

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FANDANGO MEDIA, LLC,
Petitioner,

v.

MAXELL, LTD.,
Patent Owner

Case: IPR2018-01432

U.S. Patent No. 9,384,783

DECLARATION OF STUART LIPOFF

Mail Stop Patent Board
Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

TABLE OF CONTENTS

	Page
I. INTRODUCTION	1
II. QUALIFICATIONS	1
III. MATERIALS CONSIDERED	5
IV. LEGAL STANDARDS FOR INVALIDITY	7
A. Person of Ordinary Skill in the Art	8
B. Obviousness.....	8
C. Claim Construction.....	10
V. BACKGROUND OF THE TECHNOLOGY	12
A. '783 Patent.....	12
B. Rebuttal to Dr. Bederson's Technology Background Section, Including Computers Pointers and Data Structures	15
C. Prosecution History of Related Applications to the '783 Patent	27
VI. ANALYSIS OF INSTITUTED GROUNDS.....	37
A. Ground 1: Claims 2, 5, and 6 as Obvious Over Kaplan.....	37
1. Kaplan's References to Pointers Cannot Be Read So Expansively to Disclose Element [2.9].....	38
2. Discussions of Pointers/Data Structures Similar to That in Kaplan Were Explicitly Disclosed in the Prior Art and Considered by the Examiner and the Specific Claim Limitations Were Still Allowed.	42
3. Dependent Claims 5 and 6 Are Not Obvious in View of Kaplan.	44
B. Ground 2: Claims 2, 5, and 6 as Obvious Over Bryant.	45
1. Bryant does not disclose elements [2.1]-[2.3].	45
2. Bryant does not disclose element [2.9].....	50
3. Petitioner cannot demonstrate the unpatentability of claims 5 and 6.	58

C. Ground 3: Claims 2, 5, and 6 as Obvious By Kaplan in view of
Bryant. 59

D. Ground 4: Claims 2, 5, and 6 as Obvious By Bryant in view of
Kaplan.....61

Patent No. 9,384,783
Declaration of Stuart Lipoff

iv732343019.4

I. INTRODUCTION

1. My name is Stuart Lipoff, and I have been retained by the law firm of Mayer Brown LLP on behalf of Maxell, Ltd. as an expert in the relevant art.

2. I have been asked to provide my expert opinions and views regarding the validity of U.S. Patent No. 9,384,783 (“the ’783 Patent”).

3. I am being compensated for my work associated with this proceeding at my normal consulting rate of \$375 per hour. My compensation is not based on either the content of my opinions or the outcome of this proceeding.

4. My opinions and underlying reasoning are set forth below.

II. QUALIFICATIONS

5. My qualifications to testify about the ’783 Patent and the relevant technology are set forth in my curriculum vitae (“CV”), which is attached as Appendix 1 to this declaration. My CV includes my educational background and work history. Please allow me to summarize my qualifications and professional background in the field of digital data management.

6. I have a Bachelor’s Degrees in Electrical Engineering and in Engineering Physics, both from Lehigh University. I also have a Masters Degree in Electrical Engineering from Northeastern University, and a MBA degree from Suffolk University.

7. I was employed 25 years by Arthur D Little, Inc (ADL) as VP and Director of Communications, Information Technology, and Electronics (CIE), where I was responsible for the firm's global CIE practice in laboratory based contract engineering, product development, and technology based consulting.

8. I was employed by Bell & Howell Communications Company for four years as a Section Manager.

9. I was employed by Motorola's Communications Division for three years as a Project Engineer.

10. At both Bell & Howell and Motorola, I had project design responsibility for wireless communications and paging products.

11. I have extensive experience over a 50 year period working on projects that relate to the subject matter of these the patent at issue here.

12. I have served as a broadcast engineer working for WLVT-TV channel 39 in Bethlehem, PA operating video production and transmission systems.

13. I have served as a consultant to individual cable TV operators and their trade associations in multiple projects over a 40 year period. My clients have included Comcast, Cox, Time Warner, Rogers of Canada, Cable Television Laboratories (CableLabs), and The National Cable Telecommunications Association (NCTA).

14. For the cable TV industry, I managed the Next Generation Network Architecture (NGNA) project that explored advanced technologies for delivery of rights managed and conditional access broadcast and streaming video that is the core of the subject matter of the patents of interest here.

15. For these same group of clients, I managed the project that developed the DOCSIS cablemodem standards that include features used to securely deliver internet protocol packets carrying streaming and video on demand content.

16. For the National Association of Broadcasters (NAB), I managed a project that explored new applications for the over-the-air broadcast transmission plant of commercial broadcasters to provide new revenue generation opportunities. This work included consideration of transmission of rights managed premium video content over digital transmission systems.

17. For Magnavox Cable TV, I developed a cable TV set-top box that included means for conditional access and rights management of premium movies and video content.

18. I am a registered professional engineer (by examination) in The Commonwealth of Massachusetts and the State of Nevada. I also hold a FCC General Radiotelephone License and a Certificate in Data Processing (CDP) from the ACM supported Institute for the Certification of Computing Professionals (ICCP).

19. I am a fellow of the IEEE Consumer Electronics, Communications, Computer, Circuits, and Vehicular Technology groups. I am also a member of the IEEE Consumer Electronics Society Board of Governors (i.e. board of directors), and was the Boston Chapter Chairman of the IEEE Vehicular Technology Society. I served as 1996-7 President of the IEEE Consumer Electronics Society and as Chairman of the Consumer Electronics Society Technical Activities and Standards Committee, VP of Publications, and I am currently VP of Industry Activities and Standards for The IEEE Consumer Electronics Society. I have also chaired the search committee for Sony supported Mazura Ibuka Award in consumer electronics.

20. As Vice President and Standards Group Chairman of the Association of Computer Users, I served as the ACU representative to The ANSI X3 Standards group. For the Federal Communications Commission's Citizens advisory committee on CB radio (PURAC), I served as Chairman of the task group on user rule compliance. I have also been elected to membership in the Society of Cable Television Engineers (SCTE), The Association of Computing Machinery (ACM) , and The Society of Motion Picture and Television Engineers (SMPTE).

21. I am listed an inventor/co-inventor on eight U.S. patents:

Patent Number	Title	Field
8,590,940	Ubiquitous imaging device based check image capture	Image Processing in Financial Industries
RE44,274	Ubiquitous imaging device based check image capture	Image Processing in Financial Industries
8,200,291	Vehicle safety device for reducing driver distractions	Inhibiting Use of Cellphones by the Driver of an Automobile
7,950,698	Ubiquitous imaging device based check image capture	Image Processing in Financial Industries
7,003,495	Portable electronic authorization system and method	Electronic Wallet for use by Consumer
5,692,093	Method and apparatus for eliminating television commercial messages	Automatically Removing Commercial Advertising from Recorded Video
5,455,630	Method and apparatus for inserting digital data in a blanking interval of an RF modulated video signal	Automatically Removing Commercial Advertising from Recorded Video
4,529,941	FSK Demodulator utilizing multiple-phase reference frequencies	Low Cost Support of Consumer Videotex Terminal

III. MATERIALS CONSIDERED

22. My opinions are based on my experience in this field, and are necessarily formed by my own experiences, materials I have read over the years, and discussions I have had with colleagues during my career. In addition, I have reviewed and considered the following materials in forming my opinion:

- a. The '783 Patent
- b. The prosecution history of the '783 Patent
- c. The prosecution histories of U.S. Patent Nos. 7,613,383 (Ex. 2003,

“the ’383 Patent”) and 8,644,684 (Ex. 2004, “the ’684 Patent”)

- d. Claim Construction Order in *Maxell, Ltd. v. Fandango Media, LLC*, No. CV 17-07534-AG-SSx (C.D. Cal. Sept. 11, 2018) (Dkt. 98) (Ex. 2001).
- e. Fandango Media, LLC’s Petition for *Inter Partes* Review of U.S. Patent No. 9,384,783 and exhibits (1001-1026) filed therewith, including the Declaration of Benjamin B. Bederson, Ph.D. (dated July 20, 2018) (IPR Ex. 1003) and material referenced therein.
- f. The deposition transcript of Dr. Bederson (dated April 15, 2019) (Ex. 2005).
- g. Patent Owner’s Preliminary Response and exhibits filed therewith.
- h. The Patent Trial and Appeal Board’s Decision to Institute the IPR (dated February 13, 2019) (“the Institution Decision”).

