Illustration Music as An Atmosphere and Concept Amplifier in Experimental Photography Exhibition "Puguh Kesed"

Clemens Felix Setiyawan[1] and Dyah Murwaningrum[2]

[1] Visual Communication Design Department, Universitas Multimedia Nusantara, Scientia Boulevard Gading Serpong, Curug Sangereng, Kab. Tangerang, Banten 15810, Indonesia
[2] Institut Seni Budaya Indonesia Bandung, Indonesia
`clemens.felix@umn.ac.id`

Abstract. Photo exhibitions rarely involve other media to amplify the concept or enhance the atmosphere of the photos. In this Puguh Kesed photography exhibition, illustration music presents as a collaborator. This research shows that illustration music can amplify the concept and atmosphere of a photo. The purpose of using illustration music in this photo exhibition is to create an immersive "share the feeling" experience for the visitors. In-depth, this research also finds that illustration music is effective to guide a visitor's perspective, to amplify the ambiance, so the visitors can build some interactions with the artworks they appreciate. The research stages are completed gradually, (1) the pre-production of music based on visual music theory, (2) music production using the theory of physical and non-physical forms of music, (3) the post-production of music for visual with "immersive sound" approach, (4) illustration music application for exhibition, (5) analyzing visitors' responses by qualitative and quantitative approach.

Keywords: Music Illustration, Binaural, Visual, Virtual Exhibition.

1 Introduction

Technology highly influences all fields including art. Even some forms of art and art exhibitions have experienced changes in content because of technology. As technology advances, art is no longer displayed separately. Various fields of art collaborate with each on an ideal portion, living up to the concept of art itself. Meanwhile, photography often becomes one of the art forms shown in solitary visual mediums. On an online or offline photography exhibition, generally, photography does not collaborate with the other arts, like music as the illustration or ambiance builder.

Photography is an art and media for expressing emotion and communication, by using light as the medium. Painting with light is alleged to have happened since the 4th and 5th centuries BC. But photography rose when a French lithography artist Joseph-Nicephore Niepce (1765-1833) and an opera stage designer, painter Louis-Jacques Daguerre (1787- 1851) used it.

The parallelism between photography and technology makes photography draw special attention not only to the visually technical part. The contextual idea of photography also gets attention. As a communication channel, photography needs formidable energy to deliver the message. A photography work shows some unique technicality, along with the power of issues, themes, and flexible responses of the photographer on the subjects they raise and want to talk about. Like the art itself, a photo is expected to be able to portray society's problems aesthetically, present some emotional explosion, raise some concern, build interactions, and offers new perspective for appreciators.

Photography appreciators who attend an exhibition come from various backgrounds and experiences. These differences drive multiple interpretations of photography works. Despite that, photography needs the right energy to deliver a message, as a communication medium. In this condition, music comes as a supplement to give the sense of hearing some references. The synergy of these various senses will strengthen the concept of the photo works through various impressions and perspectives.

The photo is visually accepted by the sense of sight and synergizes with music, which is accepted by the sense of hearing. This synergy definitely will present the climax experiences in appreciating art. Cross in [1] underlines that the creation of music for visuals must involve the expressive comprehension and expressive application of music, which are applied synergically with the visual elements. It will create deeper emotional involvements. Referring to the description given by Cross, a photography exhibition will have a strong energy and emotion, and its concept will be captured easier with the support of music as the atmosphere producer.

By far photography exhibitions are rarely shown with the audio-visual concept. Photo exhibition with music and sound conditions immersively is uncommon. The photography exhibitions now are still using a conventional way, by displaying the photos without audio conditioning. Mostly those photos are supported by basic information about photography technicality and its themes.

The experience of an appreciator of photo and illustration music can be identified as "sharing the feeling". Roginzka in [2] describes what is an immersive sound. Sound, sight, scent, or taste will convey a message (scene) integrated via multi-sensory to create an immersive experience. She said that sound provides an experience like being in the intended location, as sound represents the voices from all directions simultaneously. This statement has been acknowledged by film artists (audio-visual) in their process of film making. Therefore, film artists utilize music and audio to build visual concepts and to bring immersive experiences.

