



The Interactive Publicity Stunts Based On Augmented Reality Technology

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Introduction:

Due to the need to follow the technical and technological advertising developments and its renewals to get its advantages and keep up with the times and to be convenient for the contemporary recipient. Summoned thinking to study interactive publicity Stunts based on augmented reality technology, which is attractive and new advertising media that can faces advertisement saturation which infect the recipients because of large number and recurrence of advertising that surround them any time and every where... Publicity Stunts are not a new idea, as this means has been applied over decades but in light of modern technological developments and the development and mixture between sciences and arts, Publicity Stunts have become an attractive and interesting means that increases paying attention of customers receiving the advertised product or service.

The modern technological development in communication means and the spread of the augmented reality concept facilitated combination between the real and virtual worlds. The introduction of virtual characters that users (Those who watch the publicity stunts) can interactively explore is one of the most important elements that enrich publicity stunts and draw attention of those customers looking forward to participating, interacting and talking with virtual characters through a huge screen called "The Augmented Mirror".

Publicity Stunts Based on Augmented Reality Technology is a new competitive means introducing ample interactive options giving recipients a basic role in shaping and adapting the introduced content according to their orientations and inclinations, as they are a basic element in the communication process. This enhances customers experience through attractive and interesting interactive publicity stunts comprising real and virtual interactive shows at the same time, so an advertisement's objectives can be successfully achieved.

Keywords:

Publicity Stunts, Augmented Reality, Kinect system, Augmented Mirror.

Research Problem:

The research problem lies in how to utilize modern technological developments in the field of Augmented Reality Technology and its various applications, particularly in relevant to publicity stunts, to reach unprecedented interactive advertising means, contributing to publicizing advertisements in a more effective manner suitable to the current public.



Research Objective:

The research objective is to identify the interactive publicity stunts based on augmented reality technology with analyzing the elements of using this technology as well as the ways of interaction to achieve attractive and innovative advertisements.

Research Hypothesis:

The research suggests that utilization of augmented reality technology in publicity stunts increases interaction between the public and advertisements.

Research Methodology:

The research is based on the descriptive-analytical methodology.

In the beginning we should identify the augmented reality technology, as the basis of the interactive publicity stunts as following:

- Augmented Reality Technology:

Augmented Reality (AR) is a variation of a Virtual Environment (VE) as it is more commonly called. Virtual Reality technologies completely immerse a user inside a synthetic environment and while immersed, the user cannot see the real world around him. In contrast, Augmented Reality is taking digital or computer generated information, whether it be images, audio, video, and touch or haptic sensations and overlaying them over in a real-time environment. Augmented Reality technically can be used to enhance all five senses. Unlike Virtual Reality, Augmented Reality allows the user to see the real world, with virtual objects superimposed upon or composited with the real world. Therefore, AR supplements reality, rather than completely replacing it. Augmented Reality can be thought of as the blend, or the "middle ground," between the completely synthetic and the completely real.

In general, two primary things need to happen for every time step of an augmented reality application. The two steps are:

1. The application needs to determine the current state of the physical world and determine the current state of the virtual world.
2. The application needs to display the virtual world in registration with the real world in a manner that will cause the participant(s) to sense the virtual world elements as part of his or her physical world and then return to step 1 to move on to the next time step.

There are three major components to an augmented reality system:

1. Sensor(s) to determine the state of the physical world where the application is deployed
2. A processor to evaluate the sensor data, to implement the "laws of nature" and other rules of the virtual world, and to generate the signals required to drive the display
3. A display suitable for creating the impression that the virtual world and the real world are coexistent and to impinge on the participant's senses such that he or she senses the combination physical world and virtual world.

- Publicity Stunts:

A publicity stunt is a planned event staged to get public attention or for marketing purposes and designed to attract media attention to the promoters, the perpetrators, or their cause.



Advertising through the use of Augmented Reality (AR) has gained tremendous momentum in recent years. The availability of powerful, camera equipped smart phones and tablets with wireless internet connectivity have rekindled everyone's excitement in AR. As a result of this, brand owners and advertising companies around the world have been actively looking for new ways to entice a wider audience to interact with their brands using AR. Publicity Stunts Based On Augmented Reality Technology present a great opportunity for advertisers and brand owners to not only boost awareness of their products but also to open up a dialog with their customers and leave them a lasting impression.

