

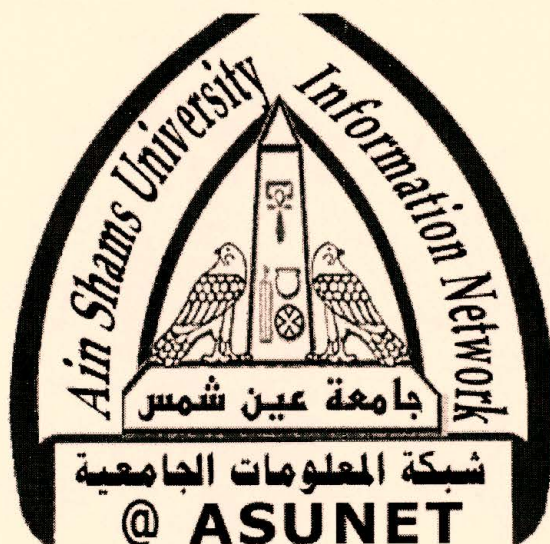


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CAIRO UNIVERSITY
FACULTY OF COMPUTERS AND INFORMATION
DECISION SUPPORT DEPARTMENT

Computer Simulated Management Games for
Training and Education

A Thesis Submitted to
Faculty of Computers & Information Cairo University
In Partial Fulfillment of the Requirements for the Degree of
Master of Science
In
Decision Support

By
Sherin Magdy El-Meligy

Supervised by
Prof. Dr. Motaz Khorshid
Dr. Mohamed Saleh

Cairo 2006

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STATEMENT OF ORIGINALITY

This thesis is submitted to Cairo University for the M.sc. degree in the major of decision support. The work included in this thesis was carried out by the author in the department of Decision Support, faculty of Computers and Information.

No part of this thesis has been submitted for a degree or a qualification at any other university or institute.

Name: Sherin Magdy El-Meligy

Signature: Sherin Magdy

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Abstract

The rise of global markets and increasing competition between companies has motivated the continuous evolution of the supply chain and the techniques to manage it. Managers are now forced to invest their efforts in coordinating with their supply chain partners. Complexity of today's markets is driving educators specifically in the field of management education to look for new innovative methods of teaching to help enhance their in-class teaching. The main goal of this research is to develop an advanced educational tool to support students' learning and promote their ability to apply their knowledge to a practical situation.

In this research, a simulation game for a detergent supply chain was designed and implemented. First a simulation model was developed for a complex multi-level supply chain; the modeling approach used was a hybrid one integrating both system dynamics and agent-based modeling approaches. Then, the model was embedded in a user friendly interactive environment to allow users to benefit from it as an educational tool. The objective of the game is to teach users about important supply chain concepts and help them not only acquire this knowledge, but also, comprehend and apply it in the gaming environment.

After development, the game was tested for validity by conducting an experiment on a sample of students. A questionnaire was designed to collect data about the impact of the game on players. The results showed that players were very interested in the idea of the game, and most students agreed that it was a good learning experience.

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