

# VIRTUAL REALITY LEARNING AND HEALTHCARE ASSISTANT

## OBJECTIVE

The main objective is to develop Augmented Reality/Virtual Reality based learning platform and medical assistance in an medical surgery. This would be very useful for students who are in need of a classroom like learning experience while staying home. The main requirements of this project is a VR Gear and a fast internet connection. This is not only used for Virtual Learning but also can be used in Healthcare, such as Remote Surgery using Virtual Reality. When surgeons and patients are located in different places.

These kinds of products are useful in business meetings, university classes and schools. This will deliver a real classroom like face to face experience. In a normal video class a student will only be able to see only the teacher's face. But in virtual reality class it creates a three dimensional (3D) in which they can see, here and experience the real classroom effect. These kinds of VR classrooms will be very useful during laboratory classes and practical sessions.

During classes students will be provided with VR gear and an inbuilt 3D video lecture of the subject. Instead of showing a normal video this is very helpful and easy to understand by the students. The interesting part is that students can be learning this even at home. Before class teachers should create an realistic 3D VR video about the lesson using my custom built software, which is easy to make. For instance if it's a chemistry class about molecules, teachers may include 3D molecular structures, images and voice to the video, my software will recreate the whole and make it interactable with students. It will even bring students and teachers inside a VR environment in which they can talk, touch and feel virtually.

Students always need not be in class to listen to the lessons they can be anywhere to listen to it. This helps them not miss class when they are sick or at home.

And another part is this VR system can be also used in Healthcare. Especially in surgeries when a surgeon and the patient are in two different places, but the patient needs an emergency surgery. Doctor can travel to patient's places but the patient's

state is at risk of dying. Here Virtual Reality Medical Surgery comes to play, in this both of them need not to be in the same place, but the surgery will be done by the doctor remotely with help of virtual reality. Doctor will have an VR Gear and a hand held controller and on the other side the patient's body is operated by a high precision robotic arm. Robotic arms are more accurate than human hands, they can go in the body where human hands can't reach.

In all the hospitals at all times specialized doctors may not be available to care the patient during an emergency situation. This will also be useful during *pandemic* outbreaks in treating patients.