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Filed on behalf of:

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DEALERSOCKET, INC.

Petitioner,

v.

AUTOALERT, LLC

Patent Owner.

Case CBM 2014-00139

U.S. Patent No. 8,396,791

**DECLARATION OF JAIME G. CARBONELL IN SUPPORT OF
AUTOALERT, LLC'S PATENT OWNER'S RESPONSE**

AutoAlert Exhibit 2004 <i>DealerSocket v. AutoAlert</i> CBM2014-00139

I, Jamie G. Carbonell, hereby declare as follows:

1. I have personal knowledge of the matters set forth below, and if called upon to testify I could and would testify competently to them.

2. I am the Allen Newell Professor of Computer Science at Carnegie Mellon University, and I have been retained by AutoAlert, LLC to provide expert opinions on the issues in this proceeding.

3. I submit this declaration in support of AutoAlert's Patent Owner's Response.

A. Background

4. A brief overview of my background and qualifications is provided below. A more complete presentation is set forth in my curriculum vitae, which is attached to this declaration as **Exhibit A**.

5. I received Bachelor of Science degrees in both Physics and Mathematics in 1975 from the Massachusetts Institute of Technology. I received M.S., M.Phil., and Ph.D. degrees in Computer Science from Yale University in 1976, 1977, and 1979, respectively.

6. I have held the position of Allen Newell Professor of Computer Science at Carnegie Mellon University from 1995 to the present. I first joined Carnegie Mellon as an Assistant Professor of Computer Science in 1979. In 1987, I was appointed as a Professor of Computer Science at Carnegie Mellon.

7. Since 1979 I have taught a wide variety of graduate and undergraduate courses at Carnegie Mellon that fall within the general field of Computer Science, including courses in software engineering, data mining, information retrieval, and web-based architectures.

8. I have been involved in a number of different professional organizations and activities, including memberships in the Association of Computing Machinery (“ACM”), the Association for the Advancement of Artificial Intelligence (“AAAI”), and the Cognitive Science Society. I have also held leadership positions within professional organizations. From 1983 to 1985, I served as Chair of the ACM’s Special Interest Group on Artificial Intelligence (“SIGART”). From 1988 to the present, I have been a Fellow of the AAAI. From 1990 to 1992, I served on the AAAI executive committee.

9. I received a “recognition of service” award from the Association for Computing Machinery for my role as chair of SIGART between 1983 and 1985. In 1986, I received the Sperry Fellowship for excellence in artificial intelligence research. In 1987, I received the Carnegie Mellon University Computer Science Department’s teaching award.

10. I have also worked as a technical consultant on Computer Science applications for a variety of industrial clients. This includes consulting on data mining applications for Industrial Scientific Corporation (data mining to improve

workplace safety); Carnegie Group Inc. (financial data mining); Citicorp (financial data mining); Wisdom Technologies (financial optimization and data mining for corporate treasuries); Dynamix Technologies (large-scale data mining engine with applications to Homeland Security); Peak Strategy (financial data mining); and The Boeing Company (designed their intensive data mining course). My consulting services relating to data mining have included such applications as financial data mining, transactional fraud detection, instant-credit bad-debt minimization, collection effectiveness, cash-flow optimization (sweep/invest/float), and data mining for risk/cost tradeoff minimization (FX, interest rate, counterparty, debt). During my consulting engagements, I have designed or co-designed three data mining engines, and I have evaluated and helped to improve many other data mining engines, including improving the machine learning algorithms at their core.

B. Materials Considered

11. I have reviewed AutoAlert's U.S. Patent No. 8,396,791, the file history associated with that patent, and materials submitted in this CBM proceeding, including DealerSocket's petition and the exhibits submitted in support of the petition.

C. Person Of Ordinary Skill In The Art

12. It is my opinion that the '791 patent is directed at the technical field of data mining and analytics applied to networked database systems to promote auto

dealership sales.

13. I understand that a “person of ordinary skill in the art” is a theoretical person from the art of the patent that is “ordinary” in his or her skill and creativity. This theoretical person is not a novice in the field; nor is this person exceptional in their abilities.

14. I understand that the following factors may be considered in determining the level of ordinary skill in the art: (1) the educational level and experience of the inventor at the time of the invention; (2) the type of problems encountered in the field at the time of the invention; (3) the prior art solutions to related problems in the field at the time of the invention; (4) the rapidity with which innovations were made in the field at the time of the invention; (5) the sophistication of the technology in the field at the time of the invention; and (6) the educational level and experience of active workers in the field at the time of the invention.

