iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 9 **Issue:** VIII **Month of publication:** August 2021

DOI: https://doi.org/10.22214/ijraset.2021.37506

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.429
Volume 9 Issue VIII Aug 2021- Available at www.ijraset.com

Greeting Card app based on Augmented Reality

Bhagyashri Pacherkar[1], Viraj Nanoskar[2], Abhishekh Naik[3]
[1,2,3]*Department of Information Technology, Finolex Academy of management and technology, Ratnagiri*

Abstract: Augmented Reality is a combination of a real and a computer-generated or virtual world. It is achieved by augmenting computer-generated images on real world. It is of four types namely marker based, marker less, projection based and superimposition based augmented reality. It has many applications in the real world. AR is used in various fields such as medical, education, manufacturing, robotics and entertainment. Augmented reality comes under the field of mixed reality. It can be considered as an inverse reflection of Virtual Reality. They both have certain similarities and differences. This paper gives information about Augmented Reality and how it started. It analyses various types of augmented reality, its applications and its advantages and disadvantages. This paper also gives us knowledge regarding those major threats that augmented reality will face in the near future and about its current and future applications. It gives us a comparison between the two related topics, Augmented reality and Virtual reality. The following paper also helps us know about the effect of Augmented Reality on the human life.

I. INTRODUCTION

Augmented Reality (AR) is a new technology that involves the overlay of computer graphics on the real world (Figure 1). One of the best overviews of the technology is [4], that defined the field, described many problems, and summarized the developments up to that point. That paper provides a starting point for anyone interested in researching or using Augmented Reality.

AR is within a more general context termed Mixed Reality (MR) [20], which refers to a multi-axis spectrum of areas that cover Virtual Reality (VR), AR, telepresence, and other related technologies.

When designing an AR system, three aspects must be in mind:

1) Combination of real and virtual worlds;
2) Interactivity in real time;
3) Registration in 3D.

Augmented Reality is a breakthrough technology that could considerably ease execution of complex operations. Augmented Reality mixes virtual and actual reality, making available to the user new tools to ensure efficiency in the transfer of knowledge for several processes and in several environments.

AR technology has been used in conjunction with greeting cards. They can be implemented with digital content which users are able to discover by viewing the illustrations with certain mobile applications or devices using augmented reality technology. The digital content could be 2D & 3D animations, standard video and 3D objects with which the users can interact.

II. PROBLEM STATEMENT

In a previous time, we only use the paper card to present or to wish someone for a special occasion. This old school pattern will make peoples not interest to buy or to present it in such way. Most of it only available in printed version and it is not something that interactive to the user. Thus, the functionality of the object that available in printed version or 2D is limited, user cannot see the real of how we celebrate festivals in India .

III.OBJECTIVE

A. To get a better understanding of Augmented Reality technology
B. To provide visualizing experience of 3D model (Trees ,Box, etc)
C. To create a fully functioning Android AR application
D. To create a pre-visualize end result of construction
E. To allow users give their client a brand-new view of their on paper 2D greeting card in imaginary 3D greeting card format
F. To give users a clear sense of scale and the ability to address problems and concerns in real-time

IV. TRACKING SYSTEM

The tracking system is one of the most important problems on AR systems mostly because of the registration problem. The objects in the real and virtual worlds must be properly aligned with respect to each other, or the illusion that the two worlds coexist will be compromised. For the industry, many applications demand accurate registration, specially on medical systems.

©IJRASET: All Rights are Reserved

V. RESEARCH WORK

Literature review means searching, collecting and analysing any issues related from the previous journal or research paper. The information that has been gathered is about what method and what contributions that the research has been achieved in improving the uses of the application. This chapter will be discussing the report analysing the approach and techniques that are going to be used in completing the Augmented Reality Greeting Cards project. This literature is made for identifying the weakness or lacking of related literature review sources

