted by many who were tired of the uniformity and rigor of the international style of modern architecture. Saarinen's first independent work, which immediately became famous, was the sprawling General Motors Technical Center in Warren, Michigan (Koeper, 2023).

Application of Futuristic Architectural Theory

The concept of futuristic architecture has a principle that describes that planning and building are not based on what is related to the past, but seeks to describe the 'future'. Buildings must be able to keep up and adapt to changing business needs.

The concept of futuristic architecture has a principle that describes that planning and building are not based on what is related to the past but seeks to describe the 'future'. Buildings must be able to keep up and adapt to changing business needs. The implementation of futuristic concepts in office buildings is related to the elements of motion and speed, realized by longitudinal lines that can be interpreted as motion and speed. Elements against habit are seen on the exterior and interior of the building and transform the office building into an unusual shape (Fauzi & Aqli, 2020).

Planning and designing a complex of extreme motorsports activities with a futuristic architectural approach is focused on the dynamic shape of the main building with different height levels on the facades. The use of glass materials and sophisticated equipment instruments is applied to workshops and extreme motorsports arenas. Dynamic land modification, inspired by the shape and important components that exist in extreme motorsports activities. The concept of an effective macro design is adopted to manage land circulation and access in and out of extreme motorsports activities. To symbolize extreme motorsport activities, the concept of expressive shapes was developed with the cladding/skin of buildings with irregular shapes and distortions. Comfort for users, presented minimalist furniture, creates more comfortable circulation and does not give excessive space with a micro approach to the concept of functional space (Adam et al., 2023).

The futuristic architectural style approach in designing youth activity centers is a very ideal approach considering the activities of youth groups that want a dynamic atmosphere even though the activities are formal such as educational activities or informal such as sports and arts activities. Building styles with flexible forms in art, avoiding traditional forms into buildings, are very suitable considering that teenagers want to grow into creative individuals, with broad insights, increased skills, and opportunities to achieve high achievement (Suleman et al., 2022).

The application of futuristic architectural themes to the design of riverside greenhouses can be seen from the concept of the building period. The response from the site analysis that refers to future design principles is seen in the unusual shape of the building with exposed steel material. Mechanical technology is also used on the roof of the building, which is composed of ETFE panels, which can be set to open automatically. Canopy for pedestrians is also combined with solar panels, to protect users and produce alternative energy (Rahman & Siregar, 2020).

3. Research Methods

The architectural design method is the stage carried out when carrying out the design process starting from data collection, design approach, functional and spatial analysis,

contextual analysis, sheath analysis, synthesis and formulation of concepts, and making design schemes. In the order described in the sections below.

Data Collection

Data collection is carried out by finding facts in the field through literature studies using the internet related to national training activities for esports athletes, the implementation of esports matches, at various levels, and the Indonesian Esports Executive Board (PBESI). The data is then collected as follows:

a. Data on the number of esports athletes in a national training period.
b. Data on the number of esports matches in one year.
c. Data on the number of game branches contested.
d. Data on the number of esports athlete team members in one branch.
e. Data on the number of daily governing bodies and fields from PB ESI.
f. Activity data during national training Esports athletes.
g. Other data.

Data collection related to regulations and sites is also carried out at the contextual analysis stage, namely in the form of field data such as:

a. Regional Regulations of DKI Jakarta.
b. DKI Jakarta Governor PERGUB Number 135 of 2019, concerning Building Planning Guidelines.
c. RTRW/RDTR DKI Jakarta.
d. Contour data.
e. Land area.
f. Climate-related data around the site.
g. Other data.

Design Approach

The design approach is structured based on the main context of esports training activities that use technological advances. The chosen approach is futuristic architecture. In addition, the design of the spatial arrangement is applied based on the needs and nature of the activities that will take place on the design object, so that there is a separation of space zoning for office functions and athlete training functions.

Functional and Spatial Analysis

Functional analysis is carried out by analyzing the activities and activities of actors on design problems. In this case, the number of perpetrators includes athletes, coaches, organization officials, members of the organization, employees, guests, and visitors, being the basis for determining the need for the amount of space to accommodate the activities and activities of the existing actors. This functional analysis will produce a bubble diagram that can be used as a reference to perform spatial arrangements. Next, a spatial analysis of the diagram that has been made is carried out. This analysis produces a diagram of the space that is already measured and connected. The relationship between spaces will be arranged into horizontal and vertical zoning.

Contextual Analysis

Contextual analysis is an important stage in the architectural design process. Contextual analysis, often also called site analysis, is a stage of collecting data directly from the design site. The data collected is information about the site such as regulation, size and magnitude, topology, vegetation, climatology, surrounding circulation, environmental context, culture, and community habits.