23. The materials that I have reviewed and relied upon in formulating the opinions presented in this declaration are referenced herein and/or of record in this proceeding. I have relied on all of these materials, as well as on my education, experience, and knowledge of engineering practices and principles in the field of the ’783 patent and my understanding of the applicable legal principles described in my declaration below. I reserve the right to supplement and/or amend any of my

opinions in this declaration based on any documents, testimony, and/or other information that becomes available to me after the date of this declaration.

IV. LEGAL STANDARDS FOR INVALIDITY

24. I am not a lawyer. However, the legal principles used to determine invalidity have been explained to me.

25. I understand that for an invention claimed in a patent to be found patentable, it must be, among other things, new and not obvious in light of what came before it. Patents and publications which predated the invention are generally referred to as “prior art.”

26. I understand that in this proceeding the burden is on the party asserting unpatentability to prove it by a preponderance of the evidence. I understand that “a preponderance of the evidence” is evidence sufficient to show that a fact is more likely than not.

27. I understand that in this proceeding, the claims must be given their broadest reasonable interpretation consistent with the specification. The claims after being construed in this manner are then to be compared to information that was disclosed in the prior art.

A. Person of Ordinary Skill in the Art

28. I have been informed that the claims of a patent are judged from the perspective of a hypothetical construct involving “a person of ordinary skill in the art.” The “art” is the field of technology to which the patent is related. I understand that the purpose of using a person of ordinary skill in the art’s viewpoint is objectivity. Thus, I understand that the question of validity is viewed from the perspective of a person of ordinary skill in the art (POSITA), and not from the perspective of (a) the inventor, (b) a layperson, or (c) a person of extraordinary skill in the art. I have been informed that the claims of the patent-at-issue are interpreted as a person of ordinary skill in the art would have understood them in the relevant time period (*i.e.*, when the patent application was filed or earliest effective filing date).

29. In the Institution Decision, the Board stated that a person of ordinary skill in the art “would have a bachelor’s degree in Computer Science, Electrical Engineering, Computer Engineering, or a related field, and two years practical experience in digital data management.” Institution Decision at 8.

B. Obviousness

30. I understand that a claim can be invalid in view of prior art if the differences between the subject matter claimed and the prior art are such that the

claimed 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.

31. I understand that the obviousness standard is defined at 35 U.S.C. § 103(a). I understand that a claim is obvious over a prior art reference if that reference, combined with the knowledge of one skilled in the art or other prior art references discloses each and every element of the recited claim.

32. I also understand that the relevant inquiry into obviousness requires consideration of four factors:

- a. The scope and content of the prior art;
- b. The differences between the prior art and the claims at issue;
- c. The knowledge of a person of ordinary skill in the pertinent art; and
- d. Objective factors indicating obviousness or non-obviousness may be present in any particular case, such factors including commercial success of products covered by the patent claims; a long-felt need for the invention; failed attempts by others to make the invention; copying of the invention by others in the field; unexpected results achieved by the invention; praise of the invention by the infringer or others in the field; the taking of licenses under the patent by others; expressions of surprise by experts and those skilled in the art at the

making of the invention; and that the patentee proceeded contrary to the accepted wisdom of the prior art.

33. I understand that when combining two or more references, one should consider whether a teaching, suggestion, or motivation to combine the references exists so as to avoid impermissible hindsight. I have been informed that the application of the teaching, suggestion or motivation test should not be rigidly applied, but rather is an expansive and flexible test. For example, I have been informed that the common sense of a person of ordinary skill in the art can serve as motivation for combining references.

34. I also understand that a finding of obviousness also requires a reasonable expectation of success in combining teachings in the art to achieve the claimed inventions, and that these teachings may come from a single reference.

C. Claim Construction

35. I have been informed that a claim subject to *Inter Partes* Review is given its “broadest reasonable construction in light of the specification of the patent in which it appears.” I have been informed that this means that the words of the claim are given their plain meaning from the perspective of one of ordinary skill in the art unless that meaning is inconsistent with the specification. I understand that the “plain meaning” of a term means the ordinary and customary meaning given to the term by those of ordinary skill in the art at the time of the

invention and that the ordinary and customary meaning of a term may be evidenced by a variety of sources, including the words of the claims, the specification, drawings, and prior art.

36. I understand that in construing claims “[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art.” (MPEP § 2143.03, citing *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970)).

37. I understand that extrinsic evidence may be consulted for the meaning of a claim term as long as it is not used to contradict claim meaning that is unambiguous in light of the intrinsic evidence. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1324 (Fed. Cir. 2005) (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583-84 (Fed. Cir. 1996)).

38. I also understand that in construing claim terms, the general meanings gleaned from reference sources must always be compared against the use of the terms in context, and the intrinsic record must always be consulted to identify which of the different possible dictionary meanings is most consistent with the use of the words by the inventor. *See, e.g., Ferguson Beauregard/Logic Controls v. Mega Systems*, 350 F.3d 1327, 1338 (Fed. Cir. 2003) (citing *Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1300 (Fed. Cir. 2003)).

39. I understand that the Board determined that “no terms require explicit construction.” Institution Decision at 9.

40. Accordingly, I have applied the above analysis in formulating my opinions as to the validity of the challenged claims.

V. BACKGROUND OF THE TECHNOLOGY

A. '783 Patent

41. At the time of invention, content systems allowed users to group media into “playlists,” but those playlists were not optimized for multiple users. *See* Ex. 1001 at 2:13-46. Different members of the same household, for instance, could not customize their views with select playlists and programs.

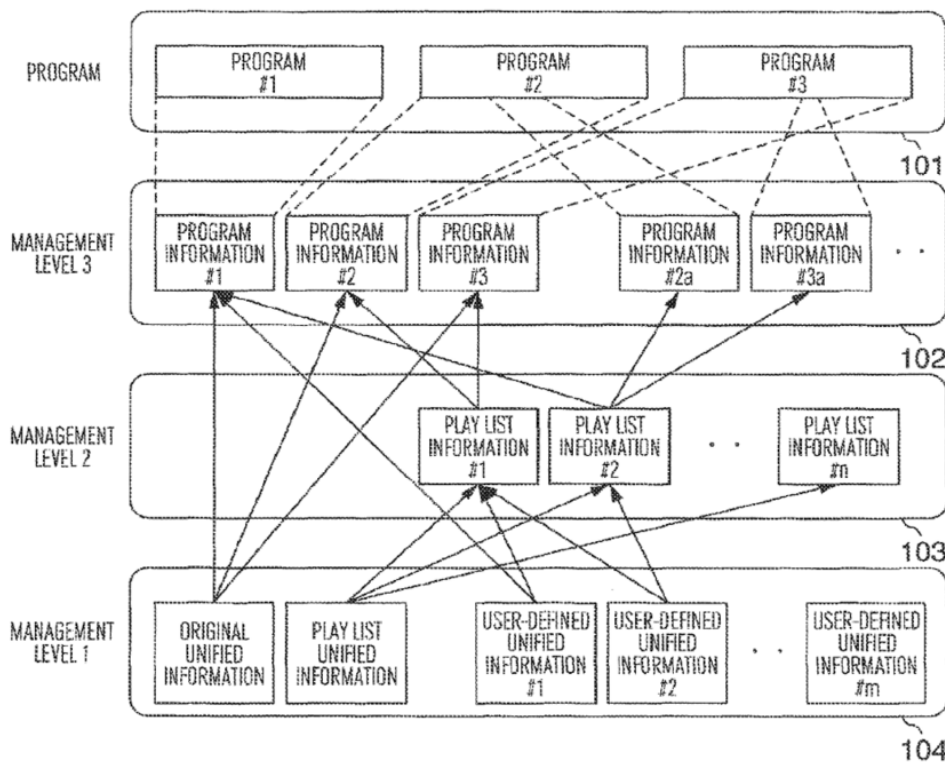
42. The '783 Patent is entitled “Editing Method and Recording and Reproducing Device,” and claims priority to multiple Japanese applications, the earliest of which was filed on December 2, 2004. The '783 Patent issued on July 5, 2016.

43. The '783 Patent describes a novel device and method to manage data recorded on a device that solved the problems in the prior art. *See, e.g., id.* at 1:22-24. The inventors of the '783 Patent solved the aforementioned problems by developing hierarchy of organizational layers, with a user-specific layer at the top.. *See, e.g., id.* at 2:32-61, 6:19-33, Fig. 1.

