

## EXAGGERATED EXHIBITION SPACE DESIGN IN METAVERSE

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**Abstract.** This study aims to design an exaggerated exhibition space in the East Hall of the Ganesha Campus, Bandung Institute of Technology (ITB), to provide an extended reality experience within the metaverse. This design can be visualized from three perspectives: a bird's viewpoint/perspective (providing a flying and levitating sensation), a dwarf's viewpoint/perspective (creating the sensation of being a small creature observing large objects) and a human's perspective. Twenty-eight respondents evaluated the exaggerated experience in the metaverse exhibition in the East Hall by employing user experience and the Think-Aloud method. The results showed that respondents experienced a heightened sense of immersion and captivation by the multidimensional artwork in the exhibition. This was attributed to the sensation of scale provided by the levitation perspective and the reduced scale. Conclusion: This study provides a new method for enhancing exploration engagement and curiosity by interacting more intimately with the exhibited objects.

**Keywords:** Space exhibition, metaverse, exaggerative, immersive.

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### 1. Introduction

Exhibition design theories emphasize the importance of storytelling and audience engagement in creating memorable experiences. According to Yang and Guo (2024), Exhibitions have traditionally served as vital cultural hubs for safeguarding and showcasing artifacts and artworks. The integration of technology and multimedia has transformed exhibition spaces, enabling smart museums to offer diverse narratives that enhance visitor engagement and broaden their cultural impact for a wider audience.

Interesting, entertaining and fascinating artwork in exhibition rooms can create wonder and promote learning (McIntyre, 2009). Before determining the layout of an exhibition area, it is crucial to understand the visitors and their reasons for visiting. Visiting an exhibition room necessitates considering aspects such as the visitor's personality and behavior (physical, intellectual, social and emotional factors) (Pekarik *et al.*, 2010).

Picasso stated that art is an exaggeration that reveals the truth (Weatherwax, 2022). Kukuljevic (2019) similarly confirmed that great art can be understood as an effect and proof. Artists who make their art tend to exaggerate, resulting in exaggerated artwork. Exaggeration or excessive encouragement makes art appear more realistic when enjoyed. Exaggeration, always performed at large or small scales, results in a more realistic appearance.

Yi et al. (2021) stated that interacting with a digital world using virtual reality significantly differs from experiencing such worlds on a computer or cell phone by touching and/or watching the screen. The word “metaverse” refers to a synthetic environment based on an interpretation related to the physical world. The metaverse allows real-world users to experience heterogeneous activities with several other users who may or may not be in the digital world (Grieves *et al.*, 2017).

Exaggeration in interior design refers to representing something more extreme or dramatic rather than realistic. This style employs unusual shapes and geometry, which can support visual statements and illustrate dramatic effects in the room (Sully, 2015; Sulistyawati *et al.*, 2024; Junaidy *et al.*, 2024). In contrast, extreme-scale features can create a dramatic effect and strengthen the visual message (Mitton, 2012). Visualization is more effective in strengthening visual impression when using virtual reality (VR); this corresponds with the results of Adharamadinka and Junaidy (2023) and Junaidy et al. (2024), who stated that a comparison of the result of associative words generated during the non-VR mental image and the VR (AWG<sup>®</sup>) session showed that the most effective student group used VR.

This study aims to design an exhibition space in the metaverse, emphasizing exaggerative features in the East Hall of the Ganesha Campus at the Bandung Institute of Technology (ITB). The East Hall has long been a vibrant venue for hosting different exhibitions in the academic and industrial fields. For this study, the researchers selected the aforementioned hall as the focal point; digital modeling commenced with the East Hall. This historical conservation building was established between 1919 and 1920 by Dutch architect Henri Maclaine Pont, who incorporated elements from the Indonesian archipelago and European architecture in the Indies style. As the first building in the Ganesha Campus, the East Hall, previously known as *Barakgebouw B*, was officially inaugurated in 1920 (Halim, 2018). It served as a lecture hall and a laboratory and was later transformed into the central library in 1961. Renovations in 1987 resulted in a reimagined space, wherein rooms and bookshelves were dismantled and the second floor demolished. This hall was transformed into a multipurpose hall for exhibitions and events and is presently known as the East Hall.

Few studies have been conducted on exhibiting interior designs in metaverse spaces that incorporate exaggerated features. ITB, an institution dedicated to promoting innovation and the latest technological developments, has consistently conducted experiments using digital modeling applications to create a metaverse version that offers virtually immersive and captivating effects not achievable in non-virtual exhibitions.

## **2. Material**

Digital scenography, as discussed by McKinney and Butterworth (2009), highlights the significance of immersive and dynamic environments in conveying ideas and emotions. The exaggerated application of design, shapes and scales in digital spaces aligns with this concept by pushing the aesthetic limits of traditional space, thereby

nurturing a sense of wonder and curiosity. This scenographic approach is especially effective in the metaverse, where the lack of physical experiences enables boundless creative expression.

### **2.1. Virtual Exhibition Room**

Exhibition designs showcase existing products, object surveys, historical events and other purposes, such as providing a space for critical reflection. Art aims not to describe reality but to change it into something more interesting and meaningful (Dunn & Raby, 2013). This change comprises distortion, exaggeration or adding a sensation to beautify what is already there.

