The Manitowoc – Build Your Own Crane Project

Overview
The current process of crane selection for a customer is rather complicated. The current system requires engineer’s manual configuration for customer’s need. When there is need for a new truck-crane configuration, the customer will contact the sales department. The sales department will then contact the engineering groups to determine the feasibility, legality, and cost of the customer’s requested configuration. The lead time for this process is unnecessarily long. It is necessary to develop the software such that it is user friendly and easily understandable for the customer so that it enables customers to configure their needed cranes.

Objectives
The objectives of this project that have been agreed upon by both Manitowoc and KPMC are the following:

- Converting all of the current vehicle and crane data from a Microsoft Excel format to a Microsoft Access format in order to increase user friendliness and ease of access.
- To allow for users to enter specific truck data such as the wheelbase and axel weights.
- Creating a means of saving the calculated outputs that will now be found in Access, to a readily accessible Manitowoc database.
- Creating a means of visually interpreting the software outputs using CAD drawings that will be provided by Manitowoc. These drawings will represent their current rigs and help identify various input data such as particular wheelbase, particular outriggers, etc.
- Convert the existing database into a better format. KPMC intends to make this database format a foundation for Manitowoc to eventually convert it into a type of online “Build Your Own Car” application for potential customers. The team also intends for

Approach
- Created a Database template in Microsoft Access for the new database
- Imported all of the truck/crane data into Access
- Created data output forms for the user input data forms
- Created multiple user data input forms
- Incorporated pictures into the forms

Outcomes
The team was not able to meet all of the agreed upon deliverables, but were able to yield fantastic results. KPMC has created a foundation for Manitowoc to improve upon their database which was one of the underlying goals of the project. The team hopes Manitowoc will be able to continue to build on the software for even more future applications.

- The data is now in a better organized database
- The new database is more user friendly
- There is now a visual representation of a boom truck on the user data input forms
- The data now saves automatically every time a table is closed
- There is now potential for an online application by linking the data input forms and tables to a website