15. It is my opinion that a person of ordinary skill in the art would have at least a Bachelor’s Degree in Computer Science, Computer Engineering, Management Information Systems, or a related discipline, several years of industry experience in the use, customization, and implementation of database management applications and data mining engines, and familiarity with automobile financing.

D. Interpreting The Claim Term “May affect whether it is favorable”

16. Claim 1 of the ’791 patent recites (emphasis added):

1. A method comprising:
by a computer system comprising computer hardware:
retrieving at least a portion of customer information, first financial terms that a customer has for a first vehicle, and first vehicle information;
retrieving at least a portion of second vehicle information for a second vehicle and second financial terms available to the customer for the second vehicle;
receiving a configuration request for replacing the first vehicle of the customer with a different vehicle;
in response to the configuration request, retrieving current information associated with at least one of the customer information, the first financial terms that the customer has for the first vehicle, the first vehicle information, the second vehicle information, or the second financial terms available to the customer for the second vehicle;
determining, by the computer system, whether the current retrieved information **may affect whether it is favorable** for the customer to replace a first vehicle and first financial terms with a second vehicle and second financial terms **by at least**:
calculating one or more new payments based on an estimated equity value of the first vehicle derived from the first financial terms, and, based on the second financial terms; and
determining if the one or more new payments satisfy at least a condition based at least in part on the first financial terms and the second financial terms, wherein the determination

comprises calculating a difference between the one or more new payments and an existing periodic payment for the first vehicle, and determining whether the difference is less than or equal to a preset acceptable threshold value;
generating a message if it is determined that the retrieved information **may affect whether it is favorable** for the customer to replace the first vehicle and first financial terms with the second vehicle and second financial terms; and
transmitting the message to a dealer.

17. The language of the claim shows that the claimed method presents steps that objectively distinguish circumstances that “may affect whether it is favorable” from circumstances that may not affect whether it is favorable. Namely, the claimed method recites the following two steps:

- (1) calculating one or more new payments based on an estimated equity value of the first vehicle derived from the first financial terms, and, based on the second financial terms; and
- (2) determining if the one or more new payments satisfy at least a condition based at least in part on the first financial terms and the second financial terms, wherein the determination comprises calculating **a difference between the one or more new payments and an existing periodic payment** for the first vehicle, and determining whether **the difference is less than or**

equal to a preset acceptable threshold value.

18. To a person of ordinary skill in the art at the time of the invention, the term “may affect whether it is favorable” is a reference to any set of circumstances for a given customer (based on the changed information retrieved in real time as recited earlier in the claim) that satisfies the “preset acceptable threshold value” analysis recited in the claim. Conversely, a set of circumstances that fails to satisfy the “preset acceptable threshold value” fails to meet the “determination” step, and thus is associated with a set of circumstances that “may not affect whether it is favorable.”

E. The Term “May Affect Whether It Is Favorable” Is Not Ambiguous, And The Patent Claims Are Not Indefinite

19. I understand that the Petitioner contends that the claim term “may affect whether it is favorable” fails to properly provide boundaries to the claims of the ’791 patent, which the Petitioner contends makes the claims indefinite.

20. I understand that a claim term is indefinite if, viewed in light of the specification and prosecution history, the claim fails to inform a person of ordinary skill in the art about the scope of the invention with reasonable certainty.

21. As I discuss above, Claim 1 of the ’791 patent presents steps that objectively distinguish circumstances that “may affect whether it is favorable” from circumstances that may not affect whether it is favorable. Specifically:

- (1) calculating one or more new payments based on an estimated equity value of the first vehicle derived from the first financial terms, and, based on the second financial terms; and
- (2) determining if the one or more new payments satisfy at least a condition based at least in part on the first financial terms and the second financial terms, wherein the determination comprises calculating a difference between the one or more new payments and an existing periodic payment for the first vehicle, and determining whether the difference is less than or equal to a preset acceptable threshold value.

22. The claim term “may affect whether it is favorable” is a reference to any set of circumstances for a given customer (based on the changed information retrieved in real time as recited earlier in the claim) that satisfies the “preset acceptable threshold value” analysis recited in the claim. Conversely, a set of circumstances that fails to satisfy the “preset acceptable threshold value” analysis is a set of circumstances that “may not affect whether it is favorable.”

23. The “preset acceptable threshold value” analysis provides an objective measure that informs a person of ordinary skill in the art about the scope of the claimed invention. Accordingly, the claims are not indefinite.

