GLOBAL SOCIETY AND NEW MEDIA

Universitas
Multimedia
Nusantara
Indonesia

NOVEMBER 25th
27th

INTERNATIONAL CONFERENCE ON NEW MEDIA 2015

GLOBAL SOCIETY AND NEW MEDIA

Universitas
Multimedia
Nusantara
Indonesia

NOVEMBER 25th
27th

INTERNATIONAL CONFERENCE ON NEW MEDIA 2015

PROJECTION TECHNIQUE FOR CREATING 3D COMPUTER GENERATED ASSETS OF BOROBUDUR TEMPLE VIRTUAL REALITY	176
THE USE OF COMPUTATIONAL MEDIUM FOR VISUALIZATION AND SIMULATION IN HEALTHCARE ARCHITECTURAL DESIGN	182
THE USE OF 3D SOLID IN AFTER EFFECT TO PRODUCE 3DCG CHARACTER ANIMATION	188
USER EXPERIENCE OF SIPEBI AS INDONESIA CULTURAL EDUTAINMENT WEB PORTAL	193
COMPARATIVE AESTHETIC STUDY BETWEEN THREE-DIMENSIONAL (3D) STOP-MOTION ANIMATION AND 3D COMPUTER GRAPHIC ANIMATION TOWARDS PHYSICALITY AND TACTILITY, PERFECTION AND IMPERFECTION	199

Embedded Systems and Communication

DEVELOPING A WIRELESS TOUCH SCREEN SWITCH PANEL CONNECTED WITH ZIGBEE	207
ZLEAP: APPLICATION FOR WIRELESS SENSOR NETWORK (ZIGBEE) LEARNING TOOL	212
IMPROVING PERFORMANCE OF INTRUSION DETECTION SYSTEM USING OPENCCL BASED GENERAL-PURPOSE COMPUTING ON GRAPHIC PROCESSING UNIT (GPGPU)	217
UTAR NOC: ADAPTIVE NETWORK ON CHIP ARCHITECTURE PLATFORM	222
A SCALABLE AND CONFIGURABLE MULTIPROCESSOR SYSTEM-ON-CHIP (MPSOC) VIRTUAL PLATFORM FOR HARDWARE AND SOFTWARE CO-DESIGN AND CO-VERIFICATION	230
EXPLORING SOFTWARE-DEFINED RADIO ON MULTI-PROCESSOR SYSTEM-ON-CHIP	237
A SCALABLE BOOTLOADER AND DEBUGGER DESIGN FOR AN NOC-BASED MULTI-PROCESSOR SOC	241

Interactive Media Design and Mobile Technology

CYBER VILLAGE ENVIRONMENTAL SECURITY AND EARLY WARNING BASE ON SMS GATEWAY AND CCTV INTEGRATE	247
PARENT-CHILD INTERACTION IN CORRELATION WITH INTERACTIVE DESIGN OF FINGER PUPPET	253
INTERACTIVE MEDIA INTRODUCTION TO MOTION DANCE AND VISUAL MEANING OF TOPENG MALANGAN	258

Interactive Media

Introduction to Motion Dance

And Visual Meaning of Topeng Malangan

Bayu Ramadhani Fajri
Faculty of Art and Design
Institut Teknologi Bandung
Bandung, Indonesia
bayurf@unp.ac.id

Drs. Irfansyah, M.Ds
Faculty of Art and Design
Institut Teknologi Bandung
Bandung, Indonesia
fandkv@yahoo.co.id

