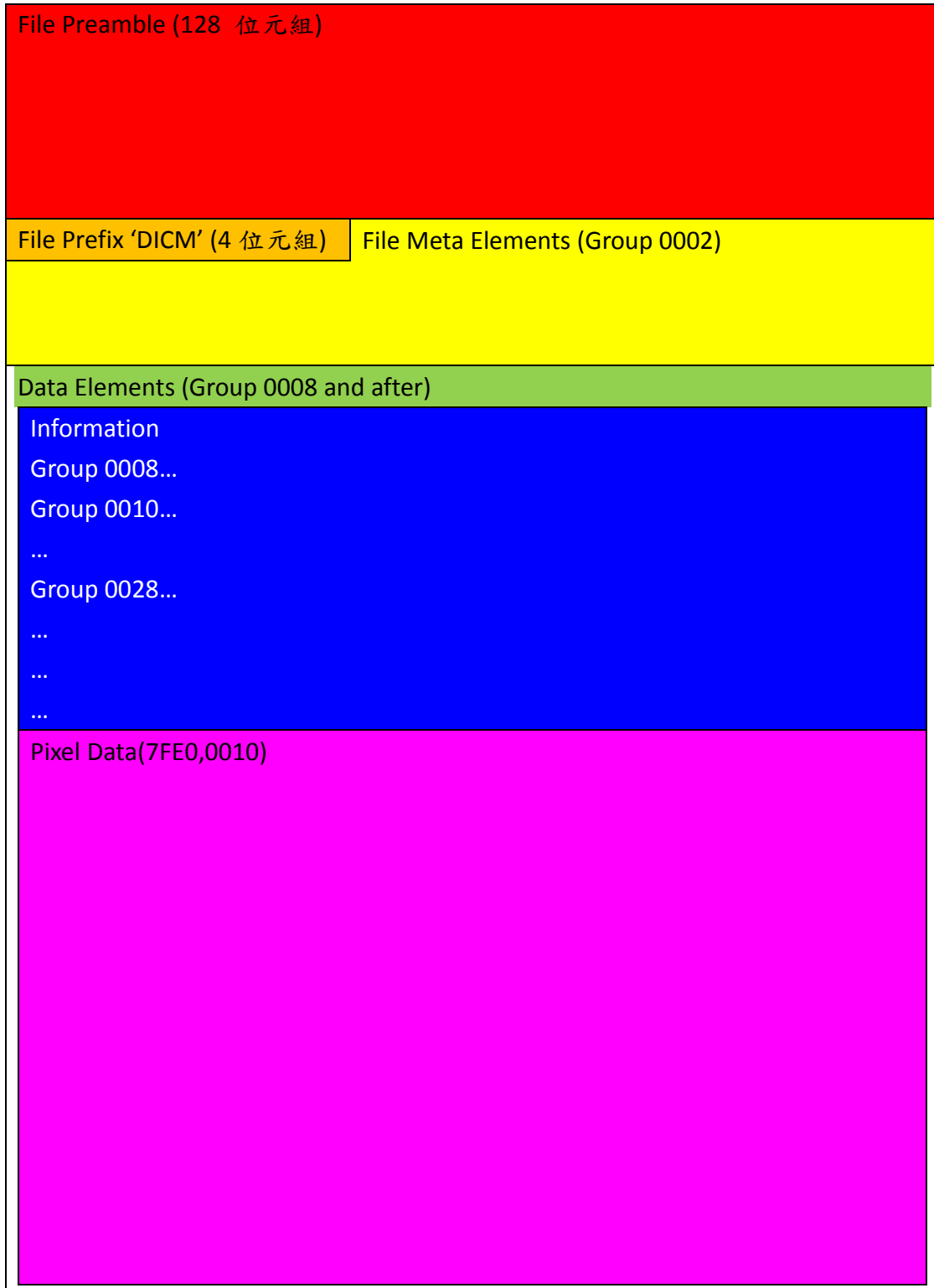


醫療影像報告本文
DICOM Object Catalog 內
所紀錄 DICOM 物件
取姆指紋之方式

壹、 DICOM 影像檔案格式



(詳細資料請參閱 DICOM Standard 的 Part 5 與 Part 10)

例:

The screenshot shows the DICOM Hexadecimal Viewer interface. The file path is E:\IM_0004. The left pane shows a tree view of DICOM tags, with (0008,0005) Specific Character Set selected. The right pane shows the property value for this tag: Tag: 0008, 0005; Description: Specific Character Set; VR: CS; Tag Offset: 342; Data Offset: 350; Data Size: 10; Data Value: ISO_IR 100. The main hex view shows the file's content. A red box highlights the File Preamble (128 bytes) from offset 00000000H to 0000007FH, which consists of 128 zero bytes. A yellow box highlights the File Prefix (4 bytes) at offset 00000080H, containing the ASCII string "DICM".

