

使用二元樹資料結構探討產品態問題

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摘要

產品組態的多樣化以及完整的管理方式，成為目前各企業發展的目標。在目前客製化為導向的市場型態裡，以顧客為需求選擇自我所需的產品組態，會產生許多設計上、工程上以及製造上的種種限制問題，然而如何在設計模式初期概念設計中整合及管理此類型資訊，已成為現今企業所需面對的問題，不僅如此，在現今的顧客需求層面，許多的顧客只會要求部分的限制，然而其他的需求就必須由廠商自行解決，整合出套滿足顧客需求下的結構解，這往往由具有經驗管理人員所處理，這也困惑許多不具有經驗管理的現今企業，然而本論文就以解決如此的問題，作為本研究的方向。因此本論文將此種客製化下的限制問題，透過使用二元樹架構以及資料結構的方法，產生出一種產品組態的關聯限制式，將資料儲存以高度平衡二元樹(Height Balanced Binary Tree; AVL Tree)的方式呈現，經由AVL二元樹的特性，再使用資料結構的方法，經由問題的調整後，使得找尋組態解時，以及在維護產品組態上較為容易。最後再搭配Borland C++ Builder 6.0 程式軟體與Microsoft Access 2000 的應用，撰寫一套完善的維護產品家族結構系統，以解決現今客製化產品組態的問題。

關鍵詞：產品組態、二元樹、資料結構

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