EXHIBIT D

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

BRIGHT RESPONSE, LLC F/K/A POLARIS IP, LLC v. GOOGLE INC., et al.	NO. 2:07CV-371-TJW-CE

REPORT OF DEFENDANTS' EXPERT
L. KARL BRANTING, PH.D, J.D.
CONCERNING INVALIDITY OF CLAIMS 26, 28, 30, 31, 33, AND 38
OF U.S. PATENT NO. 6,411,947

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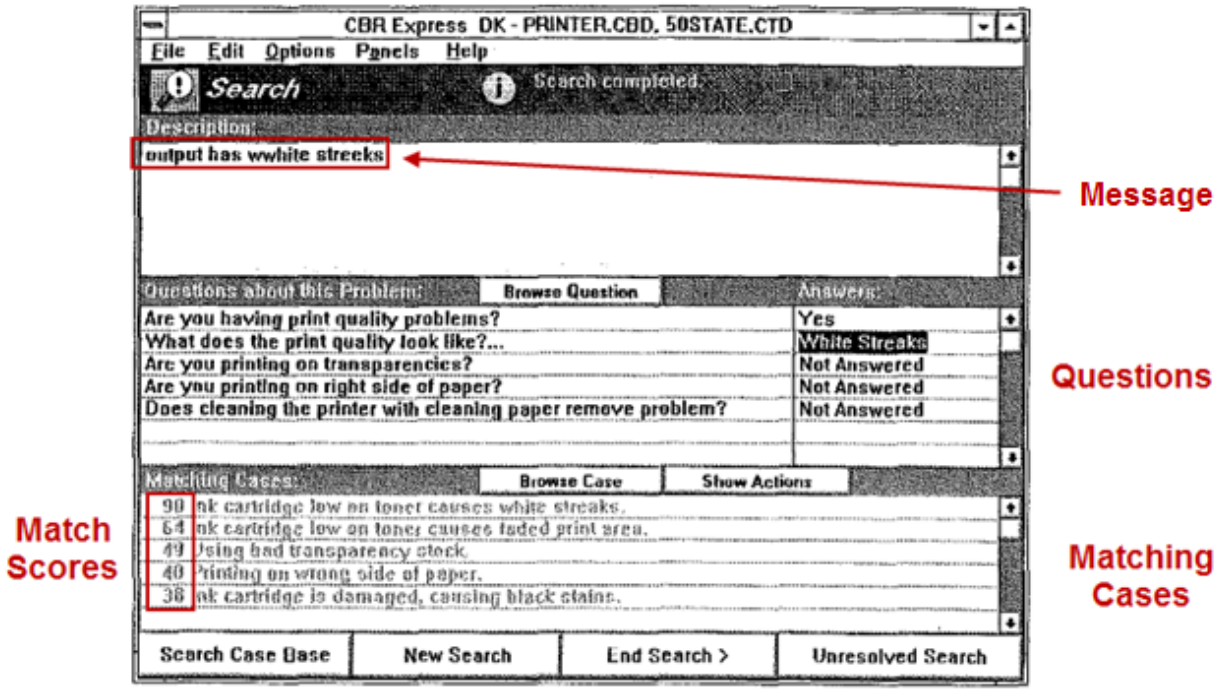
2. CBR-Express

60. The Inference Corporation CBR Express 2.0 for Windows Users Guide, Copyright 1990-1995, ("User's Guide") and The Inference Corporation CBR Express CBR Express 2.0 for Windows Reference Manual, Copyright 1990-1995, ("Reference Manual") describe a commercial help-desk product for development of case-based reasoning applications. (*See* June 28, 2010 Declaration of Bradley Allen.) This corresponds very closely to the preferred embodiment of Allen; indeed, Allen explicitly discloses that "a preferred example case-based reasoning system 101 for providing user help on call-in complaints is more fully described in 'CBR Express User's Guide', available from Inference Corporation of El Segundo, Calif." (Allen 10:40-44.) Page 51 of the User's Guide shows a sample input screen:



Search Panel

(Annotations added)

61. The user enters a message, e.g. "output has wwhite [sic] streaks." CBR-Express then attempts to match the words in the message with the cases within the case base. Prospective matching cases are listed at the bottom of the screen, along with a match score between 0 and

100. (User's Guide, p. 51.) "0" corresponds to no match at all; "100" corresponds to a perfect match. (Reference Manual, p. 15.)

