Assembly Line Design Application (ALDA)

Organization
WSU Ventures – Wichita State University

Industry:
Manufacturers with paced assembly lines

Researchers:
Dr. Sue Abdinnour, Operations Analysis & Improvement, Supply Chain Management & Enterprise Resource Planning

Status of Intellectual Property:
ALDA – original computer program, Registered Copyright

Next Steps:
Secure funding to complete ALDA version 2.0

Recruit manufacturers to provide data sets for software validation

Identify experienced CEO to run day to day business operations (Dr. Abdinnour is available to serve as technical advisor)

WSU VENTURES

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Wanted

Experienced leader to lead the enhancement of a proven algorithm into software and then commercialize the new version of software.

Customer Problem

Manufacturing companies with paced assembly lines frequently run into issues when a line experiences a full or partial shutdown. This results in "manufacturing chaos" – inefficient assembly lines, increased inventory costs and increased production costs. Non-quantitative attempts to "fix" an assembly line from the shop floor are not typically successful.

Potential Market Uses

Any paced assembly line manufacturer; emphasis on smaller businesses that can't afford existing consultants/software systems.

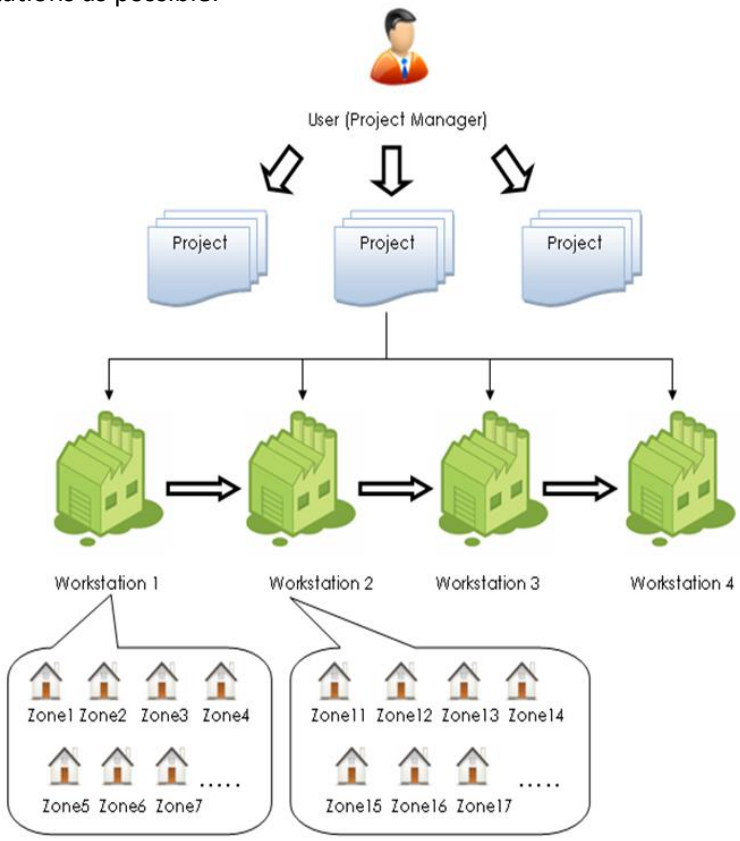
Case Study:
A company with a paced assembly line was concerned about uncontrolled cycle times and amount of work in progress inventory. Before ALDA was implemented, the line included 16 workstations with tasks ranging from 12-51 at each station. Depending on the task, it was possible to have workers with downtime waiting for the person/task prior to them to be completed. After the implementation of ALDA's model, the number of workstations decreased to 9 and all the tasks were re-allocated which resulted in a 77% increase in line efficiency for a total savings of over $30 million.

Market Size

Any supplier that uses a paced assembly line with cells or stations is a potential customer.

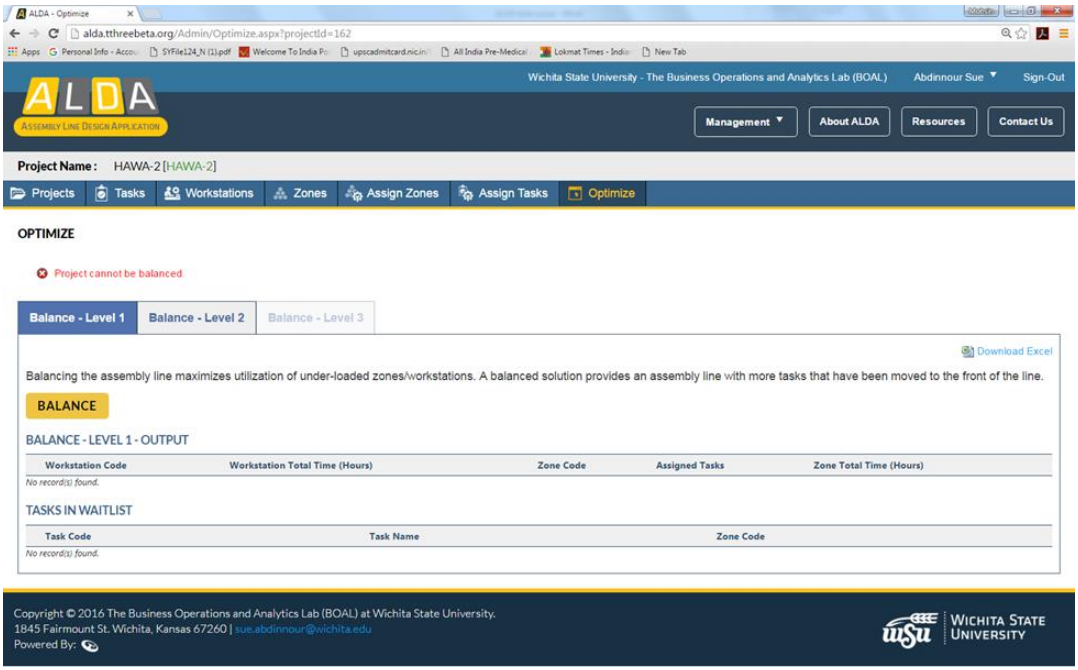
Innovation

ALDA applies its algorithm to provide a quantitative approach to optimizing the design of an assembly line to be more efficient, with as few workstations as possible.



Stage of Development

The software is currently being redesigned using the original program and algorithm as a guide.



Competitive Advantages

ALDA is web-based for easy access by customers and will provide line managers, supervisors and administration the tools necessary to optimize their assembly lines without having to hire expensive consultants.