MOTION GRAPHIC RELATED TO WARNING ALERT ADVICE ON GATELESS RAILROAD CROSSING

Kevin Oktavianus Daniel, Rina Dewi Indahsari
kevinokta999@gmail.com, rinadewi@asia.ac.id
Teknik Informatika, Fakultas Teknologi dan Desain
ASIA Institute of Technology and Business Malang

ABSTRACT
The motion graphic video design is aimed at drivers of two-wheel-drive and four-wheel-drive vehicles whose age is ranging from 17-40 years, with the length of a two-minute 15-second video that was released online. In the test results on 20 people with a targeted age range, about 94.4% of respondents responded favourably and 6.6% of respondents responded poorly. Therefore, it can be concluded that most of the respondents responded with a positive response to the motion graphic video related to warning alert advice on the gateless railroad crossing.

Keyword: Accident, Gateless Railroad Crossing, Public Service Advertisements, Motion Graphic, Advice.

INTRODUCTION

Alongside the time passing by and technological developments in the transportation service industry of Indonesian Railways (KAI) are now progressively advanced. Several comfortable and friendly train cars have become one of the people's choices for traveling between cities. By using the train, passengers do not have to worry about being late when they arrive at their destination, because the train has become the fastest transportation.

According to law number 23 article 1 number 2 of 2007, the train is a railway facility either self-moving or attached to other railway facilities, which will or are currently moving on railroads related to the train travel. (Ramadhani & Astuti, 2018)

However, on the contrary, the coziness of the train still causes the public who are around the railroad track to be worried. This is caused by several factors, one of which is the disobedience of the road drivers who disobey the rules when the train passes.

According to the Director of Railway Safety of the Ministry of Transportation, Edi Nursalam (https://news.okezone.com/read/2017/07/11/), 3,600 level crossings do not have gates in Indonesia. Consequently, every day there are accidents cases which involve trains. His party has sent a letter to all Mayor / Regent in Indonesia to complete the level crossing that does not have gates immediately.

Concerning the increasing number of accidents at the gateless railroad crossings, it is necessary to give advice, message, and warning to the public. One of the methods to compose and convey innovative and easier-to-understand advice or message is by designing a Motion Graphic video. Motion Graphics can contain messages and advice to the public to be more careful when crossing gateless railroad crossings.

To design information that is easy to understand surely requires creativity and elements of art, for example, Motion Graphic Videos. Motion graphic nowadays is widely used to design public service advertisements, product advertisements, and company profiles (Pentak & Lauer, 2015). Due to the use of motion graphic animation, it will look more modern, entertaining, and educational, moreover, this design can remind us to be careful when driving for the common safety.

Based on these conditions, this problem can be stated, namely how to design a video related to warning alert advice on gateless railroad crossing using motion graphic techniques. The type of video that will be produced is public service advertising information media using Motion Graphic video techniques. The computer software used are Adobe After Effects for animation and CorelDraw X7 for flat design character creation. The results of this Motion Graphic video are aimed at the age segment of 17 - 40 years old. The Video does not use voice dubbing. and for the publication is using Youtube social media.

RESEARCH METHOD

1. Data Collection Techniques

   Data collection techniques using several techniques, as follows:

   a. Observation

      Completing this research was carried out by observing the existing digital news media. Such as news about accidents at railroad crossings that have been spread on television and the internet.

   b. Literature Study

      Methods of collecting various data and information sourced from profiles and scientific works. The theory studied is how to make motion graphic videos and how to make flat animated characters.

2. Data Analysis

   Data analysis is to find out and obtain valid and factual data as well as the new data identification process based on old data that can be used.

3. Design

   The design is used as a reference for creating motion graphic videos using Adobe After Effects and CorelDraw software.

4. Implementation

   The implementation of this research is the use and testing of Motion Graphic videos of warning alert advice on gateless railroad crossing through YouTube with a target audience of 17-40 years old.

5. Testing

   Testing is done which the objective is to find out the effectiveness of the information conveyed to the target audience and to evaluate whether it is appropriate with the expectation.