Virtual exhibitions are events that utilize virtual spaces through online 3D modeling. Unlike traditional exhibitions, virtual exhibitions have no physical limitations, allowing visitors to freely explore and engage with the exhibition on their screens. The roles of interior designers and developers are crucial to these virtual exhibitions since they must design spaces that create specific aesthetic sensations. The format of the exhibition is as important as its content (Go & Oh, 2022). Sutopo (2022) shares a similar view, asserting that a virtual art gallery is an ideal venue for showcasing sculptures, ceramics and molds, among other artworks. Here, artists can leverage digital software to upload their masterpieces into the digital realm. Research on virtual exhibitions is still in its early stages, with numerous studies concentrating on creating 3D virtual replicas of the exhibition world.

Virtual reality experience design theory emphasizes the importance of interaction and sensory immersion in creating enhanced digital experiences. Slater and Wilbur (1997) introduced the concept of “presence”, referring to a state of awareness that often accompanies immersion and is closely associated with the feeling of being physically situated in a specific environment. By utilizing exaggerated elements, such as varying scales or different object shapes, it influences certain autonomic responses as well as the more complex behaviors of individuals participating in a virtual reality experience. Therefore, designers can boost the sense of presence, making the virtual exhibition space more engaging and memorable for users.

### **2.2. Design Exaggeration**

In the context of research on the sensation of interior space, exaggeration refers to the expansion or shrinkage of scale or dimension from line, plane and volume, resulting in a hyperproportion with a dramatic effect or minuscule realm.

Exaggeration in interior design refers to using elements in larger and more dramatic spaces. Some exaggerated attributes play a role in the visual experience of interior design. The first is an extreme scale that can create a dramatic effect and improve the visual message (Mitton, 2012). The second is color, wherein improving color sensation (bright, contrast or bold) enhances and exaggerates the visual experience. Color can also create different atmospheres in a room (Meyer, 1997). The third is the texture sensation, which provides visual and tactile dimensions for interior design. Utilizing extreme textures can result in exaggerated visual experiences (Godsey, 2012). The fourth entails using unusual shapes, such as in a geometric plane, which can strengthen visual statements and show dramatic effects in a room. The fifth is the use of light, which can affect the visual experience and exaggerate the dramatic effect in interior design. Proper lighting highlights the space's important features, evoking the desired sensations and moods

(Karen & Spangler, 2017). The sixth is motion, wherein moving elements can strengthen visual statements and divert visitor attention (Passe & Moon, 2014). The seventh aspect is sound; sound effects can improve visitors' sensory experience and strengthen visual messages, although excess use can impede the experience (Augoyard & Torgue, 2006).

Exaggeration is a technique for showing and communicating certain concepts in a design element so that it becomes more interesting and prominent. This study focuses only on the exaggeration technique in the scale and shape of the interior design elements.

### 2.2.1. Scale Exaggeration

Dunne and Raby (2013) suggest that designs fostered by idealism and optimism express faith in the ability to navigate through chaos, with design playing a proactive role in inspiring a change in perspective. This shift in understanding aims to create opportunities that were previously unexplored. An example is the work by Anthony Dunne, Fiona Raby and Michael Anastassiades, the Priscila huggable atomic mushroom, as shown in Figure 1. This artwork belongs to the collection Design for Fragile Personalities in Anxious Times. This product explores the psychological relationship between objects and their users. The designer used small dolls with nuclear smoke shapes and bright colors to describe the fear of nuclear smoke. When interpreted literally, this illustrates an action that brings back the symbol of nuclear destruction and how to embrace it.



**Figure 1.** Anthony Dunne, Fiona Raby and Michael Anastassiades: Priscila Huggable Atomic Mushroom, (2004)



**Figure 2.** Filip Dujardin, 'Untitled' from the series 'Fictions' (2007)

### 2.2.2. Shape Exaggeration

Some artists apply a detailed post-production technique to improve the original image. Filip Dujardin, for example, recombined the features and construction of existing architecture to form a fictional architecture (Figure 2). This combination captivated audiences without presenting an impression of impossibility.

## 3. Methodology

During the development of the metaverse model, we utilized 3D Studio Max to create a highly accurate three-dimensional (3D) building model for the East Hall. The interior space of the East Hall was designed with exaggerated features to establish a

virtual environment in the metaverse that immerses and captivates visitors. The virtual interior of the East Hall was designed in collaboration with esteemed senior fine arts artists and a student from the Bachelor's Program in Fine Arts, Faculty of Art and Design, ITB.

### 3.1. Metaverse Development of the East Hall, Ganesha Campus, Bandung Institute of Technology

East Hall is an iconic architecture representing the identity of the Ganesha Campus, ITB. Local materials and wooden architectural structures were laminated and arranged naturally in its interior. East Hall was chosen as the object of this research as a historical and iconic heritage building.

The development of the metaverse in the exhibition room of the East Hall commenced with the acquisition of highly detailed building data. The Leica and Metaverse Development Teams performed Initial data acquisition using light detection and ranging (LiDAR). The data acquisition process was conducted using manual physical measurements, 3D remote sensing optic (LiDAR) technology, an Unmanned Aerial Vehicle (UAV) and a blueprint for the development of the East Hall (Figure 3). All data were required for the creation of the 3D model assets in the East Hall.

