IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Control No. : 90/012,876
Patent No. : 7,932,923
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Art Unit : 3992
Examiner : Adam L. Basehoar
Conf. No. : 6419
Atty. No. : 4079-116

Title: VIDEO SURVEILLANCE SYSTEM EMPLOYING VIDEO PRIMITIVES

37 C.F.R. § 1.132 DECLARATION OF KENNETH A. ZEGER

I, Kenneth A. Zeger, declare as follows:

1. My name is Kenneth A. Zeger. I am a Full Professor of Electrical and Computer Engineering at the University of California, San Diego (UCSD). I understand that my declaration is being submitted in connection with the above-referenced reexamination proceeding pending in the United States Patent and Trademark Office.

I. Qualifications, Background, and Experience

2. I have studied, taught, and practiced electrical and computer engineering for over thirty years.

3. I attended the Massachusetts Institute of Technology ("MIT") and earned Bachelors (SB) and Masters (SM) of Science Degrees in Electrical Engineering and Computer Science in 1984. I earned a Masters of Arts (MA) Degree in Mathematics in 1989 from the University of California, Santa Barbara. I also earned my Ph.D. in Electrical and Computer Engineering from the University of California, Santa Barbara in 1990.

4. I have held the position of Full Professor of Electrical and Computer Engineering at UCSD since 1998, having been promoted from Associate Professor after two years at UCSD. I teach courses full-time at UCSD in the fields of Electrical and Computer Engineering, and specifically in subfields including information theory and image coding, at the undergraduate and graduate levels. Prior to my employment at UCSD, I taught and conducted research as a faculty member at the University of Illinois, Urbana-Champaign for four years, and at the University of Hawaii for two years.

5. I am president of Zunda LLC ("Zunda") a California company located in San Diego, California. Zunda provides expert witness and technical consulting services in the fields of electrical engineering and computer hardware/software.

6. My twenty-plus years of industry experience includes consulting work for the United States Department of Defense as well as for private companies such as Xerox, Nokia, MITRE, ADP, and Hewlett-Packard. The topics upon which I provide consulting expertise include image, video, and speech coding; data compression; networks; digital communications; pattern recognition; computer software; and mathematical analyses.

7. I have authored almost 70 peer-reviewed journal articles, the majority of which are on the topic of compression or information theory. I have also authored over 100 papers at various conferences and symposia over the past twenty-plus years, such as the IEEE International Symposium on Information Theory, the International Conference on Image Processing, and the Data Compression Conference.

8. I was elected a Fellow of the IEEE in 2000, an honor bestowed upon only a small percentage of IEEE members. I was awarded the National Science Foundation Presidential Young Investigator Award in 1991, which included $500,000 in research funding. I received this award one year after receiving my Ph.D.

9. I have served as an Associate Editor for the IEEE Transactions on Information Theory publication and have been an elected member of the IEEE Information Theory Board of Governors for three, three-year terms. I organized and have been on the technical advisory committees of numerous workshops and symposia in the areas of image coding, information theory, and data compression. I regularly review submitted journal manuscripts, government funding requests, conference proposals, student theses, and textbook proposals. I also have given many lectures at conferences, universities, and companies on topics in image coding, data compression, and information theory.

10. I have extensive experience in electronics hardware and computer software, from academic studies, work experience, and supervising students. I personally program computers on an almost daily basis and have fluency in many different computer languages.

11. A more complete recitation of my professional experience including a list of my publications is set forth in my curriculum vitae, attached to my declaration as Exhibit Z1.

II. Compensation and Engagement

12. Zunda is being compensated for my work in this matter by Rothwell, Figg, Ernst & Manbeck, at my current rate of $690 per hour. Neither Zunda nor I have any personal or

financial stake or interest in the outcome of the above-referenced reexamination or any related litigation matter. Neither Zunda's nor my compensation is dependent upon my testimony or the outcome of this proceeding or any related litigation matter. Neither Zunda nor I have any relationship with or financial interest in the assignee of U.S. Patent No. 7,932,923 ("the '923 patent"), ObjectVideo, Inc.

III. The Reexamination Proceeding

13. It is my understanding that, on May 23, 2013, an anonymous Requestor ("the Requester") filed a Request for *Ex Parte* Reexamination (the "Request") with the United States Patent and Trademark Office (the "Office") requesting reexamination of the '923 patent and that, on June 17, 2013, the Office issued an Order granting the Request (the "Order"). I understand that the Office determined that the Request established a substantial new question of patentability with respect to claims 1-41 of the '923 patent. Thus, it is my understanding that the Office is reexamining claims 1-41 of the '923 patent.

