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# AUGMENTED REALITY FOR KIDS

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**Abstract**

Augmented Reality replaces the current existing world with a simulated one. Augmented reality is, however works in real time. The emerging field of Augmented Reality opens up multiple opportunities in various numerous fields with education being no exception. Our paper proposes an E-learning Environment for Kids, which makes use of Augmented Reality to enable the user to comprehend the concepts faster and better. It facilitates the kids understanding of subjects easy to grasp like an entertainment study for kids, which will be difficult in real environment or in video call lecture form. Based on marker, the system generates the objects and blends it in the real world footage. The system provides interactive videos to aid user understanding.

Keywords -- Augmented Reality, Augment, Video

**Introduction**

Augmented Reality can be defined as the system in which real and virtual worlds can be combined.AR includes graphics, videos and sounds which are then added to real world. This makes an enriched experience for user. Image recognition is often used here to identify the image using fiduciary markers. In AR user sees the real world augmented with virtual world. When designing an AR system , two aspects must be in mind (1) Combination of Real and Virtual world. (2) Interactive in real time.

AR apps for kids It's no secret, youngsters are keen adopters of groundbreaking technologies like AR. A number of the most imaginative augmented reality training apps are made for the youngest of customers. Inspired by means of the fulfillment of PokemonGo, AR providers are building apps that exchange the methods children read books, study artwork and posters, learn science, and conduct classroom lab experiments.
as an example, NarratorAR teaches kids elderly 3-five the way to write in a a laugh and engaging way. The app enhances letters they write with captivating special effects and makes handwriting a surely exciting experience.

Augmented reality in education will serve variety of functions. It helps the scholars simply acquire, process, and keep in mind the knowledge. to boot, AR makes learning itself additional participating and fun.
It is additionally not restricted to one people or level of education, and might be used equally well altogether levels of schooling; from preschool education up to varsity, or maybe at work.

Advantages of Augmented Reality in education:
On hand mastering materials — every time, everywhere. Augmented reality has the capability to update paper textbooks, physical fashions, posters, printed manuals. It gives portable and much less luxurious mastering materials. As a result, education becomes more on hand and cell.

No unique system is required. In contrast to VR, augmented reality doesn't require any highly-priced hardware. Due to the fact 73% of all teenagers currently personal a phone, AR technologies are without delay available to be used for the general public of the target market.

Higher student engagement and hobby. Interactive, Gamified AR gaining knowledge of can have a huge advantageous effect on college students. It continues them engaged at some point of the lesson and makes learning fun and effortless.
Improved collaboration competencies. Augmented truth apps provide tremendous opportunities to diversify and shake up dull lessons. Interactive lessons, wherein all students are concerned in the getting to know procedure at the identical time, help improve teamwork competencies.

A faster and greater effective gaining knowledge of process. AR in education facilitates college students attain better effects via visualization and full immersion within the concern be counted. An image is worth a thousand phrases, right? So, in preference to reading principle about something, students can see it with their very own eyes, in movement.
Apart from schooling, professional education also can benefit greatly from using AR. as an example, correct reproduction of in-discipline conditions can assist master the sensible talents required for a sure job.
Secure and efficient place of job education. Believe being able to exercise in heart surgery or working a area travel without setting different human beings in risk or risking millions of dollars in damage if something is going wrong. It is viable with AR.

**Problem Definition**

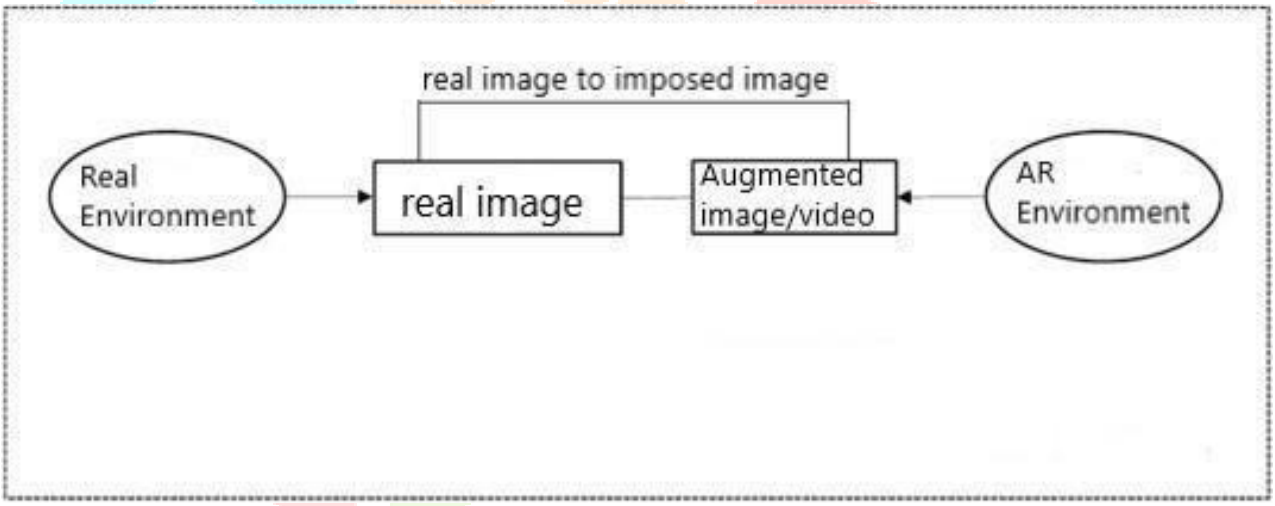
In education laptop-primarily based simulations and visualizations of diverse herbal phenomena.
This is particularly useful in the domain of physics and chemistry, the problems of such simulations is that the students have sometimes difficulties with understanding abstract visualizations even if they are presented in 3D space.
In the past we tried to solve the problem of understanding of abstract models with the possibilities offered by VRML and Java3D.
The use the augmented reality could such effect of superimposed real environment and abstract models still improve.

