Tell us what your idea is.

ARIT or **AR It** as in *makes it AR*.
A single application that aims at making user's day to day web surfing more interactive and immersive in various areas such as online shopping, education and shared AR experiences.

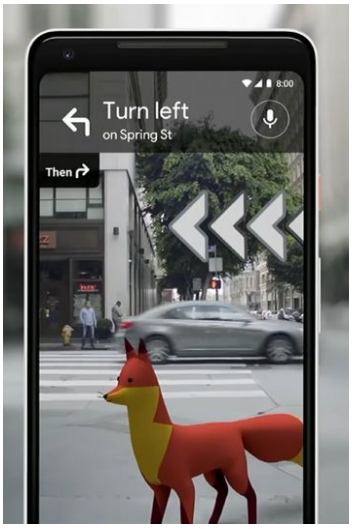
Online Shopping
According to the Global Online Consumer Report, KPMG International, 2017, 56% of the total consumer want to see/touch items first before buying, 55% say they want to try the item on and 41% say that the concerned products look different. The key point of this report was that only 23% of consumers said they prefer visiting shops to enjoy the shopping experience. (Source: Reasons consumers shop in stores instead of online, Page 31/40 https://assets.kpmg/content/dam/kpmg/xx/pdf/2017/01/the-truth-about-online-consumers.pdf)
AR has the power to engage customers with products by features such as virtually try-on 3D products, to look at 3D products in-home and virtual fitting rooms.

Education
AR can make classes more engaging and information more apprehendable by rendering objects that are hard to imagine and turn them into 3D models, thus making it easier to grasp the abstract and difficult content.
A survey in the Polytechnic Institute of Leiria in Portugal reported that 10 of the 13 students stated that they would pleasingly accept the integration of 3D contents in Mathematical Analysis (MA) mainly because "*it facilitates learning*" and because it was considered "*more perceptible*" than other pedagogical strategies and technological approaches (Source: Augmented Reality: an Enhancer for Math's Learning? Page 6/8 https://repositorioaberto.uab.pt/bitstream/10400.2/6004/1/1-s2.0-S1877050915031233-main.pdf).

Shared AR Experiences
The ability to share physical objects with someone by creating a 3D model of it just like a simple photograph or a document.

Tell us how you plan on bringing it to life.

Firstly, we believe Augmented Reality is super cool and has the capability to revolutionize technology by filling the digital and physical gap.
AR has been a buzz word in recent years and Google also took various initiatives such as Google Cardboard, Project Tango and ARCore to help users get the benefit of AR in daily life. Due to many shortcomings such as tracking wasn't very good and the objects weren't very convincing and realistic, the idea of having a fully functional AR application in every Android device has still not been achieved. Google I/O 2018 had many great and exciting innovations, one of which was reimagining walking navigation by AR signs. It presented how great quality AR can provide users with amazing life-like content.



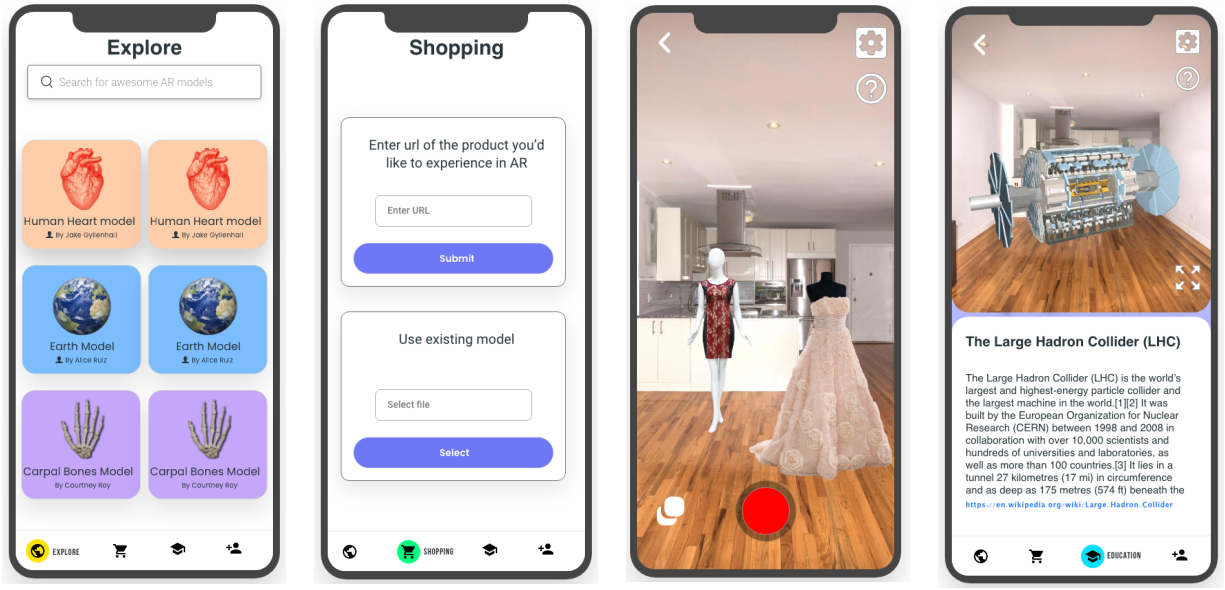
Screenshot from Google I/O 2018 GOOGLE

Screenshot from Kinect for Windows Retail Clothing Scenario Video (https://www.youtube.com/watch?v=Mr71jrkzWq8)

The idea of introducing AR in our day to day life has existed previously and was also introduced by Microsoft way back in 2011 but was a failure. There were various reasons, the main reasons being it was costly and the quality of AR was not very convincing.

