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# Augmented Reality Based Shopping Application

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**ABSTRACT:** Nowadays, a mobile application has brought a great deal of changes in looking. Specially, the new technology known as increased reality system created in possible sophisticated means of knowledge} assembling by giving data of the virtual world to the globe. The patrons use this application (app) whereas looking to scale back their use and time. Looking is a motivating method during which a client selects the offered materials or services provided by one or additional merchandiser with the intention to shop for an appropriate choice of them. The benefits of this application, shoppers do not have to be compelled to come into the stores. Smart Shopping augmented reality on android OS developed in android for those who have interest in shopping. Today's online has come to expect a retail experience that is filled with personalized recommendations and information, helpful product comparisons, links to reviews, access to flash sales and special offers. A new augmented reality mobile shopping app that enables retailers to personalize each individual customer's shopping experience right from the palm of their hands, via their smartphone or tablet. The proposed system will detect the human hand or neck and then it identifies the key points and augments the 3D model on the identified key points. Marker less augmentation process is followed in this proposed system (i.e. augmenting the object on the real environment without using external markers). The 4 main components will be integrated together to achieve this objective. Using the live streaming feature the augmentation instance can be shared with another user of choice

**KEYWORDS:** Augmented Reality (AR), 3D model (3 Dimensional Model).

## I. INTRODUCTION

Advertising is a form of communication that aims to inform, persuade or encourage a target audience into taking an action of purchase. In order to achieve its goal, advertising makes use of most of the human senses with the visual characteristics being especially important in a passive, one way transmission of a message. However, the messages delivered with traditional advertising such as print, broadcast and direct mail nowadays appear as much more restricting compared to newer forms of communications. Furthermore, conventional advertising does not allow consumers the liberty to interact freely with an ad or choose the flow of information they receive. Additionally, audiences are already fully well acquainted with traditional forms of publicity and to the point where no element of surprise or novelty exists. What ad strategy builders seek increasingly more and more are different forms of audience immersiveness and participation to create a deeper level of engagement in an original form. Since recently Augmented Reality has been gaining momentum in the advertising industry, an increasing number of companies have expressed interest in adopting it in their marketing approaches. An advantage of the technology is its ability to display interactively three dimensional representations of real objects (e.g. for product demonstrations) thus generating a more

significant impact on the audience. The demo platform, described in this paper, aims to assist in studying the cognitive effects on consumers through an AR shopping application in comparison to two other applications: a marker-based and a static. The primary objective of this work is to obtain a thorough understanding of whether AR product presentation may engage the user at a greater degree and operate as a tool for enriching consumer experiences.

## II. METHODOLOGY

1. ARCore/Vuforia are the main platform for building augmented reality experiences.
2. Using different APIs, ARCore/Vuforia enables your phone to sense its environment, understand the world and interact with information.
3. Java is used in this system as a programming language, the reason to choose it is determined by its powerful characteristics. Java is an object-oriented programming language with features such as simplicity, object-oriented, distributed, robustness, security, platform independent and portability, and dynamics.

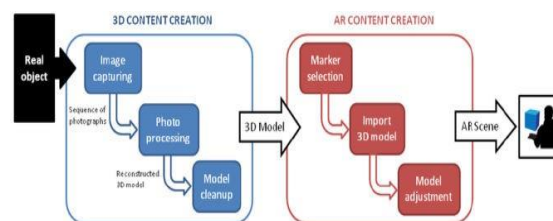


Figure 1:Proposed System.

## III. EXPERIMENTAL RESULTS

In current pandemic situations people are not able to go out and buy wearable products. Nowadays online shopping platforms are widely used for shopping but the limitation of online shopping is people can't try the wearable products. Because of this they need to face a lot of problems. For the sort of these problems we are presenting an application which will give a real feel of trial.

The above architecture shows the working of the Ar based shopping App. Some major components used are

- Motion tracking allows the phone to understand and track its position relative to the world.
- Environmental understanding allows the phone to detect the size and location of all type of surfaces: horizontal, vertical and angled surfaces like the ground, a coffee table or walls.
- Light estimation allows the phone to estimate the environment's current lighting conditions.

## IV. CONCLUSION

Smart shopping using augmented reality on an android operating system which will help to combine virtual objects with the real environment in various applications. The main advantage is using low cost devices as compared to the costly head mounted display services. Second advantage is now shoppers no need to walk into the store rather than that device to get detailed information of shops or malls they are interested in simply by panning the device's video camera over the shop or mall. In the future, it is necessary to apply the augmented reality system suggested areas including advertising, education, and tourism, by making interaction between users and augmented reality systems. AR has been effective for a better learning performance, learning motivation, student engagement and positive attitudes



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