*Journal of Computing Technologies and Creative Content*
*6(1), March 2021: Special Issue on Multimedia Creative Content towards Digital Humanity*

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# 2D Animation PSA:
# Self Care - Hygiene from Infectious of Various Human Contracted Diseases

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*Abstract— This research is a Public Service Announcement (PSA) video on precaution actions of hygiene from infectious diseases around us today. There are ways of self-care from various human contracted diseases to be educated to general public by PSA with 2D animation that showing interactive graphic information on the subject. The PSA focuses on educating teenagers by narrating hygienic actions, self-care prevention, infectious viruses around us and many diseases that can be infected around us easily. There are diseases such as Middle East Respiratory Syndrome (MERS), Severe Acute Respiratory Syndrome (SARS) and Novel Coronavirus-19 (COVID19). The PSA development with multimedia instructional solution applied the ADDIE Model. Results from this research has shown that 100 percent respondents believe that this video will benefit many especially in the current situation of COVID 19 has affected many around the globe. 86.5 percent claimed that the video as outstanding. 96.2 percent reported that this PSA is very significance in providing information on hygiene for the public. In summary, this study hopes to achieve recognition in educating the general public and many others tremendously in fighting the spread of COVID 19 today.*

*Keywords— Public Service Awareness (PSA); 2D animation; virus; hygiene self-care; infected diseases; self-awareness; general public.*

## I. INTRODUCTION

Hygiene is everyone's goal in taking responsibility for oneself, as it can prevent the spread of diseases and infections. This common practice boosts the health of individuals and will protect everyone else around them [1]. Malaysia has been identified as one of the countries in South East Asia that currently named as a high infected country among the regions.1 of 31 Malaysia Coronavirus Disease 2019 (COVID-19) WHO identified the week ending 24 January 2021 in Malaysiathat there have been a total of 183 801 confirmed cases. In the past seven days, 25, 367 new cases have been reported, 13% increase compared to the previous week [2].

Viruses are believed to exist as microscopic organisms almost all over the world. Bacteria, plants, maggots, and even wildlife can be infected. The virus worsens the diseases of Covid 19 which is extremely dangerous. The viruses are differing in nature which it was often made up of protein, fat,or glycoprotein-covered genetic code, DNA and RNA. Viruses cannot replicate without assistance, so they are parasitic.Therefore, scientists are worried about rare viruses that spreadfrom animals to humans, since only one form of being is affected by certain viruses. In humans, viruses cause many diseases. That include the Corona Virus (COVID-19), Middle East Coronavirus Respiratory Syndrome (MERS-CoV), and Acute Respiratory Syndrome (SARS).

### A. Objective

The objective of this research is to contribute to the Malaysian government on educating general public especially teens to have knowledge on hygiene self-care as the main steps of immediate preventive action one could do to save themselves and family. This PSA needs to educate viewers about the proper practice of hygiene, self-care. Besides, it hasto make known about the type of viruses, symptoms of the diseases and of know-how it will affect others.

### B. Problem Statement

We are in dilemma of not knowing how and when to practice hygiene when it comes to infectious diseases. Knowledge of self-care on hygiene is important to ensure we have a good practice of personal hygiene in and out of our homes. Observational studies have strongly shown the association between poor hand-hygiene and HFMD[3]. However, no interventional studies have been conducted to verify this association. Education on this issue is critical to betaught since our primary education. The most effective ways besides teacher-students' constant reminders in school or at home with parents is to get it learn from social media, TV advertisement of PSA. Moreover, internet mobile learning is the current most suitable mode of teaching materials to be distributed effectively through multimedia presentation ofaudio and graphic animated PSA in narration short video clip.We are hoping to achieve the goal of learning right now as the pandemic hit us with COVID 19 diseases.