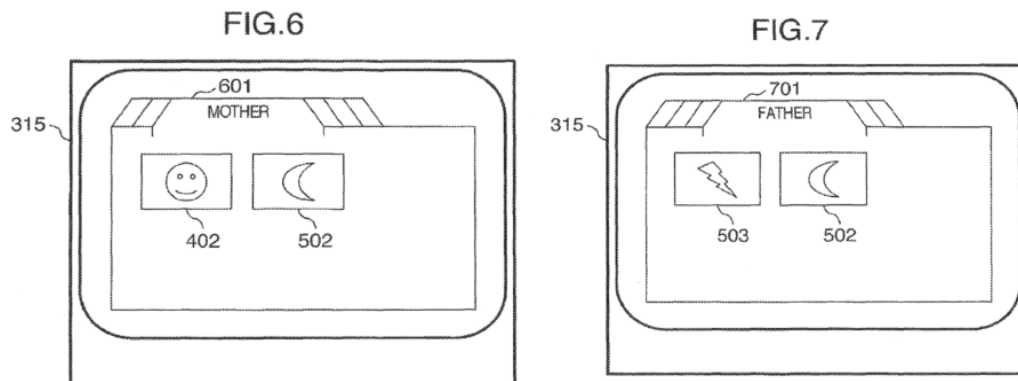
44. In one embodiment, the user-specific layer is illustrated in Figure 1 as Management Level 1 (104). It includes user-specific entries (“user-defined

information”) with pointers to playlists in Management Level 2 and/or single programs in Management Level 3, which were selected by the user:

FIG.1



45. Through this multi-layered approach, the inventors enable the type of customized, independent views illustrated in Figures 6 and 7. Figure 6 shows an example of a tab containing the “user-defined information” for a user named “mother,” while Figure 7 shows the same for a different user named “father.”



46. Both views share playlist 502, and with the layering solution shown in Figure 4, either user can remove the playlist from his or her view without affecting the other user's view.

47. Claim 2 recites a method of displaying the user interface shown in the examples in Figures 6 and 7. The interface includes a “first area” that displays a “first indication associated with a first group of video information” and a “second indication associated with a second group of video information” (*e.g.*, tabs 601 and 701 of Figures 6 and 7, respectively). Ex. 1001 at 8:66-9:4. The interface also includes a “second area” that displays thumbnails of these groups of information whenever the corresponding indication is selected. *Id.* at 9:5-7. Finally, the claim makes clear that the two groups are independent: “if one video information ... included in both the first group ...and the second group ... is deleted from the first group ... [it] continue[s] to be included in the second group.” *Id.* at 9:16- 20.

48. Using this approach, multiple users, for example, can use playlists that contain some of the same videos stored on a data storage medium without interfering with each other, and each user can use multiple overlapping playlists. Thus, the system provides a greatly enhanced user experience for accessing media files stored on the content system.

**B. Rebuttal to Dr. Bederson's Technology Background Section,
Including Computers Pointers and Data Structures**

49. It is my understanding that the Board relied on Dr. Bederson's opinions to conclude, in the Institution Decision, that prior art disclosed element [2.9]. *See* Institution Decision at 15-19, 27-28. It is my understanding that Dr. Bederson based his understanding of the prior arts' teaching of element [2.9] on his understanding of the technical background of computer pointers and data structure. *See* Ex. 1003, ¶¶131 and 172 (citing Section VI (Technology Background)). Within Section VI, subpart C titled "Computer Pointers and Data Structures" is particularly relevant to my opinion herein.

50. The Board also cited to the technical background section related to pointers as evidence that the prior art disclosed element [2.9]. *See* Institution Decision at 17-18 (citing to Ex. 1003, ¶¶40-43) and 28 (citing to pages 68-69 of the Petition, which cites to Ex. 1003, ¶172).

51. As an overall point, Dr. Bederson preliminary statement about the data management techniques in the '783 Patent is nothing more than the common tactic to minimize the inventive concept of the challenged claims. Dr. Bederson mixes the concepts of menus and thumbnails and imports of the concept of pointers into the '783 Patent. However, "pointer" or its equivalent, never appears in the '783 Patent.

52. In subsequent paragraphs, Dr. Bederson opines, for example, that "[b]y 2004, computers had long included mechanisms for organizing and navigating data, such as multimedia files. By way of example, Windows 95 supported the ability to create "shortcuts " to files." See Ex. 1003, ¶38. However, the '783 Patent never mentions or suggests Windows 95 shortcut conventions and I do not agree with Dr. Bederson that such discussion is even relevant. In fact, Dr. Bederson notes that "[a] shortcut can be deleted without affecting the object to which it points." *Id.* (citing Ex.1010, p. 38 (IPR Page 33)). By so noting, Dr. Bederson suggests that deleting a shortcut cannot be a suitable mechanism for deleting a file containing video information which claim 2 requires in the delete ability as claim 2 recites: "...is deleted from the first group of video information..."

53. Dr. Bederson then opines that the Furnas/Zacks paper (Ex. 1011) about multitree pointers, read in conjunction with the Windows 95 disclosures (e.g., Ex. 1010, 1019), provides support that his cited references read on the limitation of the challenged claims of the '783 Patent. See Ex. 1003, ¶¶40-43. I disagree.

54. Element [2.9] of the '783 Patent speaks only about deleting information from a first group of video information such that the video information continues to be included in the second group. The '783 Patent does not limit the actual mechanism by which the information is organized or suggests that the deleting is implemented by the use of pointers.

55. The language of the '783 Patent, claim 2 uses the term "deleted" with respect to video information but does not mention the concept of deleting pointers such in the Kaplan reference or the use of flags such as in the Bryant reference.

56. For the reasons I opine upon in the following paragraphs, I do not agree with Dr. Bederson opinion's about pointers being a suitable mechanism that can be read on the limitations of the challenged claim of the '783 Patent. In fact, I do not believe that the '783 Patent discloses any basis for considering a pointer related references.

57. In summary, I believe a POSITA would not understand the '783 Patent disclosure to invoke pointers as the mechanism employed delete video

information and, therefore, the entirety of Dr. Bederson's opinions on pointer related prior art is not relevant.

58. More particularly as to Section VI(C), it is my opinion that Dr. Bederson's explanation of computer pointers and data structures is too simplistic and does not take into account a POSITA's full understanding of pointers and their uses. From this, it is my opinion that Dr. Bederson then incorrectly takes too far of a logical leap in claiming that generic references and/or some disclosure related to pointers, explicitly or implicitly, in the prior art must then disclose the very specific and narrow element [2.9] (*see infra*) that was added to place the claim in position for allowance during prosecution. *See* Ex. 1003 at 40-41.

59. In paragraphs 40-43 of his declaration (Ex. 1003), Dr. Bederson lists four references related to his general pointer and data structure discussion:

- a. Ex. 1010, Introducing Microsoft Windows 95 book by Brent Ethington.¹
- b. Ex. 1011, Multitrees: Enriching and Reusing Hierarchical Structure article by Furnas and Zacks.
- c. Ex. 1019, Microsoft Computer Dictionary, 4th Edition (including only page 8 containing a definition of "pointer" (*n.* 1. In programming and

¹ Petitioner appears to have provided the full book in Ex. 1026, parts 1-6.

information processing, a variable that contains the memory location (address) of some data rather than the data itself. *See also* address¹ (definition 1), handle (definition 1), reference• 2. *See* mouse pointer.”)

- d. Ex. 1020, C++ Program Design – An Introduction to Programming and Object-Oriented Design, 3rd Edition book by Cohoon & Davidson.²

60. However, nowhere in this discussion does Dr. Bederson cite to or discuss where the references specifically disclose element [2.9] in the '783 Patent—i.e., deleting recorded information in one location while keeping the information in another location. *See* Ex. 1003, ¶¶40-43.

61. Regarding Ex. 1010, the Windows 95 book, Dr. Bederson relies on it for the general graphical user interface (GUI) and folder shortcut discussions. *See* Ex. 1003, ¶¶34-35, 37-40 (citing Ex. 1010, IPR pp. 24-25, 29, 31-34). However, Dr. Bederson's reasons to consider the Windows 95 operating system as relevant to the understanding of the claimed limitations of the '783 Patent are unpersuasive. Particularly, Dr. Bederson identifies file shortcut features in Windows 95 and suggests that this shortcut feature reveals data management pointer functionality that a POSITA would immediately understand as well-known means to support the

² Petitioner appears to have provided the full book in Ex. 1024, parts 1-4.

inventive aspects of the '783 Patent. *See id.* However, shortcuts relate to a one to one mapping between a shortcut pointer and the underlying file to which the shortcuts points. *See* Ex. 1010, IPR pp. 32-33. However, the '783 Patent relates to the convenience aspects of data management of multimedia items in groups and not about one to one mapping between a pointer and the file target of the pointer. As such, the Windows 95 reference (Ex. 1010) does not have relevance to the '783 Patent disclosure or claimed subject matter, or to either the Kaplan or Bryant prior art references.