62. CBR-Express may also present a series of questions to the user, though an administrator may disable this feature. (Reference Manual, p. 14.) As users answer each question, e.g. "Are you having print quality problems," CBR-Express re-computes match scores and re-ranks the cases that are presenting to the user. (User's Guide. pp. 52-53.) The questions correspond to features of the case models, and may accept Yes/No answers, an answer selected from a list of options, numeric entries, and text entries. (*Id*.)

63. As users answer questions, they may browse the matching cases presented in the window. While the case with the highest match score is likely the best solution, it is possible than a lesser ranked case may be more appropriate. Users may freely browse any of the available cases during their search. (User's Guide, p. 55.) If the user is unable to find a matching case, he may "flag" the question so that it can be addressed by a more senior technical expert. (*Id.*, p. 56.)

64. Behind the scenes, CBR-Express employs matching algorithms similar to those described in the Allen patent. CBR-Express employs a character matching algorithm to attempt to match the words within the user's message to the text description of each case in the case base. After discarding stop words (e.g., "the"), punctuation marks, suffixes, etc., CBR-Express employs trigram (three character) matching. (Reference Manual, p. 18.) Each time a trigram from the message matches a trigram from the case description, the match score for that case increases by some amount. (*Id.*) CBR-Express thus computes match scores for all the cases in the case-base, then presents the best results to the user.

65. Additionally, CBR-Express presents questions that correspond to the features of the top cases. For instance, CBR-Express may ask the user "Are you printing on transparencies," which has a Boolean or "yes/no" answer. Assuming the user answers "yes," cases that have the "printing on transparencies" feature would have their match scores incremented by a match

weight, while cases that do not print on transparencies[5] would have their match scores decremented by a mismatch weight. (Reference Manual, pp. 14-15.) The match weight and mismatch weight may differ depending on the importance of the question. For example, the "patient is pregnant" case may have a massive mismatch score if the patient is not female!

66. CBR-Express compares the features of each case in the case base to the features of the incoming case. (Reference Manual, pp. 14-15.) The resultant match weights and mismatch weights are added together to form a total match score, which CBR-Express normalizes to a range between 0 and 100. (*Id.*)

3. Nguyen

67. Nguyen[6] describes the "QuickSource" system, a help-desk application system for Compaq printers. QuickSource[7] is termed the "second-generation" of the Smart system, a help-desk application used by Compaq's technical support staff and implemented using the CBR Express engine detailed above. (Nguyen p. 50.) The idea was to take the help-desk system meant for technical support staff and make it accessible to other types of users. Rather than calling Compaq for assistance, the customer can simply use QuickSource to find a solution himself. Smart and QuickSource were developed to function with both CBR-Express as well as CasePoint, a front-end CBR system sold by Inference. (*Id*. at 51.)

[5] That is, specify that they do not print on transparencies, as opposed to not mentioning transparencies at all.

6 T. Nguyen, M. Czerwinski, and D. Lee, "Compaq QuickSource: providing the consumer with the power of AI," AI Magazine 14:3 (1993).

[7] The CBR portion of the QuickSource product is called "QuickSolve." Since I primarily focus on the CBR portion of QuickSource, I often use the two terms interchangeably. Other portions include "QuickTour, QuickConfig, and QuickTutorial. (Nguyen, p. 52.)

B. The CBR Express Manuals Anticipate and Render Obvious claims 26, 28, 30, 31, and 33.

134. The CBR Express Users Guide ("User's Guide") and CBR Express Reference Manual ("Reference Manual") anticipate and render obvious claims 26, 28, 30, 31, and 33.[15] CBR Express is a preferred example of the case-based reasoning system described in Allen (Allen 10:40-44.) CBR Express was also used to build the case base engine in Nguyen (Nguyen p. 54), and the same engine was also used in the '947 patent ('947 patent, 5:56-58; Watson 337; July 2, 2010 Conversation with Chuck Williams).

135. One of skill in the art would understand that the CBR Express User's Guide incorporates by reference the teachings of Chapter 2 of the CBR Express Reference Manual. Both the User's Guide and the Reference Manual, which bear the same date, were provided to customers who purchased version 2.0 of the CBR Express software. (Declaration of Bradley Allen.) In addition, The CBR Express User's Guide states that "[t]he software packages required for user modification of *CBR Express* and its databases are described in the *CBR Express Reference Manual*." (User's Guide at 7.) One of skill in the art would understand this statement to incorporate at least Chapter 2 of the Reference Manual, which describes the software packages required for user modification of the case-base matching functions of CBR Express.

