

UF VIRTUAL EMERGENCY EVACUATION LABORATORY: A Virtual Evacuation Modeling and Emulation Environment

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We are in the process of developing a virtual evacuation modeling and emulation laboratory in the Industrial and Systems Engineering Department at the University of Florida. When completed, the laboratory will provide emergency managers the necessary tools to develop evacuation models of their community. They then will be able to emulate the evacuation process in real time through the virtual evacuation model builder. They will be able to interact with the ongoing evacuation process for vital control decisions in real time. The virtual evacuation modeler is based on a distributed computer network communicating through the Internet using TCP/IP protocol. With this ability, the neighboring communities will be able to model their own virtual evacuation models and interact with each other through interconnected virtual communities. In this talk we will provide the conceptual framework of the Virtual Evacuation Laboratory, VIREVAC-LAB. We will also discuss the software and hardware configuration for the laboratory. Capabilities of the system will also be discussed. Finally, the models for virtual evacuation of some of the Florida coastal communities will be provided.

Key Words: Emergency Evacuation, Emulation, Virtual Evacuation Modeling, Virtual Reality, Distributed Systems, Computer Networks.

THE VIRTUAL EMERGENCY EVACUATION LABORATORY: A Virtual
Evacuation Modeling and Simulation Environment

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We are in the process of developing a virtual evacuation modeling and simulation laboratory in the Industrial and Systems Engineering Department at the University of Florida. When completed, the laboratory will provide emergency managers the necessary tools to develop evacuation models of their community. They then will be able to simulate the evacuation process in real time through the virtual evacuation model builder. They will be able to interact with the ongoing evacuation process for vital control decisions in real time. The virtual evacuation modeler is based on a distributed computer network communicating through the Internet using TCP/IP protocol. With this ability, the participating communities will be able to model their own virtual evacuation model and interact with each other through interconnected virtual communities. In this talk we will provide the conceptual framework of the Virtual Evacuation Laboratory (VIRVAC-LAB). We will also discuss the software and hardware configurations for the laboratory. Guidelines of the system will also be discussed. Finally, the models for virtual evacuation of some of the Florida coastal communities will be provided.

Key Words: Emergency Evacuation, Emulation, Virtual Evacuation Modeling, Virtual Reality, Distributed Systems, Computer Network.