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FASHION ANDROID APPLICATION USING AUGMENTED REALITY : A SURVEY

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ABSTRACT

Though we are in 21st century with lots of development in the field of technology and improved phases of using applications within the reach of our finger tips, the urge towards a novel and better technology for a life of ease ne'er comes to cease. One such new technology is augmented reality. This is an application where customers can shop online in the smartest way by trying on different accessories like hats, sunglasses, necklaces etc just using our mobile camera. This application gives a user-friendly frontal image of face with no/light makeup and short/bound hair. The Beauty experts system will not only suggest the user suitable makeup and coiffure, it even shows the synthetic effects.

Keywords — _Augmented Reality (AR), Face Detection, Object Detection, Android OS, Smart Phone._

I.   INTRODUCTION

Augmented reality technology is attractive with this tread happens as activity around AR heats up. Augmented reality is been a favourable area these days, having a capability to construct the future platform for computing, this yields a highly competitive environment with all tech companies. Augmented reality was defined as a variation of virtual environments.

It gives digital elements to view often using smart phone's camera, in a mixed reality experience, where both VR and AR are combined, real world and it's called as a digital objects interact. AR presents the user objects virtually in their natural environment. AR reality has been humming sound for a number of years, but how this technology impact fashion and beauty.

Augmented reality is live view of a physical; real-world environment elements which are augmented through computer generated perceptual information nothing but computerized extension of our reality can be viewed. Moreover this notion will fit perfectly to the sense of the extended reality permits.

This technology has enhanced our ability to take advantage of situations, sometimes extending with new objects produced by us. AR with more attractive features of face tracking algorithm detect or recognize the face and its parts say, nose, lips, eyes, or hair and the technology allows for real-time face modification.

There are two different ways to recognize the object in AR. One by appearance-based method and another is feature-based method.

Mobile AR has facility to create a new world with the availability of powerful smart phone devices, almost anytime and anywhere.

II.   LITERATURE SURVEY

The below list (**TABLE I**) outline survey of papers related to the topic in brief with possible gaps/limitations within the proposed system.

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III.   TABLE I

Papers	Proposed System	Gaps
[1]	An approach that creates makeup upon an image with another example image as the makeup style.	There is no multiple items except makeup.
[2]	Virtual try on clothes helps users to wear virtually and allow them to know whether that suits users or not by online shopping.	No android app for virtual try on clothes.
[3]	The expressed information on the screen which is composed of 3D outfits, make-up, and hair simulation functions, which can immediately show the fashion information required by the user. This 3D fashion mirror is a natural system.	All the virtual outfits ,makeup & hair simulation is shown only in website no handy android app.
[4]	When a user enters the zone of the camera, the camera will starts tracing the movements of the user with the detection algorithm working in the background.	Explains regarding website which allows the users to try accessories virtually but not android app.
[5]	We have presented an approach to realize real-time virtual try-on of lipstick by user interaction. This uses basically a image processing methods	Only a lipstick is taken as the virtual item no other virtual makeup is considered.
[6]	They are implementing automatic virtual try-on system here user's body size is used for proper clothes	Only virtual clothes are implemented but neither accessories nor makeup is implemented.
[7]	The Application which will help to combine virtual object with the real environment in various applications. The main advantage is to use low cost items than compared to the costly head mounted display.	It's a different approach for a shopping using augmented reality as it allows users to know the information of desired product but doesn't have facility to buy it through online.
[8]	The innovative approaches which can be adopted by retailers appear as an alternative way to gain customers' interest and loyalty	As it tells the way of shopping innovatively but does not give more information regarding the shopping through android app.
[9]	Front-facing AR Offers people a Way of imagining In first person What it is like to be A character they Are seeing on stage Or learning about During a visit to an Exhibition.	Here virtual makeup defining character is implemented, but no information neither of shopping nor use of any other Accessories is Implemented.
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	Application enables the user to try on sunglasses easily and Check their appearance of Sunglasses.	Only Sunglasses is implemented and no other accessories is utilized.
[11]	This application uses the Augmented reality to make easy for the execution of makeup tutorial by Tracking the users face and makeup is applied at each step.	Makeup Tutorial using Augmented Reality but not about shopping.
[12]	Android augmented reality technology in to the fashion retailing industry and explore its benefits on Consumer's behavior that ought to enhance the marketing and sales strategies of different fashion brands.	There is no facility of online shopping.
[13]	The synthesis model in our system also produces nature & appealing results. Extensive Experiments on newly built dataset have verified effectiveness of our recommendation & synthesis Models.	No accessories is tried except Makeup.

