Plagiarism Checker X Originality Report

Similarity Found: 7%

Date: Wednesday, April 05, 2023
Statistics: 108 words Plagiarized / 1482 Total words
Remarks: Low Plagiarism Detected - Your Document needs Optional Improvement.

XXX-X-XXXX-XXXX-X/XX/$XX.00 ©20XX IEEE AR and VR Based FURNITURE STORE Anirudh Saxena(19BCE2449), NishantDiddigi(19BCE2498), Jeet Bangoria(19BCE0874), Dr Swarnalatha P. Abstract — The aim of our project is to improve the customer experience for buying furniture from an online furniture store. In some cases, after buying furniture customers realize that the fuituotale foeir hur its dnesn't match with the interior of the house.

This project will help the customers visualize that how a particular furniture looks like when kept in their house and will also give the customers an idea if it can be perfectly placed in the desired area of the house. Augmented Reality shall be used to achieve the goal. The customers could also select the furniture they wish to buy by visualizing their demo furniture setup using Virtual Reality. I. PROBLEM STATEMENT • st fthppd t et e uitue f esire dimension. • puallybyfrnro e asis fits u, cofrdn d (ddg rd fpioity) The people would like to verify how the furniture looks an finthddar eywantok in Amidst this pandemic situation people will refrain from going out and visiting the shops.

• ,we ten ter e oe -mentioned problems through an interactive AR and VR app. 2. INTRODUCTION Augmented reality (AR) and Virtual Reality (VR) bridge the digital and physical worlds. They allow you to take in information and content visually, in the same way you take in the world. AR dramatically expands the ways our devices can help with everyday activities like searching for information, shopping, and expressing yourself. Over the last few years, we'vseen s en, age, hpple different ways – from letting fans interact with their favorite characters, to placing virtual electronics and furniture for the perfect home setup and beyond.

Raw Depth API enables more improved geometry, accurate depth measurements and

spatial awareness. In the ARConnect app, these more accurate measurements give users a deeper understanding of their physical surroundings. TAR rne App tilizes dths awareness to allow users to build realistic virtual 3D furniture around their desired area and allows scene reconstruction 3. HARDWARE AND SOFTWARE REQUIREMENTS . Based on the responses of the people in the survey conducted, the following hardware and software will be adopted to carry out the android app development project work. 1. Google Poly: To import the 3D Module of the furniture. 2.

AR Core: For adding AR/VR Module to the App. 3. Sceneform SDK: For adding AR/VR Module to the App. 4. Raw Depth API: For accurate measurements for Furniture and area. 5. Google Firebase: To store user database and app info. 6. Google Firestore: To store the real time database of variety of furniture. 7. Android Studio: For developing App interface as well as backend. 8. Android Emulator: For temporarily previewing the App. 9. Android Smartphone with Camera: To run the App 4.HIERARCHICAL TASK ANALYSIS Based on the requirements of the people, the goals and subgoals were identified and the following HTA was concluded 5. STATE TRANSITION DIAGRAM 6. GOLDEN RULES 1. Strive for Consistency: manner.

in similar font type, size and colour, indicating that they mean the same thing, i.e., name and price of furniture. 2. Enables frequent users to use shortcuts: it to cart. So, to make the usage of the app simpler for frequent users I have added the quantity button beside the description of the furniture. to cart where the quantity will be updated along with the total price accordingly. 3. Offers informative feedback: phone. informing the users that how they should hold the phone and how to rotate the phone to generate the A.R model of the furniture 4. Design dialogs to yield closure: ntity and clicks on the cart icon, i.e.,

when they add items to the cart a dialogue shows they wanted to do is completed successfully. 5. Of users simple error handling: A red colour icon containing exclamation mark displaying the beside the text field. This give a peace of mind to the user that the task which they wanted to do is completed successfully. 6. Permit easy reversal of actions: then the user can easily reverse their action by swiping the product in the card either from left to right to vice versa. 7. Supports internal locus of control: ed only when user performs it. displayed in the app. 8.

Reduces short term memory load: it easier for users to use the app. furniture is consistently displayed with similar patterns and convention. 7.IMPLEMENTATION 1. Register and Login Module: New users will be able to register to the app upon clicking The user will have to provide their Email-ID and have to create a Password for logging in into the app or they can directly Sign In using their Google Account. Existing user can

directly Sign In using registered Email- ID and Password. 1.1. Google Firebase Database: The app is linked to Google Firebase for authentication services, where the User IDs are stored and Password of the user is encrypted. 2.

