

Weigh-in-Motion User Manual For WIM Integrated System

Cindy Lopez

City University of New York – York College

Research Alliance in Math and Science
Computational Sciences and Engineering Division
Mentors: Robert Abercrombie and Fredrick Sheldon

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ABSTRACT:

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. An extensive, easy-to-use 44-page manual with more than 30 figures has been produced.

PROJECT GOALS:

The goals of this project were to research and identify the best approach, optimal software, hardware, and resources required to produce, document, test, and distribute a complete Weigh-in-Motion (WIM) User Manual For WIM Integrated System.

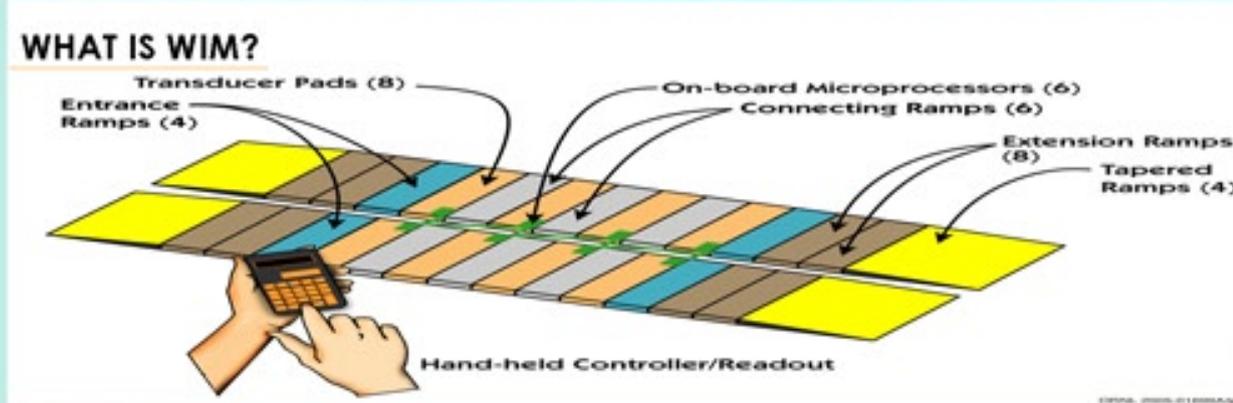
APPLICATIONS:

ActiveSync 3.8: Synchronizes PocketPC and desktop applications and data for communication

Pocket Controller Enterprise: Allows individual screens and video from handheld to be captured
Examples:



WIM Client: Software that controls physical WIM device



HARDWARE:

Tough book: Rugged laptop used in connection with Symbol 8146 or commercial PDA

Symbol 8146: Handheld pocket PC with embedded wireless and image scanning engine—Allows wireless connection to WIM System



Desktop: PC from where WIM can be operated through wires

Orinoco Gold PC Card: wireless networking card

TESTING:

- Wireless connections
- WIM weighing methods
 - Dynamic
 - Static
 - Stop and Go

RESULTS:



BENEFITS:

- User friendly interface
- Easy to understand and follow
- Loaded with visualization to facilitate learning

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