

MPEG-7

o

{parkjh^o, jhnang}@sogang.ac.kr

A Content based Web Image Retrieval System using MPEG-7 Visual Descriptors and Textual Information

Joohyun Park^o, Jongho Nang

Dept. of Computer Science, Sogang University

WWW
가 가

가
MPEG-7 [1]
MPEG-7

HBI (Hierarchical Bitmap Index)[2]
가 가

1.

WWW(World Wide Web) 가
가 WWW 가 [4]
가 가 WWW 가 MPEG-7 XM[7]
가 Google¹⁾ Yahoo²⁾ 가 SQL
가 가 가 가 HBI
가 가 가 가 가

2.

< 1 >

WWW

URL, 2.1

BFS (Breadth First Search)
가

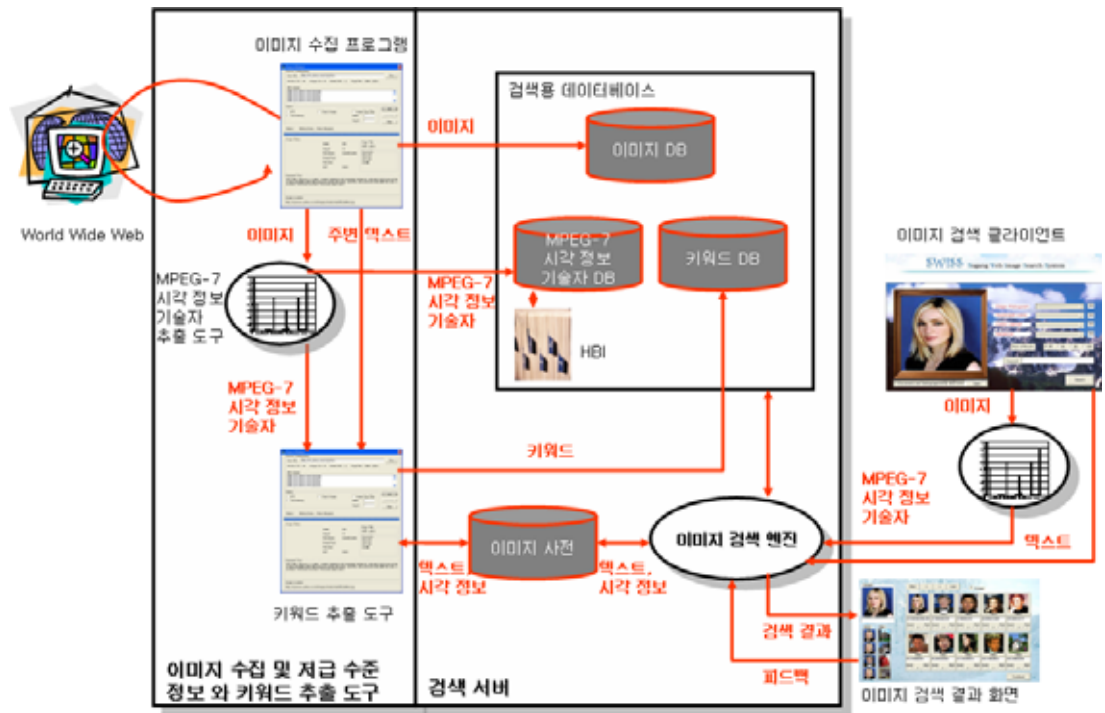
(Anchor),

MPEG-7

Dominant Color, Color Layout, Edge Histogram

1) <http://www.google.co.kr/imghp?hl=ko&tab=wi&q=>

2) <http://kr.image.yahoo.com/>



< 1 >

[3]

MPEG-7

2.2

3

가

3.

