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(54) Title: DATA COMMUNICATION IN A LABORATORY ENVIRONMENT

(57) Abstract: A system (100) for controlling the operation a one or more crystallography laboratories (110) according to Figure 1 comprises a user interface (150) coupled to an input device (120). The laboratories each house test samples and include imaging devices and automated machinery configured to retrieve specific samples for imaging. A controller is configured to receive scheduling information from the user interface indicating one or more samples to be imaged and one or more times to image the samples, wherein the controller communicates the scheduling information to each laboratory housing at least one of the test samples to be imaged. The laboratory devices may communicate asynchronously via a server configured to receive messages, determine process(es) to be executed based on the type of the received message, the source of the message, and/or the destination of the message. A transmit message may then be generated, through execution of the process(es), and transmitted to the determined destination device when available.

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/US04/02617

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : G05B 11/01; G01N 23/00  
 US CL : 700/11, 17, 169; 436/164; 378/9

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. : 700/11, 17, 169; 436/164; 378/9

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)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KRISHNAN et al. "The XCAT Science Portal", <a href="http://www.sc2001.org/papers/pap.pap287.pdf">http://www.sc2001.org/papers/pap.pap287.pdf</a> , November 2001, especially Abstract and page 12	1-25
X	JOHNSTON "High-Speed, Wide Area, Data Intensive Computing: A Ten Year Retrospective", <a href="http://www-itg.lbl.gov/~johnston/TenYear_Retrospective.IEEE2col.pdf">http://www-itg.lbl.gov/~johnston/TenYear Retrospective.IEEE2col.pdf</a> , 28 May 1998	1-25
X	PARVIN et al. "Visual Servoing for Onlne Facilities" <a href="http://www-itg.lbl.gov/ITG.hm.pg.docs/MMC/ieee_paper.pdf">http://www-itg.lbl.gov/ITG.hm.pg.docs/MMC/ieee_paper.pdf</a> , July 1997.	1-25
X	US 5,105,424 (FLAIG et al.) 14 April 1992 (14.04.1992), Abstract, Claims	11-20
Y	US 2002/0032762 A1 (PRICE et al.) 14 March 2002, (14.5.2002), the whole document	1-25
A	US 2001/0022913 A1 (OHMURA) 20 September 2001 (20.09.2001)	1-25

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	"T"
"A" document defining the general state of the art which is not considered to be of particular relevance	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
"E" earlier application or patent published on or after the international filing date	"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
"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)	"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
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"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

14 October 2004 (14.10.2004)

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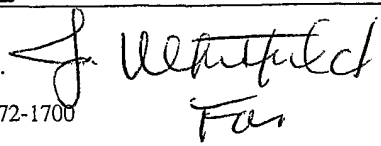
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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/02617

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 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 No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:  
Please See Continuation 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/US04/02617

### BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

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

Group I, claim(s) 1-10 and 21-25, drawn to a system for controlling the operation of at least one lab.

Group II, claim(s) 11-20, drawn to a method for asynchronously processing and communicating data.

The inventions listed as Groups I and II do not relate to a single general 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: no common technical features are recited for Groups I and II, which makes the requirement proper.