- Using Kinect in Publicity Stunts Based On Augmented Reality Technology

We Should identify the Kinect device as a base for presenting interactive Publicity Stunts with the use of augmented reality technology, The Kinect is a motion sensing, controller-free input gaming device by Microsoft that responds to human movements and voice commands (figure 1).



(figure 1) The Kinect device

The Microsoft Kinect uses multiple sensors, including a depth sensor to track the participant. The Kinect uses infrared light sensors that transmit invisible light at the objects in front of it. The object reflects the light back to the Kinect where its software encodes the results to determine the distance and movement of those objects. As a person stands in front of the Kinect, their body, arm, and leg movements are scanned by its infrared sensors (figure 2).



(figure 2) The Kinect in Use

The technology is extremely accurate on the movement and distance of the person in the devices field of view. The Kinect will be useful for AR development thanks to its embedded video cameras. The Kinect contains two separate cameras used for processing visual information and translating the visual data into digital information. This combination of the video streams from these two cameras allows a sort of 3D vision needed for determining what is "alive" in its field of vision and what is not, and for determining the distance live people are from the Kinect, giving the device its own depth perception.



- Augmented mirror

Augmented mirror is one of the most important applications of Kinect device, It started as a way to allow medical students to interact with anatomical images. It creates an illusion that the user is standing in front of a mirror, which augments virtual anatomy information to the user's image (figure 3).



(figure 3) augmented mirror

The user controls the augmented mirror by hand movements and gestures and verbal commands also the Kinect device controls depth and accuracy of the displayed images.

Augmented Reality (AR) application that allows the audience to interact and talk with a virtual character through a large screen called augmented mirror which can add richness and complexity to presentations and public events.

- Interaction In The Publicity Stunts based on augmented reality technology

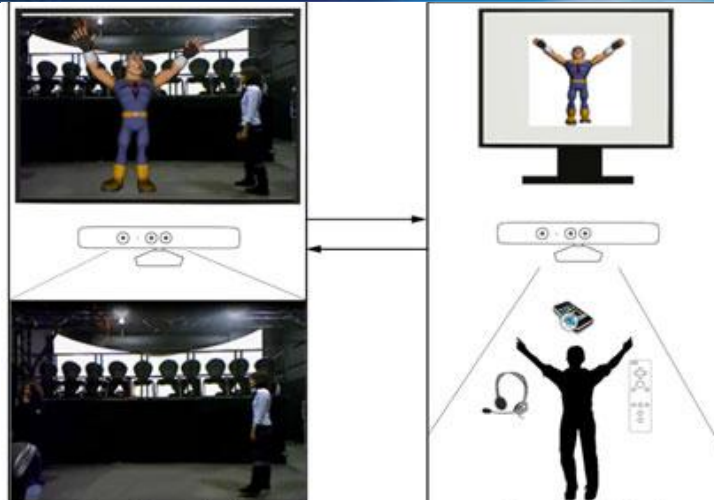
Interaction In The Publicity Stunts based on augmented reality technology is composed of two main parts.

-The first one, the control scenario, the actor tracking is performed.

-The second one, the augmented scenario, the audience can interact with the avatar and other virtual objects.

These two scenarios are connected using a Client Server model, via an internet connection, so that the avatar can be remotely controlled.

the actor to control the avatar movements, facial expressions, lips movement and also some predefined virtual objects. Moreover, input data from these devices is received and processed by a server application to control the augmented scenario (the avatar and the virtual objects) (figure 4).



(figure 4) the first part, the control scenario (left), the augmented scenario, the audience can interact with the avatar and other virtual objects (right)

Kinect performs actor tracking in real time, with an 11 bones avatar structure and the tracking was enhanced in 4 different ways: head orientation, lips movement while talking, facial expressions and automatic gestures (blink, hands, feet, etc.) (figure 5) .