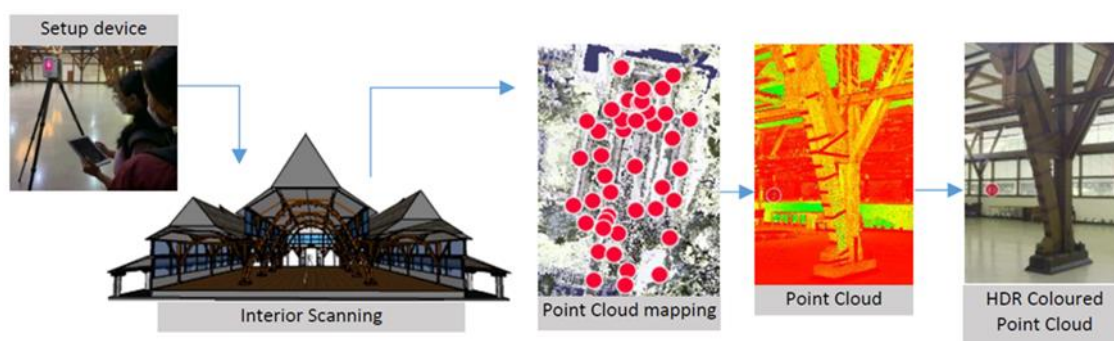


Figure 3. Scanning process of LiDAR, 2023

### 3.2. Designing of Exaggeration-based Exhibition Room

The metaverse developer team consists of four designers and four supervisors specializing in architecture, interior design, electrical engineering and remote sensing, accompanied by ten volunteers from diverse fields such as visual communication design, interior design, fine art, architecture, mapping and information technology. A senior artist in the field of fine arts and a student from the Fine Arts Study Program who was willing to showcase the artwork in the exaggerated metaverse exhibition space at East Hall were also part of the research team. The researchers explored the features of exaggerated scales and shapes to create an exhibition room with immersive and captivating visual effects.

#### 3.2.1. Exhibition Room 1: Mata Air Ibu - Collaboration with Tisna Sanjaya

Tisna Sanjaya, a contemporary artist famous for his surrealist works with social-political content, collaborated with the research team as an interior designer to create the unique exhibition concept. His works are 'Seniman dari Negeri Adil dan Makmur' (Artist from a Just, Prosperous Country), as shown in Figure 4a, a statue known as 'Potret Diri sebagai Kaum Benalu' (Self-portrait as the Parasites), as shown in Figure 4b and

‘*Patung Ibu*’ (Mother Statue), as shown in Figure 4c. The artworks consist of installation art, performance art and mixed media painting.

The concept of Exhibition Room 1 represents the parasite growing on plants, which is metaphorical for man's destructive behavior in his environment. The polluted river water, related to the statue ‘*Potret Diri sebagai Kaum Benalu*,’ represents environmental damage. In contrast, the clean river water, which is related to ‘*Patung Ibu*’ represents a natural condition that is healthy and harmonious, also known as ‘*Mata Air Ibu*’ (Mother’s Tear). ‘*Mata Air Ibu*’ presents a visual narrative showing the consequences of human actions on the environment and how art is used as a communication medium to convey this message.



**Figure 4.** a) Tisna Sanjaya, ‘*Seniman dari Negeri Adil dan Makmur*’

<http://www.artbali.co.id/page.php?lang=id&p=detail-artist&id=46> Accessed on 12.08.2023

b) Tisna Sanjaya, ‘*Potret Diri sebagai Kaum Benalu*’ (2022)

c) Tisna Sanjaya, ‘*Patung Ibu*’ from Jabar (2021) Yana Mulyana Resmikan Mata Air Baru Ibu Cigondewah, Tribunnews. <https://www.tribunnews.com/images/regional/view/1907608/yana-mulyana-resmikan-mata-air-baru-ibu-cigondewah> Accessed on 27.10.2023

d) Tisna Sanjaya, ‘*Kincir Penjernih Air*’ from Dailymotion. Accessed on 12.08.2023

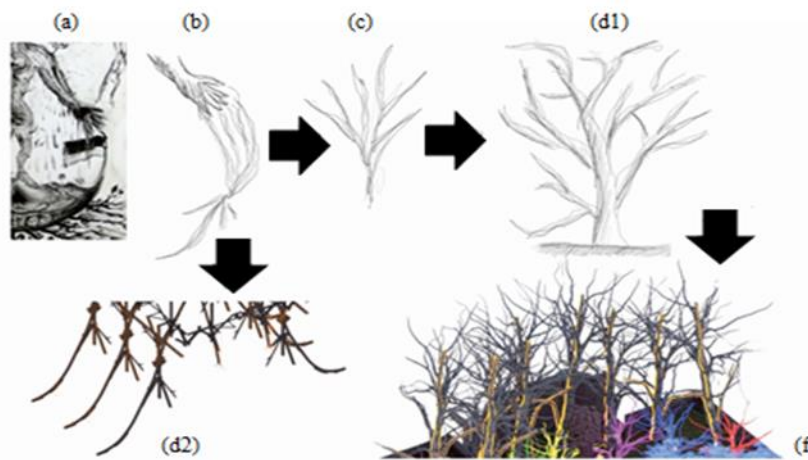
e) Tisna Sanjaya, ‘*Yang Hilang Dipertemukan*’

[https://www.askart.com/auction\\_records/Tisna\\_Sanjaya/11157233/Tisna\\_Sanjaya.aspx?lot=3134559&source=AUCTION\\_RECORD#preview-1](https://www.askart.com/auction_records/Tisna_Sanjaya/11157233/Tisna_Sanjaya.aspx?lot=3134559&source=AUCTION_RECORD#preview-1) Accessed on 12.08.2023