62. Regarding Ex. 1011, the Furnas/Zacks multitree publication, Dr. Bederson suggests that this "multitree" disclosure also demonstrates that the limitations of the '783 claims are not inventive. *See* Ex. 1003, ¶¶42-43. Since the multitree concept is a very different idea than the Windows 95 shortcuts in his first reference (Ex. 1010), I disagree with Dr. Bederson's opinions that such differing concepts can both provide relevant background on the same inventive aspects of the challenged claims of the '783 Patent, particularly element [2.9]. In any event, the very first sentence of Ex. 1011 reads: "This paper introduces multitrees, a new type of structure for representing information. Multitrees are a class of directedacyclic graphs (DAGs) with the unusual property that they have large easily identifiable substructures that are trees." Ex. 1011, IPR p. 4. Putting aside the alleged relevancy of pointers generally in the context of a POSITA reviewing

the '783 Patent, the multitree approach is different than the common understanding and usage of pointers. *See infra*. Thus, the Furnas/Zacks publication (Ex. 1011) does not have relevance to the '783 Patent disclosure or claimed subject matter, or to either the Kaplan or Bryant prior art references.

63. Regarding Ex. 1019, the Microsoft Computer Dictionary, the reference contains this definition: "pointer n. 1. In programming and information processing, a variable that contains the memory location (address) of some data rather than the data itself." Ex. 1019, IPR p. 8. However, this disclosure does nothing more than define a pointer, which for reasons discussed herein, a definition of a pointer is not relevant to consideration of the inventive aspects of the '783 Patent. Pointers are not explicitly mentioned in the '783 Patent and there is no indication or suggestion in the '783 Patent that pointers are required to manage the video information data in the challenged claims of the '783 Patent.

64. Regarding Ex. 1020 (produced in full as Ex. 1024, parts 1-4), the C++ Program Design book, Dr. Bederson only cites it one time in his declaration (¶40) and the reference is not explicitly cited to at all in the Petition. Dr. Bederson's citation to page 616 of Ex. 1020, which is the second page of Chapter 11 titled "Pointers and dynamic memory," appears to be for the general definition, that "[a] pointer is an object whose value represents the location of another object." Ex. 1020, page 30. The remainder of Ex. 1020 provides additional background on the

pointer concept than Ex. 1019, the Microsoft Computer Dictionary discussed above. Further, Ex. 1024, which provides a complete version of Chapter 11, highlights that a programmer must be careful when deleting the underlying data, otherwise, the user will be left with dangling pointers. *See* Ex. 1024, pp. 645-650. In other words, Dr. Bederson's own reference discusses the deletion of information with respect to the underlying data, not deletion of the pointer. Accordingly, despite the additional detail regarding pointers in Ex. 1020, for the same reasons as I discuss above, I do not believe Dr. Bederson has made a persuasive case for the relevance of pointers as disclosing the inventive aspects of the challenged claims of the '783 Patent.

65. Moreover, based on my decades of experience in the industry, pointers are not solely or even typically used in the manner that Dr. Bederson assigns. Rather, pointers are commonly understood by a POSITA to be used in the organization/building of database with records and indexes for other cross-references, and usually keywords are associated with an index (e.g., name, address, badge number, employee number, etc.). For example, if a user wanted to search in a database for an employee number, the user would type in the number and it would point to an underlying record of "Bob Smith." Rather than deletion of the pointer alone, it is my opinion as a POSITA that a far more common occurrence

would involve a user deleting either the underlying record alone or the underlying record and the pointer in database structures.

66. Such common use of indexes and deletion of the underlying records used in conjunction with a pointer is illustratively shown in the following exemplary patents:

- a. U.S. Patent No. 3,670,310 titled “Method for Information Storage and Retrieval”. *See, e.g.*, Ex. 2006, 11:32-53.
- b. U.S. Patent No. 5,893,120 titled “Methods and Apparatus for Information storage and Retrieval Using a Hashing Technique With External Chaining and On-the-Fly Removal of Expired Data”. *See, e.g.*, Ex. 2007, 1:60-64, 5:30-33.
- c. U.S. Patent No. 6,009,425 titled “System and Methods for Performing Record Deletions Using Index Scans”. *See, e.g.*, Ex. 2008, col. 2:28-3:44

67. For example, both the ’120 and ’425 Patents relate to topic of “digital data management,” which is the relevant art pursuant to the POSITA definition adopted by the Board. *See* Institution Decision at 8. Both references disclose data management by the use of indices which use pointers to manage the retrieval and deleting of information.

- a. E.g., the ’120 Patent:

- i. “More particularly, each insertion, retrieval, or deletion of a record is an occasion to Search an entire linked-list chain of records for expired items and then remove them” Ex. 2007, Abstract.
 - ii. “Another method for resolving collisions is called ‘external chaining.’ In this technique, each hash table location is a pointer to the head of a linked list of records, all of whose keys translate under the hashing function to that very hash table address. The linked list is itself searched sequentially when retrieving, inserting, or deleting a record. Insertion and deletion are done by adjusting pointers in the linked list.” *Id.* at 1:59-64.
- b. E.g., the ’425 Patent:
- i. “An index file is commonly used by database management programs to provide quick and efficient access to records in tables of the database, which are said to be indexed by the index file. . . . The information contained in these nodes includes pointers to the nodes at the next level, or pointers to the records in the database.” Ex. 2008, 2:27-40.
 - ii. “The conventional approach to execution of such a statement would include traversing the index tree structure to find a

record to which the command applies. When the appropriate index key is found, the corresponding record, following appropriate index and record locking is deleted. The index key corresponding to the deleted record is also then deleted.” *Id.* at 3:24-30.

68. A POSITA would be familiar with the generic concepts disclosed in both of these references and would regard the disclosures of these references as a mainstream understanding of data management techniques used for deleting of information, rather than the corner case “multitree” disclosure in the Furnas/Zacks publication (Ex. 1011). *See* Ex. 1003, ¶42-43.

69. Upon reading the ’783 Patent, a POSITA thinking about data management would first consider the ’783 Patent claims in the light of the mainstream teachings in the ’120 and ’425 Patents. Moreover, Dr. Bederson’s appears to blur Windows 95’s functionality with the multitree data management system in Furnas/Zacks. *See* Ex. 1003, ¶42. In fact, Windows 95 employs the mainstream data management techniques disclosed in the ’120 and ’425 Patents where the deleting of an index that points to underlying information becomes marked to be deleted by the computer’s operating system and does not read on element [2.9].

70. Indeed, the C++ book (Ex. 1020 , fully produced as Ex. 1024), which Dr. Bederson relied on in Section VI of his declaration, appears to warn against deleting pointers in the context of dynamic objects, which could result in dangling pointers (i.e., to invalid memory locations). See Ex. 1024, pp. 645-650.

71. Thus, in contrast to what Dr. Bederson stated, a POSITA would know that it is more common and conventional to delete the underlying record by either deleting the record or the pointer. In other words, what Dr. Bederson claims is a common understanding regarding pointers among POSITA is not the case.

72. Dr. Bederson's implied opinion is that a POSITA would not appreciate the inventive aspect of the '783 Patent's claims because such a POSITA would immediately regard the invention of the '783 Patent as invalidated by allegedly well-known multitree prior art (e.g., Furnas/Zacks, Ex. 1011). I do not agree with Dr. Bederson's implied opinion and suggest instead that the well-known data management techniques disclosed in the '120 and '425 Patents would teach that deleting a pointer or index would delete the underlying information. Therefore the '783 disclosure of not deleting underlying information (i.e., element [2.9]) is in fact an inventive concept that falls outside of the well-known mainstream data management concepts in the '120 and '425 Patents.

73. Accordingly, it is my opinion that Dr. Bederson's expansive view of pointers and drawing an equivalence from a generic discussion/knowledge of pointers to the specific element [2.9] is incorrect and unsupported.

C. Prosecution History of Related Applications to the '783 Patent

74. It is my understanding that the prosecution history of related patents is relevant.

75. Here, the '783 Patent has two patents that it claims priority to and shares a common specification with: U.S. Patent Nos. 7,613,383 (Ex. 2003, "the '383 Patent") and 8,644,684 (Ex. 2004, "the '684 Patent").

76. The '383 Patent lists the following references that were cited during prosecution:

(56)

References Cited

U.S. PATENT DOCUMENTS

6,181,870 B1 * 1/2001 Okada et al. 386/95
2003/0063897 A1 4/2003 Heo

FOREIGN PATENT DOCUMENTS

CN	1243596 A	2/2000
JP	11-32301 A	2/1999
JP	2000-152180	5/2000
JP	2002-150503 A	5/2002
JP	2003-36652 A	2/2003
JP	2003-100055 A	4/2003
JP	2004-192779 A	7/2004

OTHER PUBLICATIONS

Japan Patent Office (JPO) office action for JPO patent application
JP2004-349264 (Aug. 6, 2008).