Immersive experience through audio usually comes by setting some illustration music that prioritizes spatial or binaural technology. This technology places sound as a point walking inside the human's head and stimulates several nerve points on the head to influence our thoughts. This immersive experience in a photo exhibition is a form of collaboration between photo and audio, which can be a new way to communicate messages in art. Moreover, nowadays a virtual reality photo exhibition is possible, then the illustration music with immersive sound content is a tool to build atmosphere and firm up the concept.

2   Literature

Setiawan in [3] states that musicians in film (visual medium) succeed when the sound they arrange becomes music that can build a long-term memory for its audience. The accomplishment of a musician is measured based on the visual comprehension he translates into music, so their music will be capable of amplifying the visual concept. Xiaoduo Xu etc. explains in [9] that music tempo can influence the duration of appreciator visitation to an exhibition. One of the inventions of this research is that music with a slower tempo can make visitors stay 30 minutes longer inside the exhibition hall, compared to faster tempo music. Regarding this, the visitor's music preference does not affect the duration of their visitation.

Thus, this research focuses on an analysis of slow vs fast-tempo music usage for the exhibition. The process of creating the music and the context of the music on the exhibition theme is not discussed in more detail. Yos Hendra and Ganesh Hariamsyah in [10] describes the process of music making based on frequency requirement. The structure of the music they work on has a free form and relies on VSTI and sample packs as music-assembling instruments. This work is based on alpha, beta, and theta waves which have the purpose to set the condition on nerve performance of the human brain. This article discusses more deeply the technique of music making with DAW and the plugin effects needed. Nevertheless, the study does not address the issue of musical exploration to build the perspective of humans on some specific theme.

Roginzka in [2] analyses the effect of immersive sound on the visual universe. According to Roginzka, sound, sight, and scent will convey a message (scene) integrated through multi-sensory, to create an immersive experience. Sound delivers an experience like being in the intended location, as sound can embody voices from all directions simultaneously. This statement has been acknowledged by film artists (audio visual) in their process of working, thus they utilize music and audio to construct visual concepts and bring immersive experiences. In this research, Roginzka does not mention audio inside the exhibition hall.

Uwe in [6] explains that binaural beat is an auditory illusion. This aural illusion is conditioned from the recording using double microphones. This sound from two microphones has a frequency gap. This frequency gap will generate some impressions of the third sound, which is known as three-dimensional sound. Binaural can only be listened to by using headphones (stereo). This research is focused on the effect of music on young human brain waves via EGG observation.

Ian Cross in [1] also talks about the creation of music for visual matters. The music creation for visual goals must involve the expressive comprehension and expressive application of music, which are applied synergically with the visual elements. It will create deeper emotional involvements. Cross in this research studies to focus on music application culturally.

Simone Fontana in [11] tries to evaluate humans' need to listen to binaural music. This research shows that popular music listeners are not sensitive and do not care about the benefit of binaural when they listen to pop music, even though binaural music has a wide impression and can set the condition for voices inside the head. This happens

because of the lack of technology in music. Other than technical problems, music listeners still have not adapted to enjoy binaural music. His research focuses on binaural for popular music. Fontana does not talk about binaural for visual music.

3   Method and Procedures

This research consists of several stages with several methods.

3.1   Research of music pre-production

The pre-production research used a qualitative approach by in-depth interviewing and observing the photographer. In this process, a deep knowledge of the exhibited photo concept is necessary. As stated by Setiawan in [3], a music composer for visual media must be able to create music that integrates with the visual and can be memorized by the audiences.

3.2   The production of music harmonizes with the visual theme, with the purpose to support the Virtual Reality-based exhibition

Music has physical and non-physical forms. To define music intangibly, Suka Hardjana states that we have to be aware of music as a dependent substance [4]. Music is related to humans as music has its significance inside our perspective as humans. This is where our senses' ability (awareness) becomes important. The main point of Suka Hardjana's statement is that to understand a music event, we need awareness. Without awareness to feel it, music will not mean anything. Thus, in the creation of music, a musician needs a full sense of awareness along with the skill.

Physical music also has some form. The production of music is based Roger Scruton explanations. In [5] Roger Scruton says about four essential elements in music, specifically rhythm, melody, harmony, and pitch. All these elements are important and absolute in music. Therefore, the music made in this research is music qualified for those physical and non-physical categories.