From the data that has been collected, then analysis and discussion are carried out on each aspect, to produce a collection of analysis and solutions that must be readjusted according to the designer's decision. The next step is to compile synthesis and make mass compositions for architectural design objects.

Envelope Analysis

Envelope analysis is carried out to detail the previous stages of analysis. From the mass composition that has been made, it will be determined how the right structural system

to be applied. Then determine the utility system that supports the concepts and needs of the design object and determine the envelope or scope of the building to be designed.

Synthesis and Formulation of Concepts

At the synthesis stage, a combination of all the results of the analysis that has been carried out will be carried out until a concept formulation is compiled that will be used as a reference in design activities. The formulation of the concept consists of the concept of site design, building mass layout, vegetation on the site, and discussion of how the circulation flows. The concept of architectural design will discuss the mass shape of the building and its façade and is equipped with the concept of structure and utility so that the infrastructure in this building can run well.

Schematic Design

The stages in the design process can be seen schematically through Figure 1.

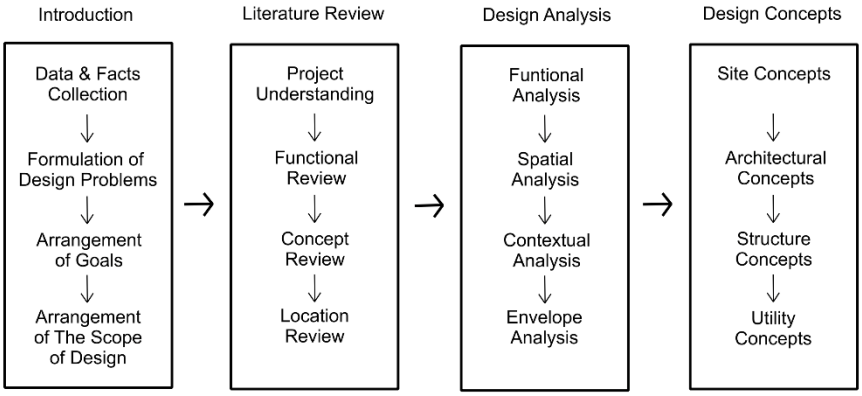

Figure 1. Scheme of Architecture Planning Methods
Source: Author, 2023

4. Results and Discussion

Contextual Analysis

The location of the site is on Jl. Metro Pondok Indah, South Jakarta, with an area of 8,700 m². The value of the building base coefficient (KDB) is 55, the green base coefficient (KDH) is 20, and the building area and circumference coefficient is 371 m. The site is land for trade and services, with one type of activity permitted being education, training, or courses. (KLB) is 6.84, and the maximum number of floors of the building is 12 floors. Figure 2 shows the location of the planning and design site of the esports athlete training center in South Jakarta.

Figure 2. Site Location
Source: Author, 2023

Based on DKI Jakarta Governor Regulation Number 135 of 2019, site access for non-residential function buildings must have a distance of 20 meters from the turning point, the width of the road in front of the site has a value of 30 meters, while the width of the road beside the site has a value of 60 meters. Figure 3 shows the provisions for the location of non-residential function fences according to DKI Jakarta Governor Regulation Number 135 of 2019, while Figure 4 analyzes the location of building access.

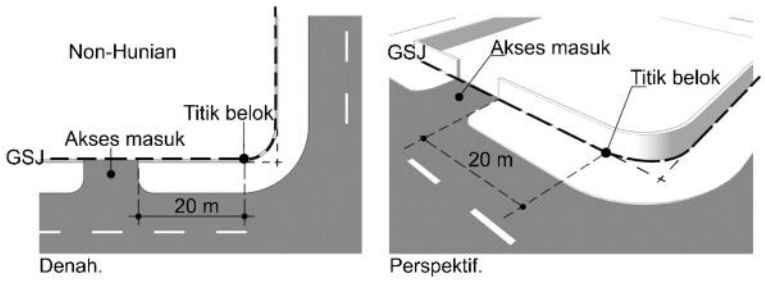

Figure 3. Terms of Location of Fences Non-Residential Functions
Source: DKI Jakarta's Government Regulation No 135, 2019

