



# FIRE SAFETY SIMULATOR

COLIN CHARLESON - MARK TOUFIC - SEIF HELALY - GEORGE SALSA - ALEX BROERSMA



## PROJECT SUMMARY

The goal of our project is to develop a virtual reality simulation to train university employees in managing a fire situation safely and cost-effectively. The application is a serious game that offers a way to practice firefighting skills and incident command coordination without the risks associated with live fire training.

### PROJECT SCOPE/PURPOSE

We strove to provide Universidad Militar Nueva Granada with a Beta build of the training simulator. University employees can use the application to practice fire safety scenarios in an accurate virtual university classroom.

We included the ability to use two different types of fire extinguishers for the two different fire types, while abiding by the OHSAS(CCOHS) regulations.

### RESEARCH METHODS/RESULTS

Online secondary research was carried out to ensure compliance with all OHSAS (CCOHS) regulations and procedures for the training simulator. This involved using OHSAS-related websites, documents, and industry publications.

We determined that the best course of action was to create a virtual environment where the user may practice, which beat the traditional methods in price, efficiency, and SAFETY!

## PROJECT ANALYSIS

The project created for Universidad Militar Nueva Granada resulted in a beta build of the game, users can play through the fire training simulation trying to safely go through fire procedures and put out a fire, using this simulator we will gain an understanding of the effectiveness offered by VR training.

Key design decisions that were made include auditory feedback, key fire procedures, a scoring system that provides the player with a letter grade, various fire types and extinguishers, as well as being open to accessibility purposes for various users.



### IMPLEMENTATION SUMMARY

Using the beta build of the game, Universidad Militar Nueva Granada are able to playtest the game, alter the settings and analyze the test scores of the targeted demographic.

Doing so will help us determine how effective the simulation is, and how well users are able to learn and understand proper fire safety protocols.

We recommend to continue forward with playtesting, in order to gather a larger data set which can be used for future development and improvements to the project

## REFERENCES

Government of Canada, Canadian Centre for Occupational Health and Safety. "Fire Protection." Canadian Centre for Occupational Health and Safety, 13 June 2023, [www.ccohs.ca/oshanswers/hsprograms/fire\\_protection.html](http://www.ccohs.ca/oshanswers/hsprograms/fire_protection.html).