Virtual Reality in Educational System of Pakistan: A Case Study

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Abstract
We have to introduce virtual reality system in education; which previously only be used in 3D-graphics in the form of video games. As everybody take a lot of interest in video games, so for in education the goal is to develop interest in education as well & have to achieve this interest by 3D modeling of objects by using virtual reality in education system; in this mechanism; of course computer involves fully loaded with necessary hardware & software.

Keywords: Virtual Reality, Augmented Reality, Biology, Chemistry, Physics, Elementary Education, Deoxyribonucleic acid, Ribonucleic Acid

I. INTRODUCTION
In our research we have to collect some facts & figures for the memory of human being in learning process. As a matter of fact brain can store data in its memory by the help of five senses whatever one see, hear, smell, taste and touch. In pictorial form, scenes & voices can remain in memory for years. In educational system seeing & hearing is mostly effective. Using virtual reality in education we have to achieve this goal for development of education in Pakistan as well as in world wide. It could be only possible our Pakistani government establish such a system; unless hiring such huge staff of teachers only grant some equipment and limited number of teachers in short time we have to achieve our goal. It can only be achieved by the help of VR in which student either not present in class for some reasons either health issue or something else can complete its target within time. Now we have come to the subjects which we have to model for applying VR. If we have to ask our student about chemistry & ask some question about simply an atom its structure rotation of electrons; one could not answer accurately b/c atom is indivisible minor particle of matter so to get inside it only for supposing. There are some issues relating with atom such as its structure, function, and shape, sub particles like electron, proton, and neutron. Revolving of electron around nucleus, presence of proton & neutron inside nucleus. Bonding of one atom to the other. Shells and subshells inside it etc. etc. Other subject which taken as model is biology in which for deep knowledge it is necessary to understand each & everything clearly like simple cell; it never be supposed until practically examine b/c some issues such as its structure, function, metabolism, formation of gene, DNA, RNA, protein regulations so many facts which we can not only be understand by supposition until practically investigate it. The big example is in surgery which if done virtually first than actual surgery it can 100% may success. This only be achieved by VR. Third one is Physics ; there also some issues like considering the physical bodies each & everything only consider so can anybody fully understand without feeling physical objects like free falling bodies, their height weights, gravity, force ,distance, velocity harmonics etc. etc. which require clear sense & can only be understand by using VR.

II. RELATED WORK
A lot of research done on VR technology in education system [1] gave a software for the student of distant education. Which virtually be taught and learned, hence facilitate for this purpose. While [2] inquired about how computer generated reality and expanded reality has been utilized in instruction, examines the focal points and drawbacks of utilizing these advances in the classroom, and portrays how augmented reality and enlarged reality advances can be utilized to upgrade educating. Another exploration done by [3] that is the means by which mix of multi-tangible representation and intuitiveness make VR in a perfect world suited for viable learning and attempt to clarify this adequacy as far as the focal points managed by dynamic gaining from encounters. They [4] accumulate the aggregate understanding and aptitude of individuals from the recently settled Ascilite Versatile

III. METHODS

We utilized subjective research approach of aggregate contextual investigation techniques. We portrayed the choice of cases, information gathering and examine, our pilot think about, and our way to deal with approval. We presented our action theoretic system for portraying and examination VR exercises. We displayed the initial two levels of the system, tending to VR as a certifiable action and the idea of conventional exercises of VR. We broadened the VR action outline work by portraying and to examining the particular exercises as spoke to for our situation ponder subjects. We indicated how the action chain of command can be utilized to dissect particular exercises.

A. DATA COLLECTION

Our information gathering strategies are gotten both from conventional subjective research and from quantitative particular techniques. The primary apparatus that will be utilized in social occasion the information for this examination is the analyst made instrument. The survey is separated into three principle parts.

Part-1 includes personal data information, which was used to gather information about their gender, age, class.

Part-2 includes the VR activities by using soft wares.

Part-3 of the poll was utilized to gather data about the observations for utilizing VR based software.

![Figure 1: Student experience VR activity](image1)

B. OBSERVATION AND INTERVIEWS

We respect the association of genuine VR user as the most critical segment of our technique. The members gives an equalization to a generally very scholastic and systematic investigation of the cases. The members enable us to consider settings of VR other than our own, and to see distinctive manners by which a similar subject can be approaches by a VR user.

![Figure 2: Student experiences VR activity](image2)

The information will be yield from our perceptions and meetings about the connection between a client and a VR
application. The video and sound will catch carefully in middle of activity. The advanced video will then converge with the sound of the members talking catch from a receiver. The subsequent computerized video will store on a PC and copy to DVD after the session will be finished.

The video of the session will decipher by our self, including a full transcript of the member's discourse and in addition documentations of what was occurring on the screen all through the session to give setting. The perception sessions gives the opportunity to the specialists to look at VR encounter a sit happen, without creating the VR action itself. The members frequently utilize the VR application in unforeseen courses or with astonishing states of mind, prompting more prominent bits of knowledge into the general conceivable outcomes of VR encounter. Conducting Surveys:

Surveys will be conducted throughout forums where users give the response for the questionnaire.

C. TOOLS FOR DATA ANALYSIS

Our review information will be gathered from respondents, the subsequent stage will be to include the information on the PC, proper factual examination, translate the information, and make suggestions relating to our exploration targets. Ventures in information investigation including:

i. Editing and coding review information.

ii. In placing them in the PC in a product comprehensible organization, for example, MS Excel.

iii. Doing fundamental investigation, for example, recurrence appropriation, implies examination and cross-T classification to create bits of knowledge.

iv. Testing theories where relevant, and, if necessary.

v. Resorting to higher request investigation, for example, relationship and relapse.

VI. CONCLUSION

Students gain knowledge more efficiently with the help of different VR software related with their course work. This study brings the students closer to experience of different scientific objects which could not available in their school laboratory. This investigation conveys the understudies nearer to understanding of various logical items which couldn't accessible in their school lab.

IV. FUTURE PROSPECTS

The results of this study bring up several possible areas where future research could be useful. This research is used for secondary education in Pakistani Government educational system. Future research could be done in higher secondary environment.

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