TITTLE	AUTHOR	TECHNIQUE	ADVANTAGES	DISADVANTAGES
Mobile Augmented Reality Application	Tobias H. Hollerer, Steven K. Feiner	Mobile AR application	AR and wearable computing are rapidly growing fields, as exemplified by the soaring number of research contributions and commercial developments since the mid 1990s.	It will take more time for mobile AR to reach the computing mainstream.
Marker Based Augmented Reality	Anuroop Katiyar, Karan Kalra, Chetan Garg	Augmented Reality, Mobile Augmented Reality	The result is that an image can be viewed, even live, on a screen and digital assets are placed into the scene at the location of the markers.	Limitations on the types of augmented reality markers that can be used are based on the software that recognizes them.
Marker Based Augmented Reality Using Android	Mr. Raviraj S. Patkar, Mr.S. Pratap Singh, Ms. Swati V. Birje	Augmented Reality, Android, Marker, Operating System	Low cost devices as compared to the costly head mounted display devices. Don't need not buy product and then see how it will suit with environment.	Usually have low screen dimensions and resolution.
Kineticards Brings Augmented Reality To Greeting Cards	Nikholai Koolonavich	Mobile augmented reality	Costumers get a traditional greeting card with the details they want along with a lively and innovative animation complete with sound that is viewable in AR.	Limitations on the cards that can be used are based on the space that recognizes them.

VI. AR-COMPONENTS

A. Hardware

Minimum hardware requirement needed in this development of this application are:

1) *Laptop Lenovo Ideapad 320S:* To create the sketches for the storyboard, card design, create code and 3D model of animation.
2) *Android Mobile:* Use to run and test the application whether it work fine on the device or not. Use to play with AR experiences using mobile application. The camera also used to scan the image of the flashcard.

B. Software

Software requirement of this project are:

1) *Unity 3D:* This software is the main software that should gather and combine of the element that will be have on the application.
2) *Vuforia:* This software is the platform that allow application to have the feature of Augmented Reality on the devices. 2 6
3) *Microsoft Visual Code:* Used to code the program the function in the application such as to make the button functionality when user press the button.
4) *Adobe Photoshop:* Used to create design of the card and mobile app interface

©IJRASET: All Rights are Reserved

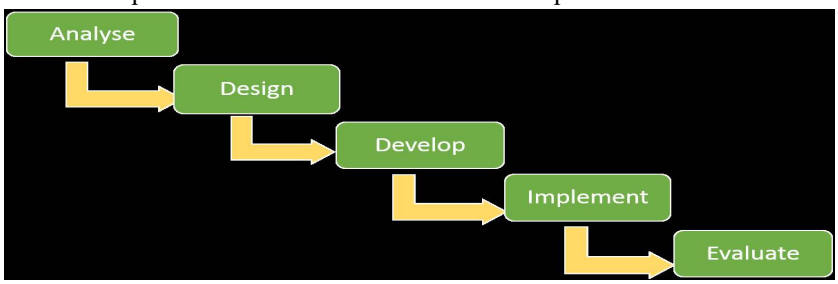
VII. METHODOLOGY

A. Introduction

We will explain the specific details on the methodology being used in order to develop this project. In order to make sure the project is on the right path, methodology plays an important role as a guide for the project complete and working well as plan. The methodology for this application is ADDIE development model.

B. Addie Development Model

The phase in ADDIE development model are: Analysis Phase, Design Phase, Development Phase, Implementation Phase and Evaluation Phase. All the methods and processes undertaken in ADDIE development model are more visible.



C. Analysis

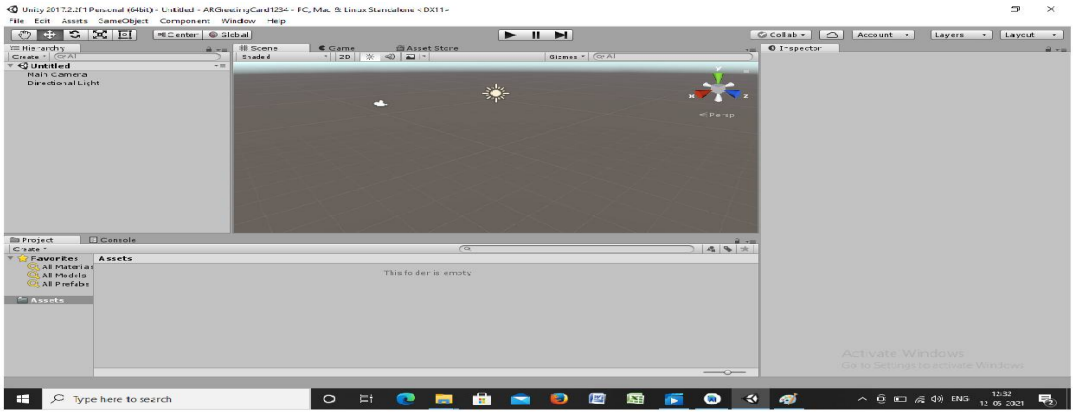
In this first phase, ideas are collected and categorized, identify the problem, identify the problem and determine possible solutions. The main objective of this phase is to come out with new idea and improvements to the current complaint application. The analysis is also carried out by doing literature review on existing any augmented reality project. Through the analysis, the weakness of the existing augmented reality can be identified. All information gathered were used to develop goals and objective of developing AR application. The software and hardware requirement are also determined in this phase.