Our idea is simple. *"We have to give the power of AR in everyone's hands"*.

Currently, the app is in the ideation phase but with the support of Google, we are sure this will be a quantum leap in user interaction. Here are some features we plan to have in our application:

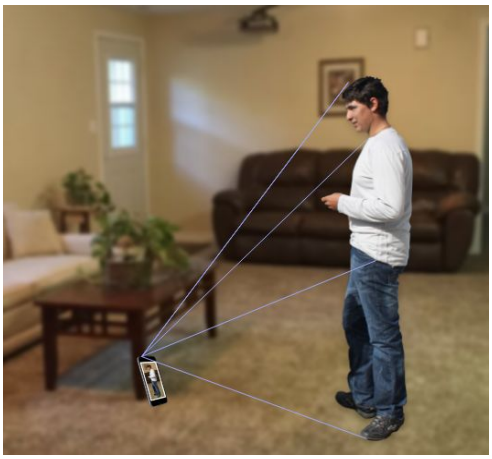


Prototype design of the application.

Online Shopping

Virtual Trial Room

1. Users can select any clothes to experience in AR by entering the URL of the desired product.
2. From the URL by using already provided images and information such as the size of the product we create a 3D model of it.
3. The user then has to keep the device down to create a 3D model of the user's body. The user will also have the functionality to save the model so that it's not needed to scan every time.



How the body scan will work? The user after placing the phone has to stand in front of it.

4. The app then transposes the 3D model of the desired product to the 3D model of the user. Hence the user can try various different products at the comfort of his/her home.

Furniture

The app will allow the user to place different items such as sofa, chair, bed or any other decorative material straight into your home. It will certainly improve the furniture-buying experience, and relieve the stress of measuring what will or won't fit.

Education

- Users will be able to view various 3D models with its description in-app.
- Drawing in 3D space. By keeping the phone stationary and mapping the point of a pen/pencil the app will allow users to draw things in 3D.

Sharing

Users will be able to share existing 3D models or create a 3D model of an object by scanning the object with the device's camera.

There are various ways we can streamline the app in ways of taking input from the user and how the application provides results. As the app is in the ideation phase, the main crux of the app is that the user is able to interact with the objects that he/she sees in the digital world to enhance the user experience, decision-making ability, and satisfaction.

List of ways we could use Google's help.

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1. Firstly this app demands great accuracy to nullify the grey area between reality and augmented reality especially with virtual trial room and displaying furniture. We believe machine learning has the potential to bring 98-100% accuracy.
2. Google's Tensorflow Lite.
3. Google's ARCore.
4. Google's Cloud TPU will allow us to train and run machine learning models faster which is the need for the application. The faster the better.
5. Google's AutoML Vision. To be able to use custom vision API which gives us the power to recognize particular objects. This will allow the user to scan and make a 3D model of objects.
6. We can also instead of having a standalone application, integrate the above feature with Google Assistant to make AR more seamless/flawless.
7. The biggest way that Google can help this Augmented Reality idea be a reality and reach more masses is by motivating and guiding us.

Timeline on how we plan on bringing it to life by May 1, 2020.

December 2019

- Project planning: Outlining the project and finalizing framework, functionality, and features.
- UI/UX Design.

January 2020

- Development.
- Understanding and implementing machine learning models.
- Preparing a prototype, interacting and obtaining views from friends and relatives to improvise.

February 2020

- Solving doubts: If our idea is among the winners we will get a chance to attend Google's Bootcamp lead by a panel of Google experts which will help us solve any query that we encounter during the previous two months.

March 2020

- At this point, I think the Bootcamp would have given us great ideas and suggestions. So we'll do further development and improvisation based on our interaction at Bootcamp.
- Finalizing app

April 2020

- Testing

May 2020

At this point. Our hard work has paid off. And we will be overjoyed and honored if Google gives us a chance to spotlight our concepts.

Tell us about you.

My name is Syed Ali Hasan. I am currently pursuing B.Tech in Information Technology from Bhagwan Parshuram Institute of Technology affiliated to Guru Gobind Singh Indraprastha University, New Delhi. It's been 2 awesome years of Android Development wherein I have made many personal projects and also developed applications commercially for companies such as GAIL, Aztek (Noida) and International Organisation of Software Developers. If I know something I never hold back from sharing it with people around me. Hence I also took the initiative to co-found a technical society where like minded people love to share their experiences. Recently I have been inclined towards exploring how my knowledge of Android Development can be coupled with Machine Learning to create incredible ML powered mobile apps.

My Resume:

https://github.com/AndroidDevChallenge-ARIT/ARIT/blob/master/Docs/Syed_Ali_Hasan_Resume.pdf

My name is Aditya Wasan. I am also pursuing B.Tech in Information Technology from Bhagwan Parshuram Institute of Technology, New Delhi. I published my first android github repo in mid 2018, so It has been around 1.5 years since I started Android Development. I have always been associated with android even before I became an app developer through custom ROMs and testing beta stuff. I love android as a platform because it's open and provides many opportunities to unleash your creativity. I have worked in multiple startups as Android Developer Intern often working as the sole person maintaining the apps. Some of my works include Fastor App (for Fastor) and oneDistribute, oneMarket and oneRetail (for The Success Habits). As of now I'm trying to improve myself as an android developer, trying the latest and greatest in android while also learning best practices like Dependency Injection / MVVM / MVP etc.

My Resume: https://skrilltrax.me/resume