Lack of personal care is the major contribution factor which causes problems now. Many Malaysian still do not know howto prevent these viruses from transmitted into our homes from activities we had outdoors. According to Hana Ames in Medical News Today, it can be difficult to deal with a personabout hygiene. A person with poor hygiene might be isolatedfrom other individuals [4]. This is one of the reasons why manyare unable to do it daily and ignoring it to make it as a routineactivity. In considering the fast infectious of the sicknesses from COVID 19 today, it is proven that people are insufficientof knowledge about the virus and its consequences. Some of them just do not take any actions to improve themselves and get the facts right

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for their own protection in ensuring health issues and wellness. Many Malaysian are still lack of skills in acknowledging the problem of hygiene until things get rough and difficult. The lack of awareness on viruses is directly related to the collapse of public health services, Ding Gang stresses [5].

A large family of infectious diseases caused by corona virus (CoV) causing diseases from common cold to more serious diseases such as Middle East Respiratory Coronavirus Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV) have been reported by the WHO (World Health Organization). A novel coronavirus (nCoV) is a new disease that has not been reported in humans recently. Since they are spread between animals and individuals, Coronaviruses are highly contagious [6].

## II. RESEARCH QUESTION

This paper underpins that the PSA on Self-hygiene is as important as the significant cause of this deadly disease of COVID 19. In examining this PSA, we focus on the part of the mass media, i.e.: TV news, local channels, newspapers or social media from KKM and the Government and the Ministry of Health, there is a considerable amount of lack of information on how to get the "hygiene" in a short clip of multimedia guidance. Most of the time, we were informed about the diseases but not the step of actions on how to prevent it. This explain of "How & Why the Hygiene and Actions to be taken". Thus, this PSA can provide upfront information to the general public on the disease with simple explanation of the disease in an interesting way by showing the contents of hygiene with images & graphic information, step by step of action in animated 2D presentation and audio narrator. Therefore, the research question is concerning: To what extent does this PSA could educate general public and teenagers about the proper practice of actions of self-hygiene and self-care? In scrutinizing on how this PSA can extent its contribution to the right media channel in helping the Ministry of Health?

## III. LITERATURE REVIEW

In compiling the published research on hygiene related matter, and researchers need to examine the problem with the available literatures on health-related sicknesses such as Hand, foot, and mouth disease (HFMD). This disease is caused by various Enteroviruses (such as Coxsackievirus A16, other Coxsackieviruses, and Enterovirus 71 [EV71]). This disease is common to infants usually infected children under 5 years old[7]. It is usually a mild and self-limiting disease; however, recently many severe HFMD outbreaks caused by EV71 have occurred worldwide. These outbreaks are characterized by high numbers of neurological complications, which often led to death or permanent paralysis, causing significant concerns in the public health community[8]. It was claimed that up to now, no specific treatment or vaccine is currently available for HFMD.

With respect to COVID 19 and disease alike, this PSA on self- hygiene compiles a few related 2D animation self-care short video clips available to be studied. There are examples of case studies on the subject projected as the analysis and studies comparison. Thus, a few analyses of the results can be discussed further for the beneficial of this research. This will be added up into the findings of literature review for its strengths and weaknesses. For example, we have identified what is PSA in this context of information distribution.

### A. *Public Service Announcement*

The PSA may be described as advertisement, delivered at no cost as a service to the society, on issues of public interest. Dzaa Imma described the full creative power of a volunteer and organization through PSAs that can tackle social ills such as drunk driving, teenage pregnancy, AIDS, dropping out of school, bigotry, and racism. It also uses animated characters to persuade audiences and raise awareness about certain problems that can influence their attitudes and then inspire their intervention in the real world. Dzaa Imma highlights animated PSAs, especially for their target audiences, that deliver important messages to society. It is an effective instrument to raise awareness of crucial issues such as public health and safety[9]. In summary, a PSA has the beneficial of crowd puller. In explaining this, there are several different stylistic approaches to PSA (Public Services Announcements). One of these was getting the attention of the viewer when the message comes in a particular way. From the message, information about the problem will help viewer to digest the messages across. The desired message distribution is vital because this will build awareness to the viewer, clear on the content and precautionary measures are to be taken in their daily lives.