Abstract— The growth of technology is the identity of the spirit of the age that makes traditional cultures must be able to adapt to the state of the times in order to survive and Topeng Malangan Dance is one of them. Topeng Malangan is one of the distinctive culture of Malang which has 76 players of different characters in the story. A large number of characters that are owned by Topeng Malangan certainly has many meanings that want to convey from the mask of that or of the dance movements of each character are also a manifestation of the character of human nature, is a potential as a visual element to be published in digital form as a interactive media. Based on the reasons, it will be designed interactive learning media of Topeng Malangan in an attempt to re-popularize the Culture of Topeng Malangan and to provide awareness of the existence of the Topeng Malangan through visual elements of interactive media. With the theory ATUMICS by Adi Nugraha, in transforming the culture, conducted this research with qualitative methods to classify visual elements of Topeng Malangan defined in the model WASBUMIL (Werno / Color, Alis / Eyebrow, Sumping, Brengos / Mustache, Ukiran / Engraving, Moto / Eye, Irung / Nose and Lambe / Mouth) as a basis for designing interactive learning media. In this case the author also provides an alternative execution of interactive media products which have been designed in the form of a virtual character with motion capture technical as an added value which will give a special attraction in the application of interactive media.

Keywords— *Topeng Malangan, Interactive Media, Virtual Character*

I. INTRODUCTION

Motion and rhythm, expression of the human soul that is disclosed by the beautiful rhythmic movements. Movement that emerged in the expression of all human emotional experience. Appears based on several motivations, where encouragement is not based on the willing of the mind but a desire that comes from the heart, the feeling that grow as very strong vibration, to rule over all organs of the body moves .. Dance.

Topeng Malangan dance is a fusion between human faces and puppet with rigid dance movements. This style is better

known by the Malangan style which means strong and depicts a knight. Topeng Malangan dance comes from Kediri, created by Airlangga, the son of Dharmawangsa Beguh. Then he spread the art of Mask dance to Singosari kingdom led by Ken Arok. Topeng Malangan is a unique art which grows around the area of Malang (the former Majapahit in East Java). Known as the masked art in the kingdom of Kediri, and use the Panji's character since the Majapahit era.

The standard of Topeng Malangan there are 6 types, namely: *Klono*, *Bapang*, *Asmoro Bangun*, *Sekartaji*, *Gunung Sari* and *Ragil Kuning*. *Klono* describe the greedy and arrogant character, *Bapang* describe the wise character, *Asmoro Bangun* epitome of beauty, *Sekartaji* symbol of purity, *Gunung Sari* and *Ragil Kuning* epitome of human kindness.

The culture's phenomenon, especially traditional dance arts that grow in Java, particularly in the area of Malang East Java province which is currently very worrying . This is due to the accelerated pace of cultures that resulted in a shift in society and culture, including through the spread of culture by foreign countries that brought by the displacement of the nations, who produce mix of old and new culture create a renewal process in relation with the new invention in the form of new culture.

The emergence of various types of man-made technology has created a new culture. Starting from the culture created by the principles of old culture which is adopted and adapted to the needs of the times, such as music and dance that used to be done as part of a sacred ritual that has now shifted into an entertainment commodity, to a culture that is really new born as the impact of technologies lifestyle, such as culture in actualize themselves in the virtual world of social media.

Technology with all the conveniences that offered, make some old culture began excluded. Convenience and entertainment offer that can be accessed easily from behind the scenes to places that offer entertainment with technology and practicality make some art of traditional culture which offers entertainment also be displaced the existence.

In addition to the factors a performance of Topeng Malangan dance is impractical and the concepts are still

conventional, the introduction to art of Topeng Malangan dance among students in particular and society in general is still lacking and is still conventional, namely in the form of text and images. So that the readability of the public, especially students and young people in Malang to the arts of Topeng Malangan Dance very alarming.

Of the above problems, the authors attempted to rebuild the awareness of the existence of Topeng Malangan culture are exist in Malang. The solve is to design an interactive media to introduce the Topeng Malangan art in the form of a virtual character. Technically, Motion Capture it's used as a medium which is expected to let users interact with directly demonstrate the motion of dance. Besides technical Motion Capture is also used to increase the appeal of its own.

Based on the elaboration, the author trying to formulate a form of presentation an interactive media of Topeng Malangan dance in the form of a virtual character is related to the context of the virtual simulation in virtual form, the characters created as duplication of the real character. From the merger between this virtual character is expected to be an extra value that will give a special attraction on the segment, especially middle school students.

