

Concept: Use of Augmented and Diminished reality for renovation of houses

Purpose:

When we are planning of refurbishing our home, it is difficult to choose a design/idea which will make your home look as you expect it to be, let it be furnishing, decorations, paint etc. You need to have an expert come over for this purpose and then design it will him/her in multiple meeting. The solution will be built for users who want to design the new look themselves and it uses smartphones for visualizing possible renovation outcomes through the application. The app will help user to point the camera on area they want to be renovated, then click on existing furnishing/paint and change it as per their choice and the app will show how it will look if they do it.

Advantages:

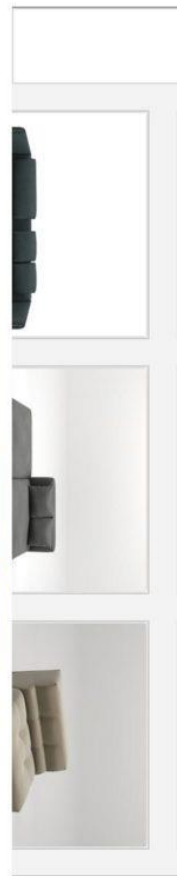
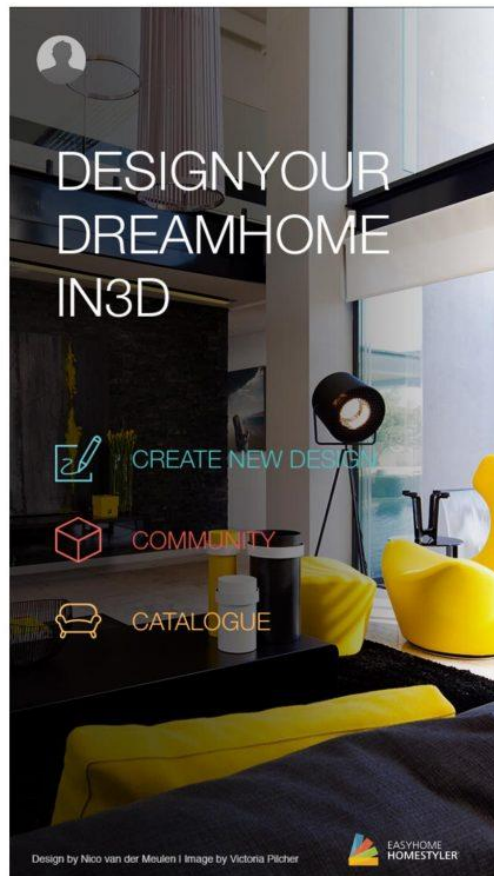
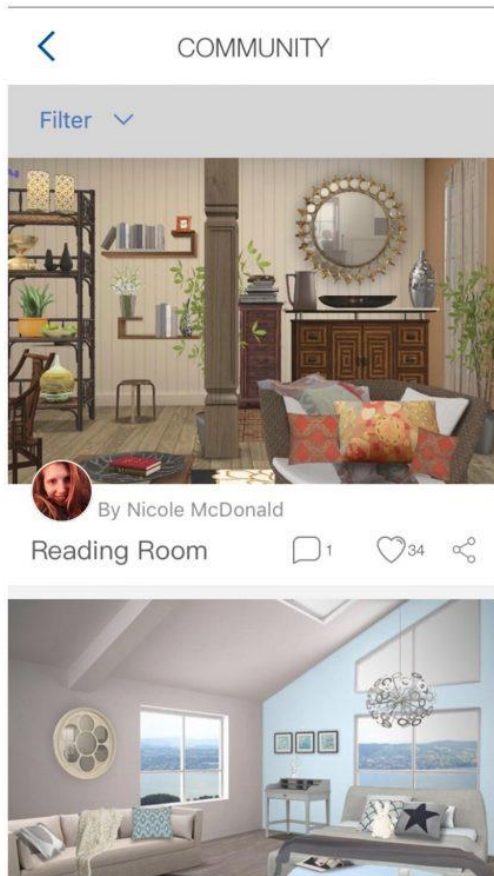
- Easy to use
- Smartphone based solution
- Do it yourself functionalities
- Quick look at changes and remodel as needed before finalising the plan of renovation
- Free for consumers/ users
- Live view of changes which is missing from existing applications
- Removal of existing objects from the scene to replace them

Drawbacks:

- Requires smartphone to support Augmented Reality core
- Vendors providing the designs/furnishings might be far away from the users, which may result in a bit of delay for providing service

Functionalities:

- Application is simple camera-based solution that uses AR core of the smartphone, base of Augmented reality is used for adding virtual designs on top the real objects in the room while diminished reality is used for removing real objects to replace them with virtual objects.
- Application will have similar interface as that of an existing application “Homestyler”, which will help you choose different designs and after changing the existing objects/designs, the application will show live changes and outcome of it.
- It is simple to removal/addition mode, you need to change the mode in settings and you can either add/remove the object accordingly.
- Application interface:



(Real Estate, 2019)

- Before the changes



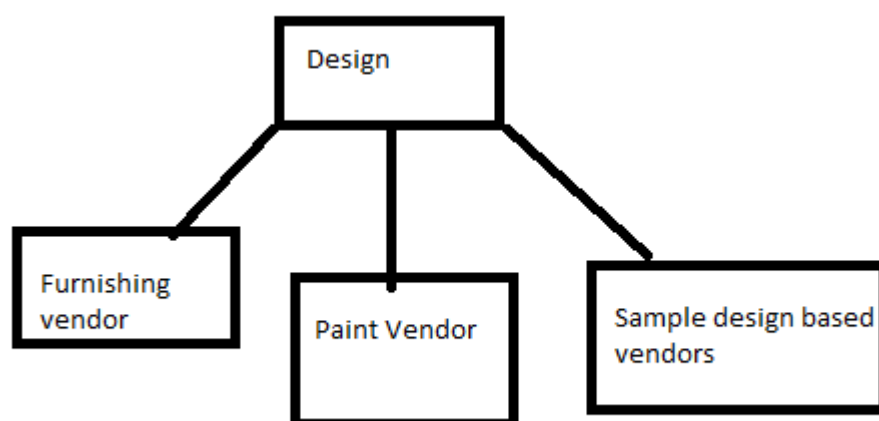
(Eastman carpet, 2019)

- After the changes:



(Real simple, 2019)

- Post design vendor selection:



Benefits:

- Saves cost of architects where you do not need highly complex renovation
- Easy to use and available for everyone
- Free to use for designing

- Profits are made based on commissions made on:
 - Designs chosen of a vendor
 - Paint solution selected for repainting
 - Furnishing vendors
- If the vendors earn, we earn, it is a win-win situation
- Vendors can provide small discounts to ensure the users buying their designs
- Scalable to multiple vendors and designs

Link for Deakin Air:

https://video.deakin.edu.au/media/t/0_w1xq9f71

References:

Real Estate 2019, retrieved on 12 May 2019, available at:

<<https://www.realestate.com.au/lifestyle/home-renovation-apps/>>

Eastman carpet 2019, retrieved on 15 May 2019, available

at:<<https://www.eastmancarpet.com/blog/2017/07/25/choosing-a-rug-for-your-floor-type-and-color/>>

Real simple 2019, retrieved on 15 May 2019, available at<<https://www.realsimple.com/home-organizing/decorating/decorating-living-room/living-room-design-ideas>>