



## Public Service Ads On Disposing of Waste Awareness Method Using Motion Graphic Blender

Nurfatanah<sup>1</sup>, Agung Triayudi<sup>2</sup>, Deny Hidayatullah<sup>3</sup>

<sup>1</sup>Informatika,

Fakultas Teknologi Komunikasi dan Informatika, Universitas Nasional, Jl. Sawo Manila, Pasar Minggu, Jakarta Selatan, Indonesia

E-mail: [nurfaa.nf04@gmail.com](mailto:nurfaa.nf04@gmail.com), [agungtriayudi@civitas.unas.ac.id](mailto:agungtriayudi@civitas.unas.ac.id), [rafadeari@gmail.com](mailto:rafadeari@gmail.com)

### ARTICLE INFO

#### Article history:

Received: 08/02/2019

Revised: 08/02/2019

Accepted: 01/03/2019

#### Keywords:

Animation,  
Advertisement,  
Blender,  
Environment,  
Rubbish.

### ABSTRACT

*At present many community service announcements about waste are made using 2D animation with motion graphic methods using some supporting software. In making these advertisements to produce a whole video using some software. This makes the computer's performance slow due to the large number of applications installed and the process of completing the video making takes a long time. Here the author aims to make public service announcements about waste using 3D quality motion graphic blender methods. This animated ad was created using only the blender software at each stage. This ad contains an invitation to the public to properly dispose of waste in place with a combination of motion graphic techniques so that the ad becomes visually appealing. From the results of the rendering test which produced a 2 minute 38 second video which is equal to 3953 frames, the video test found less smoothness of character's hand movements because the keyframe distance was only 14 frames, in motion graphic testing using 100% alpha video results in accordance with the storyboard designed, then in the rendering test using 5 different PC specifications, the conclusion is that the more memory and HDD the PC uses, the less time to complete the rendering process. From 5 times the recommended testing is 8 GB RAM memory and 1 TB HDD with a rendering time of 4 minutes 37 seconds.*

© 2019 JTI C.I.T. All rights reserved.

## 1. Introduction

Often the garbage that is not in place a common image that the public does not have enough concern for the trash. Basically, waste management must begin from self sendri. Trash is one of the causes unhealthy environment and not clean. Every so often found garbage dumped at random, whether it distasiun train, bus dihalte, office administration, in schools, garbage we can find it easily. Based on these problems, needed a medium that can bring awareness to the community to be more concerned about the garbage that is using public service ads containing a call to dispose of waste in place correctly. Invites the public to change bad habits into good habits.

From several sources of journal references, the first reference has created a series akuro-popo episode trash to convey a message to people not to litter, but because the animation is still using 2D result of the animation looks less real (Arifin, Sulistiyono, & Suminto, 2017 ). In the second journal that aims to educate people about the importance of waste sorting Tangerang by Kind. In this paper the method mengunkan Motion Graphic although unfortunately in the process of making this video need some supporting software for the manufacturing (Desrianti & Majid, 2018). While in the city of Bandung third source has made 3D animated films to educate children in order to dispose of waste in place, although this video using 3D animation but the result is less than perfect because we are not using the storyline (Raimukti, Studies, Communication, Creative, and Telkom, 2016). And journal fourth design of Motion Graphic public service ads care of garbage for the people of Yogyakarta has the advantage that the manufacturing process has three stages, but the lack of video



is still using 2D animation and use some software supporting (Akhsani, Education, Arts, Language, & Art , 2015). In the discussion of the fifth journal that aims to make people more interested in watching public service announcements about the waste, but in the making of this video has the same shortcomings as the second reference (Son, Dengen, and Shakir, 2017). In the sixth journals teach people to process waste into something useful through the media created, but unfortunately, in conveying the message is still poorly understood by the public (Saryoko, 2018). In the seventh journals only discusses the development of public service media and multimedia-based waste utilization with 2D, which is devoted to public Majalengka (Ramdani et al., Nd). In the eighth journal, anamisi of garbage made to introduce this type of garbage to children aged seven to nine years based on the type of color using two software (Sembiring & Situmorang, 2018). In the ninth journal that aims to teach kids differences in organic and inorganic waste,

Based on the reference has been spelled out above, in this paper will explain how to create 3D animated motion graphics using only one software but still can convey the message of the video.

