Weigh-in-Motion User Manual For WIM Integrated System

Today's military forces must maintain the capability of rapidly projecting massive combat power anywhere in the world with minimum preparation time. The process of manually weighing and measuring all vehicles for transshipment operations is time-consuming, labor-intensive, and, most importantly, is prone to human errors that can result in safety hazards and inaccurate data. The Weigh-In-Motion (WIM) system provides a man-portable means of accurately weighing vehicles with cargo as they individually cross the weighing pads to determine axle weights and spacing for vehicles, total vehicle/cargo weight, and longitudinal center of gravity. Steps for operating the WIM system must be easy to grasp and comprehend. In order for this system to be operational, a user's manual must be generated. Production of the user's manual requires extensive research on the WIM system's capabilities and all of its features. Most of these features deal with aspects of visualization, wired and wireless networking and communications, and web-based services. Tools needed to complete research include but are not limited to the use of industrial handheld PDA's, laptops, tablet PC's, desktops, server configured computers, and ORNL's customized electronics. Because of extensive research, a 44-page document with over 30 figures has been produced.

Student's Name: Cindy Lopez

School Student Attends: City University of New York - York College Name(s) of Mentor(s): Robert Abercrombie and Fredrick Sheldon

Division: Computational Sciences and Engineering Division Program: Research Alliance in Math and Science (RAMS)