DISCUSSION

A public service advertisement is an advertising form carried out by the government as well as the non-government department. Public service advertisement to persuade the general public persuasively through print or electronic media that are not intended to take profit. (Pujiyanto, 2013), however, it is as a medium to promote or campaign for an activity as a form of public service for the community through efforts to call up solidarity and community

care in dealing with several social problems that must be faced (Santoso, 2015). The use of motion graphics in public service advertisements can help to simplify the message from the content brought by the main data. Breaking up the whole data into sections certainly helps to present information in small sections, but eventually, it's an interesting and simple way to show information. (Krasner, 2008).

The public service advertisement was designed containing warning alert advice on the gateless railroad crossing. This public service advertisement is in the form of animated videos with motion graphic techniques. The description of the designed product is shown in table 1 as follows.

Products Types	Motion Graphics Video
Product Title	CAUTION!! Be careful passing through gateless railroad crossings
Duration	2 Min 15 sec
Target Market	Teenagers with the age range from 17 years to adults aged 40 years

Table 1.0 Video Description
Source: Author's Personal

5W+1H Strategic Planning Method

The video design analysis in the form of a motion graphic video is using the 5W + 1H formula which has the purpose to find out creative concepts correctly, starting from verbal data information to be conveyed, to designing visual ideas (Lovure Cyber Team, 2012).

A. What

What will be made?

Video in the form of motion graphics that can provide information and advising society not to break through the gateless railroad crossings.

B. Why

Why using the motion graphic technique to create this video?

Because one of the uses of motion graphics video as material delivery that displays attractive visuals. Whereas, motion graphic video can reduce production costs, overcome the problem of limited tools having a unique styling and be able to visualize the story idea that cannot only be produced by the camera.

C. Who

For who is this video aimed?

The target audience for this motion graphic video is aimed to the age range of 17 to 40 years old. This video is made for four-wheeled drivers and two-wheeled vehicle riders.

D. When

When will the motion graphic video production be produced?

This motion graphic video will be produced after taking a special assignment with the following description, one month for observation through digital media, afterward, two months for the process of creating vector designs through Coreldraw X7 software and furthermore will be animated using Adobe After Effects software (Ian Chandra K., 2006).

E. Where

Where would this motion graphic video published?

The publication of this motion graphic video is on Youtube social media. Therefore, it can be watched with a laptop/cellphone device anywhere that is connected to the internet.

F. How

How to publish this motion graphic video?

This motion graphic video will be published by uploading it through Youtube social media and shared the motion graphic video link on messaging media such as Whatsapp.

Market Segmentation

A. Geographic

In geographical segmentation, the area to be reached at this moment is Malang City, East Java. Because this motion graphic video is aimed at motorists and drivers who cross gateless railroad crossing, moreover, it is to be expected

that the video that has been made can be watched in other regions using a shared link.

B. Demographic

Age : 17-40 years.

Gender : Female and Male.

Language : Indonesian formal and non-formal.

C. Psychographics

This video contains instructions and advice for the audience to be careful at gateless railroad crossings. By using an informational display in the form of animated images and text, it is to be expected that the video can be understood and memorized by the audience who already watched it.

D. Behaviour

From the aspect of behaviour, it is to be expected that the information contained in this video can be applied in their action immediately and can prevent accidents at gateless railroad crossings.

Idea and Concept of the Story

The concept of the story in this motion graphic video is pictures or illustrations shown in the form of two-dimensional of anything related to accidents at gateless railroad crossings which presented as Public Service Advertisements. The main point of the story in this video is an explanation and illustration concerning the danger when crossing gateless railroad crossings and prevention efforts to avoid accidents.

Script or Scenario

Scene 1: Opening Title

Displays an oval circle object containing the text "warning alert advice on gateless railroad crossing"

(Background music playback "A Happy Life by Legend of Heaven")

Scene 2: Introducing trains in Indonesia

1. Displays the object of Indonesia and the text contains "Indonesia is a country that uses rail transportation services". Followed by the presence of the KAI (Indonesian Railway) logo.
2. Displays the object of the Java Island and the text contains "On the Java Island, there are many railroads that connect every area". Followed by the appearance of a striped line that symbolizes a railroad crossing.