24. Petitioner makes several mistakes that cause it to wrongly arrive at the wrong conclusion on the definiteness of the claims. First, Petitioner parses the claim term into separate pieces, “may affect” and “favorable,” which it tries to interpret

separately. That is an incorrect approach to interpreting the full claim term that is contradicted by the patent specification and the claims considered in their entirety.

25. Second, Petitioner contends that the patent fails to distinguish between circumstances that “may affect whether it is favorable” from circumstances that “may not affect whether it is favorable.” That is incorrect. As I discuss above, Claim 1 of the patent provides specific objective steps that distinguish between those two sets of circumstances.

26. Third, Petitioner contends that the term “favorable” is subjective, and depends upon the individual preferences of individual customers. That is incorrect. As I discuss above, the term “favorable” should not be considered in isolation. Rather, it should be considered within the entire phrase “may affect whether it is favorable.” To that point, as I discuss above, Claim 1 of the patent provides specific objective steps that distinguish circumstances that “may affect whether it is favorable” from circumstances that “may not affect whether it is favorable.” The subjective preferences of individual customers play no role in the assessment.

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F. The Petitioner Mischaracterizes My Opinions Regarding The Nature Of The Computer-Implementation In The Claimed Inventions

27. At page 54 of the Petition, the Petitioner states: “But as AutoAlert’s expert in the Civil Action confirmed, the computer recited in AutoAlert’s patents simply makes it possible to perform the process ‘at scale.’” That statement mischaracterizes my opinions on the ’461 patent and the role that computer-implementation plays in the claimed inventions.

28. Contrary to the implication of Petitioner’s statement, the ’461 patent claims require a computer system for every one of the recited steps, and different attributes of the computer system are used for those steps.

29. The two steps of automatically retrieving various categories of information require the computer system to have automatic access to electronically stored information either locally or externally via a communication line. Some of the information (e.g., lender interest rates) is typically located in disparate third party sources (e.g., electronically filed and maintained by lenders), which requires the system to use a tailored computer application running on a computer system such as server over a network to access the information from the disparate sources and combine the results. Gathering the information manually would take substantial time, require travel, possibly be outdated by the time is collected and combined, and be prone to errors.

30. The step of receiving a “configuration request” requires a computer programmed to interpret customizable configuration information and perform the appropriate algorithms for that configuration (e.g., batch processing across a dealership’s customer database with a customized preset acceptable threshold). This step uses the computer’s ability to run alternative algorithms depending upon the setting of configuration attributes and/or parameters.

31. The step of retrieving changed information requires a computer programmed to perform a repeated retrieval of the underlying information used by the system (e.g., retrieving updated information every night at a scheduled time). Performing a repeated retrieval manually would take substantial time, which would result in information that is out-of-date when needed, be prohibitively costly, and possibly not even be permitted by the financial lenders as it would increase their cost substantially in terms of additional employees to serve the manual requests of the auto dealers for copious and repeated information. Moreover, the use of old or stale information would, in turn, compromise the accuracy of the entire method.

32. The step of determining whether changed information may affect whether it is favorable requires a computer to automatically perform the large number of mathematical calculations needed to arrive at hypothetical payments for the purchase of a replacement vehicle, which depends on, among other things, a customer’s equity in an existing vehicle, the purchase price of the new vehicle,

financing terms, a customer's creditworthiness, dealer incentives and rebates, and manufacturer incentives and rebates. These calculations would then be repeated for potentially hundreds or thousands of candidate new vehicles for each of thousands of potential customers – yielding potentially millions of calculations every day. Performing a large number of mathematical calculations manually would require a virtual army of accountants or comparably trained personnel, take substantial time, be prohibitively costly, and be prone to errors.

33. The steps of automatically generating a message and transmitting it to a dealership requires a computer to create an electronic message that may be transmitted electronically (e.g., to be accessed over the internet via a web browser on a dealer computer). This provides an efficient and low cost way of providing the message to a dealership anywhere in the U.S. Generating and transmitting a message manually would take substantial time, be costly, and be prone to errors.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statement were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false

CBM 2014-00139
DealerSocket v. AutoAlert

statement may jeopardize the validity of the application or any patent issued thereon.

Executed on December 19, 2014, in Pittsburgh, Pennsylvania.

A handwritten signature in black ink, reading "Jaime G. Carbonell". The signature is written in a cursive style with a long horizontal flourish at the end.

Jaime G. Carbonell