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Furniture Shopping Application with Augmented Reality

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Abstract:

This paper represents the work associated with the event of piece of furniture looking application with increased reality.

In this paper, it's attainable for user to shop for the piece of furniture objects sitting within the home while not visiting the outlets. the most purpose of the project is to develop a mobile application for making an attempt completely different piece of furniture in virtual method. the applying can eliminate the human efforts by physically visiting the piece of furniture store that is incredibly time intense activity.

Augmented reality could be a field of laptop analysis that deals combination of reality with laptop connected information. In youth if we tend to users needed to shop for a piece of furniture objects while not visiting the outlets it had been attainable however it had been uphill to see however the thing truly appearance in home structure.

The world as we all know it nowadays, is run on technology. If servers of school giants like google, facebook etc finish off for a couple of minutes, the globe encounters vast losses, sometimes in millions. There area unit multiple styles of technology wont to run any organization, related to its hardware and code. however within the world dominated by technology, we tend to see that increased Reality has not been used wide in business applications. AR has been utilized by many organizations to make revenue from the sector of recreation, as an example Snapchat and Pokemon Go, however seldom employed in any business sectors like e-commerce. equipped application is formed on the idea of the actual fact that increased Reality technology is grossly underutilized within the ecommerce business. we tend to hope to make a easier atmosphere of AR technology platforms for the everyday user for them to instill the employment of such technologies as a daily utility, particularly for ancient users.

Keywords: Furniture objects, Furniture shopping applications, Augmented Reality.

Introduction:

Furniture searching application with increased Reality could be a humanoid Application supported Java. for creating the model we tend to used Java and humanoid studio. searching application like Grofers with increased Reality. increased Reality means that associate Interactive expertise of the $64000 world. It facilitate to ascertain world objects through smartphone. we will produce Reality e.g Chair, Sofa, Table etc. In frontend and backend we tend to used Java programming and humanoid studio IDE.
Many of the purchasers face difficulties of finding the proper furnishings in on-line searching with none disappointment. often, customers would solely realise that the drawers of a table or doors of a cabinet area unit unable to be opened because of the clamped area. whereas others discovered that the furnishings simply don't match into the required spot as some customers area unit lazy to live the length and breadth accurately. a number of the furnishings with larger sizes even needs the client to assemble it by themselves. Thus, if associate interactive application that may provide customers a assume the preview of however the merchandise would appear as if within the real-world setting, definitely it'd boost the arrogance of the purchasers on the actual product. Besides, it may be created as a reference throughout assembly to form certain that the assembled furnishings are going to be placed at an equivalent spot because the client originally needed to.
On the opposite hand, many shoppers area unit unhappy with the form or color of the furnishings because it doesn't match the encircling, thence creating the area graceless to the attention merely} simply ugly. the most reason is as a result of customers might not be smart at imagining the merchandise being placed at the required spot, or has thought that the merchandise that appears smart ought to naturally match with the encircling. Thus, by providing associate AR application, wherever the client will simply swipe the position of the merchandise round the space can facilitate the client higher decide if the chosen product would match with its surroundings.

