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A Survey on Recent Virtual Fit Services

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ABSTRACT: Whenever a person buys a outfit online most of the time these outfits look fantastic on the models, but when it comes to the user most of the times the user gets dissatisfied as they don't suit the user as it does with the model. As all the websites uses fit models outfits look great on them, but when comes to the user they don't look that good. Sometimes users face problem while choosing the colour of the outfit. And this happens in some of the products like lenses, jewellery etc...

So we have come up with an solution "Virtual Fit". Virtual fit allows users to try on jewellery, Outfits, Footwear and so on. So the user can easily identify which outfit he suits in and also makes easy in selecting colour.

KEYWORDS: DataBases, Specific Products, Specific Brands, Models, Company Specific, Offline, Huge Capital, Region

I. INTRODUCTION

Whenever a person buys a outfit online most of the time these outfits look fantastic on the models, but when it comes to the user most of the times the user gets dissatisfied as they don't suit the user as it does with the model. As all the websites uses fit models outfits look great on them, but when comes to the user they don't look that good. Sometimes users face problem while choosing the colour of the outfit. And this happens in some of the products like lenses, jewellery etc...

According to "Lenskart" they need to maintain a huge database of glasses and the AR technology is applicable for glasses only but not any other product. According to "Amazon's try on shoes" they are unable to develop the software for android mobile devices and can only try on sneakers from amazon. Amazon don't provide this feature to other outfits. According to "Snapchat" they are able to provide this feature for specific brands only with limited products. For this, Snapchat need to create a database for all the products in a format that supports the 3D modelling. According to "Wal-Mart", they need to try on their product on 50 different models , when we take a product we get a total of 200 photos appox. 4 photos of each model in different angles for every single outfit, this leads to huge database. According to "Style.me",Users can only try dresses of specific brands which are out of budget. Amazon's "The Virtual You", "DETEGO", "Geonovel", all these companies are in development state only and one of the disadvantages is these provide the feature only for products on their website or application.
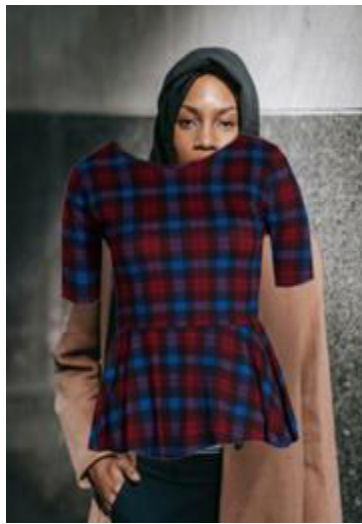
II. LITERATURE REVIEW

Existing Applications:
- Virtual dressing room
- Wedding dress try on virtual dressing room
- LensKart
- Amazon virtual try on shoes
- Snapchat DressUp

1. Virtual Fitting Room :

Working:
- Takes input photo from user.
- User can choose from some fixed dresses available to try on.
- Adjust the dress manually to fit your body.

Disadvantages:
- ➢ Fixed no of dresses.
- ➢ Manual adjustment of dress.
- ➢ Not realistic.
- ➢ Only female clothing.

2. Wedding dress try on virtual dressing room:

Working:
- ➢ Takes input photo from user.
- ➢ Choose from various wedding dresses.
- ➢ Adjust your photo manually.

Disadvantages:
- ➢ User picture in the background.
- ➢ Difficult to adjust picture with respect to dress.
- ➢ Fixed number of dresses.
- ➢ Totally unrealistic.
- ➢ Except face everything doesn't change.

At present there are these 2 types of applications which offers users with
- ➢ Limited no of dresses
- ➢ Manual adjustments.
- ➢ Unrealistic looks.
- ➢ Bad user interface.

