**CD++ Model Data Form**

**Title:** Factory in a Supply Chain Management model-DEVS Graphs

**Type:** DEVS graph Model

**Acronym/Short name:** FSCM-GGAD

**Purpose for which Developed:** A simulation of a pharmaceutical plant which is a part of a supply chain of a pharmaceutical product is performed using a combination of C++ and DEVS-graph models in CD++ toolkit. This was done following an initial modeling and simulation using pure C++ standard models in CD++ toolkit.

**Other Applications for which it is Suitable:** Logistics, Supplier, Manufacturing, Retailing, etc.

**Date Developed/Implemented:**  2011 December 20

**Domain:** Artificial systems

**Current Version:** N/A

**URL:**  N/A

**Description (including characteristics):** The FSCM model consists of three components: the *Administrator* that simulates a logistics department that oversees the factory’s processes, the *Warehouse* that simulates a warehouse that stores both raw materials and finished products with certain capacities for each, and the *Pharmaceutical Manufacturing Plant(PMP)* that simulates the process of production of pills/tablets. In addition, an internal scheduling mechanism is implemented as part of the *PMP* to ensure that the entire production process operates smoothly. The Simulation is done using a combination of C++ and DEVS graph models.

# Links to Related Documents

**Short Title:** FSCM DEVS Model Report

**URL:** Factory in a Supply Chain Management model-DEVS Graphs.pdf

**Description:** Report for SYSC 5104 Final Project. It includes the conceptual model, DEVS and DEVS graph formal specifications, tests and analysis and animation.

**Keywords**: Supply Chain Management, Administrator, Warehouse, Pharmaceutical Manufacturing Plant, Factory, DEVS Graphs

**Developer:**

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**Comments:** This model can be extended further to include components such as supplier, distributor and retailer to simulate the whole supply chain management. The behavior of all components of the model were tested and verified.