matches case template 312 against the case base 104 to determine the 'best' case 204));

a classifier for classifying the electronic message into at least one of (i) being able to be responded to automatically; and (ii) requiring assistance from a human operator ("A technique in which the processor may be set to work with a limited case base, and may solicit human advice for treatment of new problems which are not already well-treated by the case base" (Abstract); also, "In the case-matching step 202, the application 601 may attempt to match the customer problem 605 to one or more cases in the case base 104 using just the description 606 of the customer problem 605. If the match quality 315 of the case 105 which are matched is high, the application 601 may perform the best-case step 203 and following steps. The action 309 which the application 601 performs is to provide an advice message 607 to the customer service representative 602, who may then provide advice to the customer 604. However, it may occur that cases 105 which are matched all have a low match quality 315. The application 601 may collect a set of question-answer pairs 608 from the cases 105 which are matched. The application 601 may present a set of questions 609 from the question-answer pairs 608 to the customer service representative 602, who would provide a set of answers 610 to the application 601 (typically by asking the customer 604). The application 601 may perform the case-matching step 202 with the question-answer pairs 608 as additional attribute-value pairs 303 to match. In a preferred embodiment, weights may be assigned to the description 606 and to each question-answer pair 608. **If no 'best' case 204 can be matched even with the**

question- answer pairs 608, the application 601 may create a new case 105 which copies the case template 312 and ask the customer service representative 602 for the advice message 607 to include with the case 105. In a preferred embodiment, the application 601 may be operated with few cases 105 or even no cases to start with, since the application 601 may create new cases 105 when there is no "best" case 204 in the case base 104." (col. 9, lines 21-50). Hence, Allen discloses classifying the electronic message as at least one of (i) being able to be responded to automatically (e.g. if the match quality is high, the application 601 provides an advice message which is used to advise the customer 604); and (ii) requiring assistance from a human operator (e.g., if no case is similar to the received data, the customer service representative 602 provides the advice message used to advise the customer).

As per claim 42, Allen demonstrated all the elements as disclosed in claim 41, and further discloses **a repository of predetermined responses, at least one of the responses being selected from the repository by the knowledge base for automatic delivery to the source when the classifier indicates that the electronic message can be responded to automatically** ("A set of customer problems 605 and advice to respond with may be stored as cases 105." (col. 9, lines 10-11); further, "In the case-matching step 202, the application 601 may attempt to match the customer problem 605 to one or more cases in the case base 104 using just the description 606 of the customer problem 605. If the match quality 315 of the case 105 which are matched is high, the application 601 may perform the best-case step 203 and following steps. The action 309 which the application 601 performs is to provide an advice

message 607 to the customer service representative 602, who may then provide advice to the customer 604." (col. 9, lines 21-29). Thus, Allen discloses a repository of predetermined responses (e.g., the stored cases 105 in case base 104), at least one of the responses being selected from the repository by the knowledge base for automatic delivery to the source when the classifier indicates that the electronic message can be responded to automatically (e.g., the application 601 provides an advice message 607 to customer service representative 602 when the match quality 315 is high)).

As per claim 43, Allen demonstrated all the elements as disclosed in claim 42, and further discloses **the predetermined response is altered in accordance the interpretation of the electronic message before delivery to the source** ("The action 309 which the application 601 performs is to provide an advice message 607 to the customer service representative 602, who may then provide advice to the customer 604." (col. 9, lines 26-29) Thus, advice message 607 is provided to customer service representative 602, and the customer service representative 602 uses the advice message 607 to provide advice to a customer 604).

As per claim 44, Allen demonstrated all the elements as disclosed in claim 41, and further discloses:

a repository of predetermined responses, one or more of the predetermined responses being selected by the knowledge base for proposed delivery to the source ("A set of customer problems 605 and advice to respond with may be stored as cases 105." (col. 9, lines 10-11); also, "In the automated help desk application 601, the user 119 may comprise a customer service representative 602

who may typically be receiving a telephone call 603 from a customer 604. A set of customer problems 605 and advice to respond with may be stored as cases 105." (col. 9, lines 7-11); further, "In the case-matching step 202, the application 601 may attempt to match the customer problem 605 to one or more cases in the case base 104 using just the description 606 of the customer problem 605. If the match quality 315 of the case 105 which are matched is high, the application 601 may perform the best-case step 203 and following steps. The action 309 which the application 601 performs is to provide an advice message 607 to the customer service representative 602, who may then provide advice to the customer 604." (col. 9, lines 21-29). Thus, the stored cases 105 containing advice on how to respond to customer problems 605 and responsive to a high match quality between customer problem and a case in the case base, the application 601 provides an advice message); and

