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# Interactive Studying for Nursery Kids and Illiterate from Rural India: AR- based App

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***Abstract:*** *This paper presents an educational application for Nursery Kids and Illiterate from Rural India using Augmented Reality (AR) technology, which makes easy, interactive, informative, enjoyable, and interesting to the kids and Illiterate People.*

*Augmented Reality (AR) is an interactive experience or a combination of real-world and digital data. It simplifies and enhances user knowledge of interaction with physical world by imposing virtual images on real ones. This is the new way of manipulating how we interact with that world, without replacing the real world. Augmented Reality has manifested in various fields today like Education, Navigation, Games, Industry, Medical, Advertisements, Training Classes and Architecture.AR in education will soon affect the conventional learning process. Our approach has the potential to speed up the design of 3D views of view of objects related to that letter and help kids to learn and realize concepts in a better and interactive way. The idea presented in this report is to show how AR can be used to enhance the learning experience of kids the app can be used to reduce irreverence of kids who not interesting to learning.*

***Keywords:*** *Augmented Reality, virtual reality, education, and training*.

## 1. INTRODUCTION

Learning is an alternative behavior and ideas by gathering experiences and earning knowledge. In the class kids don't understand what they learn? What's the thing is it those the word actually means. Augmented reality (AR) improves client discernment and experience, and enables clients to see furthermore, experience this present reality with virtual substance installed into it. Also, AR permits collaboration continuously. Thus, specialists just as instructors have been anxious to investigate improving material for instructive purposes with the assistance of AR innovation.

## 2. OBJECTIVES

1. To make Learn By playing
2. To make ser comfortable
3. To help kids easily to teach
4. To make focusing on improving their learning skill
5. To help kids to actively interact with books continent like poems, number system, alphabet etc.

## 3. MOTIVATION

The technological revolutions having occurred in many areas also had an impact on kids during teaching learning process. The main problem that arises during the teaching-learning process in schools and institutes is that students are not able to understand the concepts that they are being taught in the class due to unavailability of proper tools to explain the concept in detail. Most of the times, students have to visualize the concepts taught on their own by imagining things to be a certain way. However, this doesn't help much as the student imagination power is limited to a particular level and they cannot understand a concept by just assuming it to be in a certain way without appropriate knowledge. So, Images created by using AR technology allow students to learn and understand more of a topic in certain field of study because students are able to watch and learn from the images instead of imagining it based on the words in the textbooks. According to the survey that we conducted, students in villages lack a lot of facilities as compared to the students in city areas. This is another important reason that we are developing such an application which will ease and provide optimal way out for education

## 4. MOBILE HARDWARE

We use laptop of min RAM of 8GB, Processor: at least 2GZ Dual Core Processor and for developing this app we use unity3d software and blender. The main element for developing this app is ARCore plugin which help to detect the horizontal or vertical plane and render object on that plane which give us AR view on Mobile Devices.

For running this app in mobile devices, mobile devices need to have installed ARCore Plugins.

## 5. RESEARCH QUESTIONS

In order to provide a through answer to the overarching research question, some areas of children's interaction need to be explored at more depth. Therefore the following more specific research question will be explored:

i. How Do children interact with the physical element of books?
ii. Do children understand how to interact with AR apps?
iii. How do children experience interaction with AR apps?
iv. Does the use of AR app's stimulate cooperation between users?

## 6. LITERATURE REVIEW

This paper presents a systematic review of relevant primary studies on the use of augmented reality (AR) to improve various skills review of relevant primary studies on the use of augmented reality (AR) to improve various skills this paper presents a systematic of children and adolescents diagnosed with Autism spectrum disorder (ASD) from years 2005 to 2018 inclusive in eight bibliographic databases [1]

The task of vision-based people tracking is a major research problem in the context of surveillance applications or human behavior estimation, but it has had only minimal impact on (Ubiquitous) Augmented Reality applications thus far[2]

This paper presents an augmented reality magic mirror for teaching anatomy. The system uses a depth camera to track the pose of a user standing in front of a large display. A volume visualization of a CT dataset is augmented onto the user, creating the illusion that the user can look into his body [3]

Developing an AR maintenance worker support system that will be sustainably used in industry is a challenging feat. In PreCoM we analyzed the requirements of three industrial partners from different areas [4]

The work dealt with the interaction between real and virtual objects through an approach based on geometric modification, aiming to increase the realism of AR applications [5]

## 7. METHODOLOGY

Participant: - Nursery Kids (4-6 age group), illiterate people, sample size-50.

Equipment: Questionnaires, Android App (AR-Based)

Procedure:

Use Of Prototypes for Interaction

Procedure For App Design:

1. Requirement Planning
2. User Design
3. Implementation
4. Testing

As This App Mainly Focus on kids so we have design this as interactive some kind of cartoonist so that kids can enjoy learning Process

This App Also Contain quiz competition to track kid's record.

## 8. ALGORITHM USE

AR technology often uses SLAM (simultaneous localization and mapping): a computer vision algorithm that compares visual features between camera frames in order to map and track the environment. In combination with sensor data from the smartphone gyroscope and accelerometer, it is possible to achieve very reliable tracking.

Step1: Before starting project in unity3d we shall create 3d model which we are required like (animals, brids, etc.)

Step 2: download ARCore Plugins

Step 3: open unity3d

Step 4: add all assets (3d object) into unity3d project

Step 5: set all setting AR Related (activate XR settings and ARCore supported) switch to Android platform.

Step 7: create AR Session And AR Session Origin In Order to Start ARCore

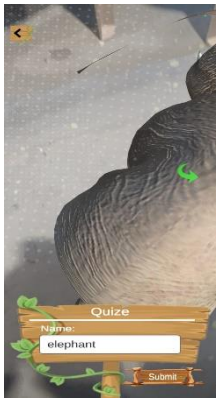
Step 8: add audio, video file in unity3d

Step 9: design alphabet, animal, birds etc. scenario

Step 10: final project (compile it)

## 9. OUTCOME






## 10. CONCLUSION

In recent, efforts have been made to use augmented reality as a digital device for education. AR technology provides a better means for students learning in an interactive environment. It allows students interact while enabling social communication. It enhances the effectiveness and attractiveness of learning environment in a real world scenario. AR technology introduces a new type of automated applications and to enhance the effectiveness and attractiveness of learning environment for the students in a real-world scenario.

AR technology provides a better means for students learning in an interactive environment. This methodology of the application will help to provide the effectiveness learning environment in a real-world scenario. Future scope involves tasks such as use of more interactive learning objects with more student engagement and interaction.

## 11. FUTURE SCOPE

There can be more advancement in this project for example we Can also integrate database so that we create more activities like playing in that environment and imagine the AR World with VR glasses by integrating Virtual Reality in this.

Now this app is limited to children of class up to 4th but later on it can improve up to 10th class student so that it will benefit to them also by understanding their syllabus in more attractive way.

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