II. PRESENTATION OF TOPENG MALANGAN DANCE

The life of Topeng Malangan dance is a traditional art is one of aspect that might be considered minor and insignificant for the Indonesian nation and now the situation is very alarming. The traditional art of Topeng Malangan dance, not only spectacle of entertainment, but more fundamentally, a guidance about manners and behavior of human beings living in this world. The values conveyed through visual symbols such as dance, fashion, color masks, musical accompaniment, ritualistic behavior and others all have a moral nobility, which continues to maintain the harmony and balance of life between human and the environment, and with The Creator.

This dance is a symbol for the human nature, therefore many models of masks describe the different situations, like, crying, laughing, sad, embarrassed and so on. This dance is usually displayed in a saga fragmentation or local folklore about many things especially telling stories of panji.

Presentation in Topeng Malangan dance performance generally demonstrates the character of panji or the cycle of Panji term or Panji Romance, namely: *Malat*, *Wasing*, *Wangbang-Wideha* and story of Angraeni. Presentation of a Topeng Malangan show with the sort order as follows:

- *Gending Giro* (first beating the *gending eleng-eleng*, *Krangean*, *Loro-loro*, *gending Gondel* and ends with a *gending Sapu Jagad*),
- Opened with *Beskanan Lanang* dance (*Bangtih* Mask),
- *Jejer Jawa* (Kediri),
- *Perang Gagal* (interlude of *Bapang* dance),
- Scene of *Gunungsari-Patrajaya*,
- Scene of *Jejer Sabrang* (*Klana Sewandana*),
- Scene of *Brubuh* war and *Bubaran*.

Presentation of Topeng Malangan dance at the level of social function, that is when the Topeng Malangan dance was

invited to enliven a celebration. The presence of the performance is constitute a reality that is both kindship and solidarity. The reality appears in the presence of *Sing Duwe Gawe* 'host', *Sinoman* 'energy contributor', *Tontonan* 'show', and *Wong Nontok* 'spectator'. The fourth phenomenon appears in a Topeng Malangan dance performance to confirm the existence of the host (owner of intent), which puts *lungguh* 'position'. It can be listened to at the intent of *nadir* repayment 'pay a promise', or as a tribute to the spirit in the village *pundhen*.

In the Topeng Malangan Dance performance is only held on specific events and require the preparation and completeness of the property that much. The concept of the traditional performances are still making the audience have to jostle to be able to watch this show. With the impractical reason and concept of the show is still conventional, the Topeng Malangan began to replaceable position by alternate performances and entertainment more exciting with the more practical packaging technology.

In addition to the factors a performance of Topeng Malangan dance is impractical and the concepts are still conventional, the introduction to art of Topeng Malangan dance among students in particular and society in general is still lacking and is still conventional, namely in the form of text and images. So that the readability of the public, especially students and young people in Malang to the arts of Topeng Malangan Dance very alarming.

Topeng Malangan has 76 different characters, number of characters that was owned by Topeng Malangan as the embodiment of the character of human nature, is a potential as a visual element to be published in digital form as an interactive learning media.

III. THE GROWTH OF DIGITAL ERA

Along the era thrive, the technology has changed rapidly towards the advance of globalization has affected to almost all aspects of community life. The era globalization is becoming very dependent on technological advances that can create efficiencies in its use.

A significant sign in today's digital era is a rapid growth in the sector of science and technology. The first challenges of the digital era in Indonesia is should strive to equalize or keep up with the era towards the technology growth of world, because of the technology and information growth is very rapidly. The Indonesian people must be increase the creativity in the world of technology in order to keep abreast of the todays times in conditions that completely up to date.

Digitalization in the realm of information also go through a metamorphosis in accordance with the characteristics and the paradigm of the digital era, in presenting of information and presentation the digital media information must be concise, solid and instant because of digital era people tend to know a little about a lot of things.

The growth of Information and Communication Technology at this time is so rapidly will certainly open up the horizons of our thinking that in the virtual universe there are

various kinds of information or learning resources that are unlimited. Of course we would all agree to say that we should take advantage of a wide range of information scattered in the virtual universe as a source of learning after going through a selection based on learning needs, considerations of morality, religion and others. The digital revolution has indeed brought convenience to the future, still with the consider of human rights and moral considerations.