an electronic router for forwarding the electronic message to the human operator when the classifier indicates that a response to the electronic message requires assistance from a human operator, the router delivering the predetermined response to the source when the human operator deems the response appropriate ("If the match quality 315 of the case 105 which are matched is high, the application 601 may perform the best-case step 203 and following steps. The action 309 which the application 601 performs is to provide an advice message 607 to the customer service representative 602, who may then provide advice to the customer 604. However, it may occur that cases 105 which are matched all have a low match quality 315. The application 601 may collect a set of question-answer pairs 608 from

the cases 105 which are matched. The application 601 may present a set of questions 609 from the question-answer pairs 608 to the customer service representative 602, who would provide a set of answers 610 to the application 601 (typically by asking the customer 604). The application 601 may perform the case-matching step 202 with the question-answer pairs 608 as additional attribute-value pairs 303 to match. In a preferred embodiment, weights may be assigned to the description 606 and to each question-answer pair 608. If no 'best' case 204 can be matched even with the question-answer pairs 608, the application 601 may create a new case 105 which copies the case template 312 and ask the customer service representative 602 for the advice message 607 to include with the case 105. In a preferred embodiment, the application 601 may be operated with few cases 105 or even no cases to start with, since the application 601 may create new cases 105 when there is no “best” case 204 in the case base 104.” (col. 9, line 23-55); in addition, "The action 309 which the application 601 performs is to provide an advice message 607 to the customer service representative 602, who may then provide advice to the customer." (col. 9, lines 26-29) Therefore, Allen discloses an electronic router for forwarding the electronic message to the human operator when the classifier indicates that a response to the electronic message requires assistance from a human (e.g., when the cases have low match quality, the customer service representative 602 is provided with question-answer pairs to provide additional input, and if no case is matched the customer service representative 602 prepares the advice message 607 to provide to the user), the router delivering the predetermined response to the source when the human operator deems

the response appropriate (e.g., the advice message 607 is communicated to the user by the customer service representative 602)).

As per claim 45, Allen demonstrated all the elements as disclosed in claim 44, and further discloses **the classifier categorizes the electronic message into at least one of a plurality of sub-categories based on subject matter content of the electronic message** ("the inference engine 111 for the case-based reasoning system 101 may be implemented within a rule-based reasoning system 501, such as the ARM-IT rule-based reasoning system, manufactured by Inference Corporation of El Segundo, Calif. In the rule-based reasoning system 501, rules 103 may be matched against software objects 112, including a set of facts 502, cases 105 and the case template 312, and may perform procedural actions on them. Software objects 112 may comprise data elements and relations to other software objects 112 as is well known in the art." (col. 7, lines 8-18) where the rule sub-categorizes the subject matters).

As per claim 52, Allen demonstrated all the elements as disclosed in claim 41, and further discloses **the electronic message includes fixed data** ("In a case-matching step 202, the inference engine 111 attempts to match the problem to one or more cases 105 in the case base 104." (col. 3, line 66 - col. 4, line 1); additionally, "[The automated 'help desk' application 610 may perform a flow diagram like that disclosed with FIG. 2, with some modifications. In the description step 201, the application 601 may retrieve a **text string description 606 of the customer problem 605**. In the case-matching step 202, the application 601 may attempt to match the customer problem 605 to one or more cases in the case base 104 using just the

description 606 of the customer problem 605. If the match quality 315 of the case 105 which are matched is high, the application 601 may perform the best-case step 203 and following steps. The action 309 which the application 601 performs is to provide an advice message 607 to the customer service representative 602, who may then provide advice to the customer 604." (col. 9, lines 16-29).