Products and Filter Module: There might be a situation when A.R feature is not available for all furnitures. ? So, the filter button is added above the list of furnitures, clicking upon which, the furnitures in which feature is available are filtered out. 3. Search Module: ? A search bar has been added at the top of the page which display the list of furniture. ? Users will be able to type the name of the furniture in the search bar and the desired furniture will be filtered out. 4. AR Module: ? This the defining module of our app.

? On clicking the desired furniture among the list of fitur"View bu n will be visible along with description and other features of the app. ? Onclick e A.R" ttonthe os and users can place the selected furniture in their desired places to see how it will look. 5. Quantity and Add to Cart Module: ? Users can select the quantity of feature they wish to order upon clicking the desired furniture. ? Clicking on the plus sign increases the quantity by one and clicking on the minus sign decreases the quantity by one. ? After selecting the quantity, the users can click on the cart icon to add the items in cart. 6.

Cart and Checkout Module: ? Users can view the item they added in their cart by click on e w op. ? The total price and quantity is updated in the cart on the basis of the type of furniture and quantity selected by the user. ? Items in the cart can be deleted by just by swiping the itemeithlefto igor ighto t r eckt" tton can be clicked if user wants to buy 8.CONCLUSIONS This project was all about making the shopping experience of furniture buyers easier, and we can assert that with the completion of this project, we have created a prototype which can fulfill that purpose.

We were able to create an app which contains 3D models of different kinds furniture which the users can view virtually using the camera of their android smartphone. The 3D model of the furniture can be rotated and placed at any place virtually as desired by the users. If the furniture is suitable to the user, they user can also select the quantity of the furniture and add it to the cart and checking out subsequently. This project was a learning curve for us as we did research taking references on the internet as to how to make such an app using Android Studio, ARCore etc.

The experience while making this project has even motivated us more to think of more innovative ideas for different projects. The experience gained from this project will surely help us in creating even better projects in future also. Various future works are possible in this field including: be added into the cart or considered for purchase

visualization of furniture products more number of features of furniture items including recognize behavioural patterns of user including purchasing patterns to decide a competitive price application REFERENCES [1] Khairnar, K., Khairnar, K., Mane, S., & Chaudhari, R. (2015)BFurniture Layout Application Based on Marker Detection and Using Augmented Reality [2] Riar, M., Korbel, J. J., Xi, N.,

Zarnekow, R., & Hamari, J. (2021) The Use of Augmented Reality in Retail: A Review of Literature [3] Gallardo, C., Rodríguez, S. P., Chango, I. E., Quevedo, W. X., Santana, J., Acosta, A. G., ... & Andaluz, V. H. (2018). Augmented Reality as a New Marketing Strategy [4] K Wiley 2017. From Your Phone To Your Home: An Augmented Reality Brand Experience for High-End Furniture [5] Viyanon, W., Songsuittipo ng, T., Piyapaisarn, P., & Sudchid, S. (2017). AR Furniture: Integrating Augmented Reality Technology to Enhance Interior Design using Marker and Markerless tracking Make sure to remove all placeholder and explanatory text from the template when you add your own text.

This text should not be here in the final version!

INTERNET SOURCES:

1% - https://www.qualtrics.com/experience-management/customer/improve-customer-experience/
1% - https://vr.google.com/vr180/
<1% - https://ludwig.guru/s/over+the+last+few+years
2% - https://developers.googleblog.com/2021/05/unlock-use-cases-and-increase-developer-velocity-with-new-capabilities-in-arcore.html
<1% - https://humancomputerinteractionweb.wordpress.com/2016/08/11/6-permit-easy-reversal-of-actions/
<1% - https://sis.binus.ac.id/2020/11/13/eight-golden-rule-reduce-short-term-memory-load/
1% - https://www.irjet.net/archives/V2/i7/IRJET-V2I780.pdf
1% - https://digital.library.txstate.edu/bitstream/handle/10877/6730/Wiley_Kendra_Thesis.pdf
1% - https://www.researchgate.net/publication/320850067_AR_Furniture_Integrating_Augmented_Reality_Technology_to_Enhance_Interior_Design_using_Marker_and_Markerless_tracking