China Intellectual Property Office (SIPO) office action for SIPO
patent application CN2005-100935522 (May 26, 2008).

Japan Patent Office (JPO) office action for JPO patent application
JP2008-268104 (Jun. 12, 2009).

* cited by examiner

Ex. 2003, cover page.

77. The '684 Patent lists the following references that were cited during
prosecution:

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,181,870 B1 * 1/2001 Okada et al. 386/241
6,470,140 B1 * 10/2002 Sugimoto et al. 386/248

(Continued)

FOREIGN PATENT DOCUMENTS

JP 11-32301 A 2/1999
JP 2002-150503 A 5/2002

(Continued)

OTHER PUBLICATIONS

*Toshiba HDD & DVD Video Recorder Instruction Manual RD-X5
Operating Instructions*, Toshiba Corporation, pp. 148-159 (2004).

(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,480,669 B1 * 11/2002 Tsumagari et al. 386/248
7,257,774 B2 * 8/2007 Denoue et al. 715/719
2003/0063897 A1 4/2003 Heo
2007/0022382 A1 * 1/2007 Honkaniemi 715/733

FOREIGN PATENT DOCUMENTS

JP 2002-197806 A 7/2002

JP 2003-36652 A 2/2003
JP 2003-100055 A 4/2003
JP 2003-123389 A 4/2003
JP 2004-192779 A 7/2004

OTHER PUBLICATIONS

Office action for Japan Patent Office patent application JP2008-31843 (Dec. 21, 2010).

* cited by examiner

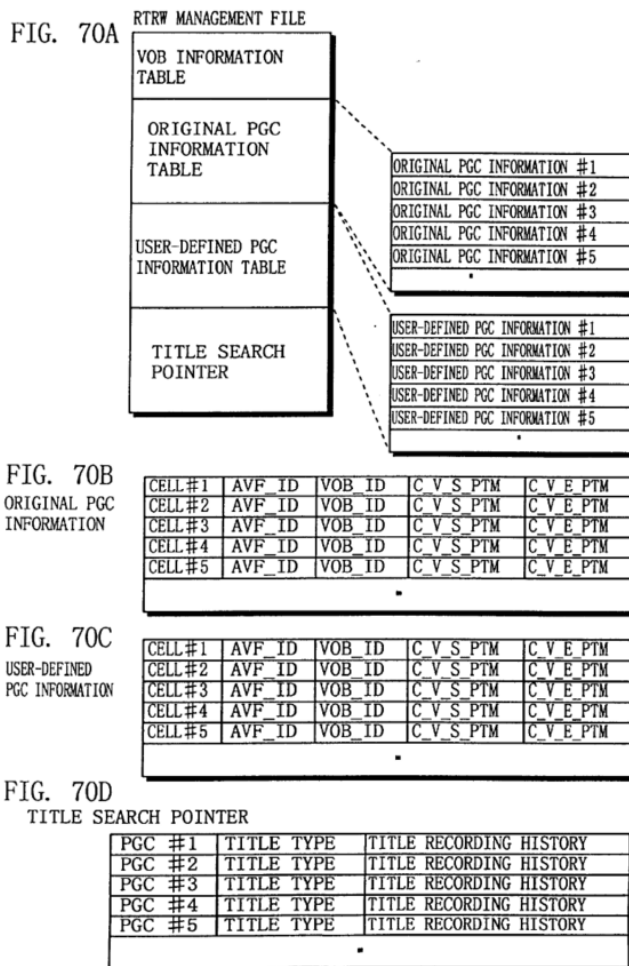
Ex. 2004, cover page.

78. Upon reviewing certain of these references, it is clear that the patent examiner—the same one, Daquan Zhou, throughout the prosecution of all of the patents in the family, including the '783 Patent—reviewed prior art references relating to pointers, yet still allowed the challenged claims of the '783 Patent.

79. Indeed, my opinions in Section V(B) relating to Dr. Bederson's Technical Background section are equally applicable here. Similar to my opinions regarding the '783 Patent falling outside of the well-known mainstream data management concepts, the examiner's consideration and rejection of references relating to pointers further illustrates the inventive concept of the challenged claims of the '783 Patent.

80. For example, the examiner cited U.S. Patent No. 6,181,870 (Ex. 2009, "Okada") in the prosecution of both the '383 and '684 Patents—Okada appears on the face of both patents (*see supra*). Okada discloses the use of thumbnails and pointer information related to the thumbnails, for example:

- a. "FIG. 70D shows the logical format of the title search pointer;" Ex. 2009, 10:9-10; Fig. 70A-D:



- b. “Reduced images (known as “thumbnails”) may also be generated for each mark point and stored as separate files, with pointer information also being produced for each thumbnail. When displaying the cell information at the pre-editing stage, these thumbnails may be displayed to show the potential selections that can be made by the user.” *Id.* at 76:46-51.

c. “From the logical format of VOBs shown in FIG. 70A, the RTRW management file can be seen to include an original PGC information table, a user-defined PGC information table, and a title search pointer, in addition to the VOB information of the first embodiment.” *Id.* at 77:24-28.

d. *See also id.* at 82:31-54 (description of title search pointer).

81. Based on my review of the prosecution history of the '783 Patent, the examiner fully considered Okada during prosecution, including it in the examiner's search history:

EAST Search History

EAST Search History (Prior Art)

L5	7	("20030063897" "20070022382" "6181870" "6470140" "6480669" "7257774");FN,OR	US-PGPUB; OR USPAT; USOCR	OFF	2015/10/04 10:36
----	---	---	---------------------------------	-----	---------------------

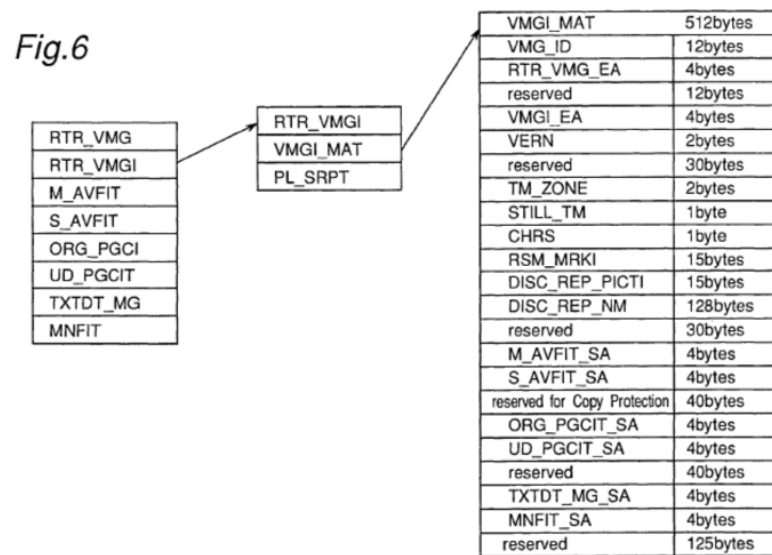
See Ex. 1002, Part 5, at IPR p. 180.

82. The examiner also cited U.S. Patent No. 6,470,140 (Ex. 2010, “Sugimoto”) during prosecution of the '684 Patent. *See* Ex. 2004, cover page. Sugimoto discloses the use of thumbnails and pointer information related to the thumbnails, for example:

a. “RTR_VMGI (FIG. 6) Real-time recording video management information RTR_VMGI includes video management information

table VMGI_MAT and play list search pointer table PL_SRPT.” Ex.
2010, 11:37-40.

b. Fig. 6:



- c. “PL_SRPT (play list search pointer table) (FIG. 8) The play list search pointer table PL_SRPT records play list search pointer table information PL_SRPTI and n play list search pointers PL_SRP. PL_SRPTI (play list search pointer table information) (FIG. 8) The play list search pointer table information PL_SRPTI records the following information for accessing a play list search pointer PL_SRP. PL_SRP_Ns (number of play list search pointers) Stores the number

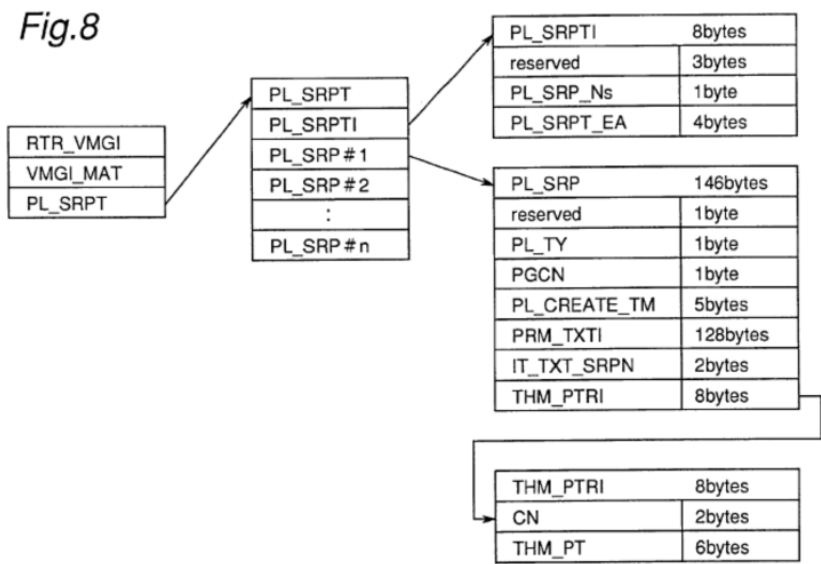
of play list search pointers PL_SRP.