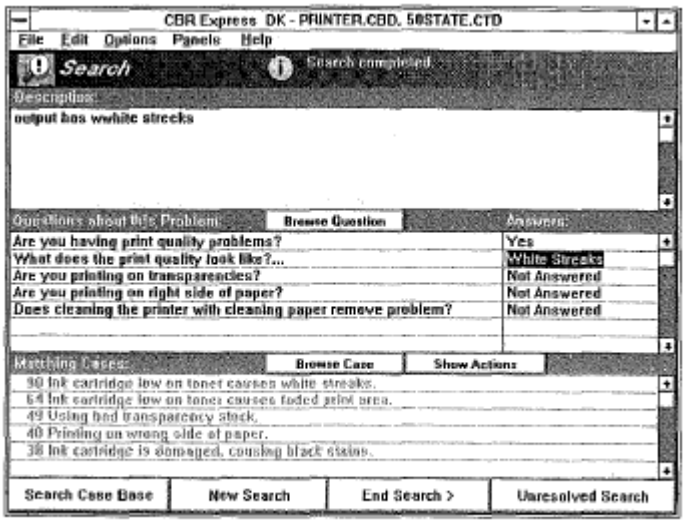
136. As stated above, it is my opinion that one of skill in the art would understand at least Chapter 2 of the Reference Manual to have been incorporated into the User's Guide. To the extent that Bright Response may contend that there was no such incorporation by reference, it would have been obvious to one of ordinary skill to combine the teachings of manuals, which were shipped together, bear the same date, and describe the same version of the same product.

[15] Throughout this section, I collectively refer to the CBR Express User's Guide and the CBR Express Reference Manual as the "CBR Express Manuals."

My analysis of the obviousness of the '947 patent's claims is stated in more detail in section VII below.

1. The CBR Express Manuals anticipate and render obvious claim 26.

137. **Non-interactive electronic message**: The preamble requires that the method process a "non-interactive electronic message." The CBR Express Manuals disclose processing electronic messages entered into a help desk system. See, e.g., User's Guide p. 51:



Search Panel

138. Normally, a user may answer questions to refine the results presented, although a user is not obligated to do so and may simply view or select from the initially matching cases. Furthermore, the CBR Express Manuals disclose configuring the system so that there are no questions, and thus no additional information for the user to enter. (*See*, *e.g.*, Reference Manual p. 14: "Of the 100 points that may be allocated to a case's score, the default percentage for descriptions is set at 20%, meaning a maximum of 20 points may come from the description. Users frequently raise that figure substantially. You are permitted to raise it to 100% if you want to ignore questions completely.") In addition, the CBR-Express Manuals disclose CasePoint, the light-weight deployment vehicle for CBR-Express case bases, which can answer some or all of the questions through the application of rule-based reasoning. (User's Guide 6.)

139. In any event, I understand that Bright Response has accused Defendants' search queries of meeting this claim element, despite that users need to click on links to see the web pages for which they were searching. (*See, e.g.,* Plaintiff's Objections And Responses To Google's Second Set Of Interrogatories, Attachment 1, p. 1.) Under this interpretation of the "non-interactive electronic message" claim language, the search results listings disclosed in the CBR Express Manuals would meet the limitation.

140. **Receiving an electronic message**: As described by the CBR Express Manuals, CBR Express obtains a new problem through text typed into the description field (see above). Accordingly, CBR Express meets this element of the claim language.

141. **Interpreting the electronic message**: Unsurprisingly, a product entitled "CBR Express" uses CBR, or "case-based reasoning." See, e.g., User's Guide at 49: "CBR Express typically returns the five closest cases and lists them in order on the Search Panel. Each case is displayed with its match score, a number between 0 and 100 that shows how nearly that case matched the search description." The CBR Express Manuals also disclose using "rules to copy information from the search description into the answers of particular questions," and to "make deductions about answers based on logical implications between one question and another." (User's Guide at 64.) In addition, CasePoint, the light-weight deployment vehicle for CBR-Express case bases, can answer some or all of the questions through the applications of rule-based reasoning. (User's Guide 6, 64.)[16] Accordingly, the CBR Express Manuals describe interpreting the electronic message using a rule base and case base knowledge engine.

