

## Innovative Vision for Augmented Reality (AR) in the Printed Advertising

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### Introduction

Augmented reality (AR) is a modern technology by which the recipient is really re-living the experience, as if they are a part in his/her home environment. The user opens up virtual 3D shapes by adding multimedia content (such as texts, images, graphics, audio files, video clips, and 3D shapes) "that are not supported by printing. This makes the user take note of new information and data, whether they are textual or visual ones.

so that the AR in ads is not only an ideal for promoting sales, but also it is dedicated for building the company's reputation.

### Technology definition:

Augmented reality technology is an interactive technology that uses wired and wireless devices to add digital data to real reality in the form of (images - media - video clips - links) in multi-dimensional forms without isolating the user from his/her environment, it displays the reality and the people around it as it is but with additional information floating around Objects in the so-called "virtual scene".

### Types of augmented reality:

Augmented reality technology relies on the system's recognition of connecting real-life features with the appropriate virtual element that is already stored in its memory, and augmented reality software relies on using a mobile phone camera or tablet to see the real reality, then analyzing it according to what is required from the program and working to integrate the elements that Virtualization is using. There are two ways to work augmented reality.

**First:** Using "Markers": The ads based on them require any tag (target image) that customers search for using their phone's cameras to bring virtual content to life.

**Second:** the geographical location: is the overlap of virtual content based on the location of the user with the help of GPS)) or "image recognition" programs to display the information.

### Android applications for augmented reality technology in the field of advertising:

#### 1- Aurasma HP Reveal

The application allows the creation and sharing of augmented reality experiences for publications in books, magazines, brochures, etc. (Figure 1)

#### 2-Layar

Layar can be applied by giving information about objects that are photographed on the road or from printed materials, such as magazines, maps, and pamphlets, and then reinforcing them with augmented reality additions, allowing interaction with reality (Figure 2).

#### 3-Google Goggles

This application converts the Android device into an integrated encyclopedia rich with useful information about the things surrounding the recipient, where it is sufficient to target the

device's camera on a product or image, to provide the recipient with the Goggles application with Important information about it, if there was any, in its database.

#### 4- Augment

This application will preview things before purchasing to see if they will suit the place while providing the opportunity to change colors (Figure 3).

#### 5-Quiver Quiver

This application converts 2D graphics into 3D shapes, provided that the paper is intended for the application (Figure 4).



Figure (1)

An example of the Aurasma application in a booklet



Figure (2)

an example of a Layar application



Figure (3) Example of Augment Application

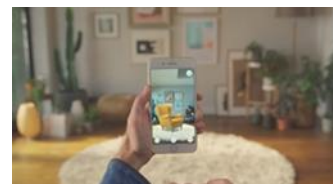


Figure (4) Quiver Quiver

### Augmented Reality and Advertising:

With the use of augmented reality technology in the field of advertising, the printed advertising market has changed, so ads have become interactive, allowing marketers and advertisers to attract customer attention in new, vibrant ways that customers can see and even interact with, and this builds a deep emotional relationship with customers, and encourages them to follow ads and make purchases. Emotional contact is a good tool for raising brand awareness, so ads with AR technology are ideal not only to boost sales, but also to build a company's reputation. The means of road advertising have also moved to new ways of promoting themselves, augmented reality technology has played a prominent role in it. Using AR, the user's geographic location is determined and some identification signals are presented about the streets, places, and even information about places, restaurants, hotels, etc. in the surrounding area and appears as a 3D display to users in real time in conjunction with a road biography, AR ads are also placed on buses and bus stops in ways that mimic thrillers or science fiction.

### Augmented reality applications in print advertising:

Transferring a product image from one angle is a past in the world of printed advertising technologies. With the advent of imaging technologies in 360 degrees, the recipient can see the visual product completely and in various aspects, not just from one side, so the recipient's behavior in reading the advertisement turns from a traditional habit to a daily pleasure that he yearns for, which means increasing the opportunity to respond to the advertisement, which

gives investors more information about their products and how they are attractive. Catalog and brochure - covers - result calendar - in the field of journalism.

### **Added reactions to augmented reality technology in the field of advertising:**

It is the incorporation and addition of sensory reactions with augmented reality in advertisements, which achieves increased user interaction with different applications, and is considered one of the most important challenges in the field of advertising, although it is still in the introductory phase, **including the following:**

#### **1-Haptic haptic reactions.**

Touch feedback is based on providing a physical connection between the user and virtual objects. This combination requires high calibration and accuracy to increase user interaction with it.

The tactile reactions with augmented reality can be applied in several aspects in the ads to identify what the materials are, for example, in one of the applications used in the field of augmented reality, the installation of clothes on the user's body "Virtual Dressing Room" without the need to wear it, but through sensory reactions that enable the user Learn about the type of fabric.

#### **2- Auditory reactions.**

Augmented reality tries to integrate auditory reactions by moving virtual objects to increase interaction, and many modern sound technologies such as "3D sound" and "spatial sound" to increase accuracy in inferring the sound source and thus increase the interaction, through glasses with educative printed graphics, or products appear in front of the viewer, with audio compatibility and audio sync for every visible thing. The reflexes are automatically updated to match the user's head movements.

#### **3- Reactions related to the sense of smell and taste.**

The sense of smell can play a role in augmented reality by merging it with the sense of taste in the field of advertising. Perhaps the most famous experience in this field is Augmented Reality Flavor, where a smell pump and glasses were used to install pictures of biscuits with different foods to control the sense of taste for the user.

### **Practical experience using HP Reveal application on the computer**

The researcher applied augmented reality technology with the third year students in the advertising department on the outputs of the design decision (flyers - covers), where the students implemented designs for the college departments publications on the Photoshop program, then they added multi-media content (such as text, images, graphics, audio files and video clips). On elements of the literature, allowing the recipient to learn more information and data about the divisions, and thus the recipient becomes an important part of his/her own narration of the event, and form an opinion on it.

#### **The technique has been applied in two ways:**

**First:** Through publications, the recipient is transferred to links on the Internet via "QR codes" (Figure 5). A brochure for the Textile Printing Department, where the recipient can, through the code on the printed page, access the department's website and browse it.



Figure (5) Industrial Design Department - Third year students - 2018

**Secondly:** Through the application of Aurasma or HR, so that the application identifies something like an image in the printed paper and then moves the image through the programmed application through the following stages:

- 1-Registration on the site.
- 2-Create augmented reality.

**Application models of the students' works:**



Figure (6) Publications of Industrial Design Department showing designs using the application - third year students – 2018

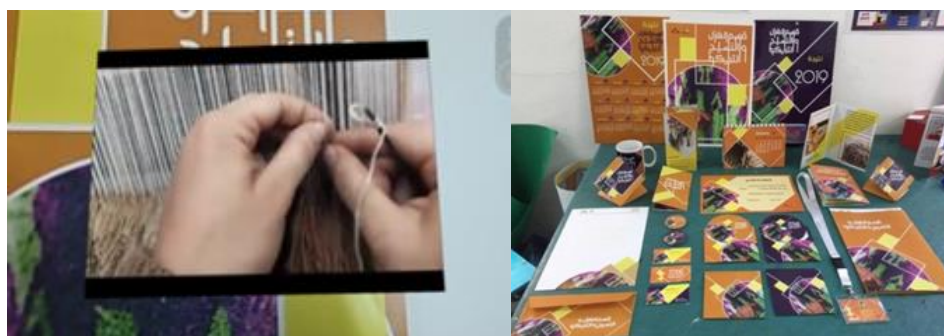


Figure (7) Publications of the Department of Textile and Knitting Department showing designs using the application - third year students – 2018.

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