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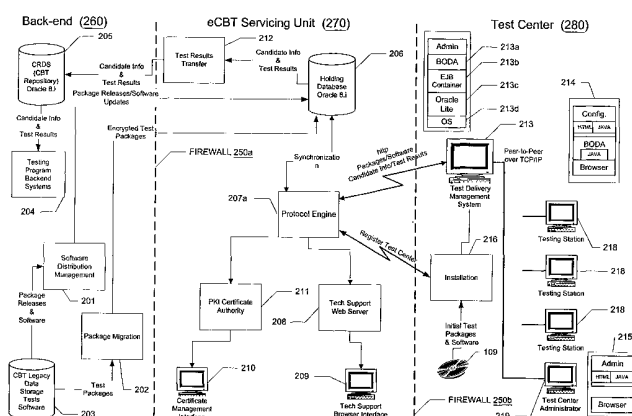
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[Continued on next page]

(54) Title: SYSTEM AND METHODS FOR COMPUTER-BASED TESTING USING NETWORK-BASED SYNCHRONIZATION OF INFORMATION



(57) Abstract: A system for computer-based testing facilitates network distribution of testing materials and software. The system comprises a back-end (260), a servicing unit (270), and one or more testing centers (280). The back-end stores test questions and software, and includes software that prepares the test questions and software for distribution to the servicing unit. The servicing unit includes a web server that interfaces with software installed at a testing center. The testing center includes administrative software that contacts the web server at the servicing center to obtain updates to test questions and testing software in a process called "synchronization." Synchronization is also the process by which the test center reports test results and candidate information back to the servicing unit by means of the servicing unit's web server. The testing center includes a software component called the Test Delivery Management System (TDMS), which uses Java-based technology to deliver test questions to examinees at one or more testing stations located at the test center.



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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

PCI/US 01/21736

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04L29/06 H04L29/08 G06F17/60 G09B7/02 G09B7/07
G06F9/445

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 H04L G06F G09B

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, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00 26836 A (VIVIDENCE CORP) 11 May 2000 (2000-05-11) page 13, line 1 -page 21, line 2 page 22, line 1 -page 22, line 20 page 25, line 1 -page 25, line 45 figures 1-8 --- -/--	1-20

☒ 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.
- *G* document member of the same patent family

Date of the actual completion of the international search

20 June 2002

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/21736

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	ENCARNACAO J ET AL: "A concept and system architecture for IT-based Lifelong Learning" COMPUTERS AND GRAPHICS, PERGAMON PRESS LTD. OXFORD, GB, vol. 22, no. 2-3, 6 March 1998 (1998-03-06), pages 319-393, XP004145480 ISSN: 0097-8493 page 344, left-hand column, line 14 -page 353, right-hand column, line 30 page 362, left-hand column, line 5 -page 369, right-hand column, line 7 figures 16-24	21,22
Y	---	23
X	WO 97 44766 A (AGENT BASED CURRICULA INC ;COOK DONALD A (US); PADWA DAVID J (US);) 27 November 1997 (1997-11-27) page 5, line 8 -page 5, line 9 page 7, line 11 -page 13, line 11 page 18, line 20 -page 37, line 5 page 38, line 4 -page 47, line 12 page 108, line 25 -page 115, line 24 figures 1,2A,2B,5-9 abstract	24-29
Y	---	23
A	WO 99 59096 A (CUSTOMER CAST INC) 18 November 1999 (1999-11-18) page 1, line 1 -page 4, line 10 page 7, line 1 -page 21, line 6 figures 1,1B,2,3,4,5,6,7 -----	21-29

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 01/21736

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: 1-20

A method of distributing testing materials detecting that a second version of said test package installed at said test center is outdated relative to said first version of said test package.

2. Claims: 21-23

A system for computer-based testing comprising a test-delivery management module and a testing-station module.

3. Claims: 24-29

A protocol engine concerning a test service protocol.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/21736

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0026836	A	11-05-2000	AU 1459900 A CN 1332879 T EP 1127327 A2 WO 0026836 A2	22-05-2000 23-01-2002 29-08-2001 11-05-2000
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