The interior design in the metaverse was centered on five artworks by Tisna Sanjaya, which were presented as an installation exhibition. The installation was shaped using a 3D object, yielding a captivating visual element. Visitors entered a space through a ladder floating on clean, blue water surrounding the ‘Mother’ statue. However, when passing the back of the room, the visitors would meet the pinwheel installation (Figure 4d), which describes the process of transformation from dirty water into something new, corresponding with a painting entitled ‘*Yang Hilang Dipertemukan*’ (What is Lost is Reunited), as shown in Figure 4e. This interior design ignites sensational and captivating visual effects all by integrating art and technology into a metaverse. Implementing

technology in interior design enhances the interactive experience, fostering deeper engagement and curiosity and providing a deeper understanding of the exhibited objects and the story of the installation.

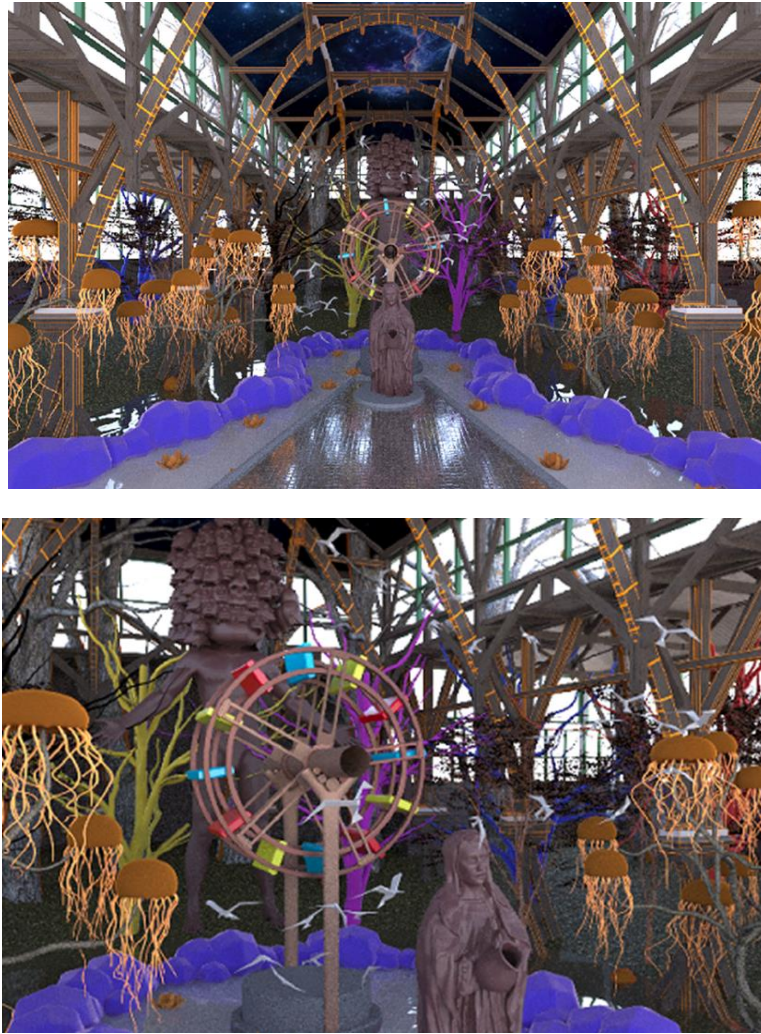
Wang and Lei (2016) introduced a new kind of exhibition known as ‘minds-on,’ a prototype that permits the visitors genuine freedom to appreciate the exhibition with their own understanding. This approach can be considered as the newest aspect of exhibition design. The East Hall has an architectural design that adopts the exaggeration element in the curved structure column. Collaboration in the interior design with Tisna Sanjaya proves this exaggeration technique, as reflected in a statue entitled ‘*Potret Diri sebagai Kaum Benalu*’ (Self-portrait as the Parasites), which creates a flashy visual effect. As illustrated in Figure 5, elaborating the painting design concept through shape and scale exaggeration results in a design element that symbolizes dead trees. This approach also requires an exaggeration development in the column of the original structure, which serves as a creeping root on the foundation pillar.



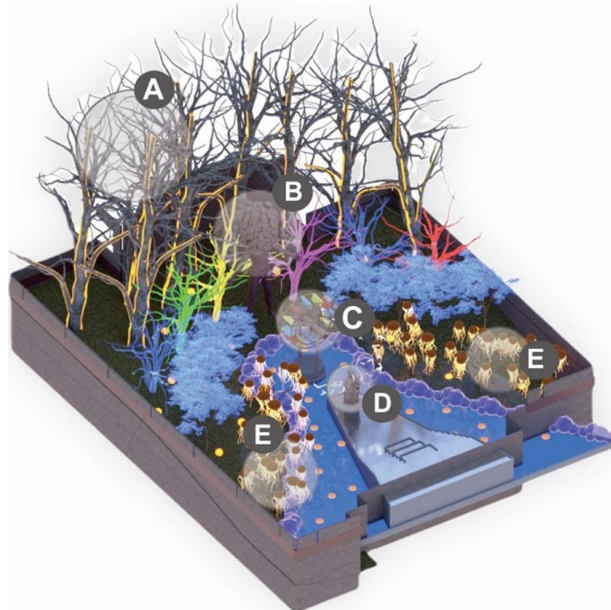
**Figure 5.** (a) Hand drawing from the painting ‘*Seniman dari Negeri Adil dan Makmur*’, (b) Picture of hand taking out something creeping, (c) exaggerated into twig, (d1) exaggerated into tree, (f) 3D model of barren tree, (d2) structure of the pole undergoing exaggeration to be like the root

Simultaneously, ‘*Patung Ibu*’ and ‘*Kincir Penjernih Air*’ (Water-Purifying Pinwheel) underwent a scale exaggeration process (Figure 6), thereby creating a shape metaverse with a scale larger than the original.