3.LensKart   **:**
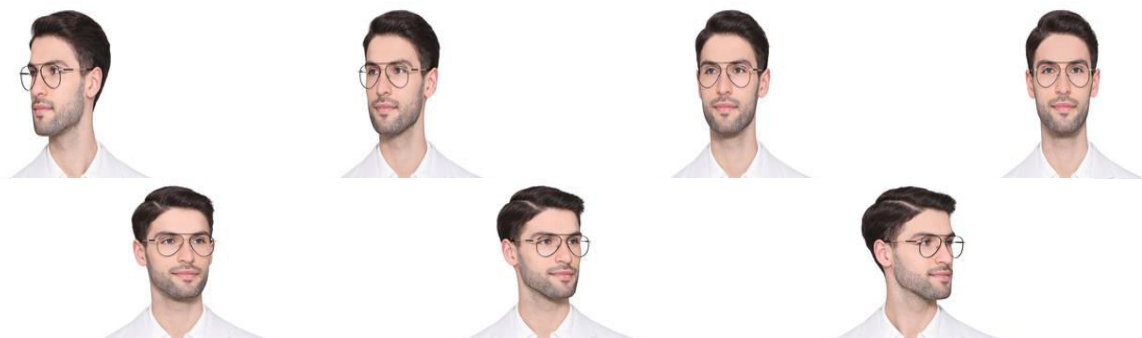
Lenskart is another company that uses AR Augmented Reality technology that allows the users to try from the side range of glasses from more than 100's of brands and wide collection of 1000's of glasses. Lenskart States that after the company started using this AR technology the sales were increased by significant amount. Finding the right pair of glasses at the comfort of my home? I'll take it! The virtual AR feature on the Lenskart app is not just convenient and helpful but super fun to use. It is also user-friendly, no doubt! As I opened the tool, it detected my face shape and suggested a range of frames. It's like a personal stylist!.

Working:
- Scans the face of user from left to right and makes model.
- Once the model is created user will be able to try on the glasses.
- User can have a complete 3D look using the mouse hovers.

Disadvantages:
- Need to maintain huge database.
- Try on only available for glasses but not for any other products.

4. Amazon's virtual try on shoes:
Amazon is tapping into augmented reality in an attempt to appeal to sneaker heads shopping its site. The retailer this morning announced a new feature called Virtual Try-On for Shoes that will allow customers to visualize how a pair of new shoes will look on themselves from multiple angles using their mobile phone's camera. The company says the feature will help brands to better show case their products while also informing customers' purchasing decisions. The launch follows the rollout of other virtual try-on technology for athletic shirts this past April, as part of an update to its "Made for You "custom clothing service. In that case, however, the technology was rendering the shirt on an avatar that represents the customer's body, based on their actual measurements and doesn't use AR.

Disadvantages:
- Try on only for shoes.
- Currently available only for IOS users not for Android users.
- Only products from Amazon

5.Amazon's Made for you :
Made for you is Amazon's new brand that brings you made to measure, customizable T-shirts. Each T-shirt is made to order specifically for you.

Disadvantages:
- Currently unavailable.
- Worth $25 for a T-shirt.
- No other outfits other than T-shirt.

6. Snapchat's DressUp: [Partially Developed]
Snap's plans on this front are more ambitious than most. It's trying to take the whole shopping experience — you see a shirt you like on a stranger, figure out what it is and where to buy it, try it on, buy it, wear it, return it because everything looks better on Ryan Reynolds than you, rinse and repeat — and funnel it through Snap's AR camera. Through Camera Kit, most of that tech can also work within brands' websites and retailer apps. And there's always a buy button.

That's a lot to do, but Snap's moving quickly. The company announced on Thursday at its annual Creator Summit that it's expanding its AR try-on features that let users use their cameras to virtually try on glasses and clothes, and it's also creating an in-app hub called Dress Up that it hopes could be something like the future of the shopping mall.

Disadvantages:
- ➤ Only few brands.
- ➤ Just overlay of photos, static and doesn't change with user body movement.
- ➤ When coming to shirts and clothing, the clothing is static and user need to adjust accordingly.
- ➤ Only selected products from some specific brands are available.