Scene 3: Introduction to railroad crossings

1. Displays the object of a railroad crossing with the gate closing followed by the train passing by. The text showed up containing "commonly, railroad crossings have stopping bar(gate)"
2. Displays the object of a gateless railroad crossing and cross sign followed by the train passing by. The text showed up containing "But there are some crossings that don't have gate"

Scene 4: Accident at the gateless railroad crossing

Displays an animated scene of traffic and a train crashing into a vehicle accompanied by the text "Gateless railroad crossings are one of the causes of accidents if you are not careful"

Scene 5: The danger of breaking through the gateless railroad crossing.

Displays animated text "it is very dangerous for the safety of the drivers who passing by because drivers who are unaware that the train will pass first"

Scene 6: Consequences of breaking through the gateless railroad crossing

Displays the title text containing "Accident caused by breaking through a gateless railroad crossing" followed by the appearance of 4 image objects periodically

Scene 7: Solutions and actions to prevent accidents

Displays the title text containing "What are the solutions and actions that need to be taken to avoid accidents" followed by 4 texts containing advice.

Scene 8: Closing

Displaying a slogan containing "prioritize the train first, let's increase awareness to safely reach the destination"

Editing and Animation Process

Animating and editing is the second step after the visual production process. This will be carried out by using Adobe After Effects CC 2015 software. Size and position adjustments are made on the image and text objects thus they do not overlap each other, therefore, the animation movement can be clearly seen. (Pujiriyanto, 2006). The image and text objects contained in each scene will be given animation effects using the Scale Transform effect. Then move according to the character of its image object. To beautify the appearance of the in and out animation effects on the text, complemented by animated line movements and short sound effects (Maestri, 2006). The line animation effect on the text will create a frame formation that encircles text, therefore, the text has an attractive impression (Hendratman, 2010).

Figure 1. The Process of Editing Scene 1
Source: Author's Personal

Scene 1 contains the opening title, that is displays an oval circle object containing the text "warning alert advice on gateless railroad crossing" The process of editing scene 1 is shown in Figure 1.
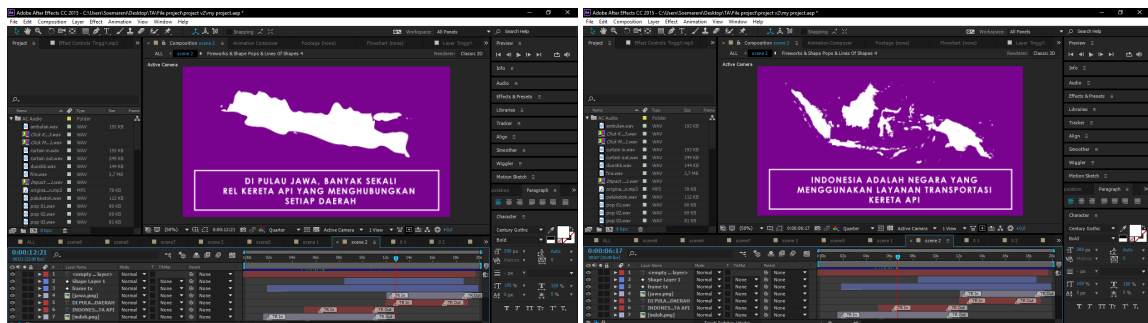

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Figure 2. The Process of Editing Scene 2
Source: Author's Personal

