

IPRO 304: Heat treatment Program

Objective

The objective of this IPRO is to create a 3-D software modeling program that displays the placement and information of steel parts as they are loaded into the furnace for the heat treatment process. Then, the user will be able to save all the load information on that particular furnace to a database for future reference.

Basic Organization and Tasks

The major tasks of this IPRO are:

- Incorporate the basic functionality into the program (displaying multiple parts, rotation, translation, resizing, saving and opening work orders)
- Communicate frequently with Finkl so that the groups work is meaningful to the client
- Ensure the program is compatible with Finkl's database
- Simplify user interface based on feedback from Finkl

The team was divided into two subgroups, Joe and Bryan worked mainly on the programming portions of the project. The two Nicks focused on modeling parts for the database as well as organizational tasks. to program

Accomplishments

During the course of this IPRO, the team was able to successfully develop a working program that corrected issues faced by the previous IPRO's work. The team successfully fulfilled the basic functional requirements of Finkl, interfaced the program with the Finkl database, and simplified user interface based on constructive feedback from Finkl foremen.

Critical barriers and obstacles

The greatest problem that occurred in this IPRO was the lack of Computer Science major students to assist in the programming. The MMAE students did what they could by assisting with the part codes and taking care of IPRO office issues.

Conclusion

This IPRO successfully created a program that Finkl can use on a daily basis to maintain accountability for their parts. The team was able to work together to overcome the fact that there was a lack of manpower

Next steps

The next major step in this program is the implementation at Finkl for daily usage. Once the system is in place and functioning properly, additional features such as optimization can be created so that foremen can know which parts to place where in the furnace to maximize energy and product quality.

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