Ad Hoc環境下利用代理人發掘機制於服務分享之研究與實作

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摘 要

隨著行動裝置的功能與應用領域不斷增加，個人資訊處理已經邁向多元化，但卻缺少一個服務整合的機制，讓各種資訊服務功能夠互通，而且行動裝置又擁有移動的特性，固定的傳統資訊服務無法滿足行動環境需求，因此，本論文提出多重代理人架構－DASS(Distributed Agent Service Sharing)，其目的是利用代理人的自主性與溝通性設計與實作服務分享架構，主動發掘服務以進行服務分享的協商，達到分散式服務的配置與管理。 系統開發流程是遵循PASSI方法論進行多重代理人社群塑模，由發掘代理人利用現有的服務發掘機制JXTA搜尋代理人平台與平台上的服務，在搜尋過程中，為增加與其他服務發掘機制擴充彈性，由樣板轉換代理人進行服務描述格式的轉換，容納更多的服務發掘架構，為符合在隨意網路(Ad Hoc)環境下的網路拓撲，由紀錄代理人管理代理人平台與服務描述的紀錄，提供隨意網路中節點的proxy服務，讓搜尋與取用點(Peer)的服務得以更加連繫，對於與使用者互動的設定與行動裝置資源的管理，分別提出由設定代理人與資源管理代理人完成系統設定、服務部署、安全控管與監控系統資源等各項任務。 本研究是在代理人中介平台JADE進行系統開發，具體的貢獻如下：⑴於行動裝置上運用代理人技術建立服務分享系統，由單一窗口與其他代理人溝通；⑵經本研究完成的系統框架與服務發掘樣板建置，使得開發者可以快速建構服務分享的應用；⑶本系統繼承FIPA抽象的服務搜尋機制增加與其他系統的相容性，並且利用現有的JXTA服務發掘架構實作代理人平台上的服務發佈與搜尋，可以解決隨意網路中點與點之間服務取得不易的問題；⑷本系統根據FIPA規範的代理人溝通語言制定服務分享的協商模組，並且針對服務分享製作溝通知識本體論，在分享的溝通過程中，不需理會雙方之間的詞彙及文法，既可瞭解彼此的意圖，可以簡化異質性代理人之間的溝通問題。

關鍵詞 : 服務分享 ; 代理人社群 ; PASSI方法論 ; JXTA

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