3.3   The post-production of music

The final stage of the music-making process also uses an "immersive sound" approach, which is called binaural sound. Uwe in [6] explains Binaural beat is an acoustic illusion of the third sound perception, which fluctuates in its volume caused by two sine wave carriers with the same amplitude, but a small frequency difference between each other. From this description, it can be clarified that binaural is a hearing illusion. This illusion is conditioned from the recording using double microphones. This sound from two microphones has a frequency gap. This frequency gap will generate some impressions of the third sound, which is known as three-dimensional sound. Binaural can only be listened to by using headphones (stereo).

This approach is used to support the VR exhibition concept that involves visitors. The immersive sound approach in this exhibition is to set the atmosphere condition and strengthen the photo concept through illustration music (auditory experience), so the visitors can "share the feeling" of the story, in the right space and time context.

3.4   Music implementation to the exhibition

After the process of music making is finished, music is implemented for the photo exhibition.

3.5   Research on the visitors attending the exhibition

More than 100 visitors filled out the questionnaire with open questions. To explore the quality of audience responses which becomes the focus of this research, we need to combine research interviews and field data analysis from the questionnaire. In the interview process, the researchers went to the field and collected the primary data. This research involves some Visual Communication Design students and a professor's assistant. The student's role in this research is gathering the data, translating, recording, and transcribing the interviews. This research uses a mixture of methods including a combination of qualitative and quantitative methods. The quantitative method is used in the questionnaire distribution process. The results of the questionnaire and interview are read using qualitative methods.

The quantitative research method is mentioned by Arikunto in [7], as a research method that predominantly uses numbers. The process of collecting data, interpretation, and elaboration of the results are all based on calculation. While qualitative research is explained by Creswell in [8] as a research method that includes assumption stages widely and detailed assumptions in its process of collecting data and data interpretation.

4   Result

The process of this research finds several things:
1. Creation of eight pieces of illustration music with an immersive sound approach called binaural music.
2. The presence of photography exhibitions with Virtual Reality media, bringing music according to the space and time context.
3. Most audiences feel that music and all elements of the exhibition can unite, so the audiences get aided in capturing the message.
4. It is concluded that music presented in the virtual room of a photo exhibition can spark the visitor's imagination. The same condition has been used in the moving visual art field (film). In a photography exhibition, the music approach done for the film also is applied optimally.
5. Almost all audiences can enjoy the photo works because of the supplementary binaural music. They also said that music could make them feel as if they were in another world, a mysterious world, and immersed in the photo atmosphere.

6. Illustration music with an immersive sound approach can lead a perspective, build atmosphere, and amplify the visual concept so the audience can have a "sharing the feeling" experience and be immersed in the storyline of the exhibition.

5   Discussion

Puguh Kesed is a photography exhibition with Virtual Reality media, supplemented by binaural illustration music. This exhibition is held visually on the website: https://nusakara.umn.ac.id/puguh-kesed-opening/. Puguh Kesed is a part of the show managed by Nusantara UMN, featuring some works of three Visual Communication Design lecturers including Rezky Gautama (Photographer), Ardiles Akyuwen (Photographer), and Clemens Felix (Sound Designer), carries the general theme of "the laziness". This exhibition calls human beings to avoid a lazy life and keep a good spirit in life. Like a common photo exhibition, Puguh Kesed consists of several smaller themes inside several special rooms.

Fig. 1. The exhibition flow for visitor.

The visitors enter via the website and find the lobby. In the lobby (2) there is general information about the exhibition. The main lobby (3) is the main room connecting the six stages of the exhibition. Each stage has its theme. Each stage uses different illustration music, adjusting to the themes of the photos. Visitors can listen to the illustration music at this link, https://tinyurl.com/musiclobby.