PL_SRPT_EA (PL_SRPT end address) Stores the end address of this
play list search pointer table PL_SRPT.

PL_SRP (play list search pointer) (FIG. 8) Records the following
information for accessing the actual play list data, that is, the user-
defined PGC.

PL_TY (play list type).” *Id.* at 12:41-57.

d. Fig. 8:



e. “THM_PTRI (thumbnail pointer information) Stores thumbnail image
information for the play list.” *Id.* at 13:15-16.

83. Based on my review of the prosecution history of the '783 Patent, the examiner fully considered Sugimoto during prosecution, including it in the examiner's search history:

EAST Search History

EAST Search History (Prior Art)

L5	7	"2003006389"	"20070022382"	"6181870"	US-PGPUB;	OR	OFF	2015/10/04
		"6470140"	"6480669"	"7257774").PN. OR	USPAT;			10:36
		("6444634 ").JRPV.			USOCR			

See Ex. 1002, Part 5, at IPR p. 180.

84. The examiner also cited U.S. Patent No. 6,480,669 (Ex. 2011, "Tsumageri") during prosecution of the '684 Patent. See Ex. 2004, cover page. Tsumageri discloses the use of thumbnails and pointer information related to the thumbnails, for example:

- a. "FIG. 6 is a view for explaining the data structure of a navigation data file (RTR_VMG) shown in FIG. 5;

FIG. 7 is a view for explaining the contents of a video manager information table (VMGI_MAT) shown in FIG. 6;

FIG. 8 is a view for explaining the data structure of a play list search pointer table (PL_SRPT) shown in FIG. 6;

FIG. 9 is a view for explaining the contents of play list search pointer table information (PL_SRPTI) shown in FIG. 8;

FIG. 10 is a view for explaining the contents of a play list search pointer (PL_SRP) shown in FIG. 8;

FIG. 11 is a view for explaining the contents of thumbnail pointer information (THM_PTRI) shown in FIG. 10;" Ex. 2011, 3:19-34 (and accompanying text regarding Figs. 8-11 in the specification).

85. Based on my review of the prosecution history of the '783 Patent, the examiner fully considered Tsumageri during prosecution, including it in the examiner's search history:

EAST Search History							
EAST Search History (Prior Art)							
L5	7	("2003006389" "2007002382" "6181870" "6470140" "6480669" "7257774").PN. OR ("8644634").OFFN.			US-PGPUB; USPAT; USOCR	OR OFF	2015/10/04 10:36

See Ex. 1002, Part 5, at IPR p. 180.

86. Accordingly, it is my opinion that the examiner was fully aware of the use of pointers and data structures as described by Dr. Bederson in Section VI of his declaration—i.e., the knowledge of a POSITA regarding pointers—yet still allowed the challenged claims. Specifically, the examiner allowed challenged independent claim 2—which comprises element [2.9] (“wherein, even if one video information recorded on the recording medium included in both the first group of video information and the second group of video information is deleted from the

first group of video information, the one video information continue to be included in the second group of video information”)—with knowledge of pointers as described by Dr. Bederson in Section VI of his declaration.

VI. ANALYSIS OF INSTITUTED GROUNDS

87. I understand that the Board instituted review on the following four grounds:

Ground	'783 Patent Claim(s)	Type of Challenge	Primary Reference	Secondary Reference(s)
1	2, 5, 6	§ 103	U.S. Patent Application Publication No. 2001/0056434 (“Kaplan”)	N/A
2	2, 5, 6	§ 103	U.S. Patent Application Publication No. 2004/0201691 (“Bryant”)	N/A
3	2, 5, 6	§ 103	Kaplan	Bryant
4	2, 5, 6	§ 103	Bryant	Kaplan

A. Ground 1: Claims 2, 5, and 6 as Obvious Over Kaplan.

88. Based on my review of Kaplan in view of the challenged claims and '783 Patent specification, the record to date, as well as my background and

knowledge as a person of ordinary skill in the art, claims 2, 5, and 6 of the '783 Patent are not obvious over Kaplan in view of the knowledge of POSITA.

89. Specifically, the Kaplan does not disclose element [2.9]: “wherein, even if one video information recorded on the recording medium included in both the first group of video information and the second group of video information is deleted from the first group of video information, the one video information continue to be included in the second group of video information.” I additionally note that opinions I set forth below apply with equal effect to the corresponding limitations of dependent challenged claims 5 and 6.

1. Kaplan’s References to Pointers Cannot Be Read So
Expansively to Disclose Element [2.9]

90. Petitioner contends Kaplan meets element 2.9 through its use of an indexed database file and pointer. *See* Petition at 42 (citing ¶ [0044] and claim 20); *see also* Ex. 1003, ¶¶129-131.

91. However, Kaplan does not disclose, explicitly or inherently, the language of element [2.9]—deleting video information in one group while it remains in another group. In other words, the Petitioner does not show where Kaplan discloses the “even if one video information recorded on the recording medium included in both the first group of video information and the second group of video information is deleted from the first group of video information, the one

video information continue to be included in the second group of video information” element. In fact, there is no disclosure of a user’s ability to delete any information from any of the groups (e.g., Desktop, My Computer, History, and/or Catalog). Dr. Bederson concedes this point. See Ex. 2005, Dep. Tr. at 56:9-13 (“Q: Paragraph 44 specifically doesn’t reference the removal of pointers. Correct? A: I don’t think it uses the term ‘removal’ or the phrase, ‘removal of pointers.’”).

92. Recognizing this deficiency in Kaplan, Petitioner then attempts to read element [2.9] into Kaplan by relying on statements from Dr. Bederson about the disclosure in Kaplan regarding pointers. See Petition at 43-44 (citing Ex. 1003, ¶¶129-131). It is my understanding that, in the context of instituting the Petition, the Board accepted Dr. Bederson’s logical leap—i.e., relying on the non-specific disclosure in Kaplan that is silent on element [2.9] with a general knowledge of pointers—to demonstrate that Kaplan discloses the limitation and/or the limitation would have been obvious to a POSITA. See Institution Decision at 16-18 (citing to Ex. 1003, ¶¶40-43, 129-131). I disagree.

93. Dr. Bederson’s opinions are far too broad and conclusory, opining that the cited embodiments must operate a particular way (*i.e.*, as disclosed in element [2.9]). For example, Dr. Bederson opines that the pointers in Kaplan must operate as in element [2.9] because “a user would have expected” such a feature and

“[w]ithout such a feature (which was standard), the user would not be able to control their favorites without disrupting other groups of videos.” Ex. 1003, ¶130. However, despite the alleged “standardness” of such a feature, Dr. Bederson’s does not point to a single reference in his declaration (including Section VI) that discloses element [2.9], rather just relying on what a POSITA would know. This is insufficient evidence to invalidate the challenged claims.

94. As I explained above in Section V(B), which is incorporated here in full, general references to pointers—as set forth in Kaplan (*see* Ex. 1004, ¶¶42, 44, claim 20)—do not automatically equal element [2.9]. While pointers are typically used to cross-reference/index information (e.g., locating a employer by an employee number), pointers are not deleted as commonly as Dr. Bederson claims, nor would a POSITA look at Kaplan and presume such a detailed claim limitation (element [2.9]) is present. In fact, one of Dr. Bederson’s reference from Section VI, the C++ book, appears to warn against deleting pointers in the context of dynamic objects, which could result in dangling pointers (i.e., to invalid memory locations). *See* Ex. 1024, pp. 645-650.

