

Interactive Advertisement that Feels and Experiences

Yuji Kim^{*}, Lim Chan[†]

Department of Global Media, Soongsil University, Korea
yooouuji25@gmail.com, chanlim@ssu.ac.kr

Abstract

In this paper, we propose and implement VVVV base interactive advertisement. It has now expanded from the traditional marketing methods of television, radio, newspapers and magazines to become a digital marketing era. However, it is still in the form of infusion-type advertising, similar to traditional marketing techniques. For more innovative we put story and design elements into digital technology. Consumers will feel fresh excitement as they experience advertising. Emotional stories and image will also provide an element for customers to talk to each other. The propose advertisement is design to recognize the movement of people in the corridor by using Arduino and ultrasonic sensor installed in the passageway where many people pass. Arduino and VVVV takes people's movements for a values. This values change the advertising image. In this case, we applied the mask in VVVV so that the image to be reproduced and the image of the background role are displayed when the person passes the sensor. By realizing this interactive advertisement, the objective is to increase the buyer's purchasing power by approaching the buyer more effectively than the existing advertisement.

Keywords: VVVV, Interactive AD, Arduino, Ultrasonic sensor

1. INTRODUCTION

Advertising on TV, radio, newspapers and magazines is now an old advertising technique. In 1990, Internet-based digital marketing emerged. Social media and the Internet revolution have grown digital marketing. Digital marketing, which is cheaper than traditional marketing, can easily attract customers from companies with low budgets. It can analyze effects of advertisements in real time, so can check their effectiveness. This attraction has increased the demand for digital marketing, but at the same time, digital technology has weakened the appeal of digital advertising. General digital marketing has only moved to new media such as YouTube, Facebook and Podcasts. It is no different from the injection-type advertising of traditional marketing. Digital content alone is not enough to create memorable advertisements for consumers. This should communicate and interact with customers. By using digital technology, this paper has created an advertisement in which users and advertisements can interact. We put a story and a design element in the

hardware. Users will experience fresh stimuli while experiencing advertising. Stories and design elements will stimulate the customer's sensibility, providing the customer with an element to talk to each other [1-2]. We goal is to create Viral Marketing through this process.

2. FEEL MARKETING

Professor Bunt H. Schmidt of 1999 defined the term "experience marketing" and divided it into five categories: sense, emotion, cognition, behavior, and relationship. The goal of experience marketing, as Professor Schmidt said, is to create a holistic experience for customers. The purpose of marketing is not just to sell goods and services. Stimulate the customer's five sessions and induce voluntary purchasing behavior. Therefore, among the types of experience marketing defined by Professor Schmitt, "feeling" was used to produce advertisements [3]. Feel Marketing uses emotional stimuli to influence a person's mood and feelings and emotion. The purpose of emotional marketing is to draw positive and outgoing emotions, warm feelings and Sentimental from consumers. In other words, it is a strategy that stimulates customers to feel positive and special feelings to a company or brand through nostalgia, intimacy or attachment. Rather than stressing the ostensible benefits, strategies linked to people, places and others involved in triggering emotions are also needed. Feel marketing is an action strategy that induces a sense of rationality by inducing a particular feeling about a company or product, service brand. In particular, it is important for consumers to feel positive while experiencing consumption [4,5]. This is possible through various means of providing experiences such as colors, slogans, models, lighting, employees, and atmosphere use in advertising.

3. WORKFLOW

3.1 Storytelling and image composition



Figure 1. Four Season Video

The advertisement is an insurance advertisement that guarantees a lifetime. It is composed of content that can stimulate customers emotions and affect life [6]. A girl has a concept that she meets her boyfriend, marries him, and helps insurance for their centennial year. This implies that even if they live in a disaster, they guarantee their lives through insurance, and even after they die, they also repeat the same route, which implies that insurance also functions as a lifelong partner. In Figure 1, is a commercial image using illustrations. There are seven images, and the movement of the character was implemented using the After Effect program, and finally, the image was extracted through the Premier [7,8].