As per claim 53, Allen demonstrated all the elements as disclosed in claim 41, and further discloses **the electronic message includes variable data** ("the inference engine 111 may present a sequence of questions to the user 119 and retrieve answers from the user 119 about the problem and the cases 105 which were found." (col. 4, lines 7-10); also, "**The application 601 may present a set of questions 609 from the question-answer pairs 608 to the customer service representative 602, who would provide a set of answers 610 to the application (typically by asking the customer 604)**. The application 601 may perform the case-matching step 202 with the question-answer pairs 608 as additional attribute-value pairs 303 to match. In a preferred embodiment, weights may be assigned to the description 606 and to each question-answer pair 608." (col. 9, lines 33-41)).

As per claim 54, Allen discloses a method for automatically processing a non-interactive electronic message using a computer, comprising the steps of:

(a) receiving the electronic message from a source ("In a description step 210, the inference engine 111 retrieves a description of the facts of a particular situation (the 'problem'). In a preferred embodiment, **the user 119 may enter data relating to the problem by means of the user interface 118**. For example, the user

119 may complete an on- screen form, or may answer a set of questions provided by data- gathering software in the inference engine 111." (col. 3 lines 59-65) where the entered data is electronic message);

(b) interpreting the electronic message using a rule base and case base knowledge engine ("the inference engine 111 retrieves a description of the facts of a particular situation (the "problem"). In a preferred embodiment, the user 119 may enter data relating to the problem by means of the user interface 118. For example, the user 119 may complete an on-screen form, or may answer a set of questions provided by data-gathering software in the inference engine 111. In a case-matching step 202, the inference engine 111 attempts to match the problem to one or more cases 105 in the case base 104. In a preferred embodiment, the inference engine 111 may use a feature-matching technique like that described with FIGS. 3A and 3B. In a best-case step 203, the inference engine 111 attempts to evaluate the cases 105 which were found in the case-matching step 202, and determine a 'best' case 204 to match the problem. In a preferred embodiment, the inference engine 111 may present a sequence of questions to the user 119 and retrieve answers from the user 119 about the problem and the cases 105 which were found. In a note-action step 205, the inference engine 111 determines the action prescribed by the "best" case 204, and attempts to determine if that action is a correct action to perform. If so, the inference engine 111 proceeds to a do-action step 206. Otherwise, the inference engine 111 proceeds to a new-case step 207." (col. 3, line 58-col. 4, line 16); also, An automated

processor 110 may execute a software inference engine 111 for reasoning using the case base 104 and rule base 102" (col. 2, line 61-63));

(c) retrieving one or more predetermined responses from a repository, the predetermined responses being proposed for delivery to the source ("In the case-matching step 202, the application 601 may attempt to match the customer problem 605 to one or more cases in the case base 104 using just the description 606 of the customer problem 605. If the match quality 315 of the case 105 which are matched is high, the application 601 may perform the best-case step 203 and following steps. The action 309 which the application 601 performs is to provide an advice message 607 to the customer service representative 602, who may then provide advice to the customer 604. However, it may occur that cases 105 which are matched all have a low match quality 315. The application 601 may collect a set of question-answer pairs 608 from the cases 105 which are matched. The application 601 may present a set of questions 609 from the question-answer pairs 608 to the customer service representative 602, who would provide a set of answers 610 to the application 601 (typically by asking the customer 604). The application 601 may perform the case-matching step 202 with the question-answer pairs 608 as additional attribute-value pairs 303 to match. In a preferred embodiment, weights may be assigned to the description 606 and to each question-answer pair 608. If no 'best' case 204 can be matched even with the question-answer pairs 608, the application 601 may create a new case 105 which copies the case template 312 and ask the customer service representative 602 for the advice message 607 to include with the case 105. In a preferred embodiment, the application

601 may be operated with few cases 105 or even no cases to start with, since the application 601 may create new cases 105 when there is no "best" case 204 in the case base 104." (col. 9, lines 21-50); thus, the automated help desk application 601 retrieves advice messages 607 for delivery to the user based on the match score);

