中文摘要

隨著 WEEE、RoHS 及日本「東京協議書規範」等綠色環保議題的延燒，2006年七月綠色環保法規將正式上路，綠色設計不僅是現今熱門的話題，綠色主義已然成為現代企業發展與消費趨勢的最高準則，更是未來的主流，各業者應善用產品生命週期管理來因應全球各地環保新規定。

產品生命週期管理提供企業一個資訊管理平台，將所有產品的資料、相關的流程納入管理，讓參與這些流程，建立及使用這些資料的人（包括系統廠，供應商，及企業內員工）能在這個平台上快速的取得資訊，加速所有流程的推進，同時藉由此平台能更容易管理產品資訊，使各使用者都能在適當時候取得正確的資料。

然而產品生命週期管理系統所涵蓋的產品範圍僅限於本身產品上下游之零組件資料，為了配合綠色產品之開發，我們須要更多的綠色零組件資訊的支援，因此本研究試圖建立一個整合綠色零組件資訊管理平台，本平台藉由搜集產業內的所有綠色零組件資訊以幫助企業在綠色產品開發之初，能透過此系統取得更多的綠色零組件資訊，幫助產品研發人員取得更佳的零組件進行新產品的開發。本研究目標可分為以下三點：

1. 根據相關綠色產品定義建立綠色零組件資訊管理平台，加強原有產品生命週期管理系統之資料量設計。

2. 建立中介之零組件 XML Schema，以利不同 Schema 格式的 XML 交換

3. 建立一個 Schema Mapping Hub 提供使用會員產生轉換 Schema 格式的 XSLT 檔案。

Abstract

With the increasing concern in the environmental protection and the initiatives in related environmental protection regulations, the principles of green design become not only one of the hottest topics but also the essentials for business. The emerging regulations such as directive on waste electrical and electronic equipment (WEEE), directive on restriction of the use of certain hazardous substances (RoHS) and Kyoto protocol made a great impact on product design and manufacturing. Traditionally, the Product lifecycle management (PLM) system offers an enterprise a platform of information management for all the data related to products and products' life cycle processes. The PLM system can help all participator in these products' life cycle processes (e.g., customers, suppliers, and internal staffs) to use all the data derived during the product's lifecycle. The system can also assist users to manage the information of products effectively and to access information efficiently. PLM system is a good system but not good enough today. Because the quantity of materials information is not enough, we had better to get all the related product data in this industry. So in this paper, we propose an Integrated Green Component Information Management (GCIM) system framework based on the XML file transmitting to improve the quality, cost and time-to market issues of green designs for enterprises. The goals of this paper are listed as follows:

1. To design GCIM system framework and enhance the data model related to the green design of the original PLM system.

2. To define the intermediary schema for schema translation.

3. To develop the schema mapping hub for users translating their own schema to the intermediary schema.