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Application in Augmented Reality Based on Measurement

Mr. Prasanna Indurkar[1], Mr. Ritik Shaniware[2], Mr. Kunal Shende[3], Mr. Sahil Palandurkar[4], Prof. Manoj Vairalkar[5]

[1,2,3,4] Students of CSE, [5] Professor of CSE,

[1,2,3,4,5] Department of the Computer Science and Engineering, Govindrao Wanjari College of Engineering and Technology, Nagpur, India

ABSTRACT:

Participation Test, build , draw, fix. The goal of this project is to find an algorithm to measure the size and position of objects in the classroom, using beacon-based AR technology for location control.

The application was designed and built using the Unity 3D software game engine with OpenCV memory stored in the library. In this application, which runs measurement tools prepared to be used as a tool to create different objects and completes 3 parts, we can capture images with the help of lenses and piecewise teaching algorithms.

The purpose of this application is to find the dimensions of a product or service in interior design, or to design or measure products, is a special application that captures horizontal and vertical planes. We can click once on a screen, the algorithm works in an environment where we can drag and click again, and then we can evaluate all the content.

Keywords - Augmented Reality, Mobile Apps, AR Metrics, Rules

INTRODUCTION

As we all know, Augmented Reality or AR will soon be one of the most disruptive ones. Surprisingly, as the first and first major publication in military training. An introduction to Augmented Reality (AR) technology to explore the real world around us. Explore the artist's rich history and learn about the works.

It uses an existing environment and adds information to it to create a new virtual environment. Augmented Reality (AR) APIs are another virtual experience that combines human content with the natural world. Topics cover many senses such as sight, hearing, touch, somatosensory and smell.

Augmented Reality can be defined as a system with three main functions. The merging of man-made objects with the world, the interaction of time, objects in almost 3D form and real objects. (Outside a natural environment) or (eg a fenced environment) Construct a building using the required materials.

Information is almost related to the real world and is therefore considered a real place. In this way, augmented reality replaces the usual perception of the real environment, while virtual reality replaces the user's real environment with a simulated one

The main value of virtual reality is how things in the digital world can be integrated into people's perception of the real world, not by presenting information but by a combination of negative emotions such as the environment.

The first user-accessible AR systems were developed in the business world where augmented reality was used to create and provide more information about an environment or situation.

Computer vision is on the rise as technologies such as augmented reality cameras are integrated into smartphone apps to capture interactive data and process information about the real world around the user.

Literature Review

Information about the environment and objects is superimposed on the real world. This information may not be accurate. Augmented reality is an experience that people create to augment their current reality. In fact, find something else to look at or measure, such as ask.

Augmented reality plays an important role in engaging customers in marketing campaigns and improving marketing ROI. Augmented reality solutions play an important role in promoting personalized content. Similarly, augmented reality test apps show real-world results. This application uses augmented reality (AR) technology to measure the distance to real objects using your smartphone's camera.

An augmented reality measurement app for Android and iOS to measure height or length. Point your phone camera at an object, pick two points, and measure the distance between them. It provides a simple and intuitive two-step approach to AR content creation

METHODOLOGY

We create 3D models from real AR objects and structures using a graphical modelling tool (Autodesk Memento in our case) to convert the 3D models into interactive AR content. Metrology (other authors of our study). Four scenarios are planned.

Creating a 3D model

The first step is to obtain 3D information about the object being modeled. Flat, transparent, glossy or similar objects may not work properly depending on the software operation.

Similar problems arise when working with underexposed or overexposed images. Create one or more continuous point circles using multiple images (usually two circles with different heights are recommended).

For best results, all images should use the same lighting and the subject should not be moving. To facilitate 3D rendering, it is recommended that the content occupy at least 70% of the image pixels and that the images overlap somewhat.

These images can be created using the image modeling tool.In this post, we use Autodesk Memento Beta, a solution to turn real ideas into editable and customizable masks.

Depending on the quality of the 3D model, additional cleaning may be required to remove noise or dense areas.

Simple editing/cleaning can be done using the smart options and cleanup tools available in Autodesk Memento. Finally, the 3D textured model recreated in Autodesk Memento can be imported and sent to FBX for rendering.

Creating Augmented Reality Content Creating interactive augmented reality content with Augmentation Author is a visual and intuitive process.

If the model is animated, the scene renders and the animation repeats when viewed with the Enhanced Viewer.

Controls on the Basic panel allow you to move, scale, and rotate the 3D relative to the pointer. This makes the transition easier. This is important in many situations where the vertical model is different from the character or the 3D model is too large for the character
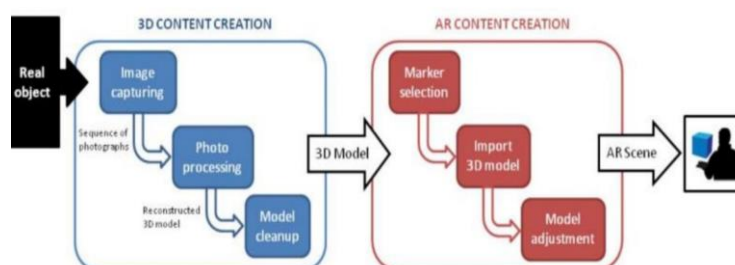
Fig.   1 Proposed methodology for creating Augmented Reality (AR) content

How it works

AR Ruler app uses augmented reality technology to measure the real world using your smartphone's camera. Set up a training plane and use the roulette AR.304800288925 line. Measures the length of a line in centimeters, meters, feet, millimeters, or inches. Radiometer - Measures the distance between the camera lens and a fixed point on a 3D plane seen through the tape.

