International Research Journal of Computer Science (IRJCS)
Issue 12, Volume 2 (December 2015)
ISSN: 2393-9842
www.irjcs.com

The 3D Game Simulation of "Anjungan DKI Jakarta" at Taman Mini Indonesia Indah and Betawi Culture based on FPS (First Person Shooter)

Desi Ramayanti
Faculty of computer science & University of Mercu Buana

Abstract— Taman Mini Indonesia Indah (TMII) is a culture miniature of Indonesia, it's content of 33 traditional homes (Anjungan) from around Indonesia. Focus of research is Anjungan DKI Jakarta. The purpose of research is how to make an interesting learning material of education culture for student of elementary school. So, based on that purpose, this learning presented a 3D games and simulation of Anjungan DKI Jakarta. The story line is each player must find 20 rolls of paper for the challenge, in each paper contains information about the culture of DKI Jakarta. Players will visit all location of Anjungan, if finished collecting it.

Keywords— TMII, 3D Games, Jakarta, Learning, Culture, Human Computer Interaction

I. INTRODUCTION

Taman Mini Indonesia Indah (TMII) or "Beautiful Indonesia Miniature Park" is a culture miniature of Indonesia, contents of 33 traditional homes (called Anjungan) from 33 city of Indonesia. TMII is built from 1972 until 1975, it has an area is about 250 hectare. The propose of this place is presented of culture from all city of Indonesia (clothing, dance, traditions and traditional home). One of Anjungan at TMII is Anjungan DKI Jakarta. DKI Jakarta is the capital of Indonesia and the largest city of Indonesia. DKI Jakarta is one of the most populous urban agglomerations in the world.

The indigenous people of Jakarta are the Betawi, a community of mixed descent, a mixture of different races and ethnic groups, who for generations have made Jakarta their home. Very outspoken and democratic, the Betawi have assimilated different cultures in their daily life, arts, music and traditions. Staunch Muslims, the Betawi blends the original Malay language with neighbouring Sundanese words, mixed with Javanese, Chinese, Indian, Arab and Dutch words. Betawi have a many culture like a music called tanjidor which uses the trombone, piston tenor, clarinet. In dance, a betawi jaipong dance, and a culinary like kerak telor, and etc.

Because Jakarta is one of the most populous urban agglomerations in the world, is bringing out many problems, including the betawi culture. Betawi culture is a foreign culture for a people of Jakarta. It's causing of modernity. It's a serious problem for next generation, because today education of learning about betawi culture at elementary school is a boring lessons and not interested. These children are the next generation who will be responsible for educate people about betawi culture. If the present children's not interest to learn and conserve this traditional culture, the next generation will be generation with zero information about betawi culture.

Based on this, the research concern for how to make a teaching materials for learning a culture betawi with interesting ways for children, like a Games 3D. Anjungan DKI Jakarta presented with 3D simulation and packed games. the rule of games is every child or user or player must collecting one by one roll of paper, its content is information of many culture of betawi, like a custom, traditional music, traditional culinary, traditional tools, betawi figures and etc.

II. RELATED OF DKI JAKARTA AND BETAWI CULTURE

This harbour town was first known as Sunda Kelapa. But on 22 June 1527 Prince Fatahillah razed Sunda Kelapa and founded the town of Jayakarta on the same site. This is the date that Jakarta takes as the establishment of the city. Jayakarta was a thriving port where traders from China, India, Arabia and later the Europeans, as well as those from all over the archipelago exchanged their wares.

In 1619, the Dutch VOC under Jan Pieterszoon Coen destroyed Jayakarta and built a new town on the west bank of the Ciliwung River, which he named Batavia, after the Batavieren, the Dutch tribal ancestors. Batavia was planned similar to Dutch towns, in a series of blocks cut by canals and defended by a fortified wall and a moat. This part of Batavia was completed in 1650. Old Batavia was where the Europeans lived, while the Chinese, Javanese and other indigenous groups were relegated outside the city entrenchment.

In its heydays, Batavia became known as the Jewel of the East, the seat of the VOC and later it became the seat of the Dutch Government over the sprawling East Indies archipelago. During the Japanese occupation in 1942, the Japanese again changed the name from Batavia to Jakarta [1].