(figure 5) the actor tracking

Head orientation is estimated using a mobile phone attached to a cap. This can be achieved with an android application that computes heading, pitch and roll from the phone sensors data (accelerometer and compass) and send it to the server application through a WiFi connection. This global information, referenced to the earth gravity and North Pole, is computed to calculate head orientation according to the actor orientation. For lips movement while talking with the audience, the actor is provided with a wireless microphone. An amplitude based algorithm has been developed to calculate, lips aperture values (horizontal and vertical), which simulates the realmouth movement while talking. A WiiMote is used to control avatar facial expressions and 3D virtual objects. The actor can easily choose the avatar facial expression, using the WiiMote buttons, from five different predefined emotions. In the same way, 5 virtual animated objects can be shown or hidden. Finally, other avatar movements are computed automatically. Blinkingvelocity is controlled depending on the selected emotion; hand and finger movements are calculated from the arm movement. All this information is sent to the augmented scenario in real time, making possible a live interaction between the real actor and an audience.the augmented scenario is where the audience interacts with the avatar and the virtual objects via the augmented mirror.The audience can talk with the avatar or walk around him and the virtual objects while they can see themselves in a large LED screen. This augmented images displayed on a 4x3 meter LED screen provide a more immersive multiuser augmented reality.



- **The following are examples of some interactive Publicity Stunts based on augmented reality technology:**

- **Interactive Publicity Stunt about impulse (deodorant for women):**

Unilever promotion of Impulse spray for women was given an augmented push with an outdoor ambient experience in Buenos Aires. In October hundreds of girls in the Alto Palermo Shopping centre were able to interact with virtual characters in real time, taking pictures and videos of their experiences, and receiving gifts, flowers and balloons of all sizes and colours. The project involved a 4 metre wide LED screen, and many cans of Impulse (figure 6).



(figure 6) interactive Publicity Stunt about impulse

- **Interactive Publicity Stunt about green giant company, which present healthy food products depend on vegetables**

Green Giant has announced the launch of its “One Giant Pledge” campaign calling on kids to take the oath with brand ambassador, the Jolly Green Giant to eat one more vegetable per day. The integrated campaign, which will include social media and television promotion, launched this week with an augmented reality event in New York City which saw kids able to take their pledge with a larger-than-life, interactive Green Giant, created by Grand Visual. Marketing manager for General Mills, the parent company of Green Giant, Yumi Clevenger-Lee, commented: “The inspiration behind One Giant Pledge is Green Giant’s goal of making eating vegetables fun for kids and families.

“It’s a tough reality that kids aren’t eating nearly enough, so who better to help spark a change than someone kids look up to, like the Green Giant?”

Parents can visit the Green Giant Facebook page to help their kids pledge to eat more vegetables. Kids who make the pledge will be asked what they want to be when they grow up and once their parents upload a photo the site will generate a customised pledge with the Green Giant. A “Proof of Pledge” photo can then be used for online sharing or printing out. A 30 day-pledge calendar is also available to track kids’ progress and Green Giant will also select a number of pledges to turn into veggie art.



The first 10,000 children who pledge will also receive a One Giant Pledge wristband and reward; parents can also opt to receive personalised text messages of encouragement for their kids from the Green Giant and can download a “Ho, Ho, Ho!” Green Giant ringtone (figure 7).



(figure 7) Interactive Publicity Stunt about green giant company

- **Interactive Publicity Stunt about Disney parks**

As part of the ‘Let the Memories Begin’ campaign, Disney Parks, the theme park arm of the Walt Disney Company, launched a live augmented reality experience in Times Square in November 2011. In a media first, members of the public were able to interact with live Disney characters such as Mickey, Donald and Goofy, and star in their own billboard campaign. In a creative technology build in collaboration with Disney Parks, the campaign featured real Disney characters beamed in live from a green screen studio nearby. by mixing technology then merged the Disney character on screen with live footage of the families in Times Square, delivering a truly magical experience to the residents and visitors to New York City (figure 8).



(figure 8) Interactive Publicity Stunt about Disney parks

Results and Discussion:

- Kinect device represents the cornerstone of the augmented reality mirror which can be used as part of out of home advertising design and allows the user to interact with the ad and take pictures and share them via social networking sites.
- Employing latest technologies together and investing them by creative designer we get new interactive advertising medium that combines all of the real world and virtual worlds which offers interactive ads, which can be offered in the shopping centers, streets, train stations and others.
- Modern technology utilization for providing an attractive interactive advertising method, namely, interactive publicity stunts based on augmented reality technology which deepens awareness of products, creates channels of communication with the public and enhances interaction with the content shown, thus, leaving customers with good impressions.
- Interactive publicity stunts based on augmented reality technology are considered an innovative and attractive advertising method that can be utilized as a complementary means for advertising campaigns.
- Interactive publicity stunts based on augmented reality technology are a suitable advertising method for attracting attention of contemporary customers amid daily crowd advertisements, as it has fun interactive characteristics that make the public get indulged in a virtual environment encouraging them to receive and interact with advertisements.
- The researcher believes that the utilization of the augmented reality technology in presenting the interactive publicity stunts in Egypt is still very limited. The function of



the augmented reality technology in the publicity field confines on some simple advertising applications on the smartphones and tablets. On the contrary of what is found in the foreign countries, this technology is functioned in several interactive and creative advertising ideas in general, and in the interactive publicity stunts in particular. So, it is necessary to head toward a new vision of exploiting this technology to present remarkable publicity stunts that increase the recipient's interact with the advertising content.