Scene 2 displays the Indonesia map and shows the importance of rail transportation in Indonesia, especially on Java Island. The process of editing scene 2 is shown in Figure 2.
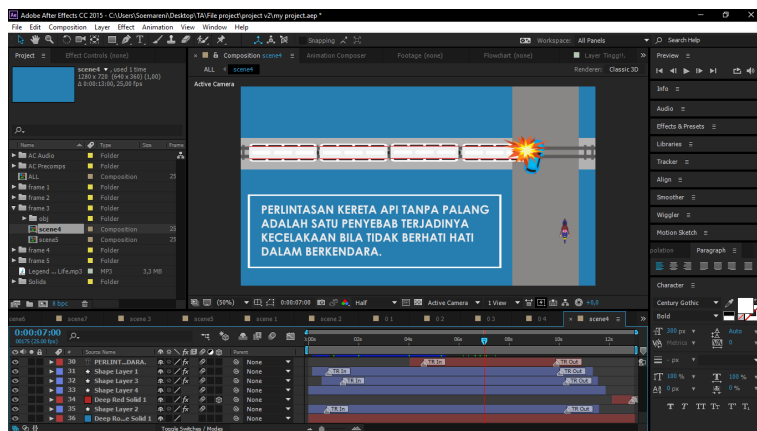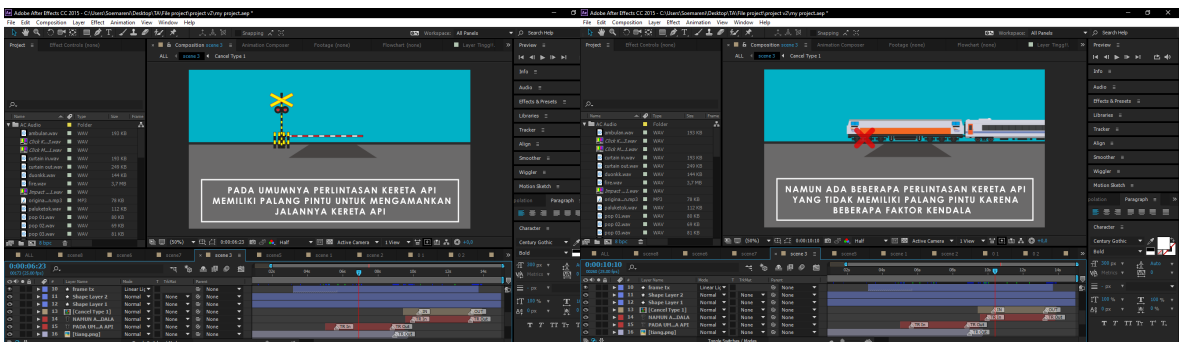

Figure 4. The Process of Editing Scene 4
Source: Author's Personal

Figure 5. The Process of Editing Scene 1
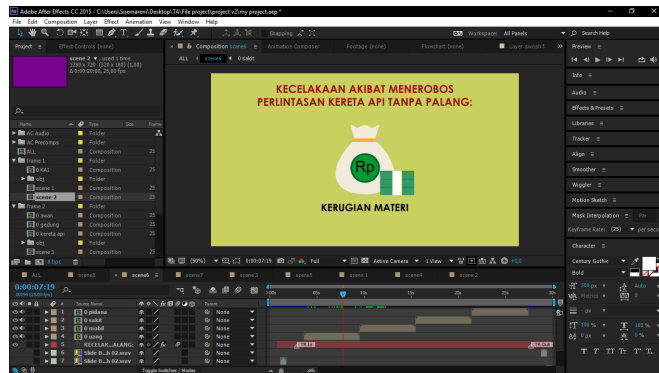Source: Author's Personal

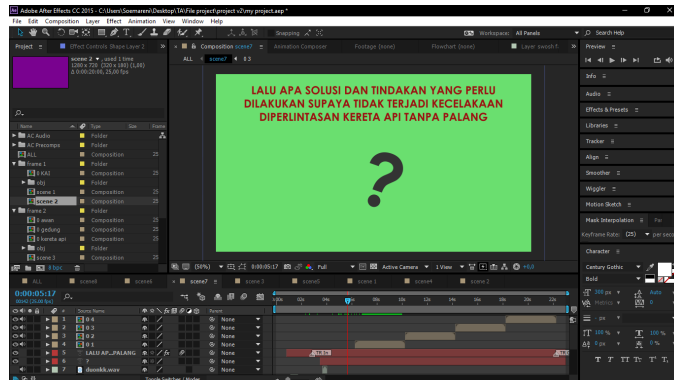Figure 6. The Process of Editing Scene 6
Source: Author's Personal