The purpose of this paper is to know how to create an animated video that invites the public to dispose of waste in place correctly by using the software with can still deliver the message of the video and more visually appealing.

**Table 1.**  
Comparison

No. Journals	Software	Animation type	Motion Graphic
Journals 1	Adobe Flash CS3 Professional;	2D	No
journal 2	Adobe Premiere Pro, Adobe Illustrator CS6, Adobe After Effects CS6, Adobe Audition CS6	2D	Motion Graphic
journal 3	Not mentioned	3D	Motion Graphic
journal 4	Adobe After Effects CC 2015 Adobe Premier CC in 2015, Adobe Illustrator CC 2015	2D	Motion Graphic
journal 5	Adobe After Effects, Adobe Illustrator, Adobe Photoshop, Adobe Audition	2D	Motion Graphic
journal 6	Macromedia Flash Professional 8, Adobe Photoshop CS5, GoldWave Digital Audio Editor	2D	Motion Graphic
journal 7	Adobe Flash Professional CS6, Corel Draw X7	2D	Motion Graphic
journal 8	Autodesk Maya, Adobe Premier	3D	Motion Graphic
journal 9	blender	3D	Motion Graphic
journal 10	Adobe After Effects CS6, Adobe Illustrator CS6, Adobe Audition CS6	2D	Motion Graphic

## 2. Research methods

Below is a flowchart that illustrates the process of making animation with motion graphic techniques Blender from start to finish.

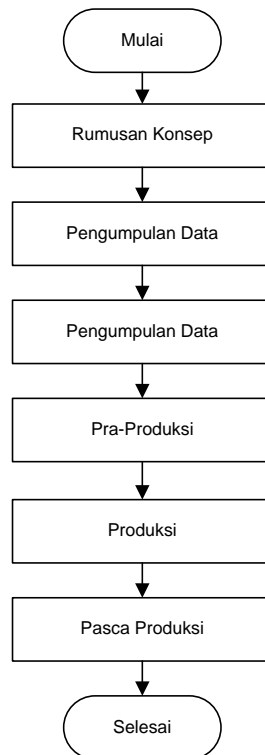


Figure 1. Flowchart

**A. Stages Animation Creation**

In making animation, there are several steps being taken, as follows:

1) Pre-Production

At this stage, the authors create ideas, stories and designs.

2) Production

Production is the stage in which the author creates objects in the video is the character of Io and Mar also environment into the background of the video. The creation of these objects include modeling, texturing, coloring, rigging, animating image rendering.

3) Post-Production

This stage is combine image, video, audio, motion graphic. This amalgamation will result in the video intact.

**B. Device needs**

In the process of making these animations necessary tools required to create animation. Below is a table of equipment.

**Table 2.**

The device needed in the process of making animation

hardware	
PC	AMD Dual Core
	4GB RAM Memory
	1TB HDD
	64 Bit
	Windows 10
handpone	6A redmi
Software	
Application	blender 2.8

**C. manufacture Storyboard**

**Table 3.**



manufacture Storyboard

1		scene 1 Opening
2		scene 2 Littering
3		scene 3 Dispose of Waste Properly
4		scene 4 Overflowing water
5		scene 5 Flood
6		scene 6 Message
7		scene 7 Closing

In this animated storyboard creation consists of seven scenes. Storyboard is a basic reference design arrangement thus creating a scene in motion graphic. Each one scene in the storyboard has a motion different animations.

**D. manufacture Storyline**

**Table 4.**  
*storyline*

No.	Scenes story
1	Io is running while carrying the drinks.
2	Io stopped for a drink.
3	Io drinks exhausted.
4	Io dispose of used drink glasses plastik in waterways.
5	Io ambled after litter.



