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Office of Industrial Liaison/Technology Transfer

Action Hierarchy

Data Management—*Customer Relations Management*

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Description of the Technology:

Action Hierarchy is a method to organize, update, and determine “patterns” or associations amongst data in a database, which are of interest to users. For example, a profit-maximizing retail outlet or supermarket may want to take certain promotional, advertising or inventory measures in response to certain facts reflected as patterns or associations in the database. If the database reflects that more of its current consumers have children under 6 and the data also reflects how such customers in the past have bought more sweets, the supermarket will likely stock up on sweets. Action Hierarchy allows the user to set rules and it will recognize such patterns to ensure that specified actions be taken.

Features and Benefits:

- Intuitive - The invention provides a method of automatically determining whenever changes in the database are meaningful, and altering the pattern results accordingly.

Applications:

A user specifies a hierarchal action tree via user input device and user interface element. The action tree is arranged in a tree of file directories, with each node of the tree corresponding to a file directory (or path). The user then specifies classes of patterns assigned to each node (directory) of the tree using data mining queries or pattern templates. Once the system is initialized, the pattern templates and data mining queries are executed, retrieving the patterns specified by the user from a database. The retrieved patterns assigned to a node of the tree are then stored in a file in the corresponding file directory. The user may now act on the discovered patterns and use the organized file structure. A pattern discovery optimization element periodically checks if the database had changed substantially, and if it has re-executes the data mining queries and pattern templates that update the content of the file structure accordingly.

Patent Status:

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