Fig. 2. The exhibition lobby showing general information.
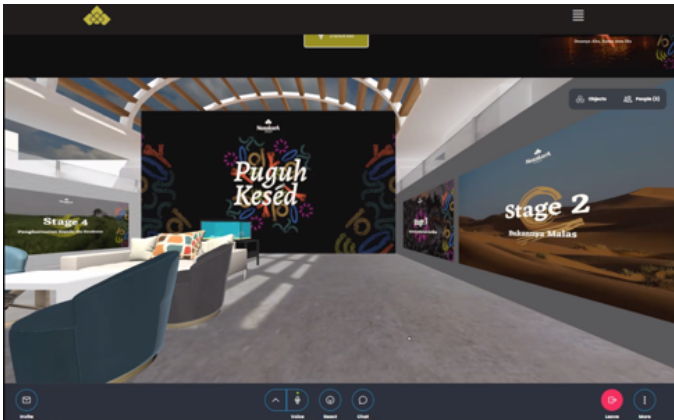

Fig. 3. The main lobby connecting the different stages of the exhibition.

Fig. 4. The exhibitors at the Puguh Kesed virtual exhibition.

5.1   Stage 1 discussion

The exhibition on stage one tries to portray how industrialization has penetrated every corner of the homeland. The goals of the photos, audio, and simulation inside this room are to arouse sympathy and concern for the extinction of orangutan living space in Indonesia. Deforestation, destruction, and forest burning on purpose have taken away the right of living of original forest inhabitants. Needs for palm oil cultivation on a grand scale have destroyed the forest ecosystem, including water and soil fertility. Stage one persuades the audience to realize that mother earth is a home of all beings who love each other.
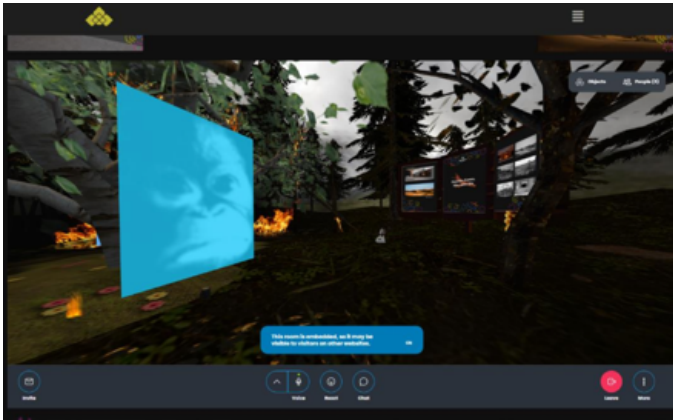
Fig. 5. Visual stage 1.

The message to deliver is sadness and concern about orangutan living space and the recent condition of the forest ecosystem. The goal is so that the audience can ponder our roles on earth. To send this message effectively then the photo, audio, and visual background is a unity, thus the music cannot stand alone. In harmony with the visual, illustration music is made with the same theme. The visual concept of the room displays the destroyed and burning forest as a result of deforestation and new palm oil plantations ignoring the flora and fauna habitat in the forest. The beat and rhythm heard from the illustration music felt like urging the earth to hurry more. Forests keep being asked to serve human needs tirelessly as if the industry must keep going on. Meanwhile, the suffering scream of nature echoes but cannot stop deforestation. Listen to the Illustration music on the link: https://tinyurl.com/musicstage1.

5.2   Stage 2 discussion

The exhibition of stage 2 tells us about the nature of the universe, represented by various animals including tortoise, ball python snake, and salamander lizard. The animals shown are those who own naturally slow characters and are silent a lot. In daily life, slow and silent characters (doing nothing) are assumed to be lazy. The message carried

in this work is that every creature has its natural characteristics, thus we cannot see and judge someone from his skin (outside appearance).

The visual backdrop on stage two depicts a barren and hot weathered dessert, nevertheless it does not change the natural characters of those animals. This analogy encourages us to be ourselves and be honest despite our surroundings. The purpose of the audio and visual works on stage two is to encourage people to be honest and be themselves. It is better to find the similarity between people than to sharpen differences.
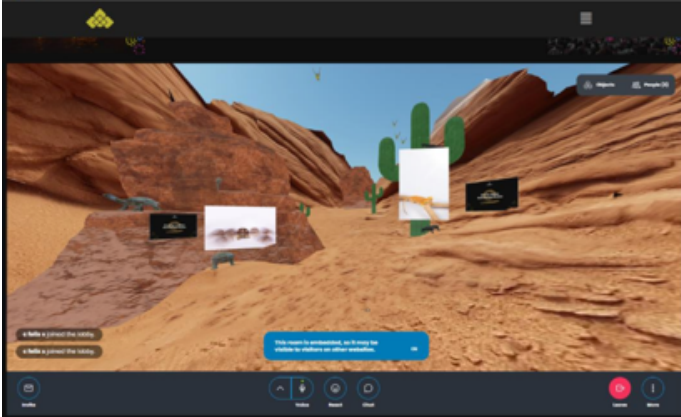
Fig. 6. Visual stage 2 [X Caption].