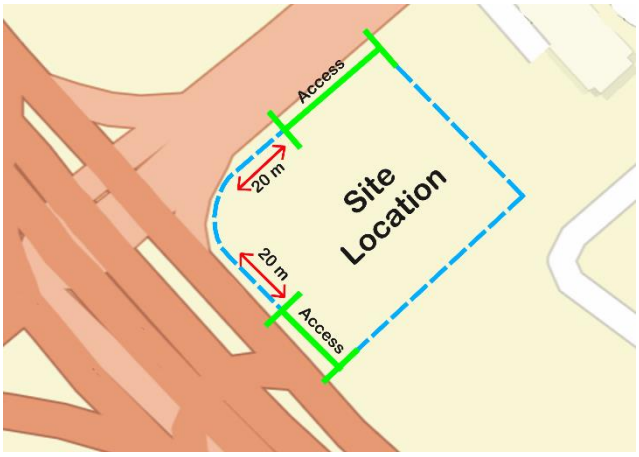

Figure 4. The Location of Building Access
Source: Author, 2023

The buildings around the site are dominated by high-rise buildings with a modern appearance. This can be seen from the shape and design of Wisma BCA, Swiss-Belhotel, and Poins Square buildings. In addition, there are also flyovers and MRT lines to strengthen the impression of this area as a metropolitan area. Figure 5 presents an analysis of the architectural context surrounding the building footprint.

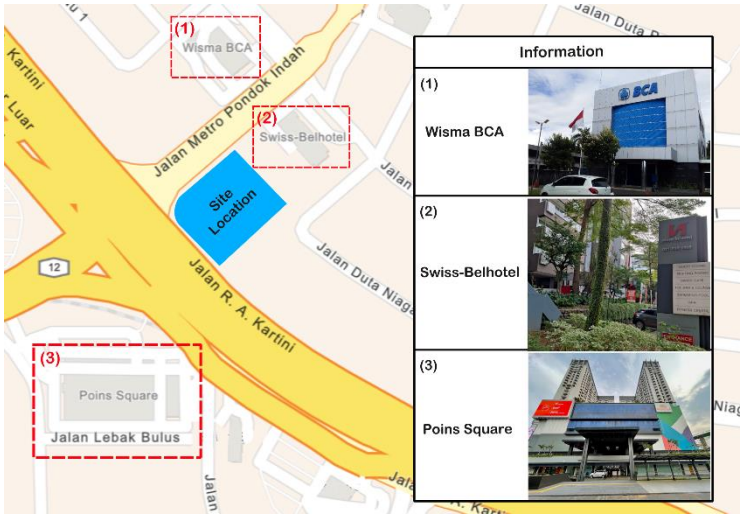

Figure 5. Contextual Analysis
Source: Author, 2023

Site Planning Concept

The concept of site design is a response to how site processing is formed after considering various analyses that have been carried out. The mass of the building is separated into two, namely the office mass and the mass of lodging & training athletes. Put the mass away from the road, and add a garden on the west side close to the hook. Figure 6 shows the concept of building mass layout.

Figure 6.1 Site Planning Layout
Source: Author, 2023

Dynamic Building Mass Shapes

The concept of architectural design used in designing this building is a futuristic architectural concept. With this concept, it is hoped that the building design can be in harmony with the face of South Jakarta City which is a metropolitan city. In addition, this concept was also chosen to support the type of activities carried out in this building, namely the training of esports athletes.

Judging from the shape of the building mass, there are two building masses, namely the office mass with a height of four floors and the tower mass with a height of ten floors. The height level on the façade that is not the same is an implementation of the futuristic architectural theme in terms of the dynamic façade shape elements and illustrates the different levels of levels in esports. The aesthetic shape of the façade is displayed with a different design from the surrounding buildings which illustrates that esports is an aesthetic sport and is different from other types of sports in general. Figure 7 Showing the building of the South Jakarta Esports Athlete Training Center.

Figure 7. Exterior of The Building
Source: Author, 2023

The selection of façade material using aluminium composite panels (ACP) in the form of longitudinal bending lines, translated as motion and speed illustrates that esports requires fine motor skills of its players. The choice of white and gray on the ACP material as the original color and not repainted illustrates the honesty of the material and the appearance of innocent characters as a manifestation of the behavior of esports players when they compete. The use of ACP and laminated glass combined with curtain wall frames reflects the practical use of building materials and minimizes the occurrence of pollution to the environment. Figure 8 shows the application of ACP material and glass on the façade of the South Jakarta Esports Athlete Training Center.

Figure 8. ACP and Glass Material on Facade
Source: Author, 2023

5. Conclusion

The planning and design of the esports athlete training center in South Jakarta is located on Jl. Metro Pondok Indah, South Jakarta with an area of 8,700 m². The architectural design concept used in the design of this building is a futuristic architectural concept so that the design is in harmony with the face of South Jakarta as a metropolitan city. Judging from the shape of the building mass, there are two building masses, namely the office mass with a height of four floors and the tower mass with a height of ten floors. The height level on the façade that is not the same is an implementation of the futuristic architectural theme in terms of the dynamic façade shape elements and illustrates the different levels of levels in esports. The aesthetic shape of the façade is displayed with a different design from the surrounding buildings which illustrates that esports is an aesthetic sport and is different from other types of sports in general.

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