**Proposed System**

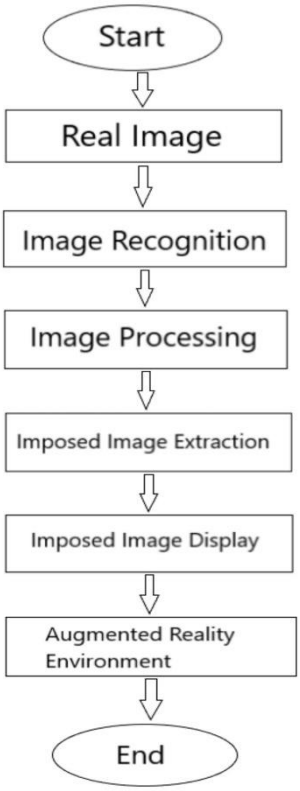
In our project we have a tendency to ar exploitation the ASCII text file ARToolkit library, that permits the simple development of a large vary of increased Reality applications.
We thought to additionally prepare some virtual models, represented in VRML font.
These models AR associated to the corresponding characteristic patterns, the camera provides the frames to AN application that searches the present frame for illustrious patterns, that ar keep in an exceedingly information of registered patterns.
If a match is found the software system displays the virtual object hooked up to the found marker. Our entire system relies on recognition of fiducial markers. Fiducial markers ar designated points on a picture that ar used as a frame of reference in locating objects.
Our application (based on the AR Toolkit library) then searches every frame for registered patterns and displays Augmented objects related to them.

**Design**

The system has a systematic procedure for the construction of the project. The following diagram will make a clear definition for building the project:




In Real Environment we will get a real image of a alphabet which is to be hold in front of webcam, further it will be seen as real image on screen for a fraction of seconds and then there is image or video which is imposed on the real image it will then come on screen as the augmented reality. Hence the environment will be called as Augmented Reality Environment (AR Environment).




System Flow Diagram

1)Launch pycharm IDE 2)RUN the code.

3) Hold static 2D image in your hand/handle and face it towards webcam.

4) Camera will supply the frames to program which search the current frame for known patterns.

5)If match is RECOGNISED(image recognition) image processing will start.

6) The software displays the virtual object attached to the found marker.

7) Thus the virtual object will be imposed on image dimensions.

8)This is how augmented reality environment is achieved.

**Conclusion**

The usage of augmented reality can permit individual experiments based on abstract models. This could be useful in the case of personalized learning without having multiple instances of real experimental equipment. In the case of classrooms, it is easy to change immediately the experimental equipment and the time- consuming setup of such experimental classroom represents no problem. Considering the broadband internet technologies, it could be used even in the case of remote experiments on internet that are useful in the case of expensive equipment. The complaint with such experiments is often that the feeling of real environment is not present. The usage of desktop augmented reality is therefore most appropriate where the virtual environment cannot be avoided as this is the case of videoconference-based education and other cases of virtual educational communities.

**Future Enhancement**

Education trends will ride the wave of increased internet capabilities and better network bandwidth, bringing advanced technology into schools with greater ease. Two of the main areas of next-wave technology are augmented reality and computer game (AR/VR). All of our senses like touching, hearing, seeing will all be incorporated into next-generation AR devices, they're going to have a wider view and that they will display information almost anywhere within the user's sight . Motion gesture technology will improve also .

AR will make interaction students making the STEM and coding learning process faster, fun, and better than ever before. By 2025, two billion of the worldwide population goes to be made up by the youngest generation: Generation Alpha, also referred to as the iGeneration.

1)The young learners can now visualize complex spatial relationships and abstract concepts.
2)This technology helps students to engage in phenomena that are not possible in real world.
3)The invisible concepts like magnetic field can now be visualized easily using AR
4)Using Augmented Reality in the classroom can make an normal class into an beautiful experience.
5)Kids will learn things quickly using Augmented Reality in early age.
6)It will be time saving for teachers to make kids understand the basic things quickly.

**REFERENCES**


1. M. Billing Hurst." Augmented Reality in Education. hn~flwww.newhorizons.org
2. M. Billing Hurst, H. Kato and I. Pouprev, "The Magic Book: A Transitional AR Interface," in Magnetism, vol. 25, Elsevier, October 2001, pp. 745–753.
3. J. Purnama, D. Andrew and M. Galinium, "Geometry Learning Tool for Elementary School using Augmented Reality," IEEE. Bali, pp. 145–148, August 2014
4. S. H. Lee, J. Choi and J. Park, "Interactive E-Learning System Using Pattern Recognition and Augmented Reality," IEEE Transactions on Consumer Electronics. Vol. 55, pp. 883–890, May 2009
5. AR Toolkit 2003, http://www.hitl.washington.edu/artoolkit
6. T. Hollerer, et al. Developing Indoor and Outdoor User Interfaces to a Mobile Augmented Reality System. Computers and Graphics, 23(6), pp. 779- 785,