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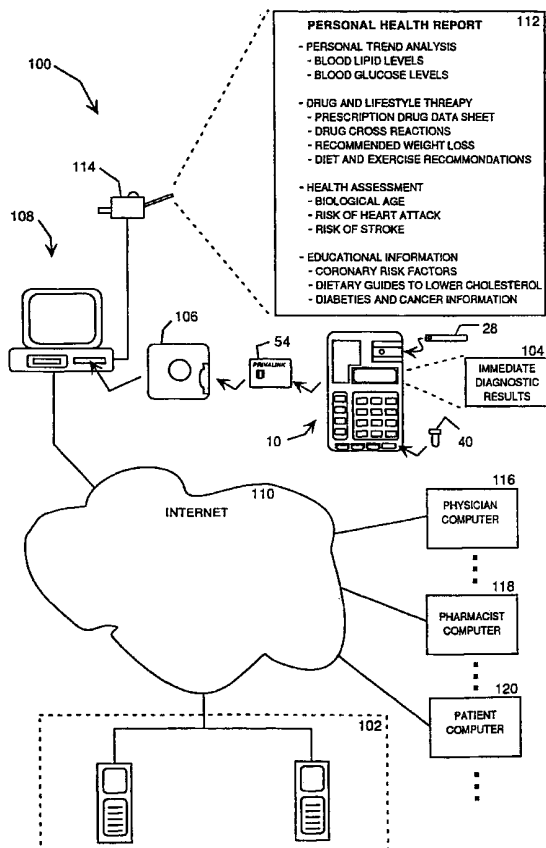
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[Continued on next page]

(54) Title: DIAGNOSTIC DEVICE FOR HEALTH MONITORING AND NETWORK-BASED HEALTH ASSESSMENT SYSTEM AND MEDICAL RECORD MAINTENANCE SYSTEM



(57) Abstract: A health monitoring and diagnostic device (LIFESTREAM cholesterol meter) configured as a self-contained testing and diagnostic unit in a clam-shell type case. One side of the case includes a spring-loaded finger stick and a compartment for carrying one or more packages of disposable items including a test strip, a needle for the finger stick, and an alcohol swipe. The other half of the case includes a test strip reader, a key pad, and a liquid crystal display. The meter reads a test strip carrying a droplet of blood and receives additional diagnostic information from the patient, such as age, gender, weight, and family history of heart disease. Within minutes, the meter displays test results, including total cholesterol levels. The meter also displays additional diagnostic results, such as the patient's "cardiac age", recommended weight loss, and a cardiac risk assessment. The meter also works in connection with a network-based comprehensive health analysis and reporting system. The meter writes patient data to a smartcard. This patient data typically includes patient identification information, the test results, the diagnostic information, and the diagnostic results. A computer station reads the smartcard and establishes a network connection with a health report server over the Internet. The computer then downloads the patient data to the health report server, which prepares a comprehensive health report. Within minutes, this report is transmitted back to the computer station, where it is printed out and delivered to the patient.



WO 00/28460 A3



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MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

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12 July 2001

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.

INTERNATIONAL SEARCH REPORT

International Application No

PC, US 99/26521

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06F19/00

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 G01N

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)

WPI Data, PAJ, INSPEC, MEDLINE, COMPENDEX, EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 975 647 A (DALKE DAVID M ET AL) 4 December 1990 (1990-12-04)	1-4
Y	column 1, line 30 -column 3, line 10 column 3, line 39 -column 5, line 10 column 5, line 34 -column 7, line 6 ---	17-25
A	US 5 053 199 A (JACKSON CHARLES A ET AL) 1 October 1991 (1991-10-01) column 2, line 2 - line 2 column 2, line 39 -column 3, line 31 ---	1-4
A	US 5 780 304 A (DAFFERN GEORGE MICHAEL ET AL) 14 July 1998 (1998-07-14) column 3, line 65 -column 4, line 60 column 5, line 30 -column 6, line 35 --- -/--	1-4

 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

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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)

"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

20 December 2000

Date of mailing of the international search report

04.01.01

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No

PC, US 99/26521

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT.

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	D.A. ADAMS ET AL: "Point of Care Technology: The i-STAT System for Bedside Blood Analysis" JOURNAL OF PEDIATRIC NURSING, vol. 10, no. 3, June 1995 (1995-06), pages 194-198, XP002139626 USA	1-4
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X	WO 94 19684 A (DIAMETRICS MEDICAL INC) 1 September 1994 (1994-09-01)	5-16
Y	page 1, line 23 -page 2, line 2 page 5, line 24 -page 7, line 32 page 8, line 25 -page 9, line 5 page 10, line 15 -page 13, line 34 page 14, line 7 - line 29 page 16, line 3 - line 33 ---	17-25
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INTERNATIONAL SEARCH REPORT

International Application No

PC, JS 99/26521

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GRIMSON J ET AL: "A CORBA-BASED INTEGRATION OF DISTRIBUTED ELECTRONIC HEALTHCARE RECORDS USING THE SYNAPSES APPROACH" IEEE TRANSACTIONS ON INFORMATION TECHNOLOGY IN BIOMEDICINE,US,IEEE SERVICE CENTER, PISCATAWAY, NJ, vol. 2, no. 3, September 1998 (1998-09), pages 124-138, XP000831158 ISSN: 1089-7771 page 131, left-hand column, line 26 -page 134, left-hand column, line 13 ---	34-44
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A	US 4 706 275 A (KAMIL ZVI) 10 November 1987 (1987-11-10) the whole document ---	45-49
A	"LFST Signs Development and Production Agreement with Boehringer Mannheim" LIFESTREAM TECHNOLOGY, INC. INTERNET, [Online] 8 October 1997 (1997-10-08), pages 1-2, XP002156015 Retrieved from the Internet: <URL:http://lifestreamtech.com> [retrieved on 2000-11-20] the whole document ---	5-25
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INTERNATIONAL SEARCH REPORT

International Application No

PC, JS 99/26521

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>"FDA Clears New Hand-Held Instrument to Screen and Monitor Cholesterol" LIFESTREAM TECHNOLOGIES, INC. INTERNET, [Online] 5 October 1998 (1998-10-05), pages 1-2, XP002156016 Retrieved from the Internet: <URL:http://lifestreamtech.com> [retrieved on 2000-11-20] the whole document</p>	5-25
A	<p>POLEMI D: "Trusted third party services for health care in Europe" FUTURE GENERATION COMPUTER SYSTEMS, JUNE 1998, ELSEVIER, NETHERLANDS, vol. 14, no. 1-2, pages 51-59, XP002156017 ISSN: 0167-739X page 52, left-hand column, line 20 -page 53, right-hand column, line 13 page 55, left-hand column, line 23 -page 57, left-hand column, line 26 page 57, right-hand column, line 1 - line 20</p>	34-44

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 99/26521

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.:

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: 1-4

Test medium for use with a health monitoring device

2. Claims: 5-25

Health monitoring device

3. Claims: 26-33

System for remotely producing health reports

4. Claims: 34-44

Secure medical records maintenance system

5. Claims: 45-49

System to activate a health monitoring device for performance of a diagnostic clinical test based on a monetary balance associated with a patient

INTERNATIONAL SEARCH REPORT

formation on patent family members

International Application No

PC., JS 99/26521

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