

EXHIBIT 5



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EXAMINER

ART UNIT PAPER NUMBER

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Please find below and/or attached an Office communication concerning this application or proceeding.



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(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

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EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. 90/009,155.

PATENT NO. 6,411,947.

ART UNIT 3992.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Office Action in Ex Parte Reexamination	Control No. 90/009,155	Patent Under Reexamination 6411947	
	Examiner Ryan R. Yang	Art Unit 3992	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

- a Responsive to the communication(s) filed on 21 May 2008. b This action is made FINAL.
c A statement under 37 CFR 1.530 has not been received from the patent owner.

A shortened statutory period for response to this action is set to expire 2 month(s) from the mailing date of this letter. Failure to respond within the period for response will result in termination of the proceeding and issuance of an *ex parte* reexamination certificate in accordance with this action. 37 CFR 1.550(d). **EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c)**. If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. Notice of References Cited by Examiner, PTO-892. 3. Interview Summary, PTO-474.
2. Information Disclosure Statement, PTO/SB/08. 4. _____.

Part II SUMMARY OF ACTION

- 1a. Claims 1-66 are subject to reexamination.
1b. Claims _____ are not subject to reexamination.
2. Claims _____ have been canceled in the present reexamination proceeding.
3. Claims 5,9,10,14,33,46,50,51,56-61 and 66 are patentable and/or confirmed.
4. Claims 1-4,6-8,11-13,15-32,34-45,47-49,52-55 and 62-65 are rejected.
5. Claims _____ are objected to.
6. The drawings, filed on _____ are acceptable.
7. The proposed drawing correction, filed on _____ has been (7a) approved (7b) disapproved.
8. Acknowledgment is made of the priority claim under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some* c) None of the certified copies have
1 been received.
2 not been received.
3 been filed in Application No. _____.
4 been filed in reexamination Control No. _____.
5 been received by the International Bureau in PCT application No. _____.
* See the attached detailed Office action for a list of the certified copies not received.
9. Since the proceeding appears to be in condition for issuance of an *ex parte* reexamination certificate except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte* Quayle, 1935 C.D. 11, 453 O.G. 213.
10. Other: _____

cc: Requester (if third party requester)

EX PARTE REEXAMINATION NON-FINAL OFFICE ACTION

This is a reexamination of U.S. Patent 6,411,947. Claims 1-66 are the claims of U.S. Patent 6,411,947. Claims 1-66 are currently pending.

Prior Art Cited

The references discussed herein are as follows:

U.S. 5,581,664 issued to Allen et al.

U.S. 4,829,576 issued to Porter.

U.S. 5,377,354 issued to Scannell et al.

EP 0 586 954 A2 issued to Iglehart

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 11-13, 15, 22-24, 26-31, 34-36, 38-45, 52-55 and 62-64 are rejected under 35 U.S.C. 102(e) as being anticipated by Allen et al. (US 5,581,664).

As per claim 1, Allen et al., hereinafter Allen, discloses a method for automatically processing a non-interactive electronic message using a computer (Fig. 2), 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

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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 electronic message 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

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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 2, Allen demonstrated all the elements as disclosed in claim 1, and further discloses the step of:

(d) retrieving one or more predetermined responses from a repository for automatic delivery to the source when the classification step indicates that the electronic message can be responded to automatically ("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**

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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)).

As per claim 3, Allen demonstrated all the elements as disclosed in claim 1, and further discloses the steps of:

(d) 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,

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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);

(e) forwarding the electronic message and the predetermined response to the human operator when the classification step indicates that a response to the electronic message requires assistance from 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

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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

(f) 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 per claim 4, Allen demonstrated all the elements as disclosed in claim 3, and further discloses the step of:

(c1) further categorizing 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.

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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 11, Allen demonstrated all the elements as disclosed in claim 1, and further discloses the step of classifying includes:

(c) classifying the electronic message as at least one of (i) being able to be responded to automatically; (ii) requiring a first level of assistance from a human operator; and (iii) requiring a second level of 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

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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, Allen discloses classifying the electronic message as at least one of (i) being able to be responded to automatically (e.g., cases with a high match quality); (ii) requiring a first level of assistance from a human operator (e.g., cases with a low match quality); and (iii) requiring a second level of assistance from a human operator (e.g., cases where no "best" case can be matched)).

As per claim 12, Allen demonstrated all the elements as disclosed in claim 11, and further discloses:

when the classification step indicates that the electronic message requires a first level of assistance from a human operator, the method further comprises the steps of:

(d) retrieving one or more predetermined responses from a repository, the predetermined responses being proposed for delivery to the source ("The action 309 which the application 601 performs is to provide an advice message 607 to the

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customer service representative 602, who may then provide advice to the customer 604" (col. 9, lines 21-29); 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 1057 (col. 9, lines 7- 11));

(e) forwarding the electronic message and the predetermined response to the 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." (col. 9, lines 30-41)); and

(f) 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, lines 26-29)).

As per claim 13, Allen demonstrated all the elements as disclosed in claim 11, and further discloses:

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when the classification step indicates that the electronic message requires a second level of assistance from a human operator, the method further comprises the steps of:

(d) retrieving one or more predetermined remarks from a remarks repository to assist the human operator in processing the electronic message manually ("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." (col. 9, lines 30-41); and

(e) forwarding the electronic message to the human operator ("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." (col. 9, lines 42-46)).

As per claim 15, Allen demonstrated all the elements as disclosed in claim 1, and further discloses **the electronic message is received over an electronic data communications channel** ("The user interface 118 may comprise an interactive

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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)).

As per claim 22, Allen demonstrated all the elements as disclosed in claim 1, 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 23, Allen demonstrated all the elements as disclosed in claim 1, 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

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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 24, Allen demonstrated all the elements as disclosed in claim 1, 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 26, 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

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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));

(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

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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) retrieving one or more predetermined responses corresponding to the interpretation of the electronic message from a repository for automatic delivery to the source ("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)).

As per claim 27, Allen demonstrated all the elements as disclosed in claim 26, and further discloses **the source of the electronic message is not predetermined** ("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) wherein multiple customer service representatives 602 are capable of receiving calls 603 from multiple customers 604).

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As per claim 28, Allen demonstrated all the elements as disclosed in claim 26, and discloses the steps of **(b1) classifying the electronic message 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