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a user interface for enabling a user at a remote location to create or modify at least a portion of the message profiles in the message profile database,
wherein when said sensor detects an exception condition in the piece of remote equipment, said interface unit generates an incoming message indicative of the exception condition and forwards said message to said server.—

REMARKS

Claims 1-50 were examined. Claims 1-50 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,400,246 to Wilson et al. On May 4, 2000, the undersigned submitted some proposed claim amendments in further of an interview. On May 11, 2000, the undersigned and the Examiner, Daryl Pope, had an in-person interview where the proposed claims were discussed. The above claim amendments are the same claims discussed on May 11. The gist of the claim amendments can be found in Claims 1 and 31; the remaining claims have, by and large, been amended for proper antecedency/dependency reasons. New claims 51 and 52 are of slightly different scope from Claims 1 and 31. No new matter has been added. The Examiner indicated that it appeared that the independent claims, Claims 1 and 31 as well as newly added Claims 51 and 52 recited patentable subject matter. Applicants wholeheartedly thank the Examiner for taking the time and effort to review the proposed claim amendments and meet with them in the interview, and they appreciate the indication that the claims are likely patentable over the cited art.

The invention is an electronic message delivery system for monitoring remote equipment, receiving signals from the remote equipment based on the status of the equipment, and sending outgoing messages to the appropriate parties and their various communication devices based on the messages received. The invention includes sensors locally connected to the remote equipment, interface units locally connected to the sensors, and a computer server that can receive messages from the remote interface units based on the readings of the sensors. The

interface units are not hardwired into the computer server, they communicate via remote means, such as via the cellular telephone network or the Internet.

One of the critical aspects of the invention is that the server includes a user interface which allows each user to remotely configure the server by configuring (creating, modifying, deleting, etc.) a message profile. The message profile is essentially a set of instructions that tells the server any or all of the following: a) to whom to route outgoing messages; b) which messages get routed to which person; c) to what communication devices the messages are routed (fax, pager, e-mail, etc.); d) if there should be a time delay before routing the messages; e) if several incoming messages should be received before sending out an outgoing message; f) if one incoming message should trigger the sending of several outgoing messages; and the like. Essentially, the message profile tells the server the who, what, when, where, and how to send outgoing messages. The user can, from his home, his office, his Palm Pilot, or any other location that is remote from the computer server, connect with the server via the user interface and reconfigure his message profile. In the preferred embodiment, the user interface is an Internet link which enables the user to access from a remote computer and create or edit his message profile. Passwords are provided so that a user's profile can only be edited by the proper person (i.e., the user).

An example of how the system is implemented is in the heating, ventilating, and cooling (HVAC) arts. Contractors and maintenance workers have to be able to monitor the equipment they are responsible for; however going around to all the boilers and air conditioners in their care just to check up on them is very time consuming. With the present system, sensors are locally attached –on site– to the air conditioner, for example, which can detect when specific problems occur. In the preferred embodiment, an interface unit is connected –also on site– to the sensors. When the sensors detect an abnormal condition –such as a lack of fan blower speed even though the air conditioner should be working– they send a signal to the interface unit. The interface unit can remotely access, via a national wireless network, for example, the computer server utilizing,

for example, the handshaking portion of the cellular network. Thus, the interface unit and the computer server can be thousands of miles away and still communicate effectively.

The server receives the incoming message from the remote interface unit that the air conditioner's fan is not operating. On the computer is stored a user-defined message profile, which is like a laundry list of message routing instructions such as "if X goes wrong, tell Mr. Y via his pager/fax machine/e-mail, etc." For example, if the fan is not blowing in an air conditioner, there could be a blockage which is physically preventing the fan blades from turning, or there could be an electrical short preventing current from flowing to the fan motor, or several other possible problems. A contractor could have his message profile set up to notify one of his crew by sending the crewman a message. Connected to the server are a number of message output mechanisms that can send a message over a variety of different media as specified by the message profile. The crewman could get a beep or a message on his pager or could receive an e-mail for a lower priority problem. The contractor/supervisor could also receive a message so that he can check up on his crew.