# Jurnal Teknik Informatika C.I.T

journal homepage: [www.medikom.iocspublisher.org/index.php/JTI](http://www.medikom.iocspublisher.org/index.php/JTI)



No.	Scenes story
6	On the other hand after Io go, come Mar.
7	March brings inorganic waste such as tin cans in his right hand.
8	His left hand in March bringing the organic waste that is the rest of the apples he eats.
9	March walk towards the dustbin.
10	March trash cans into the trash bin inorganic.
11	March trash in the trash apples organically.
12	Occurred cloudy, lightning and then heavy rain.
13	By the time the rain comes garbage glass plasti are disposed by Io into waterways, along with other rubbish that closes the hole drains.
14	Water can not flow properly
15	water overflowing
16	flooding
16	Message for people to dispose of waste in place correctly.
18	Closing

*storyline* is a narrative sequence of text, in this animated story sequences storyline as much as 18 text. Preparation of the storyline from start to finish will form a story in this animated video.

## E. Character Creation



Figure 2. Modeling Character Io littering.



Figure 3. Modeling Character mar Throw Trash In The place Properly.



Figure 4. Modeling Environment Scenes occurrence place.

## F. Making the Motion Graphic

*Motion graphic* is the incorporation of video, film, typography, illustration, photography, and music using animation techniques. Motion graphics can convey information in a simple but still



interesting.

In the making of this animated motion graphic authors use the technique on the opening video, rendering, delivering a message to the current text, sound, video.

**3. Results and Discussion**

**A. Rendering Tests**

Rendering stage is the final stage of the making of this animation is the stage of combining various elements in the animation creation process including integrating video, audio in mp3 format, animation, motion graphic. This process produces a complete video that lasted 2 minutes 38 seconds which is equal to 3953 frames and stored in FFmpeg video format that can be played in various media both online and offline.

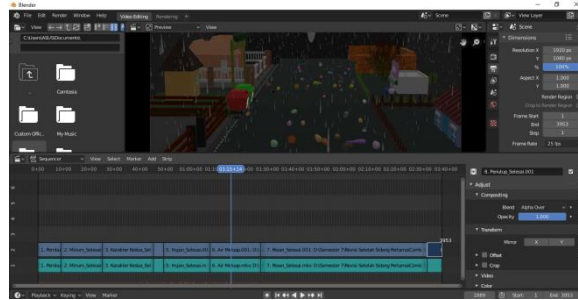


Figure 5. Rendering Process

**B. testing Video**

In testing the video authors reviewed the video that has been created using Media Player Classic to determine whether a video that has been made has shortcomings such that movement is not smooth or broken, missing frame. In this video the author's observation deficiency lies in the hand movements are less refined character which is when the characters drink and character Io March'm taking out the trash. This is because the distance of each keyframe is too close to the movements of the hands of the character that is only 14 keyframe.

**C. Testing Motion Graphic**

In testing using the motion graphic author alpha test (alpha test) of the test conducted by animators to do the matching video storyboard to final results using Media Player Classic. Alpha testing of 100% of the results were made within their video storyboards that have been designed. Alpha Testing Results:

**Table 5.**  
Motion Graphic Using Alpha Testing

	<p><i>scene 1</i> In accordance Storyboard</p>
	<p><i>scene 2</i> In accordance Storyboard</p>



	<p style="text-align: center;"><i>scene 3</i> In accordance Storyboard</p>
	<p style="text-align: center;"><i>scene 4</i> In accordance Storyboard</p>
	<p style="text-align: center;"><i>scene 5</i> In accordance Storyboard</p>
	<p style="text-align: center;"><i>scene 6</i> In accordance Storyboard</p>
	<p style="text-align: center;"><i>scene 7</i> In accordance Storyboard</p>

**D. The final result**



Figure 6. End Display Shaped Video

See above is the final process of making video animation asyarakat service announcements about the garbage that has been shaped video.

**E. Testing Rendering With Different PC Specs**

**Table 6.**  
Results of Testing Rendering With Different PC Specs

No.	Specification	Render time
1.	Memory RAM 8 GB HDD 1 TB	4 Minutes 37 Seconds
2.	Memory RAM 4 GB 1TB HDD	5 Minutes 58 Seconds
3.	Memory RAM 6 GB HDD 500 GB	11 Minutes 13 Seconds



No.	Specification	Render time
4.	Memory RAM 4 GB HDD 1 TB	11 Minutes 49 Seconds
5.	Memory RAM 2 GB HDD 320 GB	14 Minutes 55 Seconds

The author tested rendering using 5 different PC specifications and record the time taken by each PC in the rendering process, the goal is the writer wanted to know whether fast or slow the rendering process depends on the size specifications of the PC being used. In testing the authors found that the amount of RAM memory and HDD greatly affect the time it takes to complete the video rendering. In the table of 500GB. On the PC number 3 and 4 time rendering is affected by the amount of RAM while the PC number 2 and 4 despite having RAM and HDD value the same but have different rendering time this is due to differences in the amount of memory is used on each PC.