(d) forwarding the electronic message and the predetermined response to a human operator ("it may occur that cases 105 which are matched all have a low match quality 315. The application 601 may collect a set of question-answer pairs 608 from the cases 105 which are matched. The application 601 may present a set of questions 609 from the question-answer pairs 608 to the customer service representative 602, who would provide a set of answers 610 to the application 601 (typically by asking the customer 604). The application 601 may perform the case-matching step 202 with the question-answer pairs 608 as additional attribute-value pairs 303 to match. In a preferred embodiment, weights may be assigned to the description 606 and to each question-answer pair 608. If no 'best' case 204 can be matched even with the question-answer pairs 608, the application 601 may create a new case 105 which copies the case template 312 and ask the customer service representative 602 for the advice message 607 to include with the case 105. In a preferred embodiment, the application 601 may be operated with few cases 105 or even no cases to start with, since the application 601 may create new cases 105 when there is no 'best' case 204 in the case base 104." (col. 9, lines 30-50); thus, when the cases have low match quality, the customer service representative 602 is provided with question-answer pairs to provide additional input, and if no case is matched the

customer service representative 602 prepares the advice message 607 to provide to the user); and

(e) delivering the predetermined response to the source when the human operator deems the response appropriate (The action 309 which the application 601 performs is to provide an advice message 607 to the customer service representative 602, who may then provide advice to the customer", col. 9, line 26-29).

As for claim 55, Allen demonstrated all the elements as disclosed in claim 54, and since the claim limitation is similar to claim 4, it is similarly rejected as claim 4 by Allen.

As per claim 62, Allen demonstrated all the elements as disclosed in claim 54, and since the claim limitation is similar to claim 29- (b1),(b2) and (b3), it is similarly rejected as claim 29- (b1),(b2) and (b3) by Allen.

As per claim 63, Allen demonstrated all the elements as disclosed in claim 54, and since the claim limitation is similar to claim 30, it is similarly rejected as claim 30 by Allen.

As for claim 64, Allen demonstrated all the elements as disclosed in claim 63, and since the claim limitation is similar to claim 31, it is similarly rejected as claim 31.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6-8, 16, 17, 25, 37 and 47-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al. as applied to claim 1 above, and further in view of Scannell et al. (US 5,377,354).

As per claim 6, Allen demonstrated all the elements as disclosed in claim 4. Allen discloses a method of processing electronic message. It is noted that Allen does not explicitly disclose

(c2) prioritizing the sub-categorized electronic message into at least one of a plurality of priorities based on the subject matter content of the electronic message wherein a higher priority indicates that the human operator should process the associated electronic message before processing lower prioritized electronic messages. However, this is known in the art as taught by Scannell et al., hereinafter Scannell. Scannell discloses "the user can set up a number of rules. Each rule tests whether the messages satisfy certain conditions regarding who the sender is, who the addresses and/or copy-tos are and their numbers, and the nature of the subject and a definable initial part of the message. **If a rule is satisfied, then the actions which result can be assigning a priority level to the message**, filing it in one or more selected files, and forwarding it to further addresses." (col. 6, lines 9-17).

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Scannell into Allen because Allen discloses a method of processing electronic message and Scannell discloses the message could be prioritized for the purpose of processing the more important message first.

As per claim 7, Allen and Scannell demonstrated all the elements as disclosed in claim 6, and Scannell further discloses **the plurality of priorities of a product service sub-category include at least one of (i) fraud and lost products; (ii) sensitive information; (iii) general information; and (iv) user comments** (col. 6, line 18- col. 7, line 27 where the subfield could be considered at least sensitive information or general information).

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Scannell into Allen because Allen discloses a method of processing electronic message and Scannell discloses the message could be prioritized for the purpose of processing the more important message first.

As per claim 8, Allen and Scannell demonstrated all the elements as disclosed in claim 7, and Scannell further discloses **the listed priorities are in order from highest to lowest priority** (The sub-units or fields of action part 35B of the rule storage unit 35 are as follows: a priority field 45. **if the message matches the rule conditions, then it is given the priority level set by this field, which can have a value of say between 1 (highest priority) and 5 (low priority)**. A file-to field 46. This contains a list of folders in the user's main folder store 15. If the message matches the appropriate rule conditions, then it is filed in the appropriate folders", col. 6, line 63- col. 7, line 5).

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Scannell into Allen because Allen discloses a method of processing electronic message and Scannell discloses the message could be prioritized for the purpose of processing the more important message first.

As per claim 16, Allen demonstrated all the elements as disclosed in claim 15, and further discloses data relating the problem can be provided by a customer 604 at a remote location via telephone call 603 (col. 9, line 7-10).