• The researcher believes that the application of the augmented reality technology in the publicity stunts field offers an opportunity to bring up many of the untypical new ideas which attract the recipient to discover them, then to identify the goods and services stated in an attractive interactive image which increases the effectiveness of the communication process and reflects successfully on the achievement of the advertising objectives. Hereinafter is a display of the steps of obtaining an interactive advertising performance based on the augmented reality technology:

1. In the beginning we must identify the advertising idea intended to reach the recipient and which must be attractive enough to excite him in a way makes him feel the union of the actual normal world and the virtual world together, with putting a scenario to interact with the recipient's reactions and his participation in the advertising performance in a way serves the advertising idea and contribute in achieving his goals.
2. Choosing an appropriate display screen in a great location that attracts the recipient to participate in the advertising performance. The screen is backed up with a camera specialized for capturing the recipient's reactions. Concerning the accuracy of the displayed pictures and how appropriateness the location is to bring up the advertising idea.
3. Applying a special working system related to the augmented reality technology to bring up the advertising idea through the use of sensors which determine the status of the actual world and the movements and reactions of the recipient towards what is displayed on the screen in front of him. As well as the control devices and the combination which display the hypothetical elements in an appropriate and compatible recording with the actual world in a way gives the inspiration that these hypothetical elements are a part of the real world.
4. Determining the nature of the interaction of the advertising performance and whether the interaction comes in a virtual image in the form of rational responses to record an impressive attractive video that the recipient will see it merged with the real world on the display screen which leads the recipient to interact with what he sees as if it is real, or whether the interaction comes in the form of real interactions with the representative of the virtual advertising personality which respond to the recipient's reactions at the same time. These all help the recipient to receive information interactively which increases the rate of understanding and remembering the ad. Hence, this reflects successfully the achievement of the advertising goals.
5. The consideration of the depth, accuracy and high speed in switching what is displayed on the screen continuously and the extent of its compliance with the virtual scene merged with the real world at the same time and with the recipient's reactions.
6. Determining the mechanisms of obtaining the recipient more information about the goods and services stated whether via the communication with the delegates of the declared companies exist in the places of presenting the publicity stunts, or through the participation of the recipient to try it via the social media or other sites



which help in obtaining the recipients' reactions and determining the extent of their responses to the ad idea.

Recommendations:

- It is important to focus on proper utilization of virtual characters and elements at interactive publicity stunts. This stirs the public imagination and attracts them to interact.
- Utilization of new and attractive technological means to reach new methods that attract the public for interaction with advertisements, thus, achieving objectives of advertisements in a more effective manner.
- Focusing on interests of the contemporary public, giving them a basic role in shaping and adapting the introduced content according to their orientations and inclinations, thus, encouraging them to interact with the presented content in a more effective manner with a view to achieving objectives of advertisements.
- Focusing on enhancing customers experience through attractive and interesting interactive publicity stunts comprising real and virtual interactive shows at the same time, so an advertisement's objectives can be successfully achieved.

Conclusion:

The advertising main goal is to inform people about the products and services declared in an attempt to get the maximum amount of the potential consumers for the stated product or service. Recently, the declarers focus on the investment of the various augmented reality technology applications in the ad in order to create a distinctive experience with the consumers instead of the fixed pictures or texts and others of the conventional methods for the ad. The augmented reality technology offers an opportunity to bring up untypical new ideas that attract the customers' attention to participate in the distinctive interactive experience. As well as obtaining more information about the declared products and services that increases the effectiveness of the communication process. All of that reflect on the increase of the advertising effectiveness; the advertising effectiveness is a terminology points out to what extent the advertising could achieve the required effect. This happens through the combination of the real interactive performances and the hypothetical elements at the same time via the function of the augmented reality technology in presenting attractive interactive publicity stunts.

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