D. Design

In this phase, the idea application is development into an initial design of the application. This phase will explain on the design of application will develop in the form of 3D prototype. A very importance part of the design phase is to create the storyboard described flow of the application.

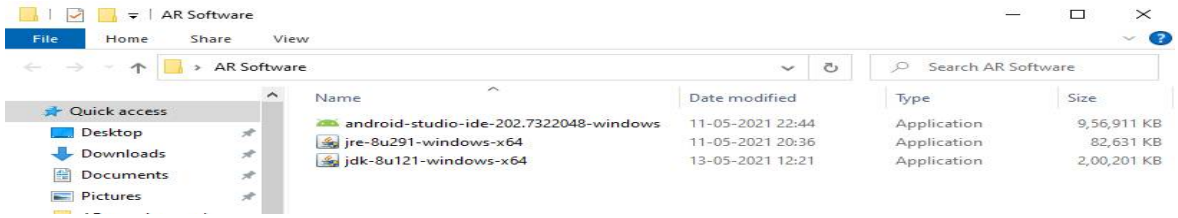
VIII. IMPLEMENTATION

A. Create the design and collect required information and pictures.
B. Install unity software and enter proper licence from viforia software
C. use correct version of jdk jre and android studio for application development.
D. Design Greeting Card in unity application as per requirement
E. Create application in our smart phone by android studio app.
F. Download that application in connected smart phone.
G. open AR camera from that app and saw our card on supplied input image
H. Saw the 2D design greeting card in 3D format by using smart phone