IV.   EXISTING SOLUTION

A virtual mirror implemented website is a website which helps users to try on fashion accessories individually. Fashion accessories such as jewelleries and cloths implemented sites are also available. There is even a makeup try on websites which also uses virtual mirror to wear makeup virtually to users. These led to further extension i.e., Some of the websites also helps users not only to try virtual accessories ,clothes etc., but also to shop online i.e., An e-commerce website which makes shopping more easy and flexible to users by trying on different accessories virtually. To come up with an entertaining commercial value face recognition as join forces with other cutting-edge and technology- augmented. Augmented reality is currently widely implements the composite 3D virtual objects in the real world that are integrated into the real world. Face recognition and tracking features paired with AR provide the real-time experience that works as a mirror. The renderer allows super realistic items representation. when we use the augmented reality, AR can potentially be used to another senses such are a augmented smell, touch and even hearing.AR also term is defined the combines real and computerized real environment ,interactively and real objects and then build an AR experience using facial recognition. This application allowed users to simulate their faces and hair with different makeup, beauty products, and hair colour. The app works like filters, but are more visually realistic than generic social media filters.

V.   PROPOSED SOLUTION

Developing an android app using augmented reality where a quick review and virtual try on of new accessories can be done at ease. Shopping is made social and its fun as user themselves can capture the digital photographs in different virtual environment with desired accessories and sharing the same via social network. Face detection shows how fast the algorithms detect a face in a single shot. The faster and more stable it can be, it provides a better and smoother user experience. The software performance enabled with face tracking allows real-time user to get better experience, thus making AR camera apps more enjoyable.

Face tracking is basically a front–end for facial recognition. Its works on normal features points like landmarks surrounding facial components such as eyes, nose, mouth, neck and head. The AR does recognize the face and displays 3D mock version and professional information in the view of camera.
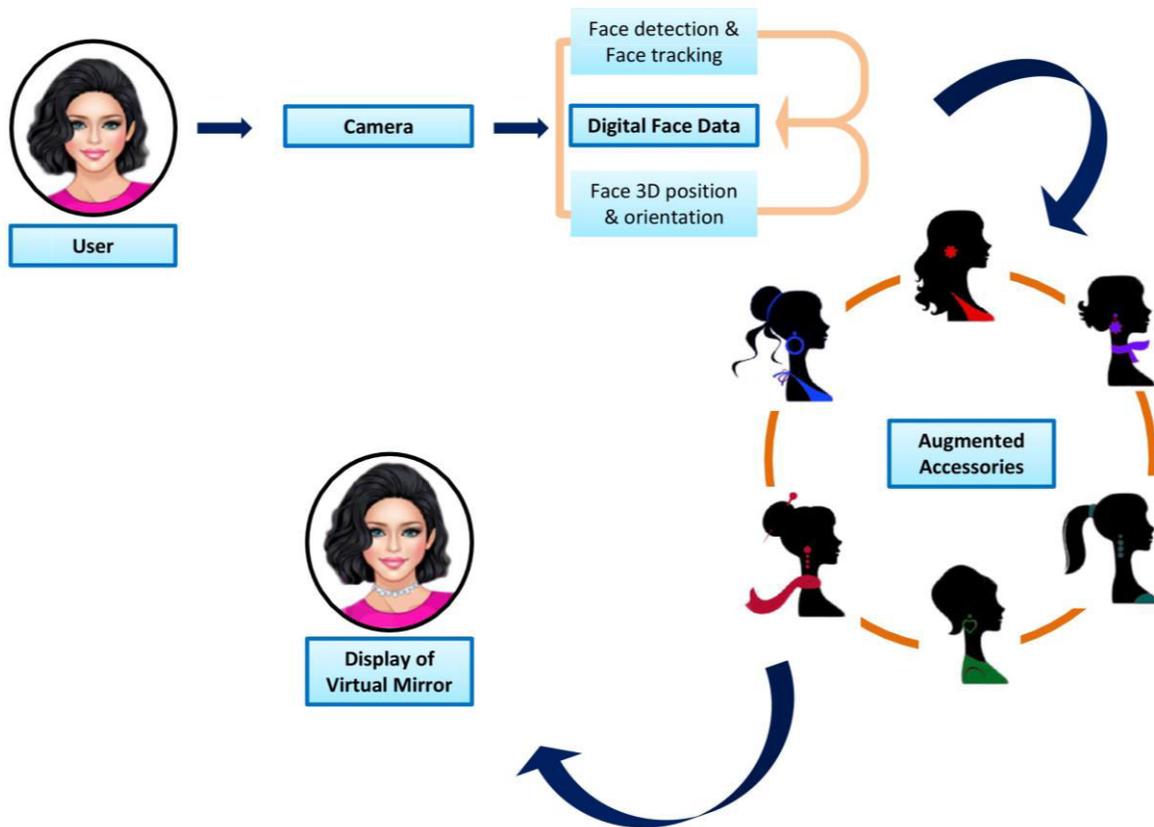
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Fig 1: Execution Flow chart of AR