142. **Retrieving predetermined responses:** Each of the matched cases located by CBR Express contains an associated solution. As described by the CBR Express Manuals, CBR

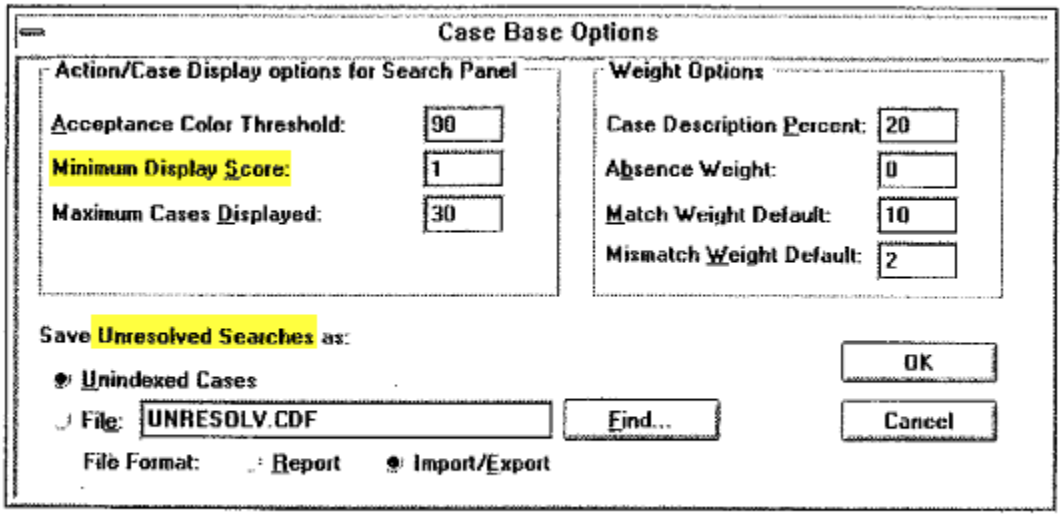
[16] CasePoint had all of the search functionality of CBR-Express; it simply prevented users from creating cases for the case base. Accordingly, CasePoint is a companion product to CBR-Express, as without CBR-Express, there would be no cases for CasePoint to search! (Conversation with Chuck Williams, July 2, 2010.)

Express may either display the cases or the solutions to the user in the results panel after a search: "Some CBR Express applications naturally display the list of cases as the output of the search. Other applications emphasize recommended actions. The Search Panel accommodates both perspectives by letting you toggle between a display of cases and a display of actions associated with those cases." (User's Guide at 50.) Thus, the CBR Express Manuals describe retrieving predetermined responses corresponding to the interpretation of the case—specifically, the actions associated with the nearest matching cases.

143. Accordingly, the CBR Express Manuals describe the elements of claim 26.

2. <u>The CBR Express Manuals anticipate and render obvious claim 28.</u>

144. Claim 28 requires classifying the message as automatic and/or requiring human assistance, and then retrieving predetermined responses if the message has been classified as automatic. The CBR Express Manuals describe calculating match scores for the cases within CBR Express's case base. It then presents the five top cases to the user, along with a series of questions. Users refine the case selection by answering questions, which may be pre-answered. (User's Guide 51-52.)



Set Case Base Options Dialog Box

(Highlighting added)

145. Users may set a number of parameters relating to the case base search. One is the "minimum display score," which is the threshold match score for appearing in the search results list. (User's Guide 111.) If the minimum display score is sufficiently high, the case base is sufficiently small, and/or the presented problem is sufficiently novel, then there may be no cases presented to the user for a particular message. Indeed, "[i]n the early stages of case base development this is normal and to be expected." (*Id.* 56.)

146. Accordingly, the CBR Express Manuals show how CBR Express classifies electronic messages as capable of being responded to automatically if the matching cases have a sufficiently high match score, and as requiring human assistance if there aren't any cases the match well. CBR-Express further includes an "Unresolved Search" functionality, which flags the search for the case-base operator. (User's Guide, 56.)

3. The CBR Express Manuals anticipate and render obvious claim 30.

147. As detailed in Section IV.C.6(b), claim 30 has a number of steps that relate to the manner in which the case-base retrieval function operates. The CBR Express Manuals describe all of these steps.

148. Step (b1) requires building a case model that includes attributes and message text. The CBR Express Manuals disclose building a case model from the electronic message: "In general, the task is to take a single search case, consisting of data from the Search Panel, and develop a numerical similarity score versus an unknown and potentially large number of stored cases." (Reference Manual 13.) The case consists of a set of features which include the description string or message text. (*Id.*) Other features or attributes can be additional strings, yes/no questions, list questions, and numerical questions. (*Id.*, 16-19.) Accordingly, the CBR Express Manuals describe this step.