7. Style.me:

Accurate size recommendations. Our virtual fitting room plugs into your online store and shoppers can create an avatar with basic measurements and body shape selections. Our solution is size inclusive and the fit recommendation engine maps garment patterns and sizes to your customer's unique measurements, allowing them to find their perfect fit and size.

In addition to measurements and body shapes, shoppers can personalize their avatar's face, skin tone and hairstyle. Easy and fun way to drive engagement.

Working:
- ➤ Create an avatar according to your body measurements.
- ➤ Adjust the skin tone and hair color.
- ➤ Choose your outfit.

8. FXGear Mirror:

FXMirror automatically measures body dimensions in real time, letting users switch between items quickly while fitting to their unique body. Say 'goodbye' to fitting room waiting lines!

Offer essential item information, such as, price, color, and available stock in one central location. With just two simple front and back photos of inventory items, FXMirror's Cloth Authoring Tool creates photo-realistic 3D images within 10 minutes (compared to 3-5 hours for competitors).

Personalize the 3D avatar by selecting the hairstyle and skin tone to reflect the user's facial expressions and body measurements then get size recommendations.

Working:
- ➢ Uses 3D model or the user itself.
- ➢ The dress to be tried on should be scanned using CAT device to create a360 degree image.
- ➢ The dress is overlaid on the user live stream to create a virtual try on experience.

Disadvantages:
- ➢ Setting up the business is tough at beginning as each and every dress need to be scanned and takes nearly 10mins for each dress.
- ➢ Huge investment during development.
- ➢ Hardware and software so maintenance is required.
- ➢ Need to wait in queue to try on the dress as it is offline.

III. UNDER IMPLEMENTATION

1. Walmart:

Walmart is rolling out a "Choose My Model" feature to app and online users that lets customers attain a sense of how a clothing purchase will look on them. The feature is a virtual fitting room platform, called Zeekit, which Walmart acquired, according to a press release.

The feature offers customers the ability to select from 50 different models, ranging from 5'2 to 6'0 in height and sizes XS to XXXL.

"We have already seen a strong customer response to our "Choose My Model "experience. The extraordinary, positive customer feedback out of the gate underscores our opportunity and ability to solve a common online shopping problem and build a true, personal connection between Wal-Mart and our customers," stated the press release.

Working:
- ➢ Choose from 50 models who suits you most.
- ➢ Try on the outfits on the model.

Disadvantages:
- ➢ Can try on dresses from Walmart only.
- ➢ This model doesn't show how dress looks on us.
- ➢ Huge database required as there is need to save look of each model forevery dress.

2. Amazon's Virtual fitting room :

Amazon's newest technology is meant to revolutionize the way we shop for clothing online. The retail giant is developing an app that will work as a virtual fitting room so shoppers can try on clothes prior to purchase.

The patent is still in its early stages, however it is known that the potential app would need access to personal data in order to act as a personal stylist and produce images of shoppers wearing outfits they are considering purchasing.

The app would utilize photos saved on a phone to create an Augmented Reality image of the shopper wearing items available for sale. Shoppers could swipe to either like or dislike the clothing items shown, and use search terms like "search my look," "randomize" or "find more like this."

Working:
➢ Stand in front of virtual fitting room and choose the outfits you want totry.
➢ Once selected you will be able to try on the outfit without actually wearingit.

Disadvantages:
➢ Offline store.
➢ Only products from Amazon.
➢ Huge investment in R&D and installation.

Some other companies that are working in the same field are :
➢ Geonovel Group
➢ DETEGO

IV. REVIEW FINDINGS

According to "Lenskart" they need to maintain a huge database of glasses and the AR technology is applicable for glasses only but not any other product. According to "Amazon's try on shoes" they are unable to develop the software for android mobile devices and can only try on sneakers from amazon. Amazon doesn't provide this feature to other outfits.