Illustration music gives clarity to the emphasized concept that we do not have to be the same as our surroundings. We can be ourselves. This concept is represented by various asymmetric sounds with different tempos. Every instrument has its tempo, and they walk side by side. Listen to the illustration music on the link https://tinyurl.com/musicstage2.

5.3   Stage 3 discussion

The third stage has the title "The nobility value of motion and behaviour". As human beings, we have noble inheritances from our ancestors, which embody our daily motions and behaviors, or traditions. This heritage can be traced to culture, lifestyle, historical sites, and other legacies. As grandchildren, we have to appreciate the long contemplation process done by our ancestors and inherited to us to preserve the earth.

The traditional music component from gamelan (one of our legacies) is used to compose the illustration music. The music illustration here also shows how musically high-cultured Nusantara, combined with up-to-date technology. Both make it possible to create note structures and musical instruments made from metal. Music created will bring a glorious impression yet be full of traditionality. Listen to the illustration music on the link https://tinyurl.com/musicstage3. The purpose of stage 3 is to invite the audience to share the pride, then become aware of it and join to maintain what had been built by the ancestors. As a great and glorious nation, we must be proud of becoming Indonesia.
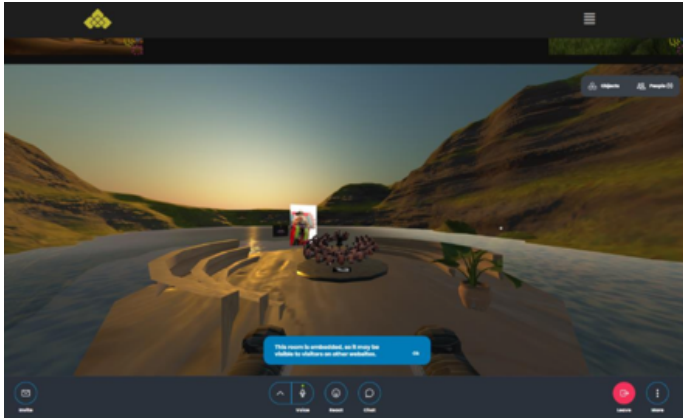
Fig. 7. Visual stage 3.

5.4   Stage 4 discussion

In the fourth stage, the concept of wholeness carries the 'gemah ripah loh jinawi" sub-theme. Nusantara earth is our protector, he is a rich green overlay and gives us more than enough. The virtual background dominated by green color is a symbol of prosperity and various farming equipment signify that agriculture is our society's main work. This stage reminds us to be grateful and give special tribute to the goddess of fertility, rice known as Dewi Sri. The wide eye rice field visual shows that rice is our society's main food. The fertility and comfortable weather in Nusantara had been popular since a long time ago, thus making foreign people want to conquer us at any cost.

Fig. 8. Visual stage 4.

The message wanted to be conveyed to visitors is, as Indonesian people have to be aware of Nusantara's potential and be critical, but also prioritize wisdom and humanity on each other so that our nation will be free completely from any colonialism and keep advancing. The illustration music assembled is techno music resembling an angklung orchestra. It is used to create a glorious, robust image and is identical to agriculture. Listen to the illustration music on the link https://tinyurl.com/musicstage4.
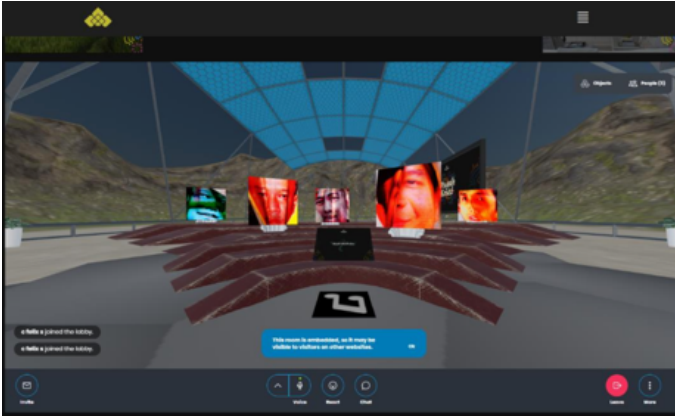
5.5   Stage 5 discussion

Fig. 9. Visual stage 5.

