

Augmented Reality Based Jewellery Application

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ABSTRACT

Shopping is a tedious movement for a few people, while for others a much delighted in one. Many methodologies have been attempted in the not all that removed past to make it conceivable to at the same time answer two central customer concerns: does it suit and does it fit, in this way decreasing a great part of the mystery engaged with shopping. Enlarged reality alludes to a wide range of advances that task PC produced materials, for example, content, pictures, and video, onto clients view of the certifiable. At first, scientists characterized AR regarding particular encouraging gadgets, for example, head mounted presentations (HMDs). Increased trial room is an advanced intuitive stage that enables the Shoppers to experiment with glasses and gems rapidly. The expanded reality program takes the picture of the client and picks the wanted extra before PC which enables the client to see what they look like in it. Our venture is limited to confront related design gems like eye glasses, hoops, tops/caps and so on. In this manner the framework will take the choice of mold embellishments for the face that a man can attempt and watch before a mirror in spite of the fact that they don't exist in actuality. This is accomplished by utilizing versatile application or webcam of the clients tablet. It begins distinguishing and following the developments of the client. Here we are making this application for adornments reason. We are utilizing Vuforia Library to route for android application

Keyword - Augmented Reality, 3D scanning, Earring models, simulations, Face pose and Scale.

1. INTRODUCTION

The first AR prototypes, created by computer graphics pioneer Ivan Sutherland and his students at Harvard University and the University of Utah, appeared in the 1960s and used a see through to present 3D graphics. A small group of researchers at U.S. Air Forces Armstrong Laboratory, the NASA Ames Research Center, the Massachusetts Institute of Technology, and the University of North Carolina at Chapel Hill continued research during the 1970s and 1980s. During this time mobile devices like the Sony Walkman (1979), digital watches and personal digital organizers were introduced. This paved the way for wearable computing in the 1990s as personal computers small enough to be worn at all times. Early palmtop computers include the Psion I (1984), the Apple Newton Message Pad (1993), and the Palm Pilot (1996). Today, many mobile platforms exist that may support AR, such as personal digital assistants (PDAs), tablet PCs, and mobile phones. It took until the early 1990s before the term augmented reality was coined by Caudell and Mizell, scientists at Boeing Corporation who were developing an experimental AR system to help workers put together wiring harnesses. Organizations were formed such as the Mixed Reality Systems Laboratory² (MRLab) in Nottingham and the Arvika consortium³ in Germany. Also, it became possible to rapidly build AR applications thanks to freely available software toolkits like the AR Toolkit. In the meantime, several surveys appeared that give an overview on AR advances, describe its problems, classify and summarise

developments. By 2001, MRLab finished their pilot research, and the symposia were united in the International Symposium on Mixed and Augmented Reality⁴ (ISMAR), which has become the major symposium for industry and research to exchange problems and solutions. For anyone who is interested and wants to get acquainted with the field, this survey provides an overview of important technologies, applications and limitations of AR systems. After describing technologies that enable an augmented reality experience in Section 2, we review some of the possibilities of AR systems we conclude with a number of directions that the authors envision AR research might take.

1.1 Project idea

We define Augmented Reality (AR) as a real-time direct or indirect view of a physical real-world environment that has been enhanced/augmented by adding virtual computer-generated information to it [1]. AR is both interactive and registered in 3D as well as combines real and virtual objects. Milgrams Reality-Virtuality Continuum is defined by Paul Milgram and Fumio Kishino as a continuum that spans between the real environment and the virtual environment comprise Augmented Reality and Augmented Virtuality (AV) in between, where AR is closer to the real world and AV is closer to a pure virtual environment.

1.2 Problem Definition

Here we introduce and develop a new and emerging technology of the year, Augmented Reality and the application base taken is the most require in the field of jewellery shops. We design a android app for the jewellery in which user can select rings and bracelets and it will b appear on users body as per proper position and user will get feeling of the object is placed on his body. We are using android platform for this idea to be implement.