This compositional approach resulted in a striking and distinctive visual display that considerably enhanced the aesthetics of East Hall's spat. By employing the exaggeration technique in spatial design, the project achieved heightened appeal and strong aesthetic resonance, resulting in a captivating and immersive visual experience.



**Figure 6.** Interior design of East Hall in collaboration with Tisna Sanjaya



**Figure 7.** The axonometric interior design of the East Hall in collaboration with Tisna Sanjaya

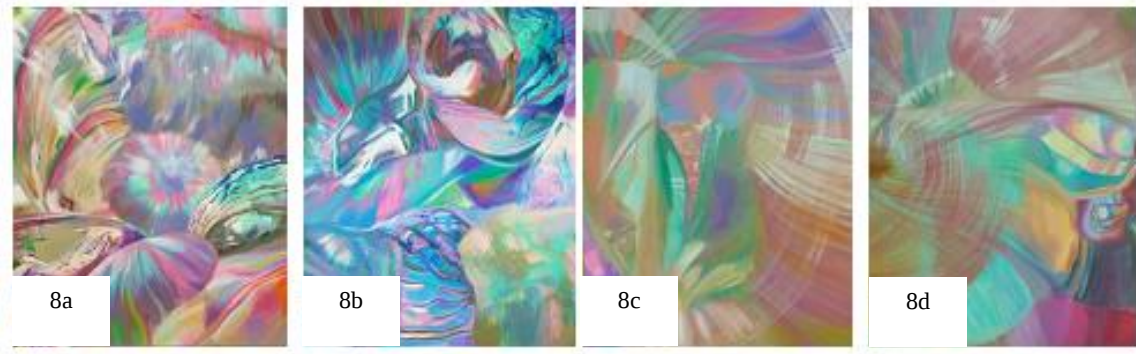
**Table 1.** Description of the East Hall design collaboration with Tisna Sanjaya

| Area | Artwork                                                                             | Exaggeration Design                                                                 | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A    |    |    | ' <i>Seniman dari Negeri Adil dan Makmur</i> ' served as the primary inspiration for the development of this interior design concept. This concept integrates a large-scale representation of the lifeless tree element.                                                                                                                                                                                                                                                                                                                                                                       |
| B    |    |    | ' <i>Potret Diri Sebagai Kaum Benalu</i> ' is adapted from ' <i>Seniman dari Negeri Adil dan Makmur</i> .' This statue includes scale exaggeration compared to the real statue, which has a human scale. The principle of this scale enlargement was used to describe the negative effect of human activities on the environment, thereby portraying the transformation in the affected ecosystem.                                                                                                                                                                                             |
| C    |   |   | ' <i>Kincir Penjernih Air</i> ' represented through scale and shape exaggeration in the interior design is closely related to the overarching philosophy of the interior design, which symbolizes the transformative process from an unfavourable state to a favourable one.                                                                                                                                                                                                                                                                                                                   |
| D    |  |  | ' <i>Seni Penjernih Air</i> ' (Water-Purifying Art), curated by Tisna Sanjaya, presents an expressive arena. It showcases an expressive arena engaged in the visual and conceptual dimensions of the filtration and sterilization process for contaminated water from the Cikendal River. In this context, the adaptation of a statue presentation, which describes a figure of 'mother' in the metaverse, becomes a central element in the narrative of this exhibition room design. The focus of this design and embodiment of this statue is a symbol adapted from ' <i>Mata Air Ibu</i> '. |
| E    |  |  | ' <i>Yang Hilang Dipertemukan</i> ', by Tisna Sanjaya shows a group of human heads collectively arranged. In this metaverse design, the inspiration from the painting is interpreted through scale and shape exaggeration, thereby resulting in an ensemble of objects harmoniously gathered around the ' <i>Mata Air Ibu</i> '.                                                                                                                                                                                                                                                               |

### 3.2.2. Exhibition Room 3: Memori Kerang - Collaboration with Nursyifa

The last exhibition space showcased the collaboration between the researchers and Nursyifa, a Fine Arts Study Program student at ITB. Nursyifa is interested in several aspects, including the texture, shape and detail of the unique clamshell, texture variation,

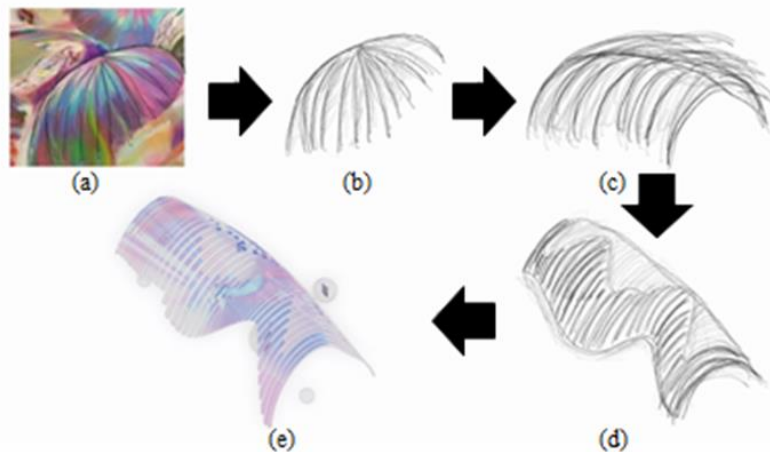
shape structure and complex color structure. In this design, the clamshell is represented by a memory concept because memory has a similar trait as the clamshell.