In stage five, the whole concept to be created is the depiction of people's representatives' faces. Hints about people's representatives which are seen to never work optimally, become an idea. The pictures of council people are displayed to remind people about the council they elected, but eventually prioritizing personal interests, being greedy, and harming the country. The visual background is shown imitating the council's building where the people representatives should have worked, to sharpen the concept they carry. The messages conveyed are clear, so visitors have a critical attitude and choose the representatives carefully, not fall for the false promises of the representatives.

Illustration music has the concept of giving some alerts. Alert to represent carefulness and critical mind in the election, and always watching their work performance. Listen to the illustration music on the link https://tinyurl.com/musicstage5.

5.6   Stage 6 discussion

At stage six, the united concept talks about "the circle of serenity, comfort, safety" where those three stages are the culmination of the achievement of a human life process. Human beings are in the "ayem tentrem" phase. This culmination is often defined as success, identical to wealth to buy anything. Comfort is associated with a fine housing

area, comfortable transportation, and proper facilities. Safety is equal to a good environment away from crimes. Unfortunately, those lives do not belong to people in rural areas, farmers, and other parts of society who cannot have comfort, safety, and serenity.
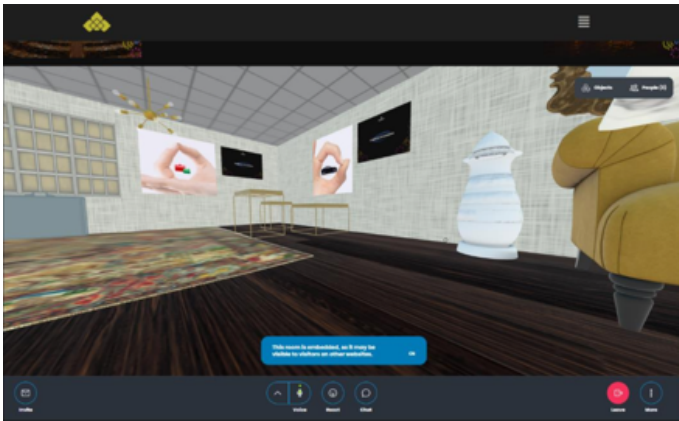

Fig. 10. Visual stage 6.

Stage six wants to promote a message to the audience, to feel the happy ambiance as it is felt by people who have reached serenity, comfort, and safety. With this experience, the audience is supposed to have the passion to reach success as their standard. The illustration music and visuals here are a unity, where the music and virtual backdrop have a cheerful, soft, and happy image. The music has a symmetrical rhythm which gives a whole bright vibe. Listen to the illustration music on the link https://tinyurl.com/musicstage6.

5.7 Study of illustration music and its effectivity in the photography exhibition

The creation of music has various goals. Music sometimes stands alone, however, sometimes music also becomes a companion in a lot of art and events. In the view of Suka Harjana in [4], music has two forms, that is music as nonphysical (energy) and music as a physical form which is audible. Furthermore, according to Scruton in [5], music has physical elements like tone, harmony, rhythm, and melody. The process of producing this illustration music refers to those two theories. The music created has energy in tune with the theme and its audible physical form.

Music energy is also created by referring to the visual, in this photography exhibition, music has the purpose to amplify the visual concept (the photo). As stated by Setiawan [3], a visual musician is said to accomplish his work when he can carry a long-term memory (on a theme) to his audience. To achieve the continuity of the concept, the music illustrator has done some in-depth observations, interviewed the photographer, and explored the meaning through various references.

The visual elements and their cultural background are analyzed, and music element exploration with a similar context is arranged. The requirement for music for virtual

reality is not the same as the need for music as entertainment. Music for VR needs an immersive sound approach so the listener can feel the impression of space, distance, and simultaneous and spreading sound direction which represents the showroom along with the location origins of the photo, which is often called 8D (eight dimensions).