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Databases:
➢ Huge databases are required for companies like Walmart, style.me, any Ecommercewebsite.
➢ New database of 360 degree view outfits are required by company's likestyle.me, FXMirror, Amazon, LensKart.
➢ Maintaining such huge databases need consistent monitoring.

Specific Products:
➢ Lens kart only offers virtual try-on for Glasses only.
➢ Amazon's 'Virtual try-on shoes' supports shoes only.
➢ Amazon's 'Made for You' is only for T-Shirts only.
➢ Snapchat 'Dress Up' works good for sneakers only but not outfits.
➢ Snapchat has limited number of products to try-on.

Specific Brands:
➢ Gucci, Balenciaga, Ulta Beauty and some other expensive brands are available on Snapchat.
➢ No wide range of brands is present on Snapchat.
➢ Companies only provide these features on expensive brands because the returns of those products are huge loss for them.
➢ We can try on from these expensive brands which we cannot effort.

Models:
➢ Walmart uses 50 models to demonstrate how the dress looks on people of different sizes and color. Only new products can be made available with this feature.
➢ Others uses 3D models made based on the requirements of users but the problem is each and every outfit should undergo a 3D scan which is a burden for retailers.

Company Specific:
➢ Companies allow users to try-on products available on their website only.

➢ We cannot try-on other products from any other source.

Offline:
➢ All virtual fitting rooms are offline so time will be wasted waiting in thequeue for our turn.
➢ The setup and maintenance will be a burden to the retailer.

Huge Capital :
➢ Virtual fitting rooms require huge capital due to the Research and Development, Hardware equipment.
➢ Manufacturing cost and installation cost is high.
➢ Creating 3D models require CAT devices which are also expensive for small businesses.
➢ Working with 50 models for each outfit is also a great concern.

Region:
➢ There are no virtual fitting rooms in India and many other countries so they need to stick with E-commerce only.
➢ while all the E-commerce websites that provide 3D model support are not Indian retailers do they need to be shipped from USA or UK even if we tried them online on their website which makes holes in our pockets.
➢ So, people here in countries like India or any other countries are left withno other option except to look at the models and order the dresses.

REFERENCES

1) VirtualDressingroom:https://play.google.com/store/apps/details?id=com.PrimoLook.App
2) Wedding Dress virtual try on dressing room: https://play.google.com/store/apps/details?id=com.MA.Wedding.Dresses.Try.On.Virtual.Dressing.Room
3) Lenskart : www.lenskart.com
4) Lenskart model:https://youtu.be/tdTrl0ZgvM0
5) Amazon's Try on shoes: https://techcrunch.com/2022/06/09/amazon-gets-into-ar-shopping-with-launch-of-virtual-try-on-for-shoes/
   • Amazon's Try on shoes model: https://www.amazon.com/b?node=23595320011
6) Amazon's Made for you:https://www.amazon.com/stores/madeforyou/madeforyou/page_/E853E0F0_6F79-442D-B7E8-3A0E0531FAF2
7) Snapchat Dress Up : https://www.theverge.com/2022/4/28/23046385/snap-dress-up-arshopping
   • Snapchat dressUp model : https://imgix.bustle.com/uploads/image/2022/4/28/9fdb73e1-511e-4828-82c4-94b35d57c618-amsale-try-on-lens-gif.gif?fm=webm
8) Style.me :https://style.me/virtual-fitting/
   • Style.me model demo : https://demo.style.me/product/1007208
9) FXMirror : http://fxmirror.net/en/features
   • FXMirror Model : http://fxmirror.net/en/main
10) Walmart:https://fox8.com/news/walmart-launches-choose-my-model-for-online-shopping/
   • Walmart model :https://youtu.be/-ybIS-4VVK4
11) Amazon's virtual fitting room : https://venturebeat.com/2020/06/05/amazons-new-aitechnique-lets-users-virtually-try-on-outfits/

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