Conclusions

By developing a trailer loading solution for DSC, we will be providing them with a more efficient way to operate, which will reduce waste, increase productivity and speed of delivery, and provide a better working environment for its employees.

DSC Benefits

- Avoid overweight fines and associated costs
- Minimize labor time needed for creating load plans
- Axle weight calculations help minimize transient damage
- Minimize cargo damages with good load planning
- Reduce transportation costs by optimally loading cargo in vehicles

Acknowledgements

- Special thanks to **Max Buda** from DSC for his assistance throughout the project and our faculty advisor **Herb Shields** for his dedication and support for the IPRO team.

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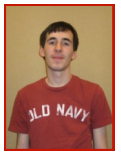
IPRO It takes a team! INTERPROFESSIONAL PROJECTS PROGRAM

Team Profile



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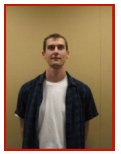

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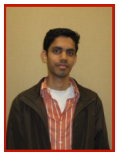

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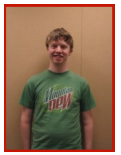

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☐ **Technical Team** ☐ **Research Team**

Trailer-Loading Optimization Group

ready for anything!

IPRO 305

"Providing the optimal solution for trailer loading"

Faculty Advisor

Herb Shields

Corporate Sponsor

DSC Logistics

ILLINOIS INSTITUTE OF TECHNOLOGY

Objective

Provide a software solution for DSC Logistics, capable of interfacing with the current system in order to optimize trailer loading resulting in reduced time, costs and improved efficiency.

Background

DSC Logistics, a third party logistics company with several warehouses nationwide, operates as the distribution center for many companies of various sizes and locations across the United States. The company has a number of computer systems available for processing incoming product and stocking it in the warehouse. In the last stage the product is loaded onto trucks in preparation for shipment to its customer's location.

The trailer loading process has been performed manually by skilled technicians who rely on experience to efficiently load the trailers. Although solutions exist for automating the trailer loading process, DSC is in need of a customized software capable of interfacing with their current WMS (Warehouse Management System).

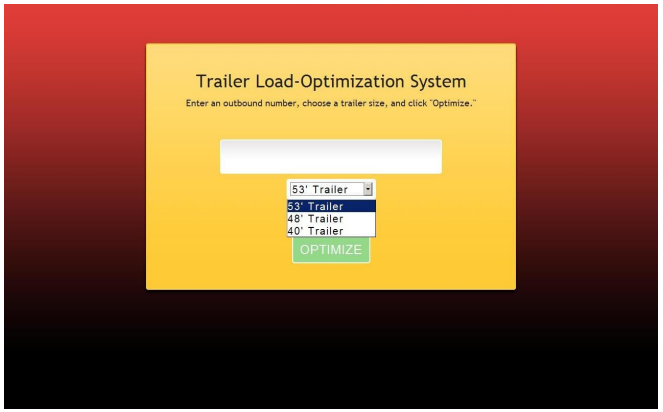
DSC LOGISTICS AND SUPPLY CHAIN MANAGEMENT

ready for anything!

Architecture

Web Based Load Planning

The user interface, written in HTML, CSS & Java Script, is a very simple, yet flawless design that requires minimal employee training.



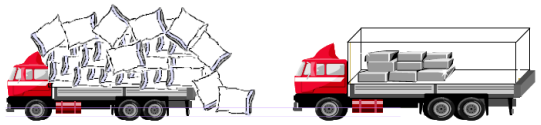
Secure Log-In: Allow users to login to the system securely, and offers functionality to add and remove users and change their credentials.

Overview

Background Scripts: written in JSP & SQL, runs in the background at pre-defined intervals to read the contents of three comma-separated-value (CSV) files and add them to the database.

Processor Script: written in HTML, JSP & SQL, the user-requested order is received from the Web page's form and is processed, and a PDF file or Web page is output to the browser containing the optimal load schematic.

Installer Script: Installs necessary database tables. This will allow user to distribute the system and reinstall it when necessary.



Trailer Loading Optimization System Logic Flow