Watch Catalogue App using VUFORIA SDK and Unity

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Abstract: *Today's technology has changed the way we perceive this real world. Technology has changed over the years as to how we deal with small and large numbers. Technology has advanced to a new level of sophistication where the user can virtually visualize the object in the real world. Augmented reality is here with multiple solutions and offers user engagement at its maximum level. For example, during this epidemic we all learned to become digital. We wanted to create an application that would benefit the users, keeping in view the current scenario. Augmented reality is very popular right now! According to recent reports, augmented reality is set to become a billion-dollar industry by 2021. So, with two factors in mind, we decided why not create an augmented reality application so that you can easily try without having to visit different clocks at home. Shop and follow social distance. So, this is how we came up with the idea of the "Watch Catalog" app. Similarly, the virtual watch catalog is another innovative solution that allows the user to use the augmented reality to try out different models of the watch using the colorful sports wristband. Of course, the consumer does not have to rush to buy a watch form outlet. Users only need to install the relevant watch app.*

Keywords: Augmented Reality, Watch Try On, Vuforia SDK, Unity3D, AR Camera, Virtual Component

I. INTRODUCTION

Augmented reality is a technology that enhances the real world by adding layers of digital elements. These parts embody computer-generated graphics, sound or video effects, tactile feedback or sensory comes. The purpose of adding this digital information is to provide an attractive and dynamic customer experience enabled with inputs derived from various hardware such as smart glasses, smart lenses and smartphones. increased reality (AR) is usually confused with video game (VR). The main difference between the two is that virtual reality replaces the entire virtual environment with an artificial environment, while augmented reality is implemented in a live visualization of an existing virtual environment and includes elements such as sound, video or graphics. One of the most consumed products in our time is fashion or technology. So, there is a clear desire to combine the two and AR comes first - there is a lot of potential. Its goal is to create a marker-based augmented reality experience that affects the smartphone camera and sensor capabilities to provide consumers with an experience of fashion accessories (watches). Create an interactive UI to try out 3D models of the clock in real time and switch between 3D models, and give users controls to customize parts such as the color of the watch band. The paper aims at the fashion industry to enhance the customer experience online and in store.

Augmented reality combines your real surroundings with augmented text or video or graphics or GPS data created on a computer, giving you the illusion of their presence in the real world. This is different from virtual reality because VR replaces the real environment with simulation, while AR brings parts of the digital world into the real world of the individual.

Augmented reality can be incorporated into any device that has hardware components such as sensors, processors, displays and input devices. Modern smartphones and tablet computers have all these features, including cameras and MEMS sensors, making them suitable platforms for AR devices. Currently AR technology is provided by optical projection systems, monitors, handheld devices and wearable display systems, which can be HMDs, glasses, HUDs, contact lenses, virtual retina displays and handhelds. Augmented reality some time ago was a term that was transferred to the geeky corners of technical education. But if you chart its public awareness, you will see rapid growth over the last 18 months, thanks to Google Glass and many other companies facing the challenge of commercializing it. Most people have an idea of what AR is, but very few people are focused on how it should be. Instead of trying to define the word, I'm going to look at the

definitions given by others: Let's start simply with the definition of Merriam-Webster: "The technology that overlaps digital information on any image." An improved version of the reality created by using the device as seen (as a smartphone camera); Also: Technology used to create augmented reality.

II. LITERATURE REVIEW

Research for augmented reality technology has developed various applications in computer science. This literature review shows how augmented reality is implemented in different areas using Unity 3D.

Santosh Sharma, Yash Kaikini, Partha Bhodia, Sonali Vaidya proposed a technology called "Markerless Augmented Reality Based Interior Designing System" which uses marker-less augmented as the basis for enhancing the user experience and better understanding of topics. Uses realism. This eliminates the need for markers on the surface area and the object being aligned with the camera as the object moves as the camera moves.

Snehal Mangil, Nabil Fansoker, Safwan Mujawar, Neeraj Singh proposed a technology called "Virtual Furniture Using Augmented Reality", a web-based application where the user has to put a marker in the room where they are looking for furniture. I want to try things out. The user's webcam is online and they capture the live feed of the room via the webcam. The application captures the image and sends it through a pre-defined marker detection algorithm. The algorithm relies on image processing methods that use color and other properties as inputs for marker detection. The user first selects the furniture to be placed from the given database. The application superimposes the piece of furniture on the first image with a middle that matches the marker center in each direction. The furniture object is mounted on a two-dimensional image frame obtained from a webcam. It actually seems to be kept in the real world. Finally, the customer can see what the area looks like with the current furniture.

