

L-Interact: An Augmented Reality method of sharing information

Tanmay Debnath^{*†‡1}

¹Department of Mechanical Engineering, IIITDM Jabalpur;
Madhya Pradesh, India-482005

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Abstract

There have been a lot of instances in the past which questions the authenticity of a piece of information flashed over the social media and other news sharing organizations, spread all over the domains of the internet. In this global crisis of coronavirus pandemic, information is the most important thing which is desired by the people. Information regarding the virus and the ways to remain protected from it. The news has been displayed but due to the immense amount of time spent in the social media platform it becomes a chaos of information and our mind tends to divert to the fake sources. This might create havoc. Using this project, a module has been devised out that would eventually bring the genuine news to your doorsteps. Using Augmented Reality, the interface has been created that would bring entertainment in the visualization of the data factors. The app has been integrated with the major data channels over the internet which are the major sources of information during this time of crisis.

Index Terms—Augmented Reality, Graphical User Interface, Product Development, Visual communication

1 Introduction

In this age of information technology, there are so many factors that can lead us to ditch and danger. Information is considered to be the most valuable piece of text that can define the lead of future events. But some sources can't be simply trusted and the information provided by them are of questionable authenticity. People tend to deviate from the actual guidelines and modules prepared by the

^{*}Email: imtanmaydebnath@gmail.com;

[†]Contact: +91-9774225982;

[‡]Orchid ID: <https://orcid.org/0000-0001-8348-9371>

government and WHO for the people to follow. There can be several inclusive factors which determine the access to information at a particular place. It also depends from person-to-person. There can be several physical and emotional factors related to the justification.

People turn to visual media for information gathering and knowledge and from literature review it has been revealed that the visual media does enhance the information absorption and in turn enhances the learning capability [1]. Not only this is a better module of learning but also a perfect model for information gathering and sharing.

Augmented Reality is an emerging technology in the field of creative visualisation and education. In augmented reality, 3D object, image, audio or any audio-visual effect is implanted on the mobile screen of the user through which it connects the user's experience to the real world. Augmented Reality can be implemented as a great medium to improve conventional teaching technique [2,3]. However, apart from the learning implementations, the use of AR can be seen in information sharing. Using the same analogy of audio-visual teaching credits, this project has been developed which eventually would inform the user about some of the important news and facts, which W.H.O wants every world citizen should be notified about.

Augmented Reality (Triggered) is classified into four types: (1) marker-based, (2) location-based, (3) dynamic augmentation, (4) complex augmentation [4]. Marker-based augmented reality uses a marker to fix the position of the target objects with respect to the real-world images. In this application, a marker-based augmented reality procedure has been followed.

People would scan over a particular image target, using their mobile phone camera and the augmented reality application would eventually implant the programmed values and images over the target and would provide a user-interactive surface for information gathering and retrieval. The interface has various aspects and surfaces that would lead to varied forms of information, in different domains. Vuforia engine has been used in this project. Vuforia provides an enormous efficiency in the object detection and feature mapping for a particular image target. Using the details of special interaction points in the image target, the phone camera would detect the same features. This feature would be the trigger point for the implementation of augmented surfaces over the target image.

2 User Research

Numerous studies have been preferred for the conditions and constraints of the project. Some of the constraints are listed below, which were considered for the framing of the problem statement.

1. The frame has to be intuitive and interactive
2. The frame has to be user-friendly

3. Should not cause cognitive load

4. Novelty in the application

From this process of brainstorming and stepping up ideas, the major points of implementation have been jotted.

1. Use of Augmented Reality for the entertainment

2. As an infotainment (information + entertainment), video links are embedded

3. Only reliable sources have been added to the prototype, as news

3 Augmented Reality Application

For the development of the application, the following marker has been chosen, as shown (Fig.1). Marker is basically an image target or object which the camera usually notices or tries to find and considers it as the basis for running the application. Here, marker is a poster, designed using basic home-commodities, including pencils and pens.

