

Innovating Healthcare Education through 3D Virtual Learning

About the Client

Our client is a privately funded university offering healthcare focused degrees and certification programs for aspiring students. Established in the year 1988 at Colorado, USA, the university offers online healthcare programs and relevant certifications with ease of access. The important aspect of the university is that they provide innovative and interactive methods for coaching the students. Equipped with advanced 3D and virtual simulators, the courses offer a very interactive environment for the students to learn, practise and improve their skills and expertise.

Business Challenge

- The client's existing 3D simulation tool which was part of a learning program had many glitches and performance issues.
- The simulation lacked many essential features that were part of a course in tutoring nursing students.
- The interface was less user-friendly and required a complete redesign.
- 3D simulator had to be web-based and accessible to students through any devices.
- The customer also required to build an e-learning application that can help students analyze patient handoff reports.

InApp's Solution

InApp proposed a plan to enhance the already existing 3D simulation tool by adding more features and reducing the glitches. The enhancement project was carried out using Unity 3D, a cross-platform game engine to develop complex simulations and modelling of characters. Dedicated Unity 3D developers from InApp worked on 3D modelling, texturing, rigging, animation and integration of the application. The end result was an innovative and a seamless 3D virtual tour simulation which is used exclusively for the nursing students to train and assess their capability of observing the neighbourhood for any health-related concerns.

InApp also worked on developing a second version of the 3D virtual simulation in which the students can walk through the rural areas where healthcare challenges & hazards distinctly differ from that of cities. The simulation also provides an admin facility using which the faculty can provide different assignments to students and assess their capabilities through a centralized dashboard designed for the purpose. The application was built using WebGL, a Javascript API for rendering 3D animations in a browser.

In addition to the 3D simulation projects, the client wanted to build an e-learning software that can help students analyze handoff reports. Further InApp worked on building a Patient Management & Delegation software that helps the students in managing the patients and learn to build a accurate communication channel between them and the patients.



I know InApp team has really been working hard, and I really appreciate your commitment and dedication to this project. These are the reasons I really like working with you all. I am really proud of what we did with this project.

— Executive Director of Learning Innovation

Technologies Used

■ Unity 3D:

Having the long term expertise in game development, we used Unity 3D, a cross-platform game engine to render the 3D animations within the application.

■ Blender:

For texturing a real-world environment and rendering every interactive characters present in the simulation we used Blender, a 3D graphics software toolset.

■ WebGL:

The 3D simulation softwares were made compatible for different web browsers using WebGL to provide ease-of-access for the students. JavaScript was used to enrich the web interacting experience and to communicate with the backend.

Business Benefit

- The 3D virtual simulation quickly became popular in business and attracted a lot of universities to purchase the product.
- The application underwent a 360-degree facelift with many useful additional features that lacked in the older design.
- The digital simulations enabled the students to complete community health and leadership practice experiences from the comfort of their own homes.
- The new virtual simulation displayed a 90% faster response rate when compared to the older design.
- The Patient Management and Delegation software helped in determining the student scores with a 100% accuracy rate.