Some messages require more attention than others. For example, if the trouble with the air conditioner were so serious as to threaten the whole building, the crewman, the contractor, and the owner of the building could be sent messages via their pagers. The contractor would be able to make the determination as to which problems require which messages and who should hear about it. The interface units also send out periodic "heartbeat" signals which let the server know that everything is okay. The server is designed to route messages from multiple pieces of equipment to multiple people in accordance with multiple message profiles. That is, a number of different contractors can use the system independently of each other.

Wilson et al. does not render obvious the claimed invention for several reasons. First, there is no teaching, suggestion, or even a hint in Wilson of enabling a user to remotely configure (edit, modify, create, etc.) a message profile on the computer server. The system of Fig. 12, for example, can send voice messages or faxes out to a recipient (see col. 34, lines 6-15), but it cannot receive instructions remotely from the intended message recipients. More specifically,

Wilson does not permit a remote user to configure a message profile to specify where the outgoing messages are to be sent. There is absolutely no remote user interface in Wilson as recited and set forth in the claims of the present application. Wilson does discuss enabling the user to configure the system for a particular application (see Abstract, cols. 9-11 generally and col. 10, line 67 and on, in particular), but not remotely. In this description, the user must be sitting down at the central PC 12 in order to effect any changes on the system whatsoever. Thus, in Wilson, the “user” is the person who is setting up the system. Thus, while the “user” can go to the central computer and configure the system, he cannot do it from home, the office, or in the field. Remote communication between user and system is thus unidirectional, from the system to the user.

In Applicant’s invention, by contrast, the user, as recited in the claims, is the person subscribing to the service, the person intended to receive the messages. He can log into the server via remote means, such as the Internet, to configure his message profile to tell the computer server where to send what error messages to whom and under what circumstances. Remote communication between the subscriber/user and the system is thus bidirectional: from the system to the user when the system is sending an error message, and from the user to the system when the user is creating/editing the message profile (among other things). Also, in Wilson, only a computer programmer can alter or modify any instructions on the computer; by contrast, in Applicant’s invention, the end user, not the programmer setting the system up, can adjust the message profile without any knowledge of computer programming.

Wilson also fails to teach or suggest the monitoring of remote equipment. All of the equipment being monitored in Wilson is hardwired into the system and is monitored locally. All of the various systems in Wilson require the I/O bridge device 14 into which all of the monitored equipment is directly wired. For example, Fig. 2 of Wilson shows an alarm system with smoke detectors 66 and 67 and burglar alarm loops 62 and 64. All of the devices are connected via wires to I/O bridge device 14 (see col. 9, lines 40-55). The equipment being monitored is not remote equipment, as required by the present claims, but rather local equipment.

Even the system shown in Fig. 12 of Wilson is only good for monitoring local equipment despite the presence of radio transceivers. As described in columns 33 and 34 of Wilson, Fig. 12 represents an alarm system for a car dealership lot. Instead of using wires to connect the anti-theft devices to the base transceiver 700, each car is provided with an RF transmitter which can broadcast back to the main base. However, what is described is a local RF network only. It is designed to cover the parking lot of an automobile dealer (see col. 34, lines 46-61), or a range of maybe a few thousand feet. Applicant's invention can monitor equipment that is truly remote, and it can be used over the entire world, because of: a) the ability of the remote interface units to contact the central server remotely; b) the ability of the central server to contact the message recipient remotely via any format of communication device, and c) the ability of the user/subscriber to contact the server and configure his message profile remotely.

Finally, Wilson fails to teach that multiple subscribers can utilize the system simultaneously. The inventive system can store multiple message profiles of multiple subscribers and route the messages from each person's equipment to that person in accordance with his message profile. By contrast, Wilson is silent as to accommodating multiple users.

In view of the foregoing, Applicants respectfully submit that Claims 1-5, 9-12, 15, 17-21, and 26-52 recite patentable subject matter and that the application is in condition for allowance. The Examiner is invited to telephone the undersigned to discuss any further changes that might be deemed necessary. Prompt and favorable action toward the issuance of a patent is earnestly solicited and believed to be fully warranted.

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