



The students said they were inspired by the imminent danger beginner firefighters face during early training. For instance, the students mentioned in their literature study that, between 2015 and 2017, there have been on average 15% deaths during training in the US alone. So, the students wanted to solve this problem by using VR technology for the training sessions without affecting the firefighters training quality. They achieved this by creating real-life scenarios and evaluations that are based on international firefighter standards and training.

They used Unity to set up the scenes of the basic firefighters' training. They also used a Virtual Reality headset and real firefighters' gears such as the jacket and three different fire extinguishers to accomplish the tasks in their scenes. They also used Bluetooth trackers, sensors, and motors to make it more realistic for the trainee. These sensors and motors helped them in emulating the heat and smell produced by a real fire.



Finally, they evaluated their system with 26 subjects. During the test, they evaluated if the person extinguishes the fire completely, if the person chooses the correct extinguisher based on the fire type, and whether the person maintains the optimal distance from the fire. They tested their project on real firefighter trainees in Doha and got a very positive result for their prototype.