#### 4. Conclusion

- The author has finished making a video animation that invites the public to dispose of waste in place correctly with motion graphics using software methods blender. In the manufacturing process of designing objects, coloring, texturing, rendering, motion graphics, combining audio and video, and text runs writer just use a blender.
- From the results of the tests, the testing rendering produce videos 2 minutes 38 seconds or equal to 3953 frames. In testing the video using video media player classic turns still lacks the character's hand movements to be less because of the distance of each keyframe only at 14 frames. On motion graphics using alpha testing showed that 100% within their video created storyboards designed.
- In rendering test using five (5) different PC specification, it can be concluded that the higher the RAM and HDD specification PCs that are used the less time it takes to complete the rendering process. Recommendations PCs used for blenders software is PC with 8 GB memory and 1 TB HDD with the rendering time of 4 minutes 37 seconds.

#### 5. Reference

- [1] Abidin Syamsul Arifin, Arif Sulistiyono, Mahendradewa Suminti, "Penciptaan "AKURA- POPO" Episode "SAMPAH" Dengan Teknik Animasi Komputer 2D", Jurnal Online Institut Seni Indonesia Yogyakarta, Vol. 3, pp. 57-82, April 2017.
- [2] Dewi Immaniar Desrianti, Muhamad Ihsan Majid, "Video Motion Graphic Sosialisasi Pemilahan Sampah Organik dan Non-Organik pada Pemerintahan Kota Tangerang", STMIK Pontianak, Vol. 1, pp. 229-234, Juli 2018.
- [3] Sandi Raimukti, "Character Modeling FilmAnimasi 3D Edukasi Pada Anak-Anak Agar Membuang Sampah Pada Tempatnya", e-Proceeding of Art & Design, Vol. 3, pp. 577-584, Desember 2016.
- [4] Andi Akhsani, "Perancangan Motion Graphic Iklan Layanan Masyarakat Peduli Sampah", SERUPA- Jurnal Pend. Seni Rupa, Vol. 8, pp. 262-273, 2019.
- [5] Muhammad Alamsyah Try Putra, Nataniel dengan, Andi Syakit, "Iklan Layanan Masyarakat Tentang Bahaya Banjir Berbasis Multimedia Animasi *Motion Graphic*", Prosiding SAKTI (Seminar Ilmu Komputer Dan Teknologi Informasi), Vol 2, pp. 60- 67, Maret 2017.
- [6] Andi Saryoko, Susilowati, "Multimedia Interaktif Limbah Sampah dan Cara Pengelolaannya Menjadi Barang Kerajinan Tangan", PERSPEKTIF, Vol. 16, pp. 12-19, Maret 2018.
- [7] Arif Muhamad Ramdani, Ade Bastian, "Pengembangan Media Layanan Masyarakat Penanggulangan Dan Pemanfaatan Sampah Berbasis Multimedia Menggunakan Metode MDLC", Proceeding STIMA, Vol. 1, pp. 42-50, Agustus 2016.
- [8] Evaliata Br Sembiring, Mona Rai Situmorang, "Rancang Bangun Dan Analisis Pengenalan Sampah Dalam Bentuk Animasi 3D", Jurnal Information System Development, Vol. 3, pp. 16-21, Juni 2018.
- [9] Christman Toding, Arie S. M. Lumenta, Dringhuizen J. Mamahit, "Pembuatan Animasi 3 Dimensi Perbedaan Sampah Organik dan Anorganik untuk Anak-anak", Jurnal Teknik Informatik, Vol.12, pp. 1-9, 2017.
- [10] Arif Maksud, Armadyah Amborowati, "Perancangan Video Animasi 2 Dimensi "Bukan Tempat Sampah" Dengan Menggunakan Teknik *Motion graphic*", Repository Universitas AMIKOM Yogyakarta, pp. 1-6, Februari 2017.