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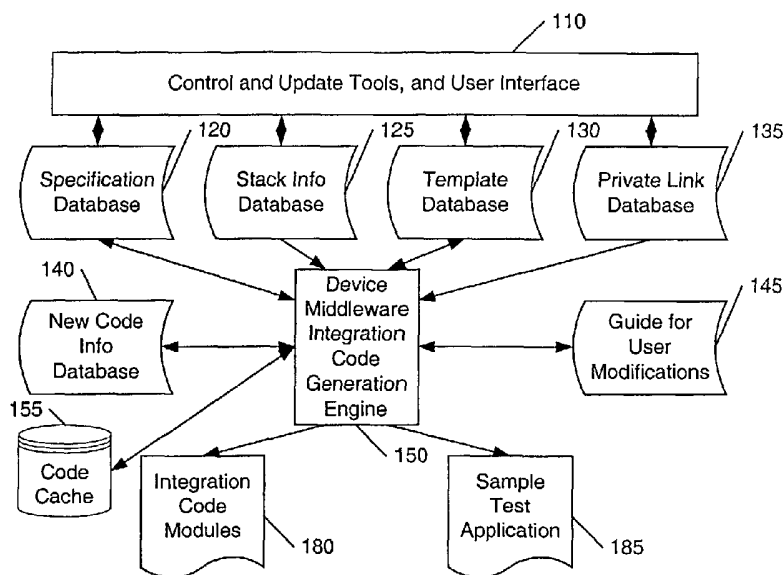
(43) International Publication Date  
28 November 2002 (28.11.2002)

PCT

(10) International Publication Number  
**WO 2002/095570 A3**

- (51) International Patent Classification<sup>7</sup>: **G06F 9/44**
- (21) International Application Number:  
PCT/IB2002/001727
- (22) International Filing Date: 17 May 2002 (17.05.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
09/861,418 18 May 2001 (18.05.2001) US
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- (81) Designated States (*national*): CN, JP, KR.
- (84) Designated States (*regional*): European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR).
- Published:  
— with international search report
- (88) Date of publication of the international search report:  
27 January 2005
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: CODE GENERATION FOR INTEGRATING DEVICES INTO A MIDDLEWARE FRAMEWORK



(57) Abstract: A middleware code generation system generates program code for integrating a device into a network. A variety of tools and a user interface are provided to create databases that contain the information required to generate the middleware integration code. The code generation system is configured to facilitate user modifications to the generated code, and particularly modifications to the code for error handling. In a preferred embodiment, the code generation system also generates a sample test application that serves to illustrate how to use the generated integration code in an application.

WO 2002/095570 A3

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/IB 02/01727

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 G06F9/44

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)  
IPC 7 G06F

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 practical, search terms used)

EPO-Internal, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97/14097 A (NOKIA TELECOMMUNICATIONS OY ; AHMAVUO PEKKA (FI); NAERVAENEN PIA (FI);) 17 April 1997 (1997-04-17) page 5, line 17 - page 7, line 13; figures 1,2  -----	1,2,11, 12

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance  
 "E" earlier document but published on or after the international filing date  
 "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)  
 "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

"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  
 "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

13 February 2004

Date of mailing of the international search report

29.04.2004

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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IB 02/01727

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

This International Search 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:

see additional 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.:

1,2,11,12

Remark on Protest

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

No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1,2,11,12

Program generation system characterized by a database containing information about the application, and a code generation engine configured to produce code based on the information contained in the database, as well as a template database storing templates according to which code is generated

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2. claims: 3,13

Program generation system based on a link database

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3. claims: 4,14

Program generation system producing sample test application code

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4. claims: 5,15

Program generation system comprising a code cache

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5. claims: 6,16

Program generation system producing guideline information

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6. claims: 7,8,17,18

Program generation system comprising module generator, methods generator and code segment generator

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7. claims: 9,19

Program generation system storing interfacing information

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8. claims: 10,20

Program generation system comprising user interface system

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/1B 02/01727

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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