IV. INTERACTIVE MEDIA AND TOPENG MALANGAN

Interactive media is a media delivery system that presents the material with computer control to the audience/users that not only hear the sound and see the video, but also give an active response and the response was that determine the speed and sequence of presentation. Interactive media has an audio-visual elements (including animation) and is called interactive because the media is designed to actively involve the user's response. Moreover, according to *Kamus Besar Bahasa Indonesia* (KBBI), interactive media is an intermediary tool or a link related to computers that are mutually inter-action and mutual relations active. From the above definition can be concluded that interactive media is an intermediary tool that is designed with the use of computers using elements such as sound (audio), pictures (visual) and text to convey a message.

Interactive digital media controlling an important role in the learning process. The successful of learning is determined by two main components delivery methods and media. The use of computer-based learning media has a significant influence on the attractiveness of the user to learn the competencies taught. Interactive classification within the scope of learning media is not with the system hardware, but rather refers to the learning characteristics of the user in response to a stimulus that is displayed screen computer monitor. The quality of user interaction with the computer is determined by the sophistication of the computer program. Scwheir and Misanchuk (1993: 11) states there are at least three levels of interaction based on the quality of the learning interaction. The third level is fully shown in the following table:

TABLE I. LEVEL OF INTERACTION BY SCHWEIR AND MISANCHUK

Table of Quality Learning Interaction		
Levels	Function	Transaction
Reactive	Confirmation	Space Bar/ Return Key
Proactive	Pacing	Touch Screen Target
Mutual	Navigation	Touch Screen Ray Trace
	Inquiry	Mouse Click
	Elaboration	Mouse Drag
		Barcode
		Keyboard-Key Response
		Keyboard Construction
		Voice Input
		Virtual Reality Interface

Due to some of the terms that have the broadest sense, the author will give some understanding of the term is based on the scope of the discussion as follows:

A. Virtual Character

There are several interpretations of the term character. This study has focused more on the aspect of character term figures Topeng Malangan with visual representation. While the term virtual consists of two kinds of understanding. The first is virtual in the form and the second is virtual in the sense of form and meaning. In the case of this discussion virtual character in the mean is an understanding in the sense of a more devoted to the figure of virtual or simulated. "The virtual worlds is a simulation" (Shield, Rob. 2003). Based on Rob Shield statement can be understood that the concept of Virtual is a simulation of a single object or shape simulated by digital media. Then, the meaning of virtual characters is a visual representation and dispositive of Topeng Malangan characters are packaged in digital interactive media as a simulation.

B. Topeng Malangan

Almost certainly most of the people in Indonesia have seen the mask. The civilization of the world has shown that the mask has a manifestation of imagination, creativity, and the power of human spiritual expression of infinite. Topeng Malangan is a unique art which grows around the area of Malang (the former Majapahit in East Java). Known as the masked art in the kingdom of Kediri, and use the Panji's character since the Majapahit era. The standard of Topeng Malangan there are 6 types, namely: *Klono*, *Bapang*, *Asmoro Bangun*, *Sekartaji*, *Gunung Sari* and *Ragil Kuning*. *Klono* describe the greedy and arrogant character, *Bapang* describe the wise character, *Asmoro Bangun* epitome of beauty, *Sekartaji* symbol of purity, *Gunung Sari* and *Ragil Kuning* epitome of human kindness.

The growth of Topeng Malangan, could not be separated from the service of Raden Suryo Atmojo who took him to the pavilion of Malang, during the first Regent Kanjeng Surgi, in the Dutch colonial era. Reni (Polowijen) and Gurawan (Kepanjen) participated to explore more. The karimun great grandfather, Serun, learn about the mask from Gurawan. Up here, the function of Topeng Malangan is not to spread the Islam religion, but a means of entertainment, tells the story of Panji.

