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Declarations under Rule 4.17:

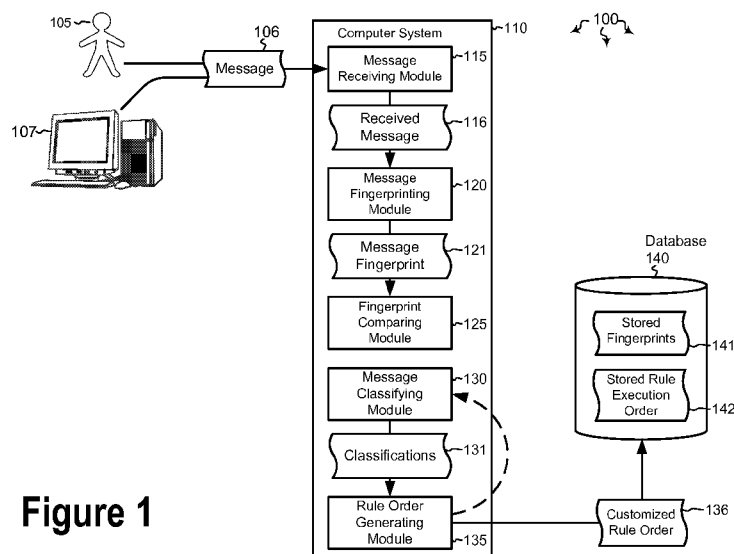
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

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[Continued on next page]

(54) Title: DYNAMIC RULE REORDERING FOR MESSAGE CLASSIFICATION

**Figure 1**

(57) **Abstract:** Embodiments are directed to generating a customized classification rule execution order and to identifying optimal ordering rules for previously processed data. In an embodiment, a computer system fingerprints a message received via a computer network. The fingerprinting identifies specific characteristics of the message. The computer system compares the message's fingerprint to various stored message fingerprints generated from previously received messages. The comparison determines that the fingerprint does not match the stored fingerprints. The computer system applies classification rules to the message according to a predetermined rule execution order to determine a classification for the message. The computer system then generates a customized classification rule execution order to order those classification rules that optimally identified the message's class at the top of the customized classification rule execution order.



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/039738**A. CLASSIFICATION OF SUBJECT MATTER****G06F 17/20(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G06F 17/20; G06F 15/16; G06F 11/30; G06F 7/00; G06F 12/14; G06F 21/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: message classification, fingerprint, spam, rule-based,

Google Scholar DB & Keywords: message classification, fingerprint, spam, rule-based.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2009-0307771 A1 (RAJAN, V.T. et al.) 10 December 2009 See abstract, paragraphs [0040]-[0056],[0074], [0078],[0081]-[0090], and figures 3-5, 10,12.	1-15
A	US 2005-0120019 A1 (RIGOUTSOS, I. et al.) 02 June 2005 See the whole document.	1-15
A	US 7814545 B2 (OLIVER, J.J. et al.) 12 October 2010 See abstract, column 3 line 51- column 4 line 38, and figure 1.	1-15
A	SCHLEIMER, S. et al. Winnowing:local algorithms for document fingerprinting, IN: the 2003 ACM SIGMOD international conference on Management of data, New York, pages 76-85 (SCHLEIMER, S. et al) See chapter 1.	1,13,15



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

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"P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

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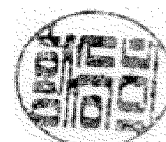
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2009-0307771 A1	10.12.2009	US 2006-0149821 A1 US 7882192 B2	06.07.2006 01.02.2011
US 2005-0120019 A1	02.06.2005	None	
US 7814545 B2	12.10.2010	US 2008-0097946 A1	24.04.2008