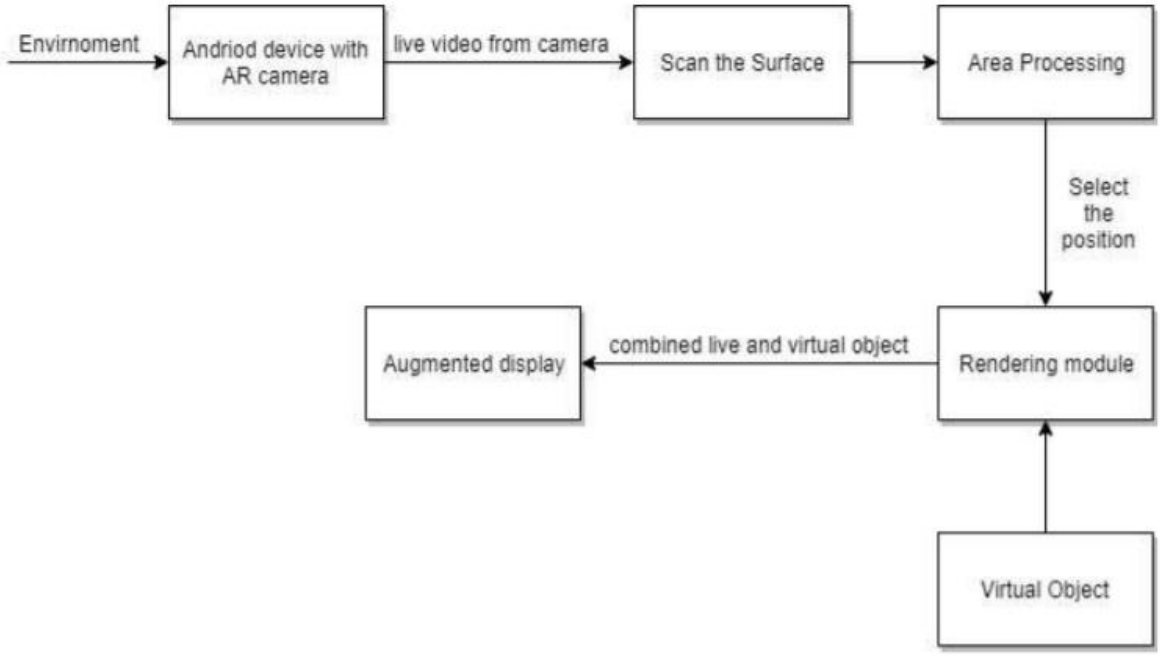
Literature review:

Santosh Sharma, Yash Kaikini, Parth Bhodia, Sonali Vaidya has planned technique named “Marker less increased Reality based mostly Interior coming up with system”, that uses Markerless increased Reality as a basis for enhancing user expertise and for a far better perception of things. it's advantage of no would like of markers within the extent and disadvantage is Object is aligned with camera so it moves as we tend to move a camera.

Snehal Mangale, Nabil Phansopkar, Safwaan Mujawar, Neeraj Singh has planned technique named “Virtual piece of furniture victimization increased Reality”[2] that may be a net based mostly application wherever user, need to place the marker in a very area wherever they need to undertake out piece of furniture things.

Khushal Khairnar, Kamleshwar Khairnar, Sanket kumar Mane, Rahul Chaudhari has planned a way named “Furniture Layout Application supported Marker Detection ANd victimization increased Reality” to develop an application wherever user need to place the marker in a very area wherever he need to undertake out piece of furniture things. The user’s digital camera are on and thru the digital camera he can capture the live feed of the area. Then application search the marker victimization fiducial marker detection formula.

Flow Chart :



Problem Statement:

As the client purchases varied styles of article of furniture through on-line, however in on-line it shows solely photograph and can't be determined size in space. even supposing there square measure sure applications gift that square measure supported increased reality {they square measure|they're} not appropriate for live process and takes longer to method the world and a few are mounted to a specific image plane. So, to beat that he will use this application to visualize whether or not the article of furniture is adjustable or not which may be placed within the client living space like home or workplace victimisation increased reality pictures. Our application could be a step during this direction, permitting users to look at a 3D rendered model - a virtual likeness of the physical article of furniture with none interruption of the markers - which may be viewed and designed in real time victimisation our increased reality application.

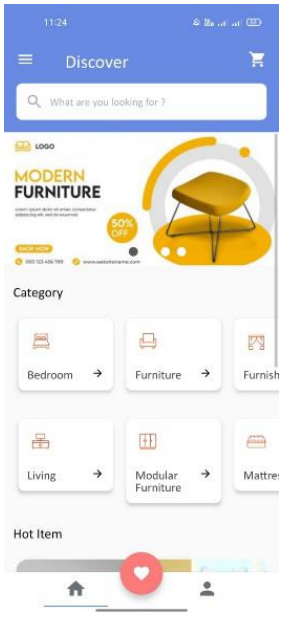
Methodology:

The system primarily uses movable integral camera that supports enlarged Reality to collect hold real scene scan determined by human eyes and stacks the 3D furnishings models on the screen displayed. 1st of all, we'd prefer to setup the scenes in java for worm of application like buttons, text areas, background image and virtual object alternative. Later we have a tendency to tend to create 3D furnishings models by sceneform and import the models into java. Through distinctive and tracing the realm, the camera obtains pointers mistreatment Google AR Core and establishes projection models, ultimately stacks the foreign 3D virtual model at intervals the Real-world scan. as a result of mechanical man sensible phone has touch-screen interface perform, we are able to place the article of furniture by slippery screen.