95. In his declaration, Dr. Bederson relies on the un-selecting of a Favorite video, which would allegedly delete the file from the Favorites group, but that file would continue to remain in the Catalog group. *See* Ex. 1003, ¶130. However, when asked during his deposition whether the reverse is also true—

deleting a video from the Catalog would not affect its location in the Favorites location—Dr. Bederson stated that he did not provide an opinion on that specific example. *See* Ex. 2005, Dep. Tr. at 57:14-60:17.

96. Dr. Bederson testified that the catalog file would contain all the media in Kaplan. Ex. 2005, Dep. Tr. at 57:5-13. Since he admitted that this group contains all the media, if a user deleted a media file in the catalog then the media file would by necessity no longer be able to be accessed from the favorites folder pointer, i.e., resulting in a dangling pointer. *See supra* (discussion of Ex. 1024, pp. 645-650).

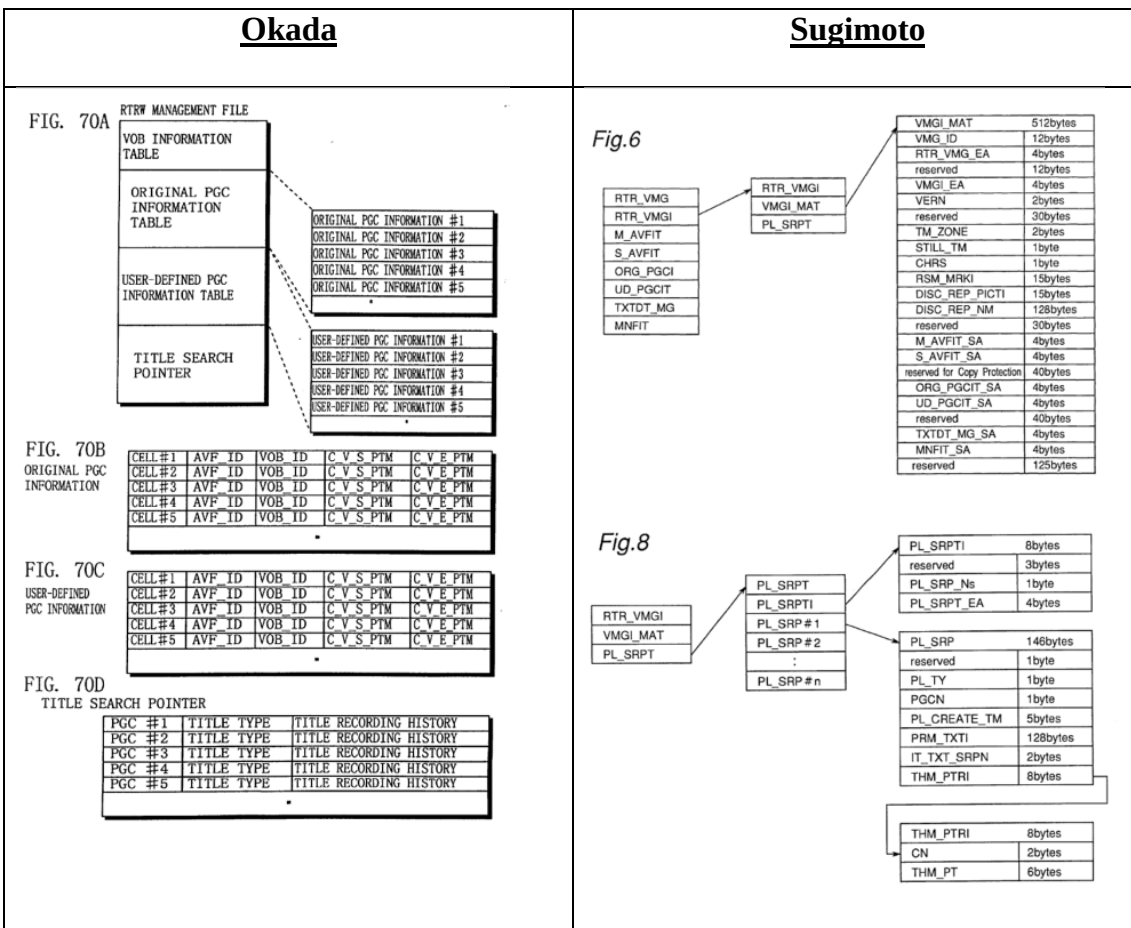
97. Dr. Bederson's lack of an answer illustrates the problem with his conclusion—if a POSITA could simply pick up Kaplan, read the couple isolated uses of “pointers,” and conclude element [2.9] is present (which I do not think is the case), then Dr. Bederson should not have had any problems answering the hypothetical. However, Dr. Bederson focused on an apparent corner case resulting from an overly broad reading of Kaplan to support his conclusions, and that is not a proper way a POSITA would read or understand Kaplan.

2. Discussions of Pointers/Data Structures Similar to That in Kaplan Were Explicitly Disclosed in the Prior Art and Considered by the Examiner and the Specific Claim Limitations Were Still Allowed.

98. In addition, the considered prior art demonstrates that general references to pointers and/or data structures (as in Kaplan and in Section VI of Dr. Bederson's background) do not automatically equal element [2.9].

99. As I explained in Section V(C), there were numerous references—e.g., Okada, Sugimoto, and Tsumageri—that the examiner considered during the prosecution history of the '783 Patent that generally related to pointers and thumbnail data structures (similar to Dr. Bederson's references in Section VI of his declaration). These references that were specifically cited in the parent and grandparent applications to the '783 Patent, which matured in the '383 and '684 Patents, respectively.

100. For example, both Okada and Sugimoto disclose pointers in the context of thumbnails as follows:



See Ex. 2009, Okada, Fig. 70; Ex. 2010, Sugimoto, Figs. 6, 8 (describing structure of certain data blocks).

101. In my opinion, Kaplan's generic reference to pointers (see Ex. 1004, ¶¶42, 44, and claim 20) are no different than the prior art relating to pointers and/or data structures already considered by the examiner.

102. And, importantly, despite this knowledge of pointers and thumbnails the same examiner that reviewed the '383 and '684 Patents allowed the challenged claims **after** element [2.9] was added during prosecution. *See* Ex. 1003, at 40-41. In other words, the examiner possessed the same general knowledge of pointers and thumbnails as in Kaplan but allowed the challenged claims because of the novel and nonobvious nature of the challenged claims as a whole, including the specificity of element [2.9] in context of all of the limitations.

103. The Board commented that “Petitioner’s contentions are supported by Dr. Bederson’s testimony, which is consistent with other contemporaneous references.” Institution Decision at 18 (citing Ex. 1003, ¶¶40-43, 129-131). However, as I have previously discussed, Dr. Bederson’s “contemporaneous references” cited in Section VI (that he also refers back to in ¶131) merely comprise a general discussion of pointers and data structures. As such, Petitioners reasoning is circular and unpersuasive, particularly in light of the considered prior art disclosing similar general discussions of pointers and thumbnails, yet the challenged claims were issued over that prior art.

3. Dependent Claims 5 and 6 Are Not Obvious in View of Kaplan.

104. Both claims 5 and 6 are dependent claims that depend on independent claim 2. As such, for the same reasons in Section VI(A)(1)-(2) above—*i.e.*, that

Kaplan in view of the knowledge of a POSITA does not render obvious claim 2 because of the absence of element [2.9]— claims 5 and 6 are equally not obvious

* * *

For all these reasons, Kaplan does not invalidate claims 2, 5, and 6 as obvious.

B. Ground 2: Claims 2, 5, and 6 as Obvious Over Bryant.

105. Based on my review of Bryant in view of the challenged claims and '783 Patent specification, the record to date, as well as my background and knowledge as a person of ordinary skill in the art, claims 2, 5, and 6 of the '783 Patent are not obvious over Bryant in view of the knowledge of POSITA.

106. Specifically, the Bryant does not disclose elements [2.1]-[2.3] and [2.9]. I additionally note that opinions I set forth below apply with equal effect to the corresponding limitations of dependent challenged claims 5 and 6.

1. Bryant does not disclose elements [2.1]-[2.3].

107. Although Bryant discloses, in passing, a digital camera that can group/classify “digital motion images” (Ex. 1005, [0029] and “motion video images” (*id.*, [0036]), Bryant does not disclose, explicitly or inherently, reproducing (*e.g.*, playback) of stored video information as required by elements [2.1]-[2.3]. See Petition at 51-57 (citing Ex. 1005, ¶¶ [0029], [0036]-[0038], [0080]-[0081]).

108. For purposes of the Institution Decision, the Board found that paragraphs 29 and 36 provided sufficient disclosure for elements [2.1]-[2.3]. I disagree.