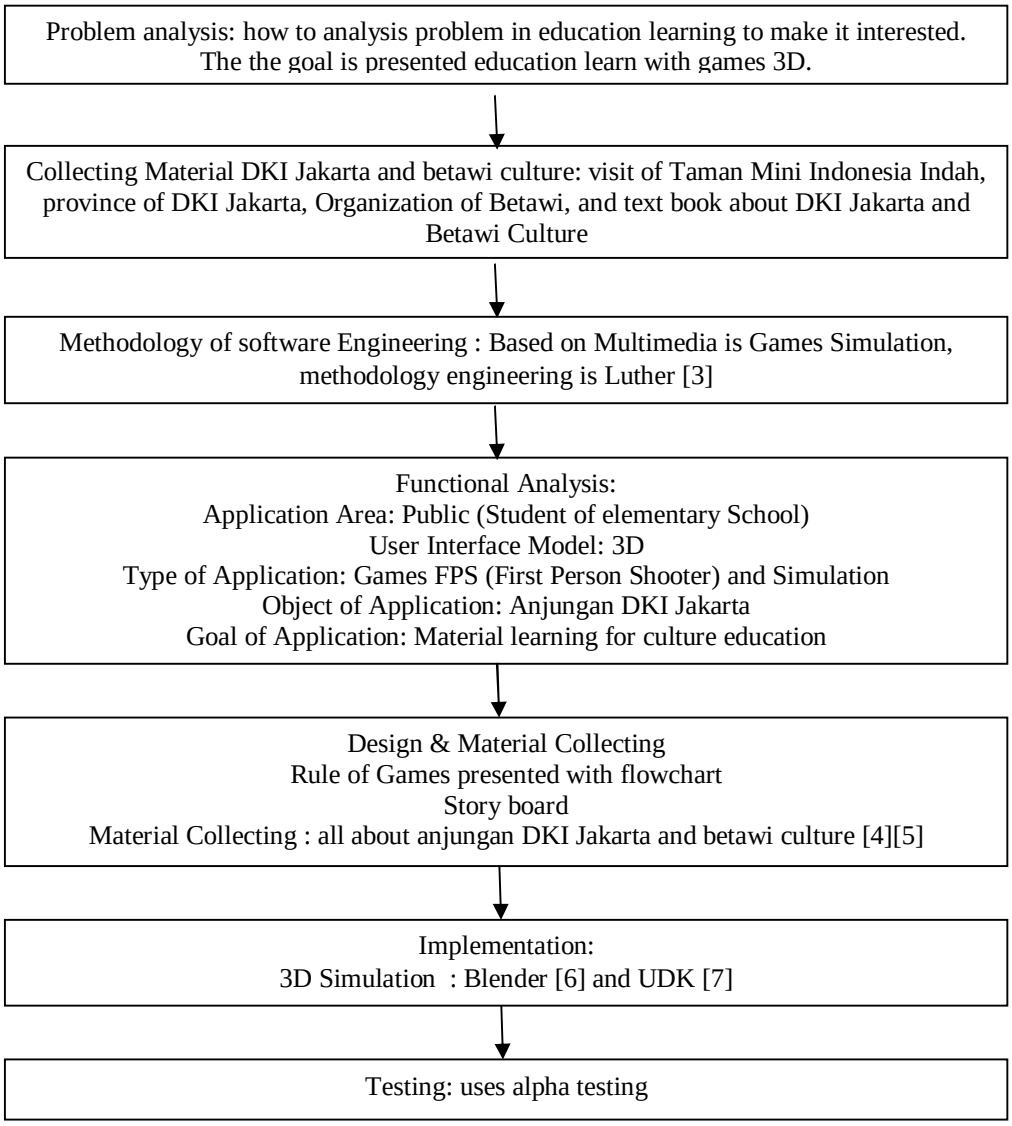
The indigenous people of Jakarta are the Betawi, a community of mixed descent, a mixture of different races and ethnic groups, who for generations have made Jakarta their home.

© 2014-15, IRJCS- All Rights Reserved

Very outspoken and democratic, the Betawi have assimilated different cultures in their daily life, arts, music and traditions. Staunch Muslims, the Betawi blends the original Malay language with neighbouring Sundanese words, mixed with Javanese, Chinese, Indian, Arab and Dutch words.