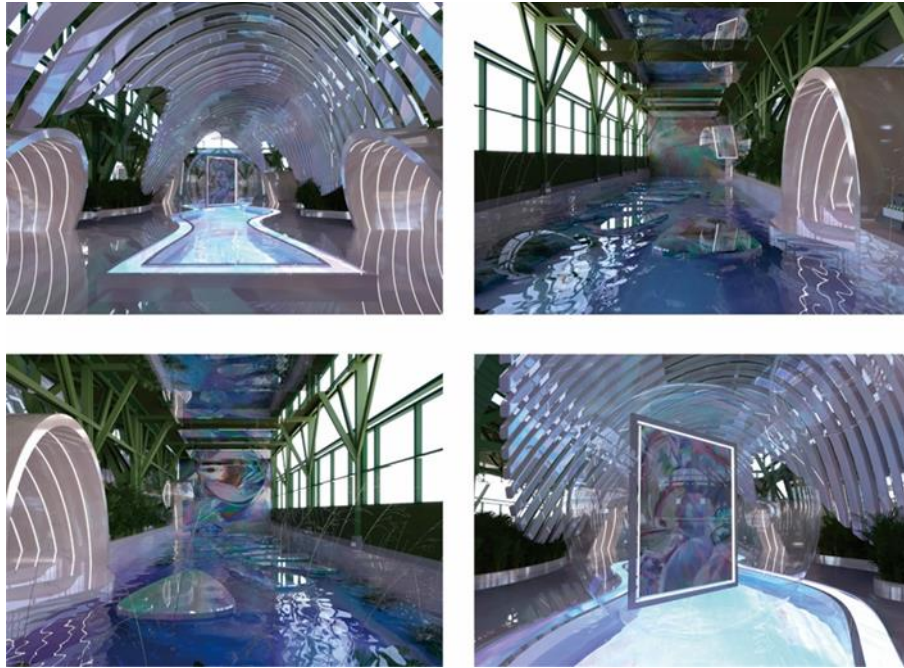
**Figure 8.** a), b) 'My Dear Melancholy' and c), d) 'The Iridescence of Everything'  
**Source:** Nursyifa (2022)

Nursyifa's work is inspired by her simple behavior, particularly her observation and appreciation of the small things often overlooked by others. The artist's interest in observing objects, including the texture, shape and specific details of the clamshell, transforms the final painting into a representation of the concept of memory (Figure 8). Just as a clamshell has numerous layers, this concept also applies to overlapping human memories, which make up an individual's charms and personality. Colors and visual elements in this work visually reflect the subconscious.

The layer structure affected the picture of clam shells with numerous stacked layers exaggeration. The visualization of the shape design was achieved by the imagination process applied spontaneously in layers, thereby resulting in the formation of a dome (Figure 9).

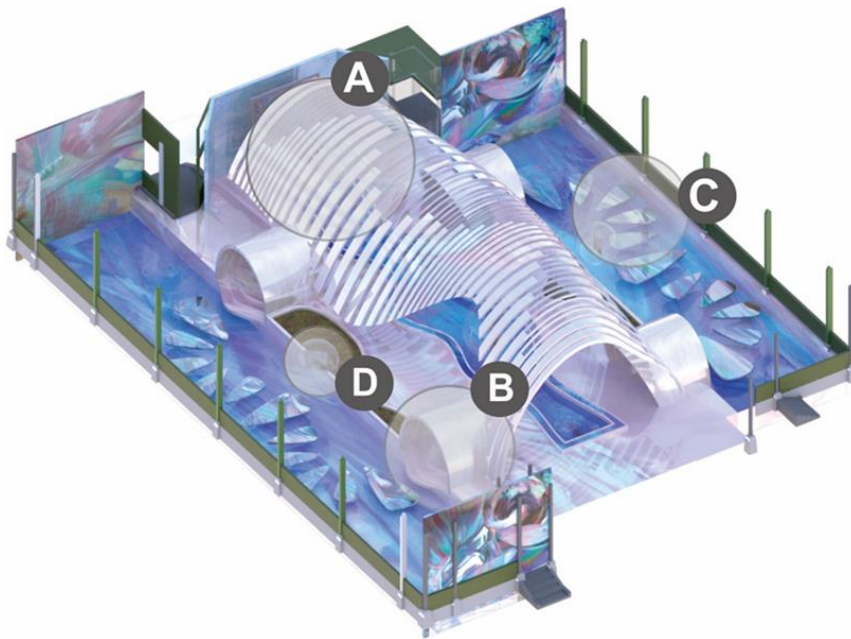


**Figure 9.** (a) Painting of 'My Dear Melancholy,' (b) line element resembling dome on the painting, (c) exaggeration into a dome shape, (d) dome design with the repeated stripe and (e) 3D design of the painting exaggeration



