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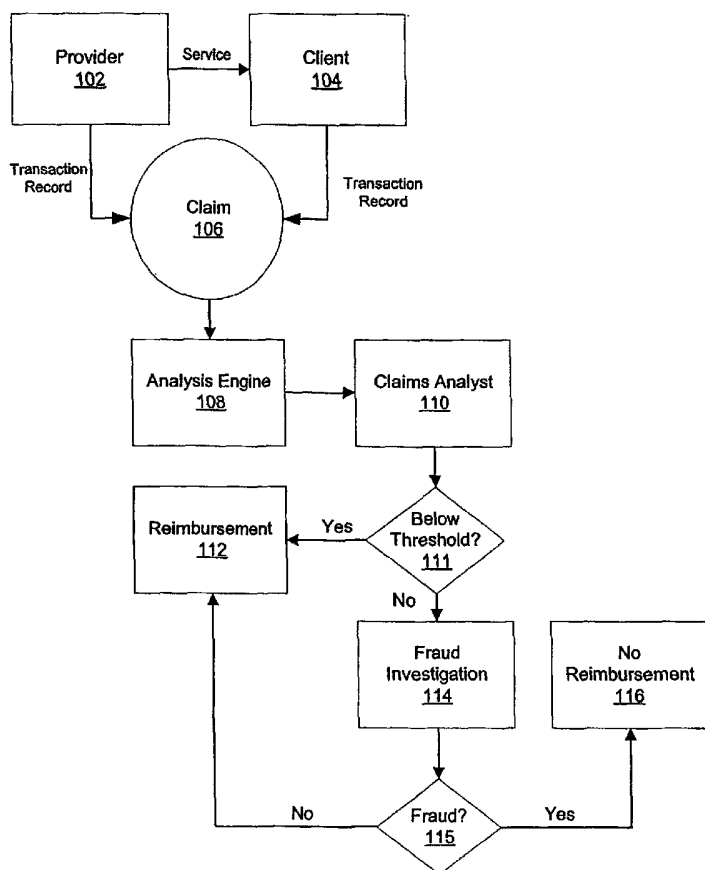
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(54) Title: CONSISTENCY MODELING OF HEALTHCARE CLAIMS TO DETECT FRAUD AND ABUSE



(57) Abstract: Transaction-based behavioral profiling whereby the entity (102, 104) to be profiled is represented by a stream of transactions (106), is required in a variety of data mining and predictive modeling. An approach is described for assessing inconsistency in the activity of an entity (108), as a way of detecting fraud and abuse, using service-code information available on each transaction. Inconsistency is based on the concept that certain service-codes naturally co-occur more than do others. An assessment is made of activity consistency looking at the overall activity of an individual entity, as well as looking at the interaction of entities. Several approaches for measuring consistency are provided, including one inspired by latent semantic analysis as used in text analysis. While the description is in the context of fraud detection in healthcare, the techniques are relevant to application in other industries and for purposes other than fraud detection.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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US CL : 705/2

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/2, 3, 4

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)

EAST (JPO, EPO, Derwent, US Patents)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,819,226 A (GOPINATHAN et al) 06 October 1998, see abstract.	1-21
A	US 6,253,186, A (PENDLETON, Jr.) 26 June 2001, see abstract.	1-21
A	US 5,359,509 A (LITTLE et al) 25 October 1994, see abstract.	1-21
A	US 6,330,546 A (GOPINATHAN et al) 11 December, 2001, see abstract.	1-21

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
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"O" document referring to an oral disclosure, use, exhibition or other means	
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