結合二維條碼與定位方法之影像浮水印技術

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ABSTRACT

自從網際網路普及以來，數位資料的取得已經變得十分容易且迅速，因此如何保護智慧財產權是目前備受注目的焦點。使用數位影像浮水印來宣告所有權是目前較普遍的方式，它能夠將所有權的資訊隱藏在電子檔案裡，而不會被使用者發現，但是影像可能遭受各種攻擊，如壓縮、切割、旋轉、平移等，所以如何抵抗攻擊而成功的取出隱藏之中的浮水印是一非常重要的課題。　　本論文提出一個具有強韌性之浮水印技術，它能夠抵抗壓縮、切割等攻擊，為了增加浮水印抵抗旋轉或平移攻擊的能力，我們提出一個以定位方式為基礎的影像浮水印技術，用來克服旋轉及平移的攻擊。另外為了提高浮水印的保密性，我們將浮水印編碼成二維條碼再藏入影像中，因為二維條碼具有錯誤更正的能力，可以自行修正條碼資料之錯誤，以提高浮水印的抵抗能力。對於取出之條碼資料，再經過影像強化修正此條碼資料後，更能提高條碼之解碼率，再加上經過解碼後之條碼是一個確切資料，而不是判斷浮水印相似度的做法，所以更能提供使用者的辨識。實驗結果證實我們提出的浮水印技術，可確實抵抗壓縮、切割及旋轉、平移等各式攻擊。

Keywords : 智慧財產權 ; 影像浮水印 ; 二維條碼 ; 定位 ; 離散餘弦轉換

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