Figure 7. The Process of Editing Scene 7
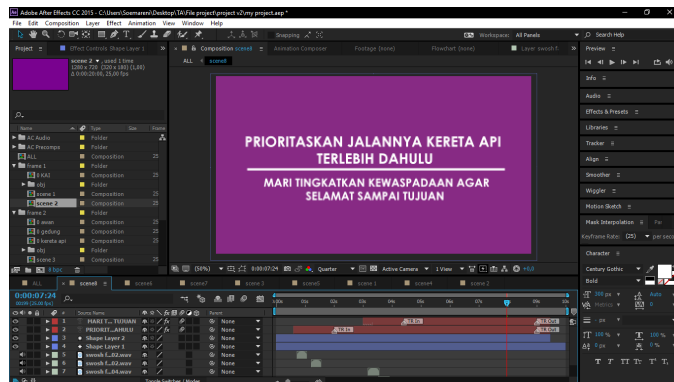Source: Author's Personal

Figure 8. The Process of Editing Scene 8
Source: Author's Personal

Audio

This motion graphic video is using happy nuances background music since it can raise the mood and enthusiasm. The song used is entitled "A Happy Life" that brought by "Legend Of Heaven" and the duration of this song is 2 minutes 4 seconds.

Rendering

The video rendering phase is using Adobe Media Encoder CC 2015 software. With the extension of *.mp4 with H.264 format, 1920x1080 pixel resolution, and YouTube 1080p HD preset. (G. DJALLE, 2006)

Product Distribution

After passing the production stage, in post-production, video publications are carried out. This motion graphic video is distributed online, that is via YouTube media with the url link of https://youtu.be/lu4bqo6wsY8.

Product Testing

The final stage of the design or post-production process was testing the video produced. The tests were carried out to determine the level of success and suitability of the motion graphic animation video from the initial design and purpose of the media. The test was conducted on 20 respondents who age range between 17-40 years who live in Indonesia. The following is the format of questions in questionnaires with several aspects of the assessment needed in each question related to the motion graphic video. (Adinda & Adjie, 2011)

Num.	QUESTIONNAIRE QUESTION	Total Answers	Total

		YES	NO	
1	Before you watched this motion graphic video, have you seen the news about an accident at a gateless railroad crossing?	18	2	20
2	Is this motion graphic video interesting to you?	19	1	20
3	Is the text and language used in this motion graphic video can be easily read and easy to understand?	18	2	20
4	Is the visualization of the image and line design in the motion graphic video clear enough?	20	0	20
5	Does the animation movement in this motion graphic video look neat?	19	1	20
6	Is this motion graphic video can become as a medium of information to you?	20	0	20
7	Is the audio (sound effects and background music) in the motion graphic video clear?	20	0	20
8	After watching this motion graphic video, are you interested in sharing it to your friends?	17	3	20
Total		**151**	**9**	**160**

Table 2. Recapitulation Results of Questionnaire Testing
Source: Author's Personal

From the results of the whole data obtained, thus the final assessment is the total value of the percentage of answers divided by the number of the question to get the final score. This final value will become a benchmark for the success of this animation. The following is a definition of the formula used.

$$Final\ Result = \frac{Total\ percentage\ of\ answers}{Number\ of\ questions}\ \%$$
$$= \frac{90+95+90+100+95+100+100+85}{8}\ \%$$
$$= \frac{755}{8}\ \% = 94,375\%$$

The final score obtained for the "YES" answer is 94.375%, this shows that this motion graphic video received a positive response from respondents.

CONCLUSION

The conclusion of this design is to inform the public regarding the Cause and effect of accidents at railroad crossings and be aware when crossing gateless railroad crossings when in a situation of the train will pass first.

From the results of the respondents, the percentage value of the respondents who responded positively about the video produced, this can be seen from the results of the questionnaire test that has been distributed to 20 respondents with 8 types of questions, thus the achieved final research is 94.375% that this motion graphic video is very useful and appropriate with the expected target.

For the next development to appoint a motion graphic video theme related to the train accident on gateless railway crossing with more image content and with an attractive appearance, smoother animation movements, the use of voice dubbing in videos, varied font selections, and with the story concepts that are easier to understand.

In the future, the video publication process can be carried out more extensively, not only online but offline. Such as distribution through schools by sharing video files and to be watched live.

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