The wedding costume of the bride adopts the Chinese tradition of bright red embroidered top with a veil of golden tassels. Whereas the bridegroom wears very contrasting costume inspired by the Arab and Indian Dons. The Betawi also absorb music from different races, including from the colonial Portuguese, Dutch, Arab and Indian traders, as also from neigbouring West and Central Java, making it all their very own. For musical instruments they use the Sunda trumpet and drums, while from Europe they have adopted the trombone and guitar, as well as Chinese instruments. While inspired by Portuguese music this has resulted in the distinct Jakarta music genre popularly known as Keroncong. With time there developed the Tanjidor , which uses the trombone, piston tenor, clarinet. This latter genre is said to have originated from the European plantations, since their tunes have European sounding names, such as Bananas, Delsi, Batalion, Welnes, and so on. But now they have become more local-sounding with tunes like Jali-Jali, Surilang, and the popular dangdut music. In dance, the Betawi Jaipong Dance fuses local choreography with distinct Chinese dance costumes inspired by the Beijing Opera [2].

III. METHODOLOGY



© 2014-15, IRJCS- All Rights Reserved

IV. DESIGN

4.1 RULE OF GAMES

THE RULES OF GAMES IS PRESENTED WITH FLOWCHART (FIGURE 1)

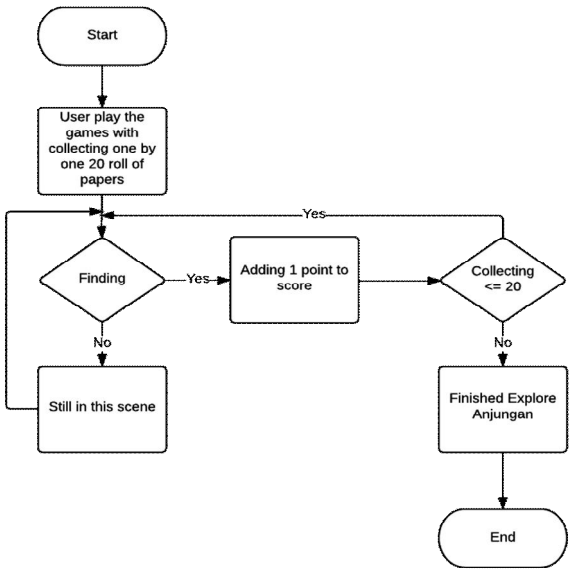
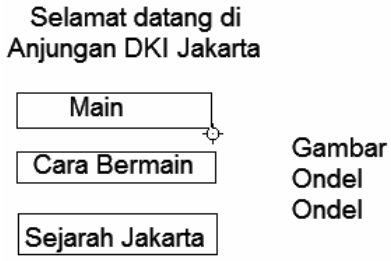
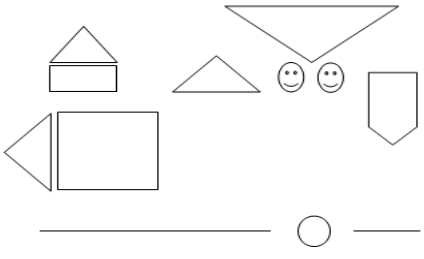


Fig. 1 Flowchart of the rule games in Anjungan DKI jakarta

4.1 STORY BOARD

STORY BOARD THE GAMES SHOWED AT TABLE 1.

TABLE 1. STORY BOARD

Games : Betawi Culture			
Scene	Image	Description	Duration
1		Title : main page Action : click of dot Anjungan DKI Jakarta for starting game Back Sound : Indonesia Raya (Song of nation)	Until user click of the dot
2		Title : Welcome page Anjungan DKI Jakarta Home Action : click of the sub menu for the next action : Main → play the game Cara Bermain → how to play the games Sejarah Jakarta → History of Jakarta Gambar Ondel ondel → the picture icon of betawi Back Sound : Ondel Ondel (traditional Song betawi)	Until user click of the sub menu
3		Title : Anjungan DKI Jakarta Action : play games with mode FPS (First Person Shooter) Player will explore around location of Anjungan DKI Jakarta to finding 20 roll of paper. The piece of paper contains information about Betawi culture. Back Sound : Tanjidor music traditional of betawi	Until user finding 20 paper or exit button