Allen discloses a method of processing electronic message. It is noted that Allen does not explicitly disclose **the electronic data communications channel is the Internet**. However, this is known in the art taught by Scannell. Scannell discloses a method of processing electronic message in which internet is used ("Referring to FIG. 1, there is an I/O port 10 by means of which messages can be transmitted to and received from other work stations, via a message transmission network (which may include or consists of a host computer)." (col. 3, lines 33-37); also, "Digital communication systems of the 'electronic message' or 'electronic mail' type are well established. In such systems, several, (often a very large number) of work stations are interconnected by a system which allows users at the work stations to send messages to each other. Such messages are the electronic equivalent of letters and memoranda." (col. 1, lines 13-19) It is inherent that electronic mails are transmitted though an internet.)

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Scannell into Allen because Allen discloses a method of processing electronic message and Scannell discloses the message could be transmitted through an internet for the purpose of lowering transmission cost.

As per claim 17, Allen demonstrated all the elements as disclosed in claim 15, and further discloses information can be provided by a customer 604 at a remote location via telephone call 603 (col. 9, line 7-10).

Allen discloses a method of processing electronic message. It is noted that Allen does not explicitly disclose **the electronic message is an electronic mail (E-mail) message**. However, this is known in the art as taught by Scannell. Scannell discloses "Digital communication systems of the 'electronic message' or 'electronic mail' type are well established. In such systems, several, (often a very large number) of work stations are interconnected by a system which allows users at the work stations to send messages to each other. Such messages are the electronic equivalent of letters and memoranda." (col. 1, lines 13-19)

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Scannell into Allen because Allen discloses a method of processing electronic message and Scannell discloses the message could be transmitted as electronic message for the purpose of lowering transmission cost.

As per claim 25, Allen discloses a method for automatically processing an electronic mail (E-mail) message, comprising the steps of:

(a) receiving the E-mail from a source over an electronic data communications channel ("In a description step 210, the inference engine 111 retrieves a description of the facts of a particular situation (the 'problem'). In a preferred embodiment, **the user 119 may enter data relating to the problem by means of the user interface 118**. For example, the user 119 may complete an on- screen form, or

may answer a set of questions provided by data- gathering software in the inference engine 111." (col. 3 line 59-65); and "In the automated help desk application 601, the user 119 may comprise a customer service representative 602, who may typically be receiving a telephone call 603 from a customer 604." (col. 9, lines 7-10));

(b) interpreting the E-mail using a rule base and case base knowledge engine ("the inference engine 111 retrieves a description of the facts of a particular situation (the "problem"). In a preferred embodiment, the user 119 may enter data relating to the problem by means of the user interface 118. For example, the user 119 may complete an on-screen form, or may answer a set of questions provided by data-gathering software in the inference engine 111. In a case-matching step 202, the inference engine 111 attempts to match the problem to one or more cases 105 in the case base 104. In a preferred embodiment, the inference engine 111 may use a feature-matching technique like that described with FIGS. 3A and 3B. In a best-case step 203, the inference engine 111 attempts to evaluate the cases 105 which were found in the case-matching step 202, and determine a 'best' case 204 to match the problem. In a preferred embodiment, the inference engine 111 may present a sequence of questions to the user 119 and retrieve answers from the user 119 about the problem and the cases 105 which were found. In a note-action step 205, the inference engine 111 determines the action prescribed by the "best" case 204, and attempts to determine if that action is a correct action to perform. If so, the inference engine 111 proceeds to a do-action step 206. Otherwise, the inference engine 111 proceeds to a new-case step 207." (col. 3, line 58-col. 4, line 16); also, An automated

processor 110 may execute a software inference engine 111 for reasoning using the case base 104 and rule base 102" (col. 2, line 61-63)); and

(c) classifying the E-mail as at least one of (i) being able to be responded to automatically; and (ii) requiring assistance from a human operator ("In the case-matching step 202, the application 601 may attempt to match the customer problem 605 to one or more cases in the case base 104 using just the description 606 of the customer problem 605. If the match quality 315 of the case 105 which are matched is high, the application 601 may perform the best-case step 203 and following steps. The action 309 which the application 601 performs is to provide an advice message 607 to the customer service representative 602, who may then provide advice to the customer 604. However, it may occur that cases 105 which are matched all have a low match quality 315. The application 601 may collect a set of question-answer pairs 608 from the cases 105 which are matched. The application 601 may present a set of questions 609 from the question-answer pairs 608 to the customer service representative 602, who would provide a set of answers 610 to the application 601 (typically by asking the customer 604). The application 601 may perform the case-matching step 202 with the question-answer pairs 608 as additional attribute-value pairs 303 to match. In a preferred embodiment, weights may be assigned to the description 606 and to each question-answer pair 608. **If no 'best' case 204 can be matched even with the question- answer pairs 608, the application 601 may create a new case 105 which copies the case template 312 and ask the customer service representative 602 for the advice message 607 to include with the case 105**. In a preferred

