

While several online learning tools have proven their efficacy in providing a theoretical background in physics subjects, experimental and laboratory experience is harder to replicate remotely. DoseBusters, a fully immersive virtual reality (VR) game undergoing development by a predominantly undergraduate team, seeks to use VR technology to fill that gap. By creating a 3D-modeled laboratory environment and implementing real-life experiences, DoseBusters not only serves as a realistic radiation physics simulation, but also an educational tool for those unfamiliar with radiation physics. Under development for 4 years, recent work has included a non-player character (NPC) lab assistant to teach the player about various detectors being used, a fully modeled research lab environment complete with educational signage and posters, and improvements to physics modeling scripts. DoseBusters also provides active learning about optimal dose reduction strategies, selection of survey instruments, the research environment and practical radiation protection challenges. In the future the game could be used as both a tool to teach others about radiation detection and protection (and possibly generate interest in the health physics field) or as a simulation for otherwise inaccessible experimentation by adding more functionality to the shielding and dosimetry aspects in the game.