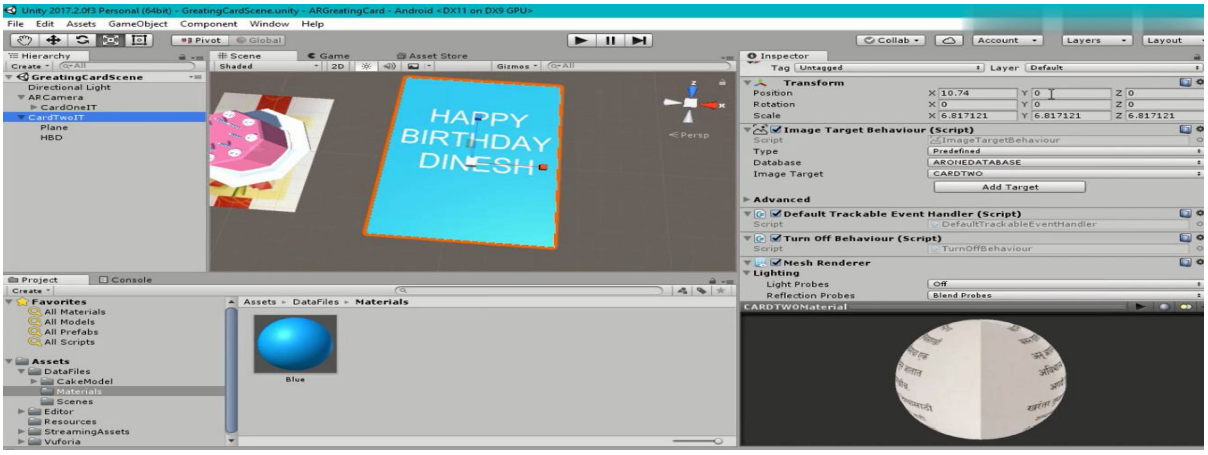


UNITY software

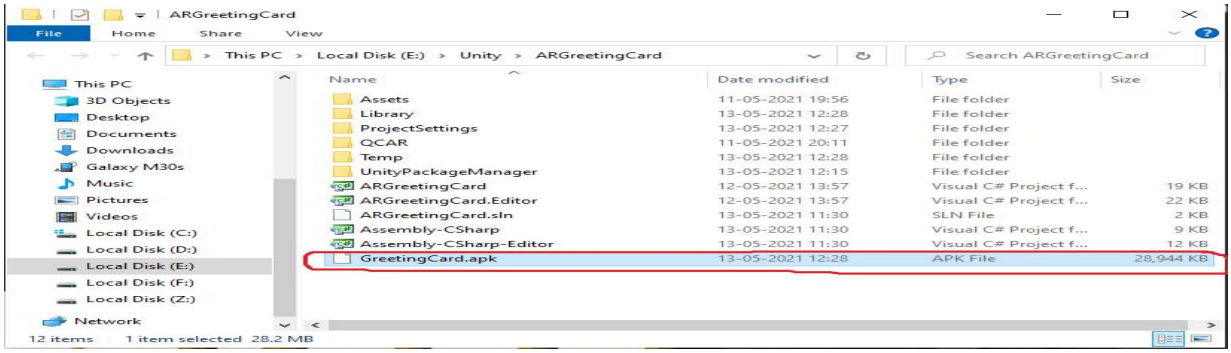
©IJRASET: All Rights are Reserved



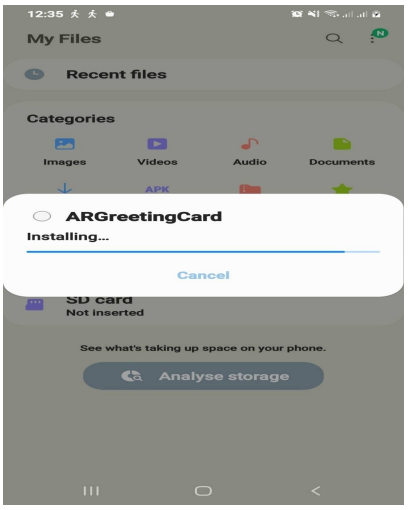
Required software



Design process

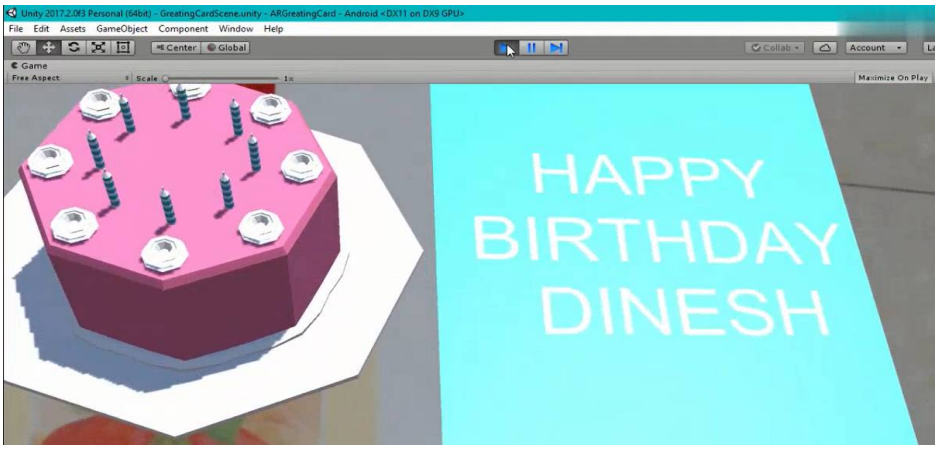


Build App



Installation of app

©IJRASET: All Rights are Reserved



Final Output from android phone
2D picture created as 3D Greeting card

IX. FUTURE WORK

A. Create Use friendly application without USB connection
B. Input Requirements of client and accordingly distribute cards
C. Easy shopping of card using payment pay pal like applications
D. Insert Audio

