

WWW

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HTML

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**Architectures of WWW Based Expert Systems
and Implementation of HTML Based Backward Chaining Inference Engine**

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WWW

가

, HTML

. WWW

가

CGI

, Web

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Java Applet

,

HTML

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가

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, HTML

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, OAV

HTML

JavaScript

.

,

Web Site

가

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Key Words:

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가

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, HTML, JavaScript, WWW

1.

WWW
 가 가
 . WWW
 가
 Intelligent E-Mail Interpretation and Classification,
 Smart Advisor for Marketing Products and Services,
 and Training, Online Configuration Systems, Help
 Desk for Technical Support . (Intelligent
 Software Strategies, 1997) 가

WWW
 stand-alone Client/Server 가
 ,
 ,
 .
 WWW Hyper-media CGI
 , WWW
 connectionless, stateless (Berners-Lee, Fielding,
 and Frystyk, 1996)

가 가
 .
 , WWW
 가
 ,
 HTML(Berners-Lee and Connolly, 1995)
 가 . 2
 WWW 가
 , 3 HTML
 WWW HTML
 가 가 ,
 4 HTML 가
 . 5 HTML 가

HTML 가
 6 .

2. WWW 가

WWW 가
 . WWW 가
 (Server)
 (Client)

(1)

가 . CGI
 , Web 가
 ,
 HTML .
 CGI WWW FORM

. Web , Web
 , URL, HTTP, HTML CGI
 ,
 ,
 가
 . 가
 WWW connectionless, stateless

. ,
 FORM HIDDEN field ,
 Cookie ,

. , CGI 가
 가 가

,
 .
 CGI

Web CGI Dispatcher 가 , Dispatcher (2)
 Dispatcher Web CGI (External Viewer) ,
 Dispatcher Web
 , Dispatcher Web Web
 가 Protocol MIME 가
 , ,
 가
 Web 가 Plug-In . Plug-In
 가 가 ,
 가 Web 가 ,
 , Web 가 가
 API(Netscape
 NSAPI) Web 가 .
 가 Web
 , , ,
 Web 가 , ,
 , Web connectionless, stateless
 Web 가 WWW
 HTML WWW
 HTML ,
 , , ,
 , CGI , 가
 , 가 HTML . ,
 가 가
 3 HTML 가 .
 Web

Web < 1> .
 Web < 1>
 . Java CGI , HTML , Java
 Applet(Lemay and Perkins, 1996) . Java
 . , Web Java
 (Byte Code) 가
 , Java CGI
 Web Java . (EXSYS) ,
 가
 Web Java 가 가
 . Java CGI
 , Java
 HTML
 , , , , . HTML
 가
 Web Java 가 .
 , HTML , HTML Hyperlink
 가
 가
 HTML 가

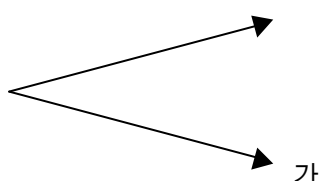
< 1> WWW 가

	CGI		Web		HTML		
				API			
가							

가 , < 1> Hyperlink HTML
 3 HTML . 4 .
 3. HTML

HTML (Hyperlink) (Chaining)

< 1> (Decision Tree)가 . , 3
 Hyperlink HTML
 < 1> < 3>
 < 2>
 HTML



IF	IS
THEN	
IF	IS
THEN	가

< 1> HTML < 2>
 Web Site ,
 WWW .
 < A> Hypertext < B>
 Hyperlink , Hypertext <
 < A> Hyperlink . (Fact) , Subgoal Chaining,
 , HTML . Subgoal
 (Tree) , Chaining
 (Graph) 가 . Hyperlink ,

< A>
==
==

< B>

< C>
가

< 2> WWW

Web 가 HTML .
 . , . 가
 . CGI ,
 (Fact Type), OAV(Object-Attribute- JavaScript
 Value Type) , (Numeric Type) 가 .
 가 . , OAV Hypertext .
 . <
 3> OAV IF total_income >= 0.2 * threshold
 < 2> < A> THEN pay_tax
 . " " " "

```

<HTML>
<HEAD>
  <TITLE> Expression Type </TITLE>
  <SCRIPT LANGUAGE="JavaScript">
    <!--
      function verifyValue(form)
      {
        if (form.total_income.value >= 0.2 * form.threshold.value)
          location="http://iis.kaist.ac.kr/tax.html"
        else
          location="http://iis.kaist.ac.kr/notax.html"
      }
    //-->
  </SCRIPT>
</HEAD>
<BODY>
  <FORM NAME="exprform">
    . <BR>
    total_income <INPUT TYPE="text" NAME="total_income"> <BR>
    threshold <INPUT TYPE="text" NAME="threshold"> <BR>
    <INPUT TYPE="button" VALUE="OK" onClick="verifyValue(this.form)">
  </FORM>
</BODY>
</HTML>

