地區醫院超音波影像與醫療資訊系統的整合與建構及其效益評估

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摘 要

在總額給付的衝擊下，原本獲利率就不高的地區醫院，更因給付點值的偏低，紛紛造成經營困難等問題，如何利用資訊科技來提高醫院的競爭力，是刻不容緩的議題。過去幾年許多大型醫院紛紛導入醫療影像儲傳系統，實証上已有良好成效，但礙於成本考量，地區醫院發展此系統的並不多，本研究的目的就是在不額外增加成本的考量下，設計一套符合地區醫院使用之醫療影像傳輸系統，並評估其效益，以提昇地區醫院之競爭力。

本研究所建構之 PACS 系統，採用三層式架構來開發，資料庫連結部份都封裝為 COM+元件，置於應用伺服器上，所有用戶端都需透過應用伺服器才能連接至資料庫，不但增加了資料庫的安全性，並已成功在中部部某地區醫院完成上線作業，目前除了影像擷取卡的費用及軟體發展的時間外，並無其它相關支出，所以地區醫院並不需額外的建置費用即可擁有一套小型的影像儲傳統，在原有的網路架構，透過系統的設計，對原有的網路頻寬並無相關影響，所以透過此系統設計，地區醫院在 PACS 的建置上是可行的。

關鍵詞：影像儲傳系統、醫療資訊系統

Abstract

Since the influence of the global budget, the regional hospitals have faced the difficulties in the operation of the hospitals. The profit ratio in running the regional hospitals is near the marginal level for a long time. The utilization of the computers to increase the competition power has become more urgent recently. In the past, a lot of hospitals in Taiwan and other countries had introduced the PACS system, and the results have shown a good performance. However, the cost to buy the PACS system is so costly that most of the regional hospitals cannot afford to have it. The goal of the thesis is to design a PACS system that is suitable for the environment of regional hospitals and, more importantly, dose not cost too much. In addition, we also evaluate the effectiveness of our proposed PACS system in order to promote the competition power of regional hospitals.

In this thesis, we developed this system with a three-tier structure. The connection with the database are encapsulated into a com+ component and then deployed in the application server. This paper proposed and implemented the actively transmission methods such as autorouting and prefetching to solve the insufficient bandwidth problems which are commonly occurred in regional hospitals. The experiments show that the speed to access the image is high and satisfied the clinical need.

Key Words：PACS、autorouting、prefetching、HIS