The binaural approach is made in the post-production phase. As said by Uwe [6], binaural is stereo sound (two ways, as our ear has its right and left part) which has a time and frequency difference. This frequency gap will shape the 3D image.

The final product of the music was then discussed with the photographer and virtual illustrators. After reaching the agreement, music is united with visuals and utilized for the exhibition, to be observed how music collaborates with visuals.

A mandatory exit survey was provided, which had to be filled out by the visitors. This survey aim is to see the outcome of the collaborative work between binaural music and the visual. Several questions given to the visitors are:

1. There is unity among music, visuals, and setting.
2. Both music and photo fit the concept.
3. There is experience and sensation when watching the exhibition.
4. Some experiences/concepts were awakened by listening to the scoring (illustration) music helped your understanding.
5. Whether there were sensations and imagination of some atmosphere happened when the audience listened to the scoring music.
6. There is some immersive feeling when you listen to the scoring music.

These are open questions which visitors can reply with more than yes or no. The visitors also can explain why they choose the yes or no options. There were 167 visitors who filled out the questionnaire. The following chart is the data visualization of the visitor's answers.
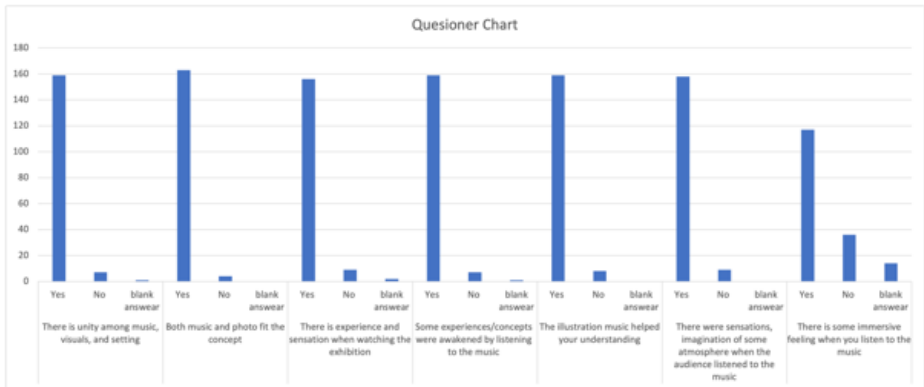

Fig. 11. Questioner Chart.

According to the chart, the description can be explained as follow:

On the answer "yes":
1. Almost all visitors stated that there was a unified concept in terms of music, photo, and exhibition settings.

2. Most visitors felt that music makes them relax, calm, and focus, so they feel comfortable viewing the photos. By looking at the photos longer, visitors can understand the meaning and message of the photo.
3. Most visitors felt that the illustration music helps them understand the visual.
4. Some visitors felt they were in a different room, like in a surreal world. Some visitors were aware they were in the exhibition room. Other visitors felt like they were in a new foreign place whose location they could not understand. They felt as if they were in a mysterious place.
5. The illustration music gave a focus effect to the audience, so the audience's imaginations could develop.
6. Some audiences said that the music gave them a new experience. They also realized that music could set the mood. Music also made them feel proud of Nusantara. Some felt that music could keep away boredom and fill the emptiness when they viewed the exhibition.

On the answer "no"
1. they did not like the music genre, so they could not feel anything.
2. the music was considered too local (Nusantara), so the audience did not like it.
3. the music was repetitive, so the audience felt bored.
4. the music volume in the closing part was too over, so the audience felt annoyed.

On the blank answer
The audience stated that they did not understand the question, so they chose no reply.

It can be concluded decisively that the visitors liked and enjoyed the illustration music in the photo exhibition. This binaural illustration music has a substantial role for a photo exhibition, specifically to amplify the photo concept and atmosphere.

6   Conclusion

The invention from this study shows that illustration music is not only useful for film. Illustration music can be used for photo exhibitions or other visual pieces, adjusting to the concept. The commentaries of the Puguh Kesed exhibition visitor have verified it. On Virtual reality and VR-based exhibitions, music with a binaural approach is required to condition the location, space, and time. The study of illustration music especially with a binaural approach needs to be developed, as not only it will contribute to the art and technology field but also other fields like psychology and neuroscience.

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