



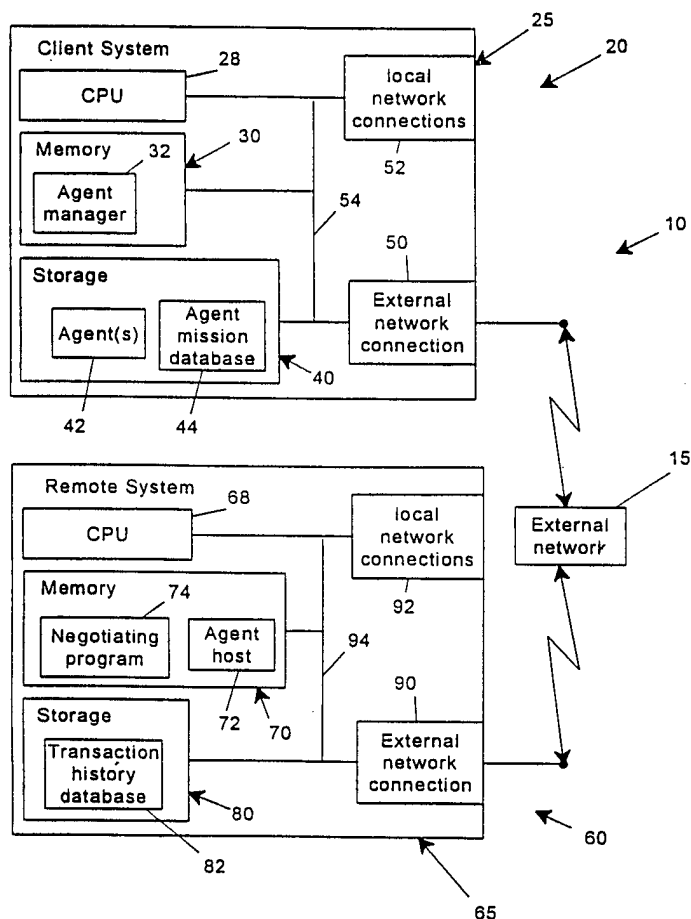
## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>6</sup> : <b>G06F 17/60</b>		<b>A3</b>	(11) International Publication Number: <b>WO 98/43146</b>
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(54) Title: INTELLIGENT AGENT WITH NEGOTIATION CAPABILITY AND METHOD OF NEGOTIATION THEREWITH

## (57) Abstract

An intelligent agent (100) and method of negotiating incorporating a number of features, used alone or in combination, to enhance the productivity, security, efficiency and responsiveness of the agent (100) in negotiations with other parties. One feature where an agent (100) is resident on a remote system (60) and in communication with a client system (20) incorporates randomization of one or more aspects of an agent's (100) behaviour to disguise its negotiation strategy from other negotiating parties (95) and thereby prevent such parties from gaining a negotiating advantage at the expense of the agent (100). Another feature incorporates limiting unproductive negotiations by constraining one or more aspects of an agent's behavior based upon the behavior of a negotiating party (95) and/or the duration of the transaction.



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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US98/04878

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) :G06F 17/60

US CL :705/037

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)

U.S. : 705/37, 1, 26, 35, 44, 400

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

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

Maya, Dialog

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y,P	US 5,717,989 A (TOZZOLI et al) 10 February 1998, col. 4, lines 15-25, col. 7, lines 14-30 and lines 34-40.	1,2,3
Y,P	US 5,696,828 A (KOOPMAN, Jr.) 09 December 1997, col. 1, lines 1-60.	1,2
Y	US 5,465,308 A (HUTCHESON et al) 07 November 1995, see abstract.	3
X,P	US 5,689,652 A (LUPIEN et al) 18 November 1997, cols. 3-5, all lines.	4,5



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

12 OCTOBER 1998

Date of mailing of the international search report

27 OCT 1998

Name and mailing address of the ISA/US  
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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US98/04878

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Extra Sheet.

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐

The additional search fees were accompanied by the applicant's protest.

☒

No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US98/04878

### BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING

This ISA found multiple inventions as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for all inventions to be searched, the appropriate additional search fees must be paid.

Group I, claim(s) 1 and 2, drawn to a method of conducting an electronic transaction with an intelligent agent.

Group II, claim(s) 3, drawn to a method of identifying an unknown party interacting with an intelligent agent.

Group III, claim(s) 4 and 5, drawn to a method of dynamically determining a value for a desired transaction.

The inventions listed as Groups I, II, and III do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group I discloses a method of conducting an electronic transaction with an intelligent agent and the steps of the method. Group II recites a method of identifying an unknown party interacting with the agent without the party explicitly identifying himself and Group III recites a method of determining the price of a transaction. These are substantially different inventions as to require a different search for each group.