SAN DIEGO STATE UNIVERSITY
Leadership Starts Here

SDSU
presents
a thesis defense for
Master of Science
degree in
Computer Science

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11:00am
GMCS 418

John Stronks

Production Line Modeling:
A Simplified Approach Based on Theory of Constraints

Abstract

Much academic energy has been invested in the study of optimizing assembly or production lines. The Assembly Line Balancing Problem design problem is an artifact of that work. Theory of Constraints purports that an assembly line that is purposely and strategically unbalanced provides superior performance in terms of predictability and throughput over the traditional balanced line. This study articulates a custom production line model based on Theory of Constraints and compares its performance to the traditional operations management paradigm, a balanced line. Results show that a purposely unbalanced line provides superior flow of material and greater throughput than the traditional balanced line configuration. Additionally the simplified model and approach may be more appealing with respect to the design, development, and computational costs than those required of the conventional line balancing methodologies.

Thesis Committee

Joseph Lewis, Thesis Chair, Department of Computer Science
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