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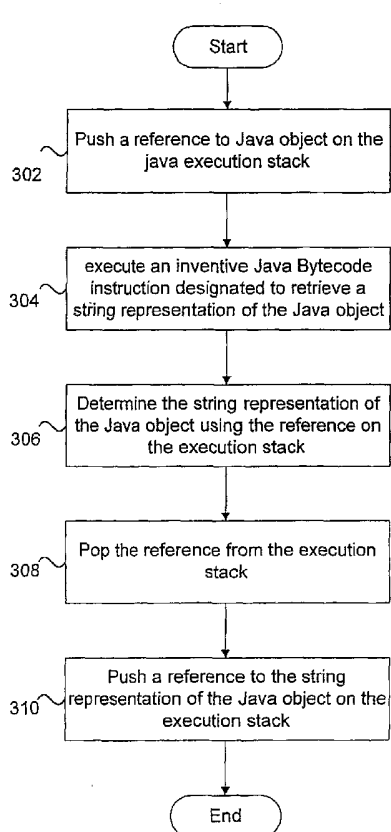
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[Continued on next page]

(54) Title: JAVA BYTECODE INSTRUCTION FOR RETRIEVING STRING REPRESENTATIONS OF JAVA OBJECTS



(57) Abstract: Improved techniques for representing Java objects as strings are disclosed. An inventive Java Bytecode instruction suitable for execution by a Java virtual machine is disclosed. The inventive Java Bytecode instruction can be executed by a Java virtual machine to represent Java objects as strings. Moreover, Java objects can be represented as strings without invoking the Java "to string" method which is conventionally used. This means that the costly overhead associated with repeatedly invoking Java method "to string" is avoided. In other words, operations that are conventionally performed each time the Java "to string" method is invoked need not be performed. As a result, the performance of virtual machines, especially those operating with limited resources (e.g., embedded systems) can be improved.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PREISS, BRUNO: "The AbstractContainer Class toString Method" DATA STRUCTURES AND ALGORITHMS WITH OBJECT-ORIENTED DESIGN PATTERNS IN JAVA, 1 March 1999 (1999-03-01), page 1, XP002265005 WILEY the whole document -----	1-19

☐ Further documents are listed in the continuation of box C.

☐ Patent family members are listed in annex.

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- *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

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