How different do fashion android app work using augmented reality as compared to previous efforts?

- We are developing a real-time 3D to try on glasses, hats, jewelry, wigs etc.
- The products might be low cost in online rather in physical stores
- This technology might help in saving time, cost, travel and energy. As this technology will help you virtually wear and try on the products which suits you better.
- {Whereas AR applications are paid versions which are available where as our application would be freely available.} ***if required**
- This project improves the customer entertainment with products and smart shopping using augmented reality is developed android application.

VI.   CONCLUSION

We know that the computer has changed the course of human interaction. This paper describes a face in reality and the other step is to identify the object. We through this work plan to include more parameters and understand the challenges caused due to novel interaction with the AR that offers through the mobile device. We can see a tremendous change the people behavior in their manners like their buying pattern, attitude, etc. This application helps user or buyer to directly buy the products via internet from home using system or smart phone. Implementing the simplicity in expensive computations and real-time nature, smart shopping fashion android uses augmented reality in this system.

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Biographies and Photographs

Ms. _Soundarya S Jetty_ currently pursuing her B.E in Computer Science & Engineering at Jyothy Institute of Technology, Bangalore. She is a member of Computer Society of India(CSI); As an intern at Centre of Incubation Innovation Research And Consultancy (CIIRC) she has designed and developed a web application "Naivaidhya" a application for patients searching for naturopathic healers, using Django. She has done several mini projects in the field of Database Management System (DBMS), Computer Graphics and Web Applications. She has done her course in solid waste management and secured high grade under B.PAC (Green Ambassador Program). She has attended several workshops and conferences, also being awarded with Best Behavior title into her account. And presently she is working on the project titled "Fashion Android application using Augmented Reality" and an external project on inventory management system for Aarvee Precision products, Bangalore.

Ms. _Akshatha R P_ currently pursuing her B.E in Computer Science and Engineering at Jyothy Institute of Technology, Bangalore. She is a member of Computer Society of India(CSI). As an intern she has designed and developed a Web Application named "Movies Library" using JAVA. The Application is a library where by selecting the language, movies list and its information will be available; this project was done under extended code lab, JIT. She has done several mini projects in the field of database Management System (DBMS), Computer Graphics and Web Applications. She has attended several workshops she has contributed for the project titled "Fashion Android App using Augmented Reality".

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Ms *Pooja C* currently pursuing her B.E in Computer Science & Engineering at Jyothy Institute of Technology, Bangalore. She is a member of Computer Society of India(CSI). As an intern she has Designed and developed web application named "Webeats" using Java, the application for customer searching for top rated restaurants in India. This project was done under Extended Code Lab . She has done several mini projects in the field of Database Management System (DBMS), Computer Graphics and Web Application. She has attended several workshops. And now presently she is working on the project titled "Fashion Android application using Augmented Reality".

Ms. *Mamatha M,* currently pursuing her B.E in computer science and engineering at Jyothy Institute of Technology, Bangalore. She has done under several mini projects in the field of Database management system (DBMS) and computer graphics and web application. And she has passed and award in diploma distinction and first prize in thesis writing then in school and several prizes for culture activities are in her account, she has done internship on a IOT based project and currently working on the project titled "Fashion android application using Augmented reality" .

Prof. *Nagaraj A* holds a Bachelor Degree in Computer Science and Engineering from Bangalore University, Bangalore, Karnataka, India and Masters Degree in Computer Network Engineering from Visvesvaraya Technological University, Belagavi, Karnataka, India. He has a total of 15 years work experience in a telecommunication public sector undertaking, of Government of India. Has worked in the area of software design, development, integration, deployment, testing and customer support and has spent 8 years in establishing and running a skill enhancement centre.

Has over a decade of experience in academics including teaching, design of courses and evaluation. His areas of interest are web applications, mobile applications, service-oriented architecture, machine learning and artificial intelligence.

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