### B. *Case Studies on the topic available*

I. PSA about personal hygiene [10], Youtube
https://www.youtube.com/watch?v=v9Yz38xAvqQ



Fig. 1: PSA Personal Hygiene

To maintain safe personal hygiene, this video explains the measures that everyone must do. There are 3 solutions given in the video. There is also a reminder for each of them to also exercise their regular grooming and self-care. Unfortunately, this clip does not properly describe the steps of actions in detail for the infectious diseases that we are discussing about.

II. Hygiene for kids Youtube [11]:
https://www.youtube.com/watch?v=D5BtnvQqbWs



Fig. 2: Hygiene for Kids – Personal hygiene for kids, hygiene habits, showering and hand washing, tooth brushing, face washing

This kids channel of video showcasing the basic self-care hygiene on hygiene habits, showering and hand washing, tooth brushing, face washing etc. It is suitable for toddler or young

kids age 3 to 6 year old. This is targeting at kids to make them feeling fun and learning interesting for their times. The video is attractive with the catchy narrator, character and music. This is clearly not for the adults view and understandings of infectious diseases such as COVID, MERs and SARs12.

III. Simple Personal Hygiene [13]: https://www.youtube.com/watch?v=zh7CACofsio



Fig. 3: Simple Personal Hygiene

The video provides knowledge of Simple Personal Hygiene that described in detail about 5 minutes on food, room, body,& etc. But, the design of the video is too much of informationand it doesn't focus on issues relating to viruses' infections. The video was so rigid, not interesting, the narrator voice wastoo stiff. The images were This kind of video clip is not beingable to attract viewers' attention and viewers tend to shut it off.

Hence, a special animated video PSA that we design is applying the methodology of Multimedia Instructional design which emphasizes on the audience desired outcomes andneeds, thus will attract the viewers in understanding the infectious disease self-hygiene protection of actions.

IV. RESEARCH METHODOLOGY

Basis on the lack of a proper multimedia PSA educating Self-Hygiene properly to the general public, this study determines to illustrate the right methodology in achieving this goal. Hence, the Multimedia Instructional Design Solution[14];the ADDIE model was chosen. According to Eoghan Quigley,the ADDIE model is an instructional design methodology thatis used to help organize and optimize the creation of your course content[15].



Fig. 4: ADDIE model

*1) Analysis*

The first phase of this project was to determine the righttitle to accommodate the presentation of the research topic. The title must be suitable with the present problems on the infectious disease as how and why self-hygiene is so important. We analyzed on audience, technology, task, roles of the team, cost and time management in order to properly plan the PSA.

*2) Design*

In the design process, we identified the details in literature review to relate the study's outcomes. 2-D animation with narration and characters are the dimension of our PSA accommodate the narration of the 2D animation, back-ground sound, audio, narrator, typeface, interface, color and graphic coordination of theme and feel of the PSA. In addition to this, the researcher also conducted a case study to determine the discrepancies available on those clips availableonline.

That said, the researcher finalized the characters to suitsthe PSA self-Hygiene of which has 2 series. Sketches on characters, typography selection, back-ground narrator and the theme and mood of the PSA was made. The goal is to make it visually attractive, messages are clearly conveyed andhelping audience to understand meanings and story. In conclusion, test was conducted with the correct audience from the net for the evaluation before implementing the PSA.

*3) Development*

Adobe software has been used in designing the project.In the storyboard processes, Adobe Illustrator 2018 was utilized. It traces the pictures and drawings for the complete results of 2 D animation. The software on After Effect 2018 was used in a 2-D image animation process. Every pictures animated using key frames. Adobe Premiere Pro 2018 was used as the researcher compiled all the animation scenes as a video.

*4) Implementation*

During the implementation method, all the animations will be compiled as a video. The final phase where theresearcher performed the alpha testing. Before being published to the target audience, the final check was done on bugs or glitches before it is being carried out for the final process of Questionnaires to the target audience.

*5) Evaluation*

The evaluation process was done to get it ready. The team reviewed the project before it finally made to be presented to the actual audience.

*6) Design and development*

In this phase, the interface of the PSA was crucial, this wasto have the feel of the PSA in delivering the desired messageof Self-Hygiene. The explanation was given on the implementation of the process storyboard design, color, typeface, sentences, sequences and editing process.