(2009) AEC provides a point-by-point audit of AR in business and provides a survey of some significant exploration efforts prior to 2009 and classifies the various AR progresses with their priorities and weaknesses. **** et al. (2013) Audits 120 articles distributed somewhere in 2005 and 2011 in different diaries and collects databases focusing on augmented reality discoveries in fictional environments. The paper forms an all-accessible toolbox for reality prototyping, which is divided into five sections: 2D marker AR-PC and web-cam-based, 2D marker AR-versatile, 3D article acknowledgment portable, marker-less device, and GPS-compass-based AR.

In their examination, AR writing is classified into three sections: (1) application areas; (2) AR Framework layers: concept and hypothesis (including four sub-layers: calculation and performance, appropriate structure, evaluation system and innovation selection), implementation (with two sub-layers: programming and tools), evaluation (with two) sub-layers: Feasibility and ease of use), and industry allocation; (3) Other special measures. The paper examines the best-class innovations in each classification and proposes future exploration bearings.

Chi et al. (2013) talks concerning models in AR applications for Atomic Energy Commission / FM with a special spotlight on the four AR advances: confinement, simple UI, distributed computing and cell phones. Paper Survey 101 Articles and Blueprints Open Doors for Future Models and Implementation of AR in Six Bearings in the AEC / FM Industry: Field Detection Crossbreeding Configuration, In-Field Signal or Sensation Control, FII Interfaces, FII Interface Control. Omnibus Administration handles data using field-compatible AR gadgets, carefully installing augmented reality in AEC / FM areas

III. METHODOLOGY

The development environment for the project was used to program the Unity game engine, Vuforia SDK and C # language activities. AR - The technology of superimposing a computer-created object on the user's view of the real world, thereby providing a holistic view. It uses two basic components of a smartphone camera: a gyroscope and an accelerometer to track the movement of objects in 3D space.

With trusted software development kits and engines, it creates the immersion-like feel of digital objects as they do in the real world. Breaking down immersion means breaking down the sense of reality; In AR it usually comes from treating an object in a way that does not fit our expectations.

With the approach of increased reality application, this could be simply achieved. Today people are well versed in technology and running smartphones that support AR. Therefore, the concept of designing a watch try-on application brings the designer closer to technological advancement.

Recently better cameras and more accurate sensors have become available on mainstream devices. In our current implementation of the application, we use the Vuforia Framework to accurately explore real-world environments such as wall position and intersection points, allowing users to place virtual objects in real context.

The proposed system uses image tracking augmented reality as a basis for enhancing the user experience and better understanding of content. In image tracking, users point their phone at an image, and the app scans and recognizes the image and overlaps the 3-D model on top of that image.

IV. CONCLUSION

The main purpose of this "**Augmented Reality Watch Catalog App**" is to analyze the use of augmented reality to render watch models in the real world. Augmented reality technology, which allows customers to set watches and interact with the real world, offers new opportunities for online shopping. It helps the customer to visualize and understand the watches for their needs. This lets customers know that they can buy watches anytime, anywhere. Augmented reality support for watches will help in creating many new opportunities for future research to evaluate new ideas in the field of online shopping as the customer will be able to benefit from these types of applications and purchase watches in an efficient manner. Helps in better understanding and decision making. Augmented reality is a newly emerging technology in the field of computer science and it is much more helpful to us than traditional technologies.

In this paper we have explained how to try the 3D watch model using AR. We explained the technology and method behind it. The reverse smooth experience of this system. Throughout the cycle of trying different objects in the AR environment. Unlike traditional systems, AR offers additional benefits.

Currently, the designed system is limited to simple applications, but the system can be used as a basis for more complex AR systems. We are currently using 3 models; These can also be replaced by inventory.

This type of system can also be developed at various online shopping stores and users can get a "try in AR" when using a mobile or any other such compatible device. Therefore, at a time when AR's market share is growing and a dangerous virus is spreading around the world, we have realized the importance of online shopping and user experience on the platform.

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