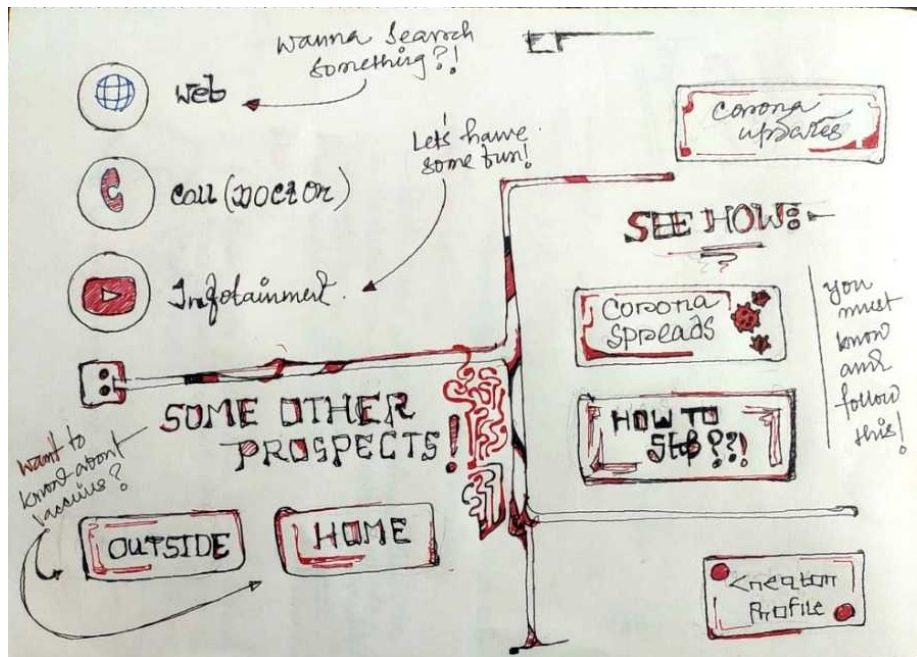


Figure 1: Basic view of the designed poster

Meticulously, the poster has been designed which fits into the criteria of Vuforia engine for the detection of the image target, based on the features. Pointers have been drawn from various points to the diagram which shows the function of each of the tabs drawn in the picture. Using the same as an instance the prototype would run its modules on augmented reality.

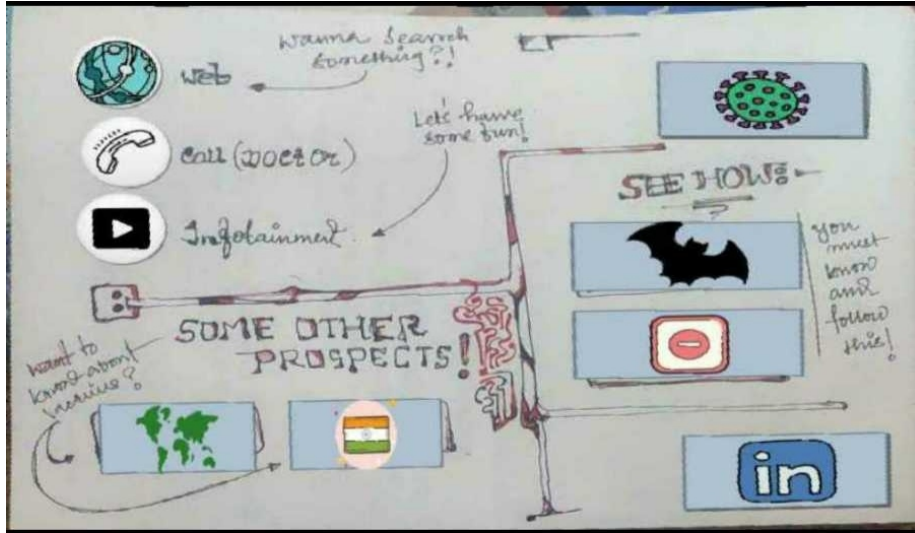


Figure 2: The augmented view of the poster

The design and development of the augmented reality app is depicted here. The various segments of the functioning prototype have been discussed below.

4 Sections of the Application

The App has been sectioned in various parts. As shown in figure 2, the upper-left section depicts the infotainment section. While the upper-right hand side shows the corona information videos and spreading diagnosis. The lower-right hand corner shows the creator's profile and lower-left hand corner shows the vaccine status in India and around the world.

4.1 Upper Right Hand

The sub-sections of the upper-right hand corner modules are:

1. Corona-spread: Shows the rapid spread data of coronavirus in India. The website linked is deemed legit and has been cited as one of the trusted sources.

2. Bats (How corona spreads): This segment shows a small clip about how coronavirus spreads in human system.
3. Stop (How to stop the spread): Shows a small video clip on an augmented plane about how to stop the spread of coronavirus at an individual level.

4.2 Upper Left Hand

The upper left-hand corner of the poster gives about the infotainment and information section. This section is connected to various information websites which forms the basis of all the working restrictions during the time of pandemic.

1. Web: This portion is directly connected to the website of W.H.O., especially with the site of the coronavirus pandemic regulations.
2. Call: This section is connected with the phone number of a local doctor, who is clinically able to suggest some tips about the precautions to be opted for coronavirus prevention.
3. Infotainment: This section is connected with a popular video sharing site, YouTube. It is connected with the ‘Ted-Ex’ channel which shows informative videos about health and other mental, physical and psychological stability.

4.3 Lower Right Hand

The lower right-hand section is for the creator’s profile. The professional LinkedIn page of the creator has been added, along with the company details. aiAR (all-in Augmented Reality) is the creating company of this app

4.4 Lower Left Hand

The lower-left hand corner of the app, as shown in fig 2, depicts information about the status of coronavirus vaccines, around the world. In the user research phase, it has been noticed that the most frequent questions that arose in the minds of target user, was about the status of vaccines.

1. World: Shows some news regarding the status of virus around the world. News includes collaboration of Oxford University, Russian Innovations, etc.
2. India: This section shows the status of India in the coronavirus mapping and creating

vaccines based upon the already available knowledge.

5 Discussion

This has been found to be one of the affective medium of information sharing. Many large techonological companies are investing more on the advancements of AR (Augmented Reality) and advanced forms of visulations as such. The future of AR has been reflected in this paper as well. In terms of genuine infomation sharing, news media hubs and social media is not a reliable source of true information and it should be presented directly from the source. So to ensure the start of such methodoly, this paper proposes a novel method of friendly interaction in between the mobile device and the poster. By further extension, this very method can have variety of utilisation, including posters for special information sharing or desinging a cryptic software, encrypted wihtin the interactive media, that can only be assessed with a certain code. This technology can bring the world of enigma back to the modern era and make information transparent using more sophisticated and reliable approach.

6 Conflict of Interest

The author declares that he has no conflict of interest.

7 References

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