1.   Angle - Allows you to measure angles on a 3D plane.

2.   Region and region.

3. Dimensions - Allows you to measure the dimensions of a 3D object on tape.

Using the Instrument This chapter shows you how to use the instrument and explains how to use new technologies to make your job easier.

To save time creating software used in a gaming environment, I decided to create the application using Unity 3d.Unity 3D Unity is a cross-platform game engine developed by Unity Technologies to create video games for PC and 9 consoles, which has since expanded to over 15 platforms.

This is now Wii Software Development Kit (SDK) code. Unity Pro is paid while Unity Personal is free and includes everything except source code and support.

It can be used for personal or commercial use, and the entire engine including everything except source code and support is provided free of charge annually.

This app prefers metrics (Metric/Imperial). Augmented reality system application shows in action. These apps help people improve their daily lives.

Likewise, the benefits of augmented reality photography apps are actually advancing the technology on many devices.

With augmented reality, you can come up with solutions such as determining the ground, measuring a person's height, seeing a face, and spotting differences.

Most of these applications have many additional tools for dimensioning. You can measure your height with this application.

You can save your results and share them with others. If you're a thief, you can use it to evaluate things in your house.

You can pass the AR quiz very easily and send messages and images.

Augmented Reality Benefits: ① Improve people's skills and knowledge.

• Help share knowledge.

§ Augmented reality games provide a more realistic experience.

§ This is an escape.

CONCLUSION

1. At the time, augmented reality applications revolutionized online interactions with customers. Augmented reality solutions like the augmented reality tire test app can help your business.

2. People measurement apps like AR Ruler are designed to encourage competition and user engagement. The application also provides additional options for customization and personalization.

3. Augmented reality can be a useful tool for textbook reinforcement and long-term learning.

4. In this augmented reality, we learn the art of overlaying artifacts in the real world. It combines technologies such as simultaneous field testing, dynamic sensing, natural tracking and spatial awareness.

5. Create a system where all goals can be measured. Use engine assets when building applications or engines.

6. In this application, you can create software that estimates the position of an object by specifying the resolution of the camera sensor in pixels.

7. Drag the top in the middle of the request. You can store settings in your application and work with your application using the C# language help mechanism. He suggests there are many problems.

8. Develop academic awareness and deep understanding of the Russian language.

REFERENCES

We have gone through certain books, done some research work using internet, understanding the technologies being used in our project work.

There are following references are:

1.Develop AR Measurement App for iPhone Android - Quytech Blog March,2019.

2.   How do augmented reality apps measure? May 2018 research gate

3. Jorge D.Camba , Manuel Contero. "From   reality to augmented reality: Rapid strategies for developing markerbased AR content using image capturing and authoring tools",2015 IEEE Frountiers in Education Conference (FIE) April,2015

4.Augmented Reality Markerbased Sept,2018 Dbpedia

5.Augmented Reality developing Measurement of particular object to Birla Institute of Technology and Science Pilani (Student paper)10 January,2014

6. R. T. Azama. A survey of augmented reality," Presence. Telever ra Virtuel Einon, vol. 6, no. 4, pp 355 385, Aug 1997, doi: 101162 pres 1997.6.4.355 12 M. C. Lam, H. K. Tee, S. S. M. Nizam N. C. Babin. N. A. Sawai

7. SY Tan, and S. Y Liew, "Interactive augmented reality with mairal action for chemistry experiment learning Jan,2019 vol. 9, no. 1. p. 351. G-Papastadou, A. Drin, Skins, M. Lytra, and E Pupstation,

8.Virtual and augmented reality effects on K 12, higher and tertiary education students twenty-first century skill Viral Mexity, vol. 23 m 4 425-436, Dec 2019.

9. C Yan, RW Ralnut and 8. X. Al "Mobile augmented reality y ention in medical hnution in tur 2010 A-Pac J. b. Wh Mulme, v. 10, 2, pp. 51 61, Dec,2021.

10. Theodoropolis and G. Lepouts. "Augmented reality and program ming education A systematic review, the 1 Child Compat. Interact vod, 30, May 2021, An, so 100835.

11. A. Pannaxi and A. A. Demetrion, Augmented reality in language learning: A state-of-the-art review of 2014-2019 I Comput. Arra. Learn vol. 36, no pp 801-875 Nov , 2020

12. Salin Boonbrahm ,poonpong Boonbrahm,Charlee Kaewrat. "The Use of Marker Based Augmented Reality in Space Measurement'',Procedia Manufacturing Oct,2020

13.H-international School,Middle East Technical University,Laureate Education Inc.,Cadiff University,University of Brimingham,University Technologi Malaysia,Oklahoma Cristian University ,Griffith College Dubin (Student papers are Submitted to Universites)

Websites:

- en.wikipedia.org
- www.researchgate.net
- www.quytech.com
- Myfik.unisza.edu.my
- www.specbee.com
- Digital.maag.ysu.edu:8080
- www.rbcafe.biz
- www.softwaretestinghelp.com
- journals.resaim.com