**Figure 10.** The perspective of the interior design in the East Hall in collaboration with Nursyifa

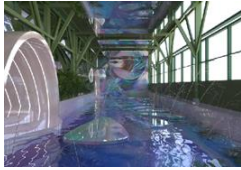
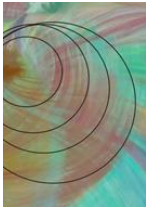
The East Hall was designed using the illusion of standing water while creating different visual impressions wherein the main building structure seems obvious (Figure 10). This exaggerated approach incorporated proportional magnification into the design, resulting in a shell-shaped dome in the main area. This element had a strong visual impact, which gave visitors the sensation of entering a unique environment within this art exhibition. This exaggerated feature also highlighted one of Nursyifa's paintings, aiming to capture visitors' attention and invite them to explore the exhibition area.



**Figure 11.** Interior axonometric design in the East Hall in collaboration with Nursyifa

Exaggerated features during the exhibition resembled a significantly magnified clamshell, creating an immersive and unforgettable experience that is completely harmonized with the artwork concept (Figure 11). These elements were magnified to create a captivating effect and encourage visitors to perceive rooms and shapes. The enormous shape of the clamshell and surrounding water elements permitted visitors to sense the underwater atmosphere. Adding several exaggeration elements to the exhibition design, visitors completely engaged with the artwork, bringing them to a captivating new world.

**Table 2.** Description of the East Hall Design in collaboration with Nursyifa

| Area | Artwork Inspiration                                                                 | Exaggeration Design                                                                 | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A    |    |    | Curvature plays a central role in the design element, while providing strength to the shape of clam shell. A round shape creates structural resistance, while a single surface structure emphasizes its ability to distribute the load evenly in several directions. Consequently, the clam shell becomes a sturdy, efficient structure in terms of holding load, without overlooking the aesthetics of its form.             |
|      | Curvature Element                                                                   |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                               |
| B    |   |   | The incorporation of the wave element undergoes a transformation that significantly influences this design. When the surface wave is used, the initial structure changes into several hollow blocks. Hence, using this wave provided visual direction to the elements used in the design, created interesting dynamics and effectively diverted the attention of the visitors.                                                |
|      | Wave Element                                                                        |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                               |
| C    |  |  | Shape distortion brings a unique dimension to the design of clam shells. Shell surfaces that undergo distortion and crease create interesting concave sections which emphasise further transformation. Exaggeration directs the concave section in a different direction, while changing it into several unique design elements. The result is an interesting combination of an inspiring clam shell and creative distortion. |
|      | Distortion Element                                                                  |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                               |
| D    |  |  | Circles proceeded from the round shape of shells and the effect of wave. Through the exaggerated shape transformation, these circles changed into the floating balls, thereby creating a display area for the paintings. This concept combined aspects of the natural shape in shells with a creative interpretation, while creating an interesting and dynamic appearance for the exhibited paintings.                       |
|      | Round Element                                                                       |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                               |

### 3.3. Point of View

In the design process for an exhibition room in the metaverse, the user's perspective will have a greater impression of the exaggeration feature. Consequently, researchers considered the point of view to be a user interface wherein users required a head-mounted display (HMD) for access. The handheld gadget connected to the HMD included a button

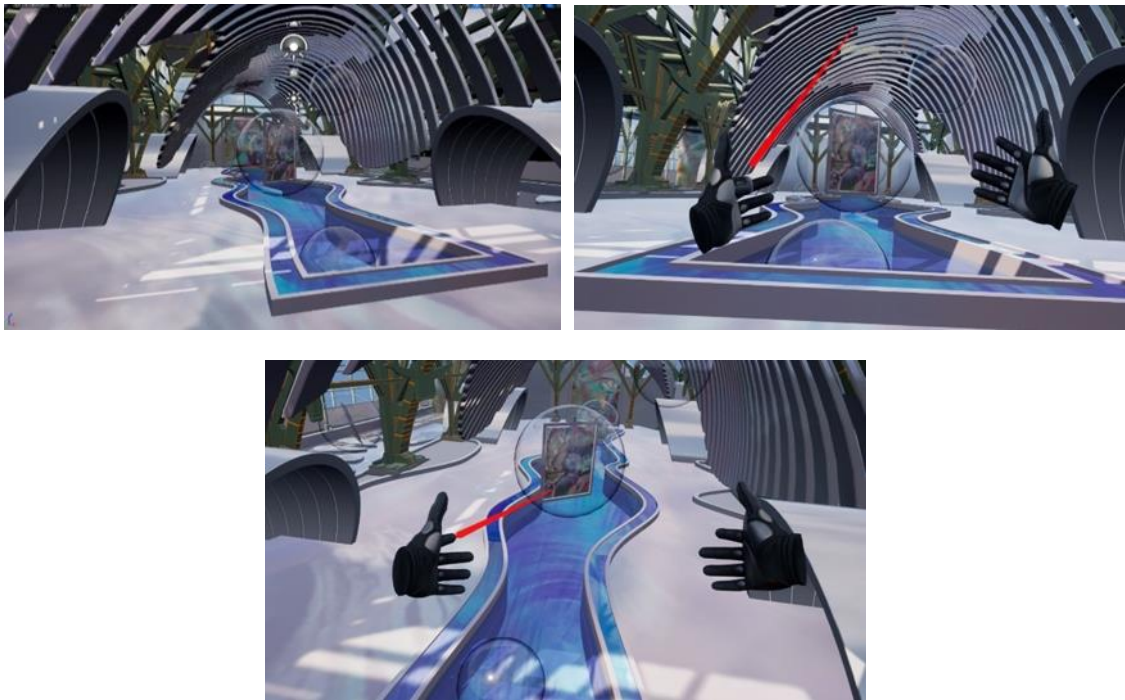
for users to change their point of view. The design process incorporated different features to provide an immersive experience and enhance user interaction when exploring an exhibition room in the metaverse.