*a. Storyboard*

Storyboard is an effective way to map a project for film or animation to explain how the concept sounds, demonstrate how the storyline or plot looks, and arrange the scene sequence before the project is carried out. The storyboard using Adobe Illustrator so that the form of the project can be explored.
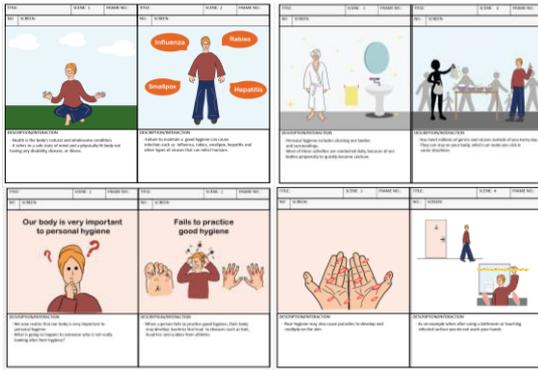
Fig. 5: Storyboard Design

b. *Theme and Concept*

Using light color for this project as a theme. The lightcolor helps captivate the interest of the viewer as well as the target audience for the PSA, which is the general public and the teens. The color selection, lighting and arrangement of thelight colors to have more feels and mood to the audience as bright colors could play the attention to the characters and overall theme suitability. The arrangement of making scenes more appealing, vibrant and to distinguishing the message as well.

c. *Content Management in Video*



Fig. 6: Prototype Screenshot 1

The figures indicate the PSA starting scene in part 1. Inthis scene, the clarification about the definition of health was introduced.



Fig. 7: Prototype Screenshot 2

The first scene is shown in figure 6 in video part 2. This scene asks everyone who does not really care about their hygiene and what will happen to that.

For making all the graphics, Adobe Illustrator 2018 was used in compiling all scenes for digital animation, we used Adobe After Effects 2018 and Adobe Premiere Pro 2018.



Fig. 8: Progress Screenshot

d. *Typography*

In any kind of multimedia project, typography is very important. A typography that is readable, straightforward, andnot complicated is determined to be used. Two font types in this project was identified to make it uniform for each scene.

TABLE 1: Type of fonts

| Arial Rounded MT Bold | Arial |
|---|---|

The Arial Rounded MT Bold was used to the video. The Arial normal was selected as the subtitle for both part 1 and 2 of the video.

e. *Colors*

The PSA identified pastel and nature colors to make



Fig. 9: Color palette

The two shades of color are meant for the different part of the video. For each video, we used different background color to make it understood as there are different contents in this PSA.

f. *Testing*

We performed the Alpha and Beta Testing with the target audience for this project before the project is delivered to the target audience. After the project was examined for university students, teenagers around 18 years of age and the general public we conclude the results from the target audience which claimed that they embraced the messages we had conveyed in the PSA.

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## V. FINDINGS AND RESULTS

Based on the results obtained, the questionnaires provided to the respondent and they evaluated successfully. All in there were 11 questions distributed and answered by 52 respondents.
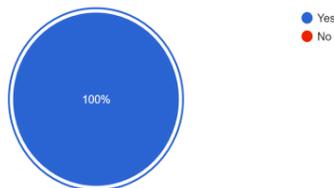


Fig. 9: Hygiene self-care

Figure 9 shows questionnaire on "Can this video educate teenagers about the proper practice of hygiene self-care?". 100% of respondents agreed that the PSA achieved the desired outcome of education to the teenagers of self-hygiene.
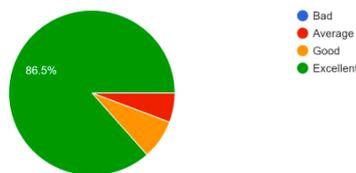


Fig. 10: Virus Informations

Figures 10 shows the results "Does this video explain about the virus and how it will affect others?". 86.5% of respondents agreed that the assertion as excellent. Another 7.7% of respondents stated as good and 5.8% of respondents stated as average.
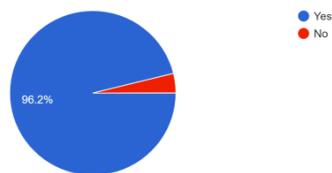


Fig.11: Information Development

Figure 11 describes 96.2% of respondents agreed that this PSA should continuously generate information for the public. Another 3.8% disagree with the declaration.

