

the SA-MDATA system are either mailed to subscribers or available via modem. These new versions may include updates of the treatment table for new treatments. Another embodiment of the SA-MDATA system may include using specialized receiver devices that receive encoded FM signals on a demand basis when an event (a new treatment) triggers the device, such as described in U.S. Pat. No. 5,030,948.

A unique and separate authoring language (called File Output or FO) was used to develop the medical algorithms used in the screen version embodiment of the system **100**. Through the use of FO, the contents of text files are presented online to users, and then the users respond to questions and directions issued by the text files.

FO is designed as a typical, generalized authoring language, in which commands are embedded into text files (herein called FO files) to perform specific screen and keyboard functions. FO files are in effect programs written in the FO "language" that communicate (via FO) with the user online.

FO adds no text of its own. In fact, FO does not need to know what text file content it is executing. The programmer or author of a FO file is in complete control of the text content and the sequence in which it is presented. Using the various commands described in the Authoring Language Syntax document listed in the Microfiche Appendix, the author can display text, format the screen, ask the user questions, input responses from the user, select different text files for execution, and generally control and direct the entire session.

This version of FO is intended as a development version that gives the user much freedom at the keyboard. The user can interrupt a presentation and edit the FO file being presented. The assumption here is that the user is in fact the author or an alpha tester charged with verifying and correcting file content.

A FO file is any standard sequential ASCII text file with variable-length lines terminating with a Carriage Return (ASCII 13). Any line with a period in column one is treated as a command. A line without a leading period is treated as a print command.

The FO program processes a FO file by reading it one line at a time into memory. If the line is a text line, it is printed and the next line is loaded. If the line is a command line, the command is executed. If the command involves a wait on the user (such as a .M command), FO continues loading the FO file behind the scenes until it has been completely loaded. In this manner, FO executes the FO file as it is loading it. Once loaded, the FO file remains entirely in memory.

The system software for the screen version embodiment is written in Borland Turbo Pascal version 3.0. A second version of the system software for the screen version embodiment of the system **100** is written in Microsoft G.W. Basic and is run in interpretive mode. The Microfiche Appendix contains the following for the screen version:

Authoring Language Syntax Document;

Pascal Source Code;

System Functions; and

An Exemplary Medical Algorithm (Headache).

In yet other embodiments, other databases/files or algorithms can be used. The general system, method and procedures would remain the same. For example, a specialty field such as sports medicine could be added to the system.

The MDATA system **100** described herein finds application in many environments, and is readily adaptable for use

therein. For example, the system finds use in any application that is step-oriented and can be algorithmically described. For example, the system could give car diagnostic services over the phone to a caller. Then, when the car is brought to a service facility for repairs (treatment), the caller will be informed and have a good idea of what the problem is and probable repairs will be. Accordingly, the claims are to be interpreted to encompass these and other applications of the invention within their scope and are not to be limited to the embodiments described herein.

XXII. Summary of Advantages of the Present Invention

One of the main problems of the health care crisis is the limited access to health care information when it is needed. The MDATA system provides up-to-date medical information and advice that is instantly available twenty-four hours a day. The advice that is given is 100% consistent.

The quality of the advice is much better if a physician can stop, research, and anticipate all possible causes of a problem and then systematically go about dealing with all of these possible causes. In medical practice, a physician just does this from memory.

No humans are necessary to actually give the medical advice. The MDATA system is automated which helps to bring down the cost of health care.

An exact record of the questions asked and the answers given is stored in the patient's database. The MDATA system time-and-date stamps the responses to the questions (as transaction records) so that an exact reconstruction of the patient's interview(s) can be generated for use by a physician or other health care professional. The system also keeps a record of what version of an algorithm has been consulted as well as the sensitivity factor set for that consultation. At the conclusion of the interaction, the MDATA system can tell the patient how long the consultation has taken and what charges have been incurred, if any.

When possible, the MDATA system **100** takes into account the past medical history of the patient, especially those pieces of information learned from past consultations with the MDATA system **100**, before advice is given. In addition, the advice given is different depending upon the age and sex of the patient. The "meta" functions provide another advantage by allowing the MDATA system **100** to evaluate a problem in the context of the patient's prior consultations with the system.

While the above detailed description has shown, described and pointed out the fundamental novel features of the invention as applied to various embodiments, it will be understood that various omissions and substitutions and changes in the form and details of the device illustrated may be made by those skilled in the art, without departing from the spirit of the invention.

What is claimed is:

1. In an automated medical advice system including a computer, and input and output devices, a method of re-entering a diagnosis of a patient's medical problem, comprising the steps of:

performing an initial diagnostic consultation with the patient, thereby collecting patient information;

identifying a situation wherein the patient is to consult the system again wherein an indicator associated with programmed re-enter criteria is set in the computer;

automatically instructing the patient to consult the system at a predetermined time in the future based upon the identified situation;