3.2 Connect VVVV with Arduino

It use Arduino, ultrasonic sensors, and VVVV programs to produce interactive ad. Arduino and ultrasonic sensor is connect so that they would response when people were close to the billboard. Ultrasonic sensors used HC-SR04. The time difference between sound waves that are output by ultrasonic sensors is calculating as distance. The time difference used the 'pulseIn()' function when the ultrasonic wave output via 'trig' returns to 'echo'. The value of the return time of ultrasonic waves back to echo was stored in the DISTANCE variable. Maximum distance that ultrasonic sensors recognize is set to 90. This does not work when the user is farther than the maximum distance. But the maximum distance is temporary. It can be changed depending on the location of the billboard and the width of the aisle [7-9]. By using serial communication (RS232), LED sensors are attached to Arduino so that sensors can see LED lights whenever they receive values. We use VVVV, which uses programming language, for Arduino serial communication.

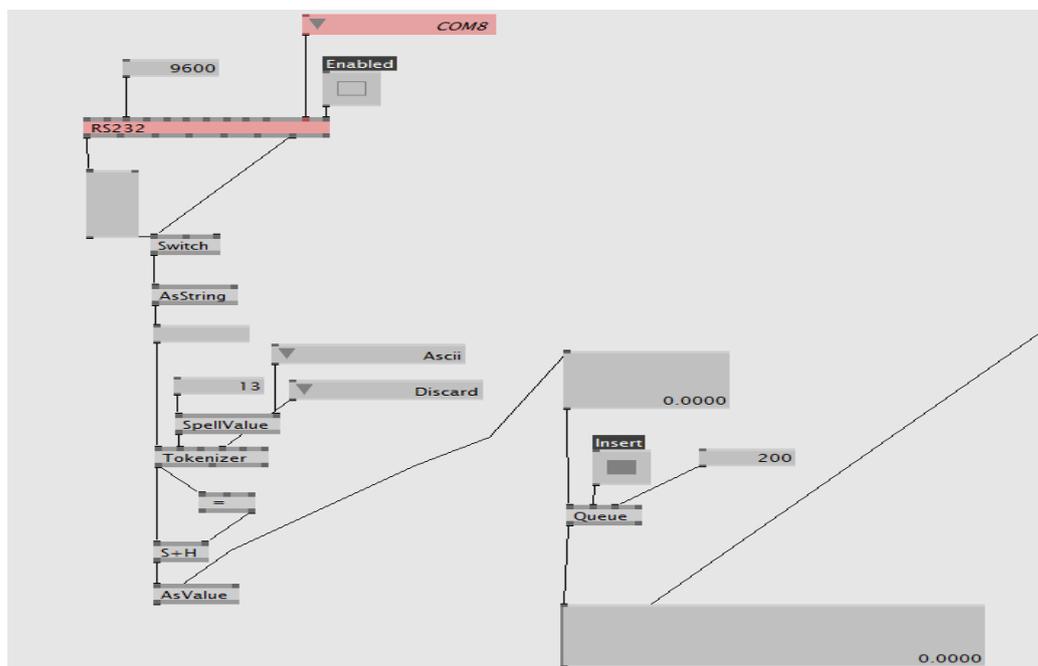


Figure 2. Arduino Node

In Figure 2 is vvvv code for Arduino serial communication. In VVVV, RS232 node is use to receive Arduino Serial communication value. In Arduino, it settled the baud rate to 9600 bit / sec and set it to the same baud rate on the node. The value can only be read from VVVV when Enable is enable, and the data type exchange between Arduino and VVVV using Serial.print () uses String instead of Value. Therefore, to operate other nodes that operate with Value, you must convert the String to a Value value using the AsValue (String) node.