In a handheld gadget connected to an HMD, there is a button for the point-of-view mode, which could provide an impression of exaggeration in the metaverse design. The three perspectives explored by the researchers are as follows (Figure 12):

1. Human Viewpoint: the perspective of a normal human. Walking through an exhibition with large objects and surrealist and abstract views is captivating. This exaggerated feature disorients visitors, challenging them to rethink their perception of space and shapes.

2. Dwarf's Viewpoint: The dwarf's perspective. Several elements of the exhibition interior design with exaggerated features create a new perspective in which an object is visible and extremely large. This perspective results in exaggerated scales and shapes.

3. Levitating Viewpoint: the view through a bird's eye. Several elements of the exhibition's interior design are exaggerated to create flashy visual effects. For example, when an object is observed from the top of a statue, a new visual experience is perceived. The scale and shape, made using exaggerated features, create a dramatic and captivating effect, encouraging the visitor to explore the space further



**Figure 12.** (a) Human, (b) Dwarf and (c) Levitating Viewpoints

#### 4. Evaluation

The results of the exhibition interior design in the metaverse of the East Hall, along with the exaggerated features, were qualitatively assessed using user experience and the Think-Aloud method. This study included twenty-eight participants with design backgrounds who were familiar with artwork and exhibitions. The respondents identified the exaggerated effects on their experiences in a metaverse exhibition room as follows: stages:

a. Stage 1. The purpose and intention in developing the design and content in the artwork and the introduction to using the Oculus Rift S gadget.

b. Stage 2. Preview of two respondents simultaneously for 10 min/respondent who arrived and directly experienced the metaverse exhibition using the Oculus gadget. The respondents were allowed to explore without any instructions or intervention from the researchers.

c. Stage 3. After the respondents explored the exhibition through a preview, they were interviewed with five verbal questions, all of which were read by the researchers. The questions are as follows:

1. What is your impression of the interior design in each area of this exhibition?

2. Does the exaggerated Scale Feature enhance your interest and engagement with the experience?

3. Does the exaggerated Shape Feature aid your understanding of the information presented?

4. Would you recommend this metaverse exhibition to others?

d. The results of these interviews were input as a dataset coded positive, neutral and negative to show the preference between engagement/excitement levels.

The analysis demonstrates a visually remarkable and impressive experience that has attracted considerable interest and resulted in the appreciation of the artwork. Interaction with the artwork offers a new and innovative visual experience, permitting an intimate exploration of the art room and eliciting positive responses from respondents. Comprehensive visual exploration from different perspectives created a more intimate and captivating experience in artwork exhibitions, providing additional dimensions for visitors to interact with the artwork. Respondents reported an immersive and captivating sensation from their levitation experience.

Respondents agreed that the art presentation is rich and innovative and can attract wider attention and interest. The positive recommendations from respondents revealed the importance of increasing the popularity of art exhibitions to attract more visitors. This study suggests that using technology in art presentations can effectively improve people's appreciation and participation in the art world. By creating an immersive experience that is memorable and full of surprises, art institutions and exhibitions have numerous opportunities to improve the attractiveness and effectiveness of art exhibitions through the metaverse. An interesting and innovative visual experience can bring positive effects by providing an extended immersive experience and enhancing attraction and curiosity for exploring the charm of nature in extended reality.

## **5. Conclusions**

Metaverse modeling utilizing the exaggeration technique in both the scale and shape of artworks can be achieved through changes in elements and distortion. One of Tisna Sanjaya's artworks, a painting titled 'Seniman dari Negeri Adil dan Makmur,' depicts a figure with twigs extending from its hand. This concept is later interpreted through 3D modeling in the metaverse, representing branching twigs and trees. Expanding the dimensions or spaces of the metaverse can lead to the creation of new interactive experiences. Metaverse modeling employs the exaggeration technique regarding the scale and shape of the artwork, which can be derived from alterations in elements and distortion.

Incorporating increasing fields or areas within the metaverse can nurture the development of novel forms of knowledge, acting as an interactive canvas for artistic expression. The human perspective significantly influences the visual presentation of artworks within the metaverse.

In conclusion, the exaggeration of objects allows visitors to engage and become captivated while experiencing extended reality, providing a unique perspective within the exhibition space, whether from a dwarf or levitating viewpoint. The exaggeration technique in the metaverse functions as an interactive representation aimed at creating an immersive experience that supports the transformation of exhibitions in the digital age by (i) shifting from traditional methods to virtual experiences for the newest generation, (ii) presenting artwork in innovative ways, (iii) attracting new visitors without needing to renovate the exhibition space and (iv) enabling digital artists to sell their work globally.

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