14. It is also my understanding that, on August 30, 2013, the Office issued an Office Action (the "Office Action" or "OA"). In the Office Action, claims 1-41 of the '923 patent are rejected under 35 U.S.C. § 102(b) as anticipated by certain of the references identified in the Office Action and/or under 35 U.S.C. § 103(a) as being obvious in view of certain of the references identified in the Office Action.

15. I have read and understand the '923 patent, its prosecution history, and the references cited in the '923 patent. I have read and understand the Request, the Order, the Office Action, and the references cited in the Office Action. I have also read and understand the comments filed by Bosch, the third party requester, on July 11, 2012, in the terminated *inter partes* reexamination (Control No. 95/001,912) of U.S. Patent No. 7,868,912 ("Bosch's comments").

16. I was asked to consider and address the following rejections of claims 1-41 of the '923 patent raised in the Office Action:

    (i) Claims 1-9, 13, 15-18, 20-30, 34, and 36-40 under 35 U.S.C. § 102(b) as anticipated by "Object Oriented Conceptual Modeling of Video Data," Day *et al.* ("Day-I");

    (ii) Claims 1-7, 9-13, and 15-28 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,969,755 to Courtney ("Courtney '755");

(iii) Claims 1-7, 9-13, and 15-28 under 35 U.S.C. § 102(b) as anticipated by "Object Tracking and Event Recognition in Biological Microscopy Videos," Shotton *et al.* ("Shotton");

(iv) Claims 14 and 35 under 35 U.S.C. § 103(a) as unpatentable over Day-I;

(v) Claims 10, 19, 31, and 41 under 35 U.S.C. § 103(a) as unpatentable over Day-I in view of U.S. Patent No. 6,628,835 to Brill *et al.* ("Brill");

(vi) Claims 11, 12, 32, and 33 under 35 U.S.C. § 103(a) as unpatentable over Day-I in view of "Spatio-Temporal Modeling of Video Data for On-Line Object Oriented Query Processing," Day *et al.* ("Day-II");

(vii) Claim 14 under 35 U.S.C. § 103(a) as unpatentable over Courtney '755;

(viii) Claim 14 under 35 U.S.C. § 103(a) as unpatentable over Shotton;

(ix) Claims 8 and 29-41 under 35 U.S.C. § 103(a) as unpatentable over Shotton in view of Brill; and

(x) Claims 1-41 under 35 U.S.C. § 103(a) as unpatentable over European Patent Application Publication No. EP 0967584A2 to Courtney ("Courtney '584") in view of Brill.

My opinions regarding the rejections are set forth below.

IV. Applicable Laws/Rule

A. Claim Interpretation

17. I understand that, during reexamination, the pending claims must be given their broadest reasonable interpretation consistent with the specification, and that the broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach.

B. Priority

18. I understand that claims of an application that is a continuation or continuation-in-part of an earlier U.S. application or international application which are fully supported under 35 U.S.C. § 112 by the earlier parent application have the effective filing date of that earlier parent application. A claim is adequately disclosed/fully supported under 35 U.S.C. § 112 by an earlier parent application if the earlier parent application satisfies the written description requirement. To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention.

C. Anticipation (35 U.S.C. § 102)

19.   To support a rejection based on 35 U.S.C. § 102, I understand that the Examiner bears the burden of showing that a single prior art reference discloses all of the elements of the claim, arranged in the same manner as required by the claim, either explicitly or inherently.

D. Obviousness (35 U.S.C. § 103)

20.   I also understand that a claim is not patentable if the differences between the subject matter of the claim and the disclosure of the prior art are such that the subject matter of the claim, as a whole, would have been obvious at the time of invention to a person having ordinary skill in the art to which the subject matter pertains.

21.   In determining obviousness, I understand that it is necessary to consider the scope and content of the prior art; the differences between the prior art and the claims at issue; the level of ordinary skill in the pertinent art; and any objective evidence of non-obviousness related to the alleged merits of the claimed invention (which I understand is referred to as "objective indicia of non-obviousness"), such as commercial success, long-felt but unsolved needs, industry recognition, failure of others, and copying.

22.   In determining obviousness based on a combination of prior art references, I also understand that evidence of some reason to combine the teachings is required to make the combination, and thus such evidence must be considered, along with any evidence that one or more of the references would have taught away from the claimed invention at the time of the invention.

23.   I have been informed that the hypothetical person of ordinary skill in the art is presumed to know all of the teachings known in the art at the time the alleged invention was made. That person is presumed to have the technical competence and experience of skilled artisans working in the area of the subject invention and of the manner in which problems were solved. Factors that may be considered in determining the level of ordinary skill in the art include the types of problems encountered in the art, prior art solutions to those problems, the rapidity with which innovations are made, the sophistication of the technology, and the educational level of active workers in the field.

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