When reading the value of the ultrasonic sensor in the Arduino, operate only when it is less than the set distance using the condition statement. Counter and Switch nodes must be work properly, so if you cannot match the condition, you should check to see if they continue to be zero. In addition, due to the nature of the advertisement in the story, it was given a limit of 17 seconds using the Limiter node since the sensor should not accept the value until the image is processed. Therefore, before the time limit, the sensor does not respond even if the value is change.

3.3 Counter and Switch

There are seven images to be used for advertising, and when the input UP value of the counter node is recognize, the image is switch. UP values change when ultrasonic sensors recognize human movements. The video is index to the order of the story. The seven images that are index are play in ascending order. The order of the images is determined by the counter output, and the images that are input to the switch node are play through the FileStream node. The image is applied as a switch node, the image is played from the beginning whenever the index changes. A separate VLC Media Player should be install in order to use MP4, which has a small capacity and a good image quality as a video file format. If one image playback is finished but there is no new sensor value, it will not be change to the next image and wait until the sensor value comes in.

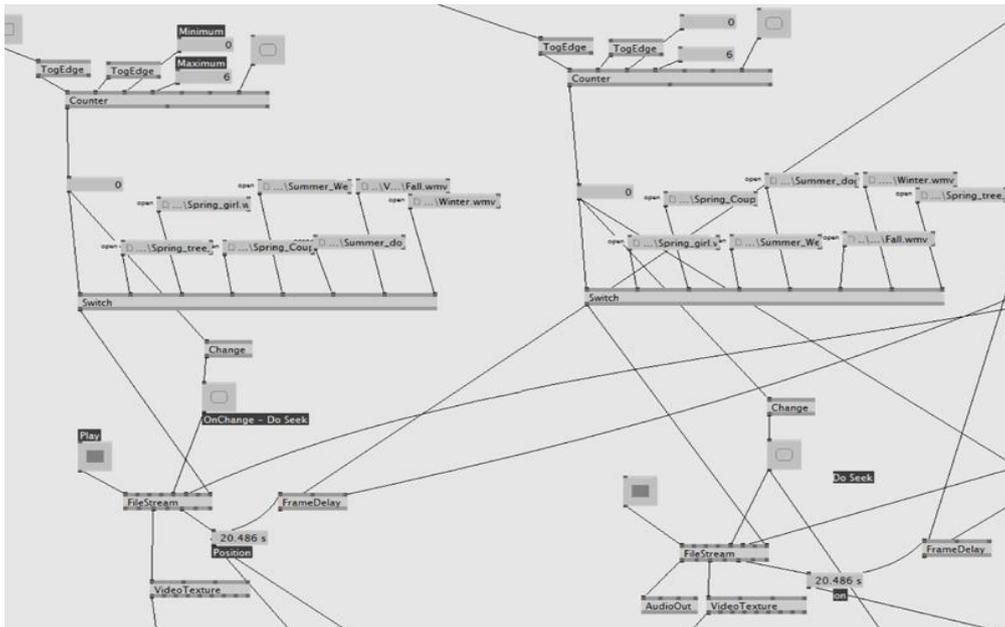


Figure 3. Counter, Switch and FileStream Node

In Figure 3, the left side of the photo acts as a background in the switching of the image, and the right side of the photo serves as the current playback image. Switch nodes must be assign images in the proper order so that they can be connect to the story.

3.4 Video Mask and Text layer

In Figure 4, we use the mix node to switch to the next image, two images are superimpose and reproduce. The story video was applied to the first input pin of the mix node and the background image was applied as a texture value to the second input pin before passing through the mask. On the other hand, the value of the image to be put into the mask, which is the fourth input pin in the Mix node, cannot be read by Video Texture, so another method should be used. That way, you should show the image that will serve as a mask with another Dx9 renderer and bring the entire renderer back to the texture value. Therefore, we have solved using the DX9 Texture node. When all six story images are played, the advertisement text is output to the text node.