```

IF total_income < 0.2 * threshold
 THEN do_not_pay_tax

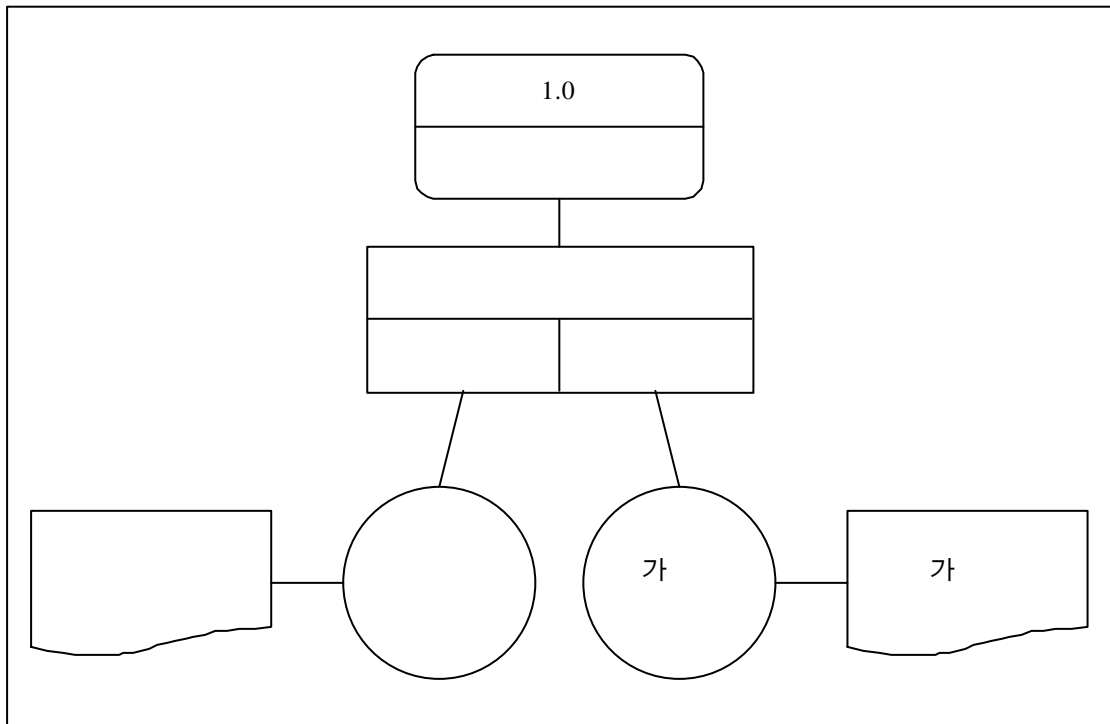
. (Lee, Lee, and Choi, 1990)

HTML

total_income threshold HTML
 . < . < 3>
 4> JavaScript HTML < 5> . <
 . < 4> 5> Topic Node Display Node
 Branch Node 1 Conclusion Node 2 가
 HTML
 FORM Tag , HTML
 가 Hyperlink , HTML
 SCRIPT Tag . JavaScript 가
 LIFT SKI2

HTML
 가
 5. , Web Site
 J. K. Lee 가

6.



HTML . , 가 Graph Path 가
. 2 Certainty
, , , Factor . HTML
가 , Graph Tree
가 가 .
, Hypothetical Reasoning,
가 가 , 가
HTML .
가 5
가 HTML
가 Web .
Web HTML
가 7.
Web 가 WWW 가
(Undo)
. CGI 가 . CGI Java
, , , ,
(Fact)
가 . stand-alone . HTML
, Java
가 . , HTML . ,
HTML 가 HTML
. 가 , HTML
CGI Java
HTML . ,
가 1KB HTML
KB 가 .
. Hypothetical Reasoning XML
가 . What-if 가 .
HTML
. ,
. Certainty Factor , "
, " , WWW 96-1(1996), 50-66.
HTML Berners-Lee, T. and D. Connolly, *Hypertext Markup*

Language - 2.0, RFC1866, November 1995.

Berners-Lee, T., R. Fielding, and H. Frystyk, *Hypertext Transfer Protocol - HTTP/1.0*, RFC1945, May 1996.

Danesh, Arman, *Teach Yourself JavaScript in a Week*, Sams.net Publishing, 1996.

EXSYS, Inc., *Moving an EXSYS Application to the EXSYS Web Runtime Engine (WREN)*.

Giarratano, Joseph and Gary Riley, *Expert Systems: Principles and Programming*, 2nd Edition, PWS Publishing Company, 1994.

"Intelligent Internet Systems: Tools and Applications - Part II", *Intelligent Software Strategies*, Winter 1997.

Lee, J. K., I. K. Lee, and H. R. Choi, "Automatic rule generation by the transformation of Expert's Diagram: LIFT", *Int. J. Man-Machine Studies*, 32(1990), 275-292.

Lemay, Laura and Charles L. Perkins, *Teach Yourself JAVA in 21 Days*, Sams.net Publishing, 1996.

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