## VI. CONCLUSION AND RECOMMENDATION

In conclusion, this project accomplished its objective through the detailed processing of the project, including the phases of the research methodology. The first goal was to create a 2D animation PSA about self-care hygiene from infection diseases contracted by humans. Hence, we conclude that the aim of the PSA has been achieved. The value of self-care for hygiene, type of illnesses that someone would get if they did not take care of their hygiene and best practice to avoid being impacted. Finally, 100% agreed that this PSA helps teach teenagers and general public about the best practice of hygiene and self-care.

This project can be strengthened by building a website from the research we have performed. As a result of that, the audience can easily find out about the issues on virus infectious diseases immediately when sickness occurred. This is to make things easy as the audience does not have to search and browse through too many tabs to explore about hygiene self-care. One website will do to educate all of us. Not only that, but when a website has been constructed specifically for hygiene, self-care, this project can also be improved to a respectable standard. We could promote the website link to the targeted audience in highlighting the issues relating to self-hygiene and virus infectious diseases.

Next, it is also possible to improve this project by making a mobile self-care hygiene application. A mobile app is a better tool for teenagers, university students and young adults to raise awareness quickly. Younger generations and adults now use a smartphone, so this can be a better way to raise awareness of self-care for hygiene. They would find this kind of application beneficial.

## REFERENCES

[1] Benckiser, R. (2019). Dettol. Retrieved from Dettol: https://www.dettolarabia.com/en/common-infections/healthy- body/the-importance-of-personal-hygiene/

[2] https://www.who.int/malaysia/internal-publications-detail/covid-19-in-malaysia-situation-report-30

[3] Park SK, Park B, Kim H, et al. Transmission of seasonal outbreak of childhood enteroviral aseptic meningitis and Hand-foot-mouth disease. J Korean Med Sci 2010;25:677–83. [PMC free article] [PubMed] [Google Scholar]

[4] Today, M. N. (2004-2020). Retrieved from What to know about viruses: https://www.medicalnewstoday.com/articles/158179#combating-viruses

[5] Ames, H. (20 May, 2020). Retrieved from Medical News Today: https://www.medicalnewstoday.com/articles/personal-hygiene#definition

[6] Dzaa Imma bt Abd Latiff, M. A. (2013). The Influences of Malaysian Animated Public Service Announcements (PSAs) on Public Health and Safety Campaign and its Effectiveness among Students. Social and Management Research Journal.

[7] Wen-bo XU. Epidemiological characteristics and control strategy of HFMD. J Exp Clin Virol 2007;21:3. [Google Scholar] [Ref list]

[8] Hongmei Guo, Qirong Zhu. Enterovirus 71 infection of the nervous system[J]. Foreign Med (Infect Dis Epidemiol Branch) 2002;29:19–21. [Google Scholar] [Ref list]

[9] Gang, D. (15 April, 2020). Retrieved from Global Times: https://www.globaltimes.cn/content/1185683.shtml

[10] Youtube Channel, https://www.youtube.com/watch?v=v9Yz38xAvqQ

[11] Youtube Channel, https://www.youtube.com/watch?v=D5BtnvQqbWs

[12] (WHO), W. H. (2020). Coronavirus. Retrieved from World Health Organization: https://www.who.int/health- topics/coronavirus

[13] https://www.youtube.com/watch?v=zh7CACofsio

[14] Diana L. Owens and William W. Lee Multimedia-based Instructional Design: Computer-based Training, Web-based Training, Distance Broadcast Training, Performance-based Solutions

[15] Quigley, E. (3 October, 2019). ADDIE: 5 Steps To Effective Training. Retrieved from Learn Upon: https://www.learnupon.com/blog/addie-5-steps/