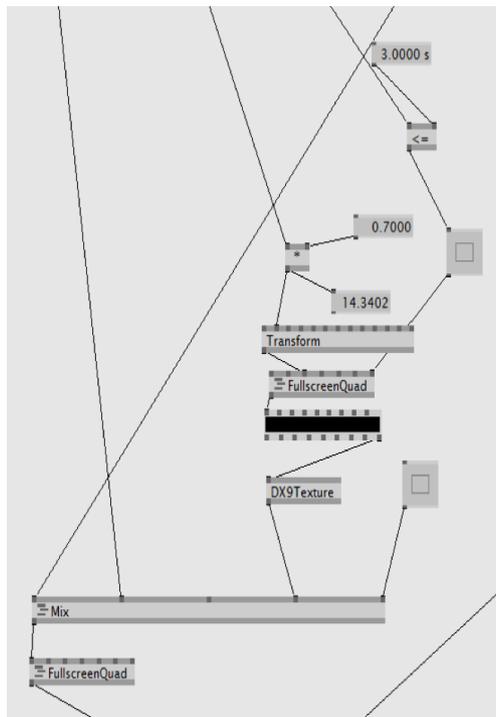


Figure 4. Mix Node

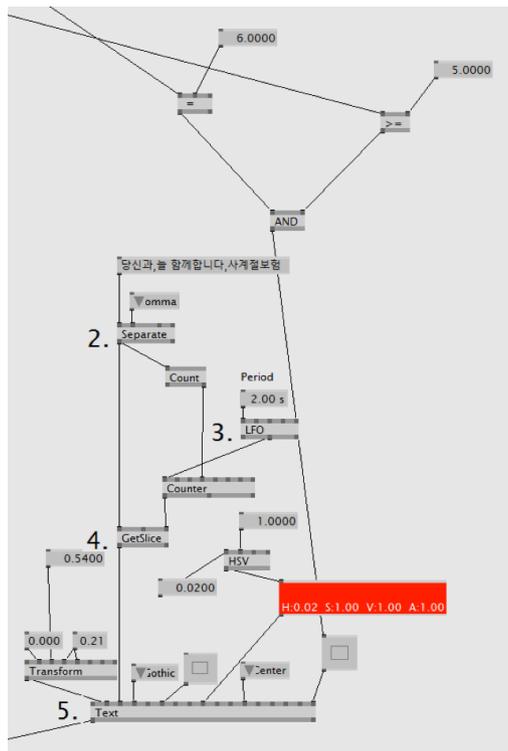


Figure 5. Text Node

In the production of interactive advertising, all images have a story, and after all playback is done, Text

Node is used to display the name of the advertisement in the window to recognize the advertisement. In Figure 5, we use Separate Node to divide the characters we typed using a separator such as a comma or a space, enter the Count node by the index according to the number of words used in the sentence, and read the character corresponding to the counter number in GetSlice It is shown in Text Node.

4. WORK

In Figure 6, if a user passes in front of the billboard, 0.5 seconds later, the image of the person is displayed on the billboard. When a person passes completely, it changes to the next story video.

