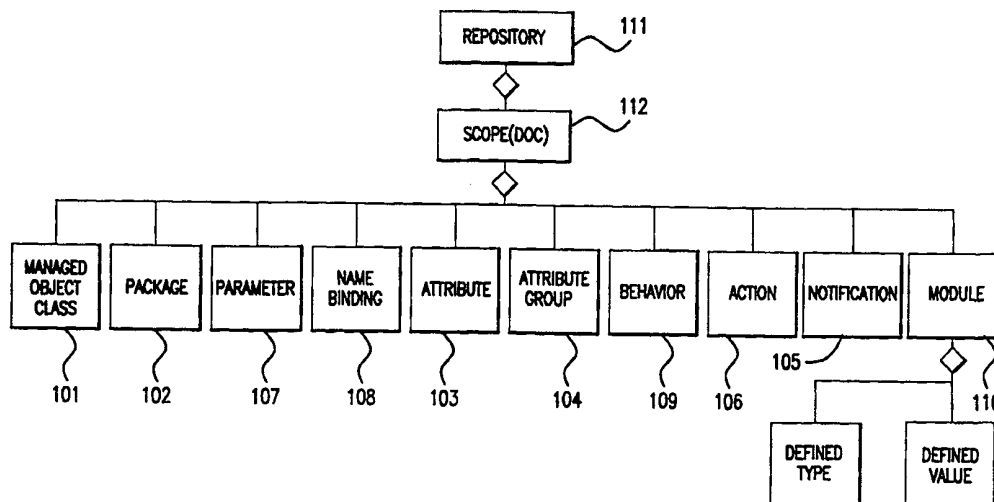




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**(57) Abstract**

Object-oriented and object-based programming techniques encapsulate computer programs and data in objects which separate implementation details from the contractual interface through which the objects are used. An object's interface defines the object's type, and is the view of the object exposed and accessible from outside the object. The interface is usually a listing of the operations (106) and attributes (103, 104) that an operation provides.

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## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US99/03266

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : G06F 9/44

US CL : 709/303

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. : 709/303, 302, 300; 395/701, 705; 707/103

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)

Please See Extra Sheet.

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,542,078 A (MARTEL et al) 30 July 1996, entire document.	1, 7, 11, 17, 21
A	US 5,732,270 A (FOODY et al) <i>24 March</i> 1994, entire document	1-21
A	US 5,261,080 A (KHOYI, et al) 09 November 1993, columns 13-19, sections 2, 3, 4.	1, 7, 11, 17, 21
Y	US 5,146,593 A (BRANDLE et al) 08 September 1992, entire document.	1, 7, 11, 17, 21
Y.P	US 5,764,947 A (MURPHY et al) 09 June 1998, entire document	1, 7, 11, 17, 21
A	US 5,627,979 A (CHANG et al) 06 May 1997, col. 5, line 2 - col. 6, line 40, col. 7, line 2 - col. 9, line 37.	1, 7, 11, 17, 21

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Date of mailing of the international search report

**31 AUG 1999**

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International application No.  
PCT/US99/03266

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	Digital Equipment Corporation, COM/CORBA Internetworking, OMG TC 95-08-18, 22 August 1995, sections 4.2, 5.2	1, 7, 11, 17, 21
Y	OMG, The Common Object Request Broker: Architecture and Specification, Revision 1.1, 1991, section 3.1	13
Y	MOWBRAY, T. J. et al, The Essential CORBA: System Integration Using Distributed Objects, John Wiley & Son, Inc., 1995, Chapter 8.	1, 7, 11, 17, 21
X	GENILLOUD, G. An Analysis of the OSI System Mangement Architecture from an ODP Perspective, IEEE publication, 1996, sections 1, 2, 3.2, 4, 5.	1-12, 14-21

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US99/03266

### B. FIELDS SEARCHED

Electronic data bases consulted (Name of data base and where practicable terms used):

APS, IEEE publications, OOPSLA

search terms: object systems, interoperate, incompatible, heterogeneous, gateway, broker, proxy, wrapper, CORBA, GDMO, ASN.1.