149. Step (b2) requires detecting text, combinations of text, or patterns of text in the message text. The CBR Express Manuals describe how CBR Express detected all three. Specifically, CBR can use a) string matching, wherein the entire string must match; b) character matching, wherein trigrams or three-character substrings must match; and c) word matching, wherein words from the original text must match. (Reference Manual, 16, 18-19.) The CBR Express Manuals further disclose that character matching is the default matching algorithm used for search descriptions or queries. (*Id.*, 18.) Accordingly, the CBR Express Manuals describe this step.

150. Step (b3) requires flagging attributes of the case model detected in the message text. As disclosed above, the case contains a number of features or attributes. These attributes correspond to answers to questions associated with the case. (User's Guide, 53-54.) Answers to the questions may also be extracted from the description or message text. (*Id.*, 64.) Accordingly, the CBR Express Manuals describe flagging attributes of the case model (submits answers) detected in the message text.

151. Step (b4) requires comparing attributes of the presented case with attributes of the stored cases. The CBR Express Manuals describe several means of comparing attributes, including numerical comparisons, exact matching, character matching, and word matching. (Reference Manuel 16-19.) Thus, the CBR Express Manuals discloses this element.

152. Step (b5) requires comparing the message text or case descriptions. The CBR Express Reference Manual states that "[t]he scoring of each case takes place in two separate parts. The case descriptions are scored separately from the case questions. This lets us assign the description a fixed percentage of the total score, regardless of the number of questions in play in each case" (Reference Manual p. 14). Accordingly, the CBR Express Manuals describe this limitation.

153. Step (b6) requires assigning match scores to each case in the case base, where the match score increases if the attributes and text match and does not increase if they don't match. The Reference Manual discloses that "if a search feature exactly matches a stored feature (both questions answered "Yes") the raw score of the stored case is incremented by the match weight of the question.... The raw score is totaled up for each case, and is then normalized into the range of points left over after scoring the description." (Reference Manual 14.) Furthermore, the portion of the score assigned to the description is calculated by removing uninformative words and breaking the text into trigrams. "The raw score for each case is then incremented by a fraction of the description weight for each trigram that the search description and the case description have in common" (*Id*. 18). Word matching is the same except that "the text is divided up into words rather than trigrams. The raw score for each case is then incremented by a fraction of the description weight for each word that the search answer and the case answer have in common" (*Id*.) In both character and word matching, the score is normalized by the greatest possible match in that it consists of the "fraction" of the total trigrams or words that are shared. Accordingly, this element is also described by the CBR Express Manuals.

4. <u>The CBR Express Manuals anticipate and render obvious claim 31.</u>

154. Claim 31 requires that the overall match between a presented case and a stored be determined in such a way that each additional case attribute or text match causes the match score to go up and that mismatches cause the score to decrease. The CBR Express Manuals disclose this element: "if a search feature exactly matches a stored feature (both questions answered "Yes") the raw score of the stored case is incremented by the match weight of the question. ... It is also possible to define a mismatch weight for a feature. In this case, failure to match a feature of the search case results in decrementing the stored case's raw score." (Reference Manual 14).

5. The CBR Express Manuals anticipate and render obvious claim 33.

155. Claim 33 requires that each score be "normalized by dividing the score by a maximum possible score for the stored case model." The CBR Express Manuals describe this element: "The raw score is totaled up for each case, and is then normalized into the range of points left over after scoring the description. For instance, if the description percentage is set to 50% (or 50 points), the contribution from the questions will be some scaled proportion of the remaining 50 points. The normalization confines the final values to a range of 0 to 100 in CBR Express. A normalized score of 100 indicates a perfect match." (Reference Manual 14-15.)

C. Nguyen anticipates claims 26 and 28.

156. Nguyen[17] describes a help-desk application system for Compaq printers, QUICKSOLVE, that anticipates claims 26 and 28 of the '947 patent.

1. Nguyen anticipates Claim 26.

157. **Non-interactive message**: The preamble requires that the method process a "non-interactive electronic message." Nguyen discloses receiving a message from a user, for example Figure 9:

17 T. Nguyen, M. Czerwinski, and D. Lee, Compaq QuickSource: providing the consumer with the power of AI, AI Magazine 14:3 (1993).