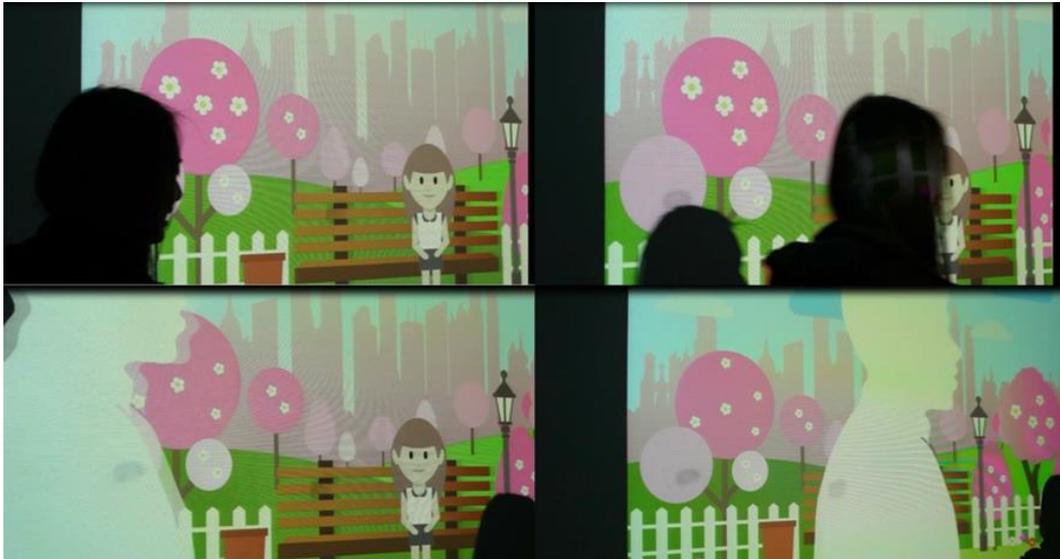


Figure 6. Work

5. CONCLUSION

In this paper, we propose and implement interactive advertising. Through the Arduino ultrasonic sensor installed in the corridor, the consumer is recognized as passing by, and the value is sent to VVVV, and the image is masked and converted. But in this case, when the consumer passes the sensor before the limited time for the advertisement story ends, the image is not switched. That is, the image is not switched to the next scene. The mask image that you see when you pass through the billboard is always left to right. Whether the user passing to the right or to the left, it always shows the same image. Therefore, the user will use the PIR sensor to match the direction of the mask image with the direction of passing [10]. The response of the sensor was also disappointing as the user passed by the billboard. If you react immediately without delay, it will be more interactive. The VVVV program can produce a variety of computer graphics and visual effects relatively easily. Instead of using only the serial communication of Arduino we will make a screen composition that can give a visual effect by using the value received through Arduino.

REFERENCE

- [1] Philip Kotler, *Marketing 4.0: Moving from Traditional to Digital*, Wiley, pp. 208, 2016.
- [2] Scott, Linda M, "Images in advertising: The need for a theory of visual rhetoric," in *Journal of consumer research*, Vol. 21, No. 2, pp. 252-273, 1994.
- [3] J. Jung and Y. Min, "BTL communication way of interactive media for the brand experiential marketing" *Archives of*

Design Research in Korean Society of Design Science, Vol. 26, No. 1, pp. 405-432, 2013.

- [4] S. Y. Jung, "A Study on Analysis of Viral Ads Type Encouraging Consumer Participation", *JOURNAL OF THE KOREAN SOCIETY DESIGN CULTURE(The Korean Society Of Design Culture)*, Vol. 17, No. 3, pp. 690-703, 2011.
- [5] S. C. Yoo and I. K. Shin, "Digital Signage Media Creative : A Study for the Media Typology and Advertising Creative Strategy for Digital Signage," *The Korean Journal of Advertising*, vol. 29, no. 6, pp. 81-108, Aug 2018.
- [6] C. Bauer, N. Kryvinska and C. Strauss, "The Business with Digital Signage for Advertising," in *Information and Communication Technologies in Organizations and Society*, pp. 285-302, Jan.25, 2016.
- [7] K. S. Lee, "Research for outdoor advertisement and public-sign designs in the public design," in *Journal of Korea Society of Design Forum*, Vol. 25, 2009.
- [8] K. P. Kim, C. M. Lee, "An Exploratory study on Dimensions of Brand Experience through Digital Signage," *Journal of Outdoor Advertising Research(KOREAN ACADEMY OF OOH ADVERTISING)*, Vol. 15, No.1, pp. 18-45, 2018.
- [9] J. Kim, Y. Lee, W. Baek, and B. An, "Implementation of Untouched Interactive Digital Signage Control using Kinect," *The Journal of the Institute of Webcasting, Internet and Telecommunication*, Vol. 14, No. 4, pp. 127-132, Aug 2014.
- [10] Detect human movement with Arduino. <https://kogun.tistory.com/30>