The paper is divided into following module:

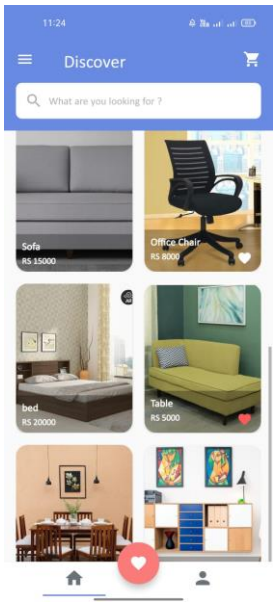
1. Home:

- Home consists of various section such as image slider, search bar, category, etc.
- Image slider will slide from left to right and vice versa. Image slider will show the product image and short description of product.
- Search bar can be used for searching any product. We can search available product by searching its name.
- In category, we can see the products by its category such as bedroom, living, etc.



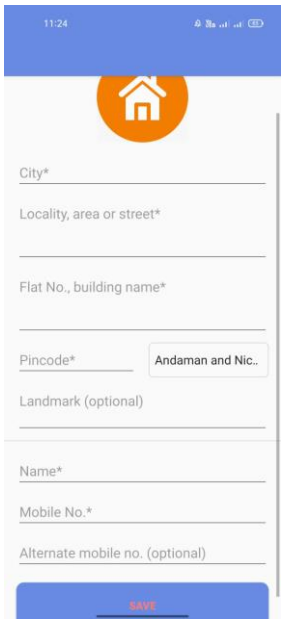
2. Furniture:

- This section consists of various items such as sofa, office chair, bed, table, etc. In this section, We can see the item and its price.



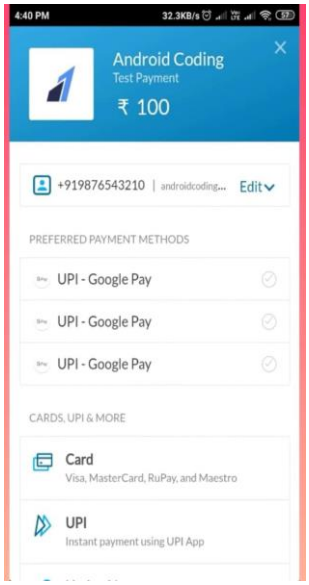
3. Address:

- In this section, user must fill up its details such as city, state, building number, pincode, name, mobile number, etc.
- Furniture will be delivered on this address and user can pay by cash on delivery or through it mobile by payment gateway for the furniture.



4. Payment Gateway:

- User can pay online through Google Pay.
- As well as user can pay through card such as Visa, Mastercard, RuPay, Maestro, etc.



5. Demo:

- You can see demo of the application.
- Furniture is being showed in augmented reality and you can feel the real experience without buying any furniture.

Hardware/Software requirements:

1. Operating System :- Windows XP / Windows 7, 8, 10
2. Language :- Java, XML
3. IDE :- Android Studio
4. RUN :- Android Platform

Applications:

1. Investing in a android augmented reality solution for furniture will pay rich dividends for your furniture business. It has a higher adoption rate than conventionally created AR apps.

2. Consumer engagement with products increase manifold by way of a furniture product visualization web AR.

3. By enabling your customers to try before they buy with the help of AR experience for furniture, you build trust and confidence in your brand. Market statistics point to a 23% reduction in product returns.

4. Prospective buyers get an accurate sense of scale and realistic idea of context with the help of simulated lighting embedded in solutions for AR furniture for android.

Conclusion:

This paper will help and assist the customer to view the furniture object virtually in real environment before buying the object. Due to these paper customer will come to know how their home structure would look after purchasing and placing the furniture object. This paper would let the user to try on multiple combinations of object virtually without physically moving the furniture objects. These will help the buyer in determining how to setup the furniture in their home structure.

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