(Nearest Neighbor)

k-NN

r-Range

가 r

k

r-Range

가 k-NN

가 Rocchio[5]

가

가 q
< q_1, q_2, q_3, q_4 >

가 q_1, q_2, q_3, q_4

Dominant Color, Color Layout, Edge Histogram
Dominant Color,

Color Layout, Edge Histogram,

가

$w = \langle w_1, w_2, w_3, w_4 \rangle$

MPEG-7
HBI(Hierarchical Bitmap Indexing)[2]

가 q

MPEG-7

MPEG-7

XM[7]

[4]

가

MPEG-7

< 1 >

가 q

p

$d(p, q)$

가

$$d(p, q) = \sum_{j=1}^4 w_j \cdot d(p_j, q_j) \quad < 1 >$$

$$d(p_j, q_j) \quad (1 \leq j \leq 4)$$

가

[0,1]

, r-Range

< 1 >

가 r

k-NN

k

가

가 Rocchio[5]

가

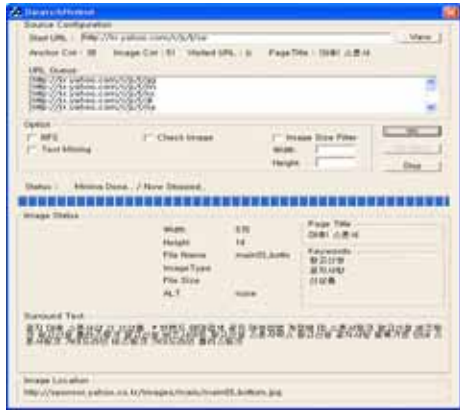
가 q'

5

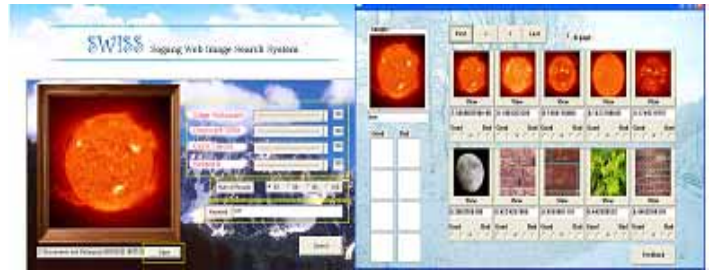
가

4. Windows XP 4 가 10
5

4.1 가 (Dynamic Link Library) < 2>



< 2>



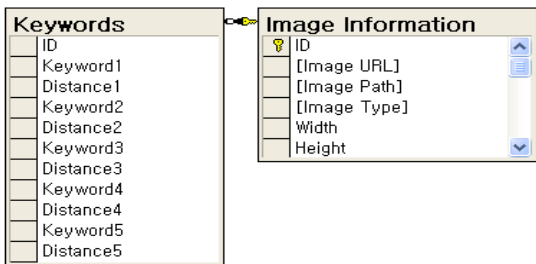
< 4>

5. WWW 가

4.2 MS-SQL < 3> HBI CPU 가

<Keywords> ID 5
Distance [0,1]

0 가 MPEG-7 가
가 L1 L2 가
HBI[2] MPEG_7
Dominant Color 가
가 HBI [6].



< 3>

4.3 가 ActiveX < 4>

가 "sun" < 4>

6. [1] ISO/IEC JTC1/SC29/WG11 *Information Technology Multimedia Content Description Interface-Part3: Visual*, 2001.
[2] J. Park and J. Nang, "A Hierarchical Bitmap Indexing Method for Content Based Multimedia Retrieval," *Proceedings of EuroIMSA International Conf.*, pp.223-228, 2006.
[3] , 2005.
[4] C. Fellbaum, *WordNet: An Electronic Lexical Database*, MIT Press, pp.265~283, 1998.
[5] D. Widyantoro, and J. Yen, "Relevant Data Expansion for Learning Concept Drift from Sparsely Labeled Data," *IEEE Transactions on Knowledge and Data Engineering*, Vol. 17, Issue 3, pp.401-412, 2005.
[6] , " MPEG-7 ," *KCC 2005* , 2005.
[7] ISO/IEC JTC1/SC29/WG11 *MPEG-7 Visual part of eXperience Model Version 11.0*, 2001.