© 2014-15, IRJCS- All Rights Reserved

4.2 COLLECTING MATERIAL

MATERIAL USES IN THESE GAMES CAN BE VIEW AT TABLE 2

TABLE 2: COLLECTING MATERIAL

Games : Betawi Culture		
No	Image	Description
1		Building A half of monas Size File: 680 KB Size Pict : 1600 x 1200 Type : jpq Camera : Samsung GT-S5360
2		Building : Kebaya House Size File: 965KB Size Pict : 1600 x 1200 Type : jpq Camera : Samsung GT-S5360
3		Building : Performance House Size File: 685 KB Size Pict : 1600 x 1200 Type : jpq Camera : Samsung GT-S5360
		Building : Piramida 1 Size File: 737 KB Size Pict : 1600 x 1200 Type : jpq Camera : Samsung GT-S5360
		Building : Piramida 2 / Balkon Size File: 728 KB Size Pict : 1600 x 1200 Type : jpq Camera : Samsung GT-S5360

© 2014-15, IRJCS- All Rights Reserved

		Building Prism Size File: 4.17 MB Size Pict : 4608 x 3072 Pixel Type : jpq Camera : NIKON D3100
		Ondel Ondel Size File: 4.17 MB Size Pict : 4608 x 3072 Pixel Type : jpq Camera : NIKON D3100
		Monas Size File: 0.98 MB Size Pict : 969 x 1200 Pixel Type : jpq Source : http://www.jakarta.go.id/web/encyclopedia/detail/1989/Nasional-Monumen
		Badik Size File: 3.75 MB Size Pict : 604 x 421 Pixel Type : jpq Source : http://www.jakarta.go.id/web/encyclopedia/detail/64/Badik-Cangkingan
		Yapong Dance Size File: 25.2 MB Size Pict : 287 x 375 Pixel Type : jpq Source : http://www.jakarta.go.id/web/encyclopedia/detail/3603/Yapong
		Lenong Size File: 35.9 MB Size Pict : 450 x 275 Pixel Type : jpq Source : http://www.jakarta.go.id/web/encyclopedia/detail/1739/Lenong

© 2014-15, IRJCS- All Rights Reserved

			Custom Traditional Size File: 9.76 MB Size Pict : 350 x 422 Pixel Type : jpq Source : http://www.jakarta.go.id/web/news/2010/01/Pakaian

4.3 IMPLEMENTATION

FOR IMPLEMENTATION USES A BLENDER APPLICATION AND UDK (USER DEVELOPMENT KIT), FOR THE RESULT CAN VIEW AT TABLE 3.

Games : Betawi Culture		
No	Image	Description
1		Kebaya House Tris Size : 404 Software : Blender
2		Show House Tris Size : 2545 Software : Blender
3		Piramida House Tris Size 68 Software : Blender
		Balkon Tris Size : 162 Software : Blender

© 2014-15, IRJCS- All Rights Reserved

		Welcome Page
		Scene Anjungan DKI Jakarta
		Scene Anjungan DKI Jakarta
		Scene Anjungan DKI Jakarta
		Scene Anjungan DKI Jakarta
		Scene Anjungan DKI Jakarta

© 2014-15, IRJCS- All Rights Reserved

V. CONCLUSIONS

In this paper, we have presented a research in the field of Human Computer Interaction for education culture by providing a alternative material learning with formed interesting for student elementary school. That may allow teacher and students to transfer knowledge and learn by interesting. In the next research, we will try to accommodate all of culture of Indonesia.

REFERENCES

[1] Pemda DKI Jakarta, "Historic Jakarta." [Online]. Available: http://www.jakarta-tourism.go.id/taxonomy/term/7.
[2] Pemda DKI Jakarta, "Heritage and Culture." [Online]. Available: http://www.jakarta-tourism.go.id/node/50.
[3] Jose L. Encarnacao and J. D. Foley, *Multimedia : System Architectures and Applications*. Springer Science & Business media, 2012.
[4] A. Shahab, *RobinHood Betawi : Kisah Betawi Tempo Doeloe*. jakarta: Penerbit Republika, 2001.
[5] Muhadjir, *Bahasa Betawi: Sejarah dan perkembangannya.* Yayasan Obor Indonesia, 2000.
[6] Allan Brito, *Blender 3D 2.49 Architecture, Buildings, and Scenery*. England: Birmingham, 2010.
[7] Rachel Cordone, *Unreal development kit game programming with unrealscript. : Beginners guide create games beyond your imagination with the Unreal Development Kit*. Birmingham : Packt Pub, 2011.

© 2014-15, IRJCS- All Rights Reserved