There are two studio association is still active today in Malang that still maintain the existence of Topeng Malangan. Both galleries are, Studio Asmarabangun in the Kedungmonggo village, and Sri Marga in the Glagah Dowo village. Related to this research, the authors will focus its research on the Kedungmonggo village the grip of Asmarabangun association. Because of the Asmarabangun association is a conservative who is still maintaining the original of traditional art Topeng Malangan dance. Furthermore, in this study, making the visual elements of dance will be taken from the actual model of the dancers and their clothes, and for the retrieval of mask visual meaning will only take a visual element of the elaboration of the elements that forming the mask.

Fig. 1. Visual Element of Topeng Malangan

C. Motion Capture

Motion capture or motion tracking is a term used to describe the process of movement recording and to cognition the movements into digital models. Basically, motion capture means recording the actions of human actors and use that information to drive the digital character animation into a computer model of two-dimensional or three-dimensional can even directly to an object. In this study, the authors focus on using motion capture technology which has a motion sensor on the camera so that when the actor moves the device emits a signal which is then captured by a camera are capable to detecting the movement of the user and processed in a computer to generate the movement data. Finally, the object of virtual character eventually will move like the actor / user.

Fig. 2. Development Scheme_1

Fig. 3. Development Scheme_2

V. CONCLUSION

The life of art Topeng Malangan dance is a traditional art that is one of aspect that might be considered minor and insignificant for the Indonesian people and now the situation is very alarming. The traditional art of Topeng Malangan dance is not only for entertainment or spectacle, but more fundamentally, a guidance about manners and behavior of human beings living in this world.

The values that conveyed through visual symbols such as dance, fashion, color masks, musical accompaniment, ritualistic behavior and others all have a moral nobility, which continues to maintain the harmony and balance of life between human and the environment, and with The Creator.

Therefore, it is necessary to create an interactive learning media that introduces the art of Topeng Malangan dance that not only introduces to motion of Topeng Malangan dance, but also explain in sufficient detail the meaning to be conveyed on the Topeng Malangan in the form of virtual characters.

Due to the extent of the description of the character and extent of the possibilities in the application of interactive media in the form of a virtual character then this will be focused on the use of virtual characters as a form of alternative experimentation in the Topeng Malangan dance.

For that eventually interactive media in the form of a virtual character in this design would represent the user when studying the movement of Topeng Malangan dance. While the types of media that will be used to display a virtual character in the aforementioned interactive media will choose the motion capture media. This is done in an effort to introduce the dance and visual meaning of Topeng Malangan interactively to the user.

The target of this research is to create the interactive media to introduce of dance and visual meaning of Topeng Malangan that will be packed in the motion capture concept to give more values in the research of this interactive media, in association with the concept of duplication of reality in the virtual world, so that virtual characters can be moved in real time in accordance with the original user's movement.

REFERENCES

- [1] Hidayat, Robby. 2001. "Spiritualitas empat Tokoh Sentral dalam Pertunjukan Wayang Topeng Malang". Unpublished Research Report. LEMLIT Universitas Negeri Malang.
- [2] Hidayat, Robby. 2003. "Mozaik Koreografi:.. Malang: Gantar Gumelar.
- [3] Hidayat, Robby. 2004. "Wayang Topeng Malang, Kajian Strukturalisme Simbolik". Sekolah Tinggi Seni Indonesia Surakarta.
- [4] Indrajit, Wisnu. 2012. "Rancang Bangun Sistem Motion Capture Dan Database Motion Untuk Robot Humanoid Dengan Perangkat Microsoft Kinect Berbasis Ros (Robot Operating System)". Taken from <http://lontar.ui.ac.id/>.
- [5] Kamal, Musthofa. 2010. "Wayang Topeng Malangan : Sebuah Kajian Historis Sosiologis". Taken from <http://journal.isi.ac.id/>.
- [6] Koentjaraningrat. 1981. "Manusia dan Kebudayaan di Indonesia". Jakarta: Djambatan.
- [7] Minarto, Soerjo Wido. 2008. "Struktur Simbolik Tari Topeng Patih Pada Pertunjukan Dramatari Wayang Topeng Malang Di Dusun Kedungmonggo Desa Karangpandan Kecamatan Pakisaji Kabupaten Malang". Taken from <http://lib.unnes.ac.id/>.