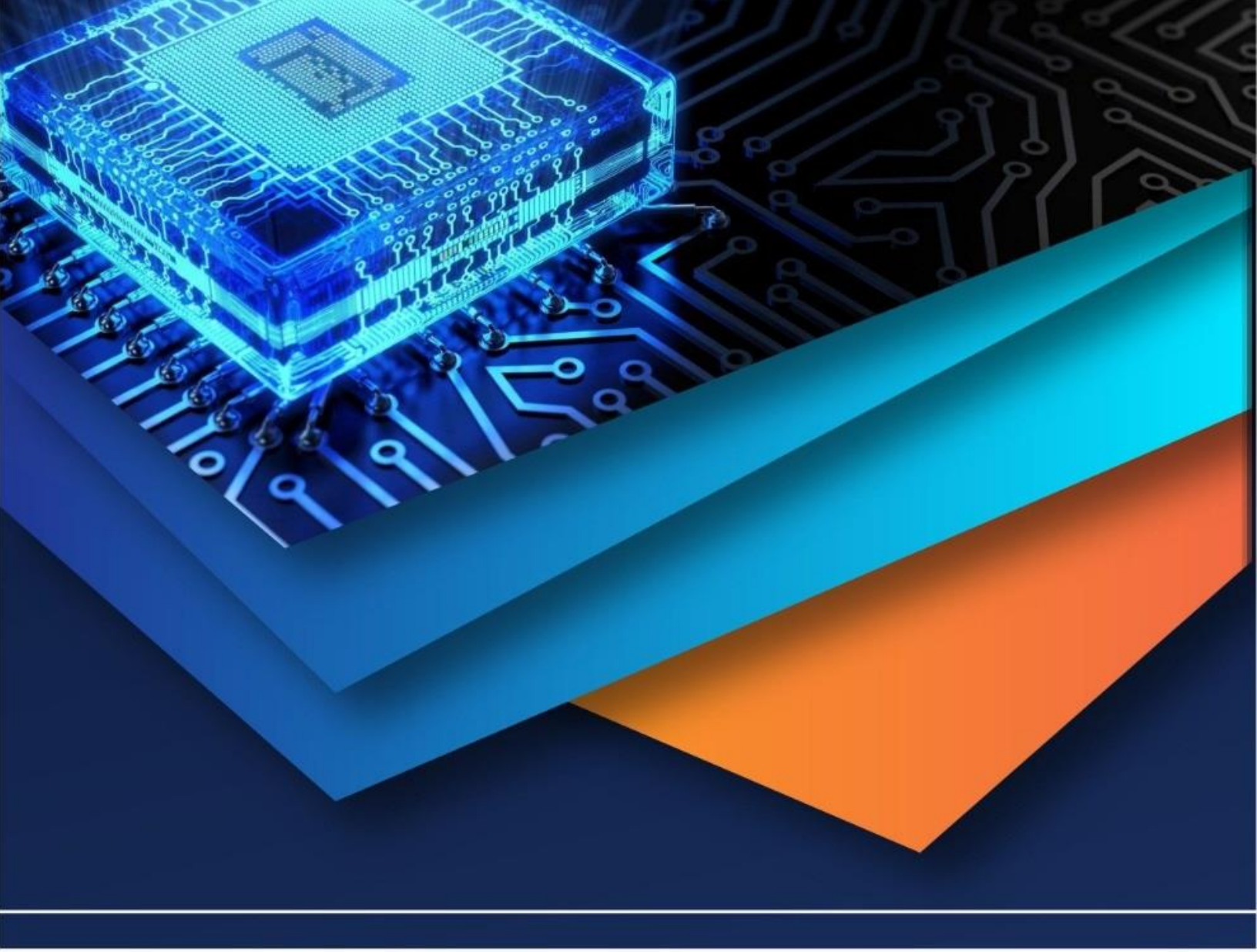
X. CONCLUSION

In conclusion, most traditional greeting cards can sometimes cost upwards and this can be a lot of money for people to spend on what is just some card. With Greeting apps, users get a traditional greeting card of innovative animation complete with sound that is viewable in AR and it more attractive and real when they want to express the user's wishes to their relatives and friends instead of using the paper card.

REFERENCES

[1] https://direct.mit.edu/pvar/article/6/4/355/18336/A-Survey-of-Augmented-Reality
[2] https://www.google.com/search?q=augmented+reality+mobile+app+ieee+paper&oq=&aqs=chrome.0.69i59i450l7.162971745j0j7&sourceid=chrome&ie=UTF-8
[3] https://scholar.google.co.in/scholar?q=augmented+reality+research+paper&hl=en&as_sdt=0&as_vis=1&oi=scholart
[4] https://www.google.com/search?q=augmented+reality+mobile+app+ieee+paper&oq=&aqs=chrome.0.69i59i450l7.162971745j0j7&sourceid=chrome&ie=UTF-8
[5] https://www.slideserve.com/shakti/augmented-reality-business-cards
[6] https://www.google.com/
[7] https://www.engpaper.com/cse/augmented-reality-2020.html
[8] https://itcon.org/papers/2020_03-ITcon-Mutis.pdf

©IJRASET: All Rights are Reserved



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)