2. METHODOLOGY

Before you begin to format your paper, first write and save the content as a separate text file. Keep your text and graphic files separate until after the text has been formatted and styled. Do not use hard tabs, and limit use of hard returns to only one return at the end of a paragraph. Do not add any kind of pagination anywhere in the paper. Do not number text heads-the template will do that for you.

Finally, complete content and organizational editing before formatting. Please take note of the following items when proofreading spelling and grammar:

Camera

A real-world live video is feed as information (input) from the Android phone camera to the Camera device. Displaying this live feed from the Android phone camera is the reality in augmented reality. It takes an input to the Image Capturing Module

Picture taking Module

The information send to Image Capturing Module is the live video feed from the camera of a mobile device. This module analyses the camera feed, by analysing each frame in the video. It generates binary images. Typically the two colours used for a binary image are black and white. These binary images are provided input as information to Image Processing Module.

Image Processing Module

These binary images are processed using an image processing technique to detect the AR Marker. Detection of AR Marker is essential to determine the position, where to place the virtual object. Once the AR Marker is detected, its location is provided as an input to the Tracking Module.

Tracking of Markers

It calculates the relative posture of the camera in real time. The term posture means the six degrees of freedom (DOF) position, i.e. the 3D location and 3D orientation of an object.

Service Provide Module

There are 2 inputs to Rendering Module. First is the calculate pose from the Tracking Module and other is the Virtual Object to be augmented. The Rendering Module combines the original image and the virtual components using the calculated pose and renders the augmented image on the display screen of the mobile device.

System Architecture

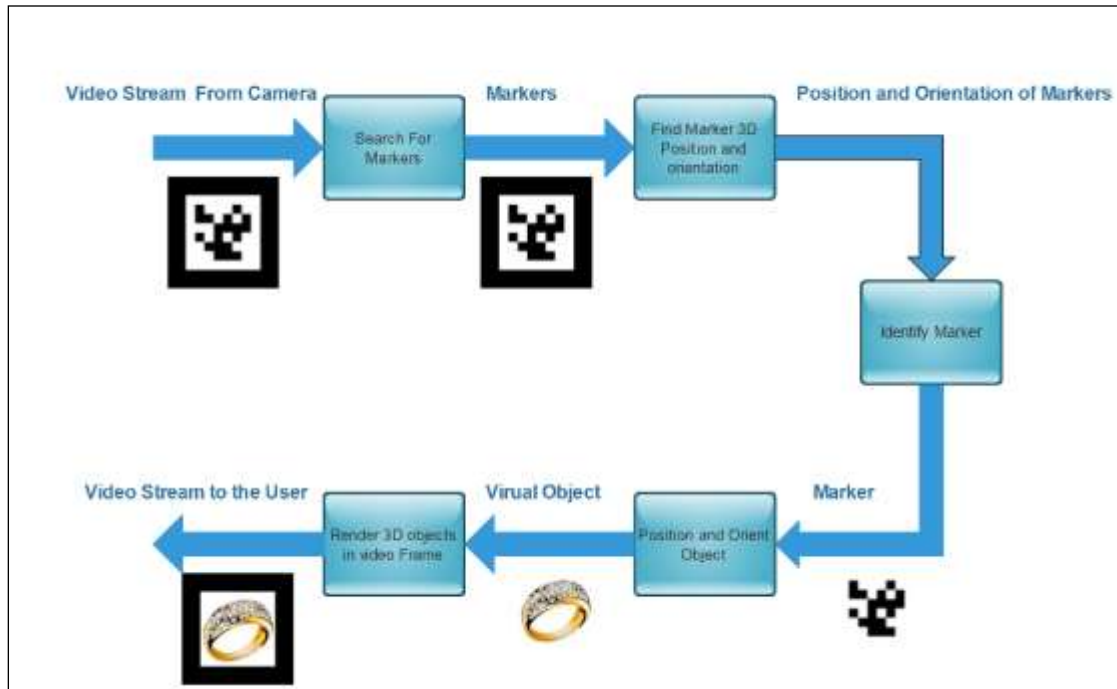


Fig-1: Architecture of a System

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