embodiment, the application 601 may be operated with few cases 105 or even no cases to start with, since the application 601 may create new cases 105 when there is no "best" case 204 in the case base 104." (col. 9, lines 21-50). Hence, Allen discloses classifying the electronic message as at least one of (i) being able to be responded to automatically (e.g. if the match quality is high, the application 601 provides an advice message which is used to advise the customer 604); and (ii) requiring assistance from a human operator (e.g., if no case is similar to the received data, the customer service representative 602 provides the advice message used to advise the customer);

wherein when the classification indicates that the E-mail can be responded to automatically, the method further includes the steps of:

(d) retrieving one or more predetermined responses from a repository ("In the automated help desk application 601, the user 119 may comprise a customer service representative 602 who may typically be receiving a telephone call 603 from a customer 604. **A set of customer problems 605 and advice to respond with may be stored as cases 105**" (col. 9, lines 7-11); also, "In the case-matching step 202, the application 601 may attempt to match the customer problem 605 to one or more cases in the case base 104 using just the description 606 of the customer problem 605. If the match quality 315 of the case 105 which are matched is high, the application 601 may perform the best-case step 203 and following steps. The action 309 which the application 601 performs is to provide an advice message 607 to the customer service representative 602, who may then provide advice to the customer 604." (col. 9, lines 21-29));

(e) formulating an E-mail response from the predetermined response ("In the case-matching step 202, the application 601 may attempt to match the customer problem 605 to one or more cases in the case base 104 using just the description 606 of the customer problem 605. If the match quality 315 of the case 105 which are matched is high, the application 601 may perform the best-case step 203 and following steps. The action 309 which the application 601 performs is to provide an advice message 607 to the customer service representative 602, who may then provide advice to the customer 604. However, it may occur that cases 105 which are matched all have a low match quality 315. The application 601 may collect a set of question-answer pairs 608 from the cases 105 which are matched. The application 601 may present a set of questions 609 from the question-answer pairs 608 to the customer service representative 602, who would provide a set of answers 610 to the application 601 (typically by asking the customer 604). The application 601 may perform the case-matching step 202 with the question-answer pairs 608 as additional attribute-value pairs 303 to match. In a preferred embodiment, weights may be assigned to the description 606 and to each question-answer pair 608. If no 'best' case 204 can be matched even with the question-answer pairs 608, the application 601 may create a new case 105 which copies the case template 312 and ask the customer service representative 602 for the advice message 607 to include with the case 105. In a preferred embodiment, the application 601 may be operated with few cases 105 or even no cases to start with, since the application 601 may create new cases 105 when there is no "best" case 204 in the case base 104." (col. 9, lines 21-50); thus, the

automated help desk application 601 retrieves advice messages 607 for delivery to the user based on the match score); and

(f) transmitting the E-mail response to the source over the data communications channel ("The user interface 118 may comprise an interactive terminal at which the user may enter commands or data and at which the processor 110 may present information or questions to the user 119." (col. 3, lines 25-28); also, "In a preferred embodiment, the user 119 may enter data relating to the problem by means of the user interface 118." (col. 3, lines 61-63); and "In the automated help desk application 601, the user 119 may comprise a customer service representative 602, who may typically be receiving a telephone call 603 from a customer 604." (col. 9, lines 7-10)).

Allen discloses a method of processing electronic message. It is noted that Allen does not explicitly disclose **the electronic message is an electronic mail (E-mail) message**. However, this is known in the art as taught by Scannell. Scannell discloses "Digital communication systems of the 'electronic message' or 'electronic mail' type are well established. In such systems, several, (often a very large number) of work stations are interconnected by a system which allows users at the work stations to send messages to each other. Such messages are the electronic equivalent of letters and memoranda." (col. 1, lines 13-19)

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Scannell into Allen because Allen discloses a method of processing