File Preamble
(128 位元組)

File Prefix
(4 位元組)

The screenshot shows the DICOM Hexadecimal Viewer interface. The file path is E:\IM_0004. The left pane shows a tree view of DICOM tags, with (0008,0005) Specific Character Set selected. The right pane shows the property value for this tag: Tag: 0008, 0005; Description: Specific Character Set; VR: CS; Tag Offset: 342; Data Offset: 350; Data Size: 10; Data Value: ISO_IR 100. The main hex view shows the file's content. A yellow box highlights the File Meta Elements starting at offset 00000080H, which includes the File Preamble, File Prefix, and the File Meta Information block starting at offset 00000090H. The File Meta Information block contains the File Meta Elements, including the File Meta Information Tag (0002,0001) and the File Meta Information Description (0002,0002).

File Meta Elements
(不定長度)

貳、 姆指紋(Hash)製作方法

一、 121190 Referenced Frames (僅對 Pixel Data 取姆指紋)

1. 未壓縮格式

Implicit Little Endian Transfer Syntax 的影像沒有 VR 欄

(7FE0,0010)	(VR)	單張影像大小 x 張數 n (必定補齊為偶數)
		Frame1
		Frame 2
		Frame 3
		.
		.
		.
		Frame n-1
		Frame n

Hash 運算部份只包含橘色圖像部份。

2. 壓縮影像格式

(7FE0,0010)	VR, 通常是 OB 或 OW	FFFF FFFF (-1)
(FFFE,E000)	張數 $n * 4$ (32 位元), 單張影像時, 索引內容為空, 多張時亦可為空	
索引 1		
索引 2		
索引 3		
...		
索引 n-1		
索引 n		
(FFFE,E000)	Frame 1 的壓縮長度 (必定補齊為偶數)	
Frame 1		
(FFFE,E000)	Frame 2 的壓縮長度 (必定補齊為偶數)	
Frame 2		
(FFFE,E000)	Frame 3 的壓縮長度 (必定補齊為偶數)	
Frame 3		
.		
.		
.		
(FFFE,E000)	Frame n-1 的壓縮長度 (必定補齊為偶數)	
Frame n-1		
(FFFE,E000)	Frame n 的壓縮長度 (必定補齊為偶數)	
Frame n		
(FFFE,E0DD)	(影像結束符號)	

Hash 運算部份只包含藍色圖像部份。

二、 121324 Source Image (對來源影像檔案取姆指紋)

與 121327 Full fidelity image (對未壓縮或非失真壓縮

影像檔案取姆指紋)

Hash 運算部份只包含 Data Element (Group 0008) 以後的部份，作法類似 DICOM 數位簽章的方法，但予以簡化 (無列舉欄位與正規化的步驟)；詳細資料請參閱 DICOM Standard 的 Part 3 與 Part 15 或 Supplement 41。

例：

The screenshot shows the DICOM Hexadecimal Viewer interface. On the left, a tree view lists DICOM tags. The tag (0008,0005) 'Specific Character Set' is highlighted with a green box. A green arrow points from this tag to the corresponding line in the hexadecimal data dump. The data dump shows the following line highlighted in blue:

```
00000150H: 4F 4D 20 34 2E 30 00 00 05 00 43 53 0A 00 49 53
```

A callout bubble with a green border points to the hex dump and contains the text: "Group 0008 以後的所有資料".

參、 注意事項

1. 對於有加密的 DICOM 影像物件檔案請先行解密再進行取姆指紋。
2. DICOM 影像的傳送，如傳送端會改變 Transfer Syntax，請洽傳送端 PACS 軟體廠商協助。

肆、 附註

本文件中使用之軟體為 Santesoftware 的 Sante DICOM Viewer ，下載網址為 http://www.santesoft.com/dicom_viewer_dnld.html。