Functional Specification:

Brief:

“The essential functional elements should be defined and described,

including data paths. This functional specification should not assume

any specific technologies, only functional technologies (Short range

wireless technology is a functional statement whilst Bluetooth is a

specific technology)”

InteriAR would have all it’s users in a database, that would hold their account information such as Account information, Password, Reviews and chosen augmentation and so on.

Upon opening the app, it would use premade augmented reality libraries combined with computer vision techniques to correctly project the orientation and position of the 3D object. This would also aid in changing the colour of walls within the app. The user would potentially have to make changes to aid the projection and to gain additional data. Once the user has chosen and finalise a design, this would be stored in a database once again overwriting the old one (maybe or added with it); Then it’ll be sent to a decorator. Lists of decorators will also be in a database. Their profiles will be displayed by area to the user who can contact them directly with our built in messaging system.

The messaging system will likely use libraries that have been already made as a starting point. As this chat won’t differ much from a standard chat, it wouldn’t have very much different from the standard chat. Once the decorator accepts the design sent to them, an escrow payment system will be shown. This will also include an existing libraries to aid in the structure of the payment system.

We will also have an agreement that users will abide to that states that the money will be released once the job has been completed. Once the completed job has been confirmed, the user will have the option of reviewing the Decorator and allowing them to use the captured augmentation on their profile to help them build up their reputation.

Technical Specification

Having validated the proposed solution with users and answered any

open technical or feasibility questions, attribute specific technologies to the functional architecture and present this as a technical architecture.

Justify your choice of technologies with reasoned arguments for

rejecting or retaining alterative technologies.

Wikitude – Can provide slam

SLAM – We don’t want to use trackers. SLAM uses multiple techiniques to project 3d in real life better than lighter versions of AR tracking.

K clustering (Image Segmentation) – For the walls

Android / IOS – Will be scalable to tablet, won’t work on computer without external webcam

Unity – Excellent for 3d modelling as as well as deploying / Didn’t use android studio for the difficulty of 3d design and development

Libraries (idk)

AR Core – Didn’t use as Android only and doesn’t support SLAM

//Vuforia – Used for functional prototype, however doesn’t support SLAM

Mongo DB (PyMongo) -

Some Messaging API

Some Payment API

Google/Facebook login API - Aids in data protection as we won’t hold passwords or sensitive account information, It’ll be on googles databases

Maps API (Location options thing maybe)

Evaluation

How you intend to test and evaluate your software during and after

development. It may be useful to specify individual test cases.