Safety training is a vital component to the well being of humans in all industries. With technology advancing at the current pace, conventional training methods are no longer the most effective way to communicate information, and there is a strong need for a more robust form of safety training. Virtual reality systems offer a highly customizable and interactive form of delivering information to users. This research addresses major gaps in the field of safety training using virtual reality systems and provides a design framework for creating a virtual safety-training system for a university. A model for the virtual environment is designed and developed and the process and justification is described. The environment and an applied use case for this model is developed and verified using a sample of trainees that would use the model. This exploratory framework provides a significant contribution to the field of safety education through virtual reality systems and can be expanded with further research.

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Approved for distribution by Luis C. Rabelo, Committee Chair, on March 18, 2015.

The public is welcome to attend.