109. The two brief mentions of “digital motion images” (Ex. 1005, [0029] and “motion video images” (*id.*, [0036]) in the context of the initial capturing by the digital camera do not disclose elements [2.1]-[2.3].

110. Rather, the overwhelming disclosure in Bryant relates to captures, grouping, recording, and **reproducing** stored still images (.jpeg). Indeed, the primary figures relied on by Petitioner and Dr. Bederson—including for the Favorites/All Images example for element [2.9]—are Figures 9A-C, which only includes still images (elements 822A-K).

111. Moreover, Bryant repeatedly provides additional detail on the file format and transferring of still images to another database, including references to still image standards:

- a. “The JPEG file uses the so-called “Exif” image format defined in “Digital Still Camera Image File Format (Exif)” version 2.1, July 1998 by the Japan Electronics Industries Development Association (JEIDA), Tokyo, Japan. This format includes an Exif application segment that stores particular image metadata, for example, the date and time the picture was captured, the lens f/number and other camera

settings, and image captions or comments that can be selected or entered by the camera user. In some embodiments of the present invention, this metadata can include metadata identifying favorite images and groups of images. In other embodiments, the favorites and grouping metadata is provided in a separate control file. The control processor and timing generator **304** also provide a real-time clock value to the image processor **320**, which can store this value as date/time metadata in each image file.” Ex. 1005, [0049].

- b. “FIG. 5 depicts an exemplary directory structure recorded on the removable memory card **330** by the digital camera **300**. The Exif image files, containing the JPEG compressed main image, thumbnail image, and the image metadata, are stored on the removable memory card **330** using a directory structure conforming to the so-called “DCF” rules defined in “Design Rule For Camera File System” version 1.0, December 1998 by the Japan Electronics Industries Development Association (JEIDA), Tokyo, Japan.” Ex. 1005, [0054].
- c. “In block **120**, the user connects the digital camera **300** to the dock **350**, which is connected to the home computer **10** via an interface such as USB, and presses a “transfer” button (not shown) to initiate the image transfer. This transfer takes place using the

commands defined in the industry standard PIMA 15740:2000 entitled “Photography—Electronic **still** picture imaging—Picture transfer protocol (PTP) for digital **still** photography devices”, which is available from the International Imaging Industries Association (**13A**) in Harrison, N.Y. Alternatively, the user can remove the removable memory card **330** from the digital camera **300** and place the removable memory card **330** in the card reader **24**.” Ex. 1005, [0080] (emphasis added).

112. Thus, it is my opinion that the repeated reference to still image standards further illustrate that Bryant does not disclose reproducing the motion images as claimed.

113. Petitioner argues that “Bryant discloses capturing ‘motion video images’ with a camera and loading them onto a home computer” and, thus, “[a] POSITA would have understood that the purpose of Bryant’s multimedia platform is (and any multimedia system) was to organize, display, and **play back** digital content, such as video.” Petition at 52-53 (emphasis in original). But Petitioner and Dr. Bederson’s positions are undercut by the still image standards discussed above.

114. Indeed, neither the Exif (Ex. 2012, “Digital Still Camera Image File Format (Exif)” version 2.1) nor DCF (Ex. 2013, “Design Rule For Camera File

System” version 1.0) references have any support for motion images or video. Although the PIMA reference (Ex. 2014) mentions video clips in passing (e.g., Table 14), the focus of PIMA is upon the transfer of still images (hence, the title of the document).

115. Furthermore, when POSITA reviews the Bryant as a whole, it would not be clear to a POSITA that Bryant is about motion video images just because PIMA is disclosed in a single paragraph versus the Exif/DCF specifications (and general disclosure of .jpeg/still images are mentioned throughout). Rather, the mere mention of PIMA in Bryant does not imply that Bryant also support video playback because the overwhelming mention of Exif precludes video and would suggest to a POSITA that Bryant’s mention of PIMA is only with respect to the still image aspects of PIMA. Thus, it is my opinion that a digital camera as discussed in Bryant that conforms to the Exif and DCF references would have no ability to capture, store, or transfer anything other than still images and would not support motion or video images.

116. In other words, Petitioner argues that the claim limitations are met because a user would understand that the Exif and DCF specification disclosed in Bryant would teach that Bryant can capture and store motion images or video. However, as described above and throughout Bryant, the only disclosure of in

Bryant is that of still image specifications which are incapable of capturing or storing video.

117. Finally, Petitioner's citation to Bryant's use of the Windows XP operating system as evidence that the system could playback the stored video information also fails. *See* Petition at 53. The mention of the operating system was in the context of describing the general hardware/software as set forth in Figure 1. *See* Ex. 1005, [0037]. However, nowhere in the remaining 200+ paragraphs of Bryant is there a mention of the video information being reproduced (played back).

2. Bryant does not disclose element [2.9]

a. Bryant's References to Pointers Cannot Be Read So Expansively to Disclose Element [2.9]

118. Petitioner's primary argument for meeting this term is the brief discussion regarding a local database with an assets table and an information "reset" that Petitioner likens to the requirements of element [2.9]. *See* Petition at 65-69; *see also* Ex. 1003, ¶¶167-173.

119. However, Bryant does not disclose, explicitly or inherently, the language of element—delete video information in one group while it remains in another group. In other words, the Petitioner does not show where Bryant discloses "even if one video information recorded on the recording medium

included in both the first group of video information and the second group of video information is deleted from the first group of video information, the one video information continue to be included in the second group of video information.” In fact, there is no explicit disclosure of a user’s ability to delete any information from any of the groups (*e.g.*, the “All images” or “Group/11” groups).

120. Recognizing this deficiency in Bryant, Petitioner then relies on its expert to interpret the database and reset disclosure. *See* Petition at 68-69 (citing Ex. 1003, ¶¶170-171). It is my understanding that, in the context of instituting the Petition, the Board accepted Dr. Bederson’s logical leap—i.e., that resetting the metadata, for example, unselecting a “favorite” would not lead to its removal from other groups (*e.g.*, all images) despite being explicitly silent on element [2.9]—to demonstrate that Bryant discloses the limitation and/or the limitation would have been obvious to a POSITA. *See* Institution Decision at 27-28 (citing to Ex. 1003, ¶¶167-173). I disagree.

121. Dr. Bederson’s opinions are far too broad and conclusory, opining that the cited embodiments must operate a particular way (*i.e.*, as disclosed in element [2.9]). For example, similar to his opinions on Kaplan, Dr. Bederson opines that Bryant must operate as in element [2.9] because “a user would expect to be able to modify groups independently by deleting a video from one group (such as its inclusion in All Favorites), without removing its membership in a second group

(such as All Images or Group/11)” and would result limiting the utility of the system and user confusion if such a feature were not included. *Id.* at ¶171.

122. And, similar to Kaplan, Dr. Bederson relies on Section VI of his declaration to provide further support for how a POSITA would interpret Bryant. *See id.* at ¶172. Although Bryant does not explicitly reference a “pointer” in its disclosure, my opinions for Kaplan are equally applicable to Bryant’s disclosure about the resetting of the database in Figure 8.

123. As I explained above in Section V(B), which is incorporated here in full, general references to pointers—as set forth in Kaplan (*see* Ex. 1004, ¶¶42, 44, claim 20)—do not automatically equal element [2.9]. While pointers are typically used to cross-reference/index information (e.g., locating a employer by an employee number), pointers are not deleted as commonly as Dr. Bederson claims, nor would a POSITA look at Kaplan and presume such a detailed claim limitation (element [2.9]) is present. In fact, one of Dr. Bederson’s reference from Section VI, the C++ book, appears to warn against deleting pointers in the context of dynamic objects, which could result in dangling pointers (i.e., to invalid memory locations). *See* Ex. 1024, pp. 645-650.

124. Similarly, for Bryant, a POSITA would not necessarily read Bryant’s disclosure of resetting of metadata and conclude that information in one group is being deleted while information in another group remains.

b. Bryant Discloses Deleting Information But Not in the Context of Petitioner/Dr. Bederson's Example.

125. Dr. Bederson claims that element [2.9] that relates to the deleting of information is disclosed by un-selecting a Favorite image in one group while the information remains in another group (e.g., all images). I disagree.

126. When Bryant wanted to specify information being deleted, the patentees knew how to do so. For example, Bryant references “delet[ed/ing]” only three times in the entire specification (and once in the Figures, Fig. 11B):

- a. “In block **1052**, the image files and image database objects corresponding to the items that have been sold are automatically deleted from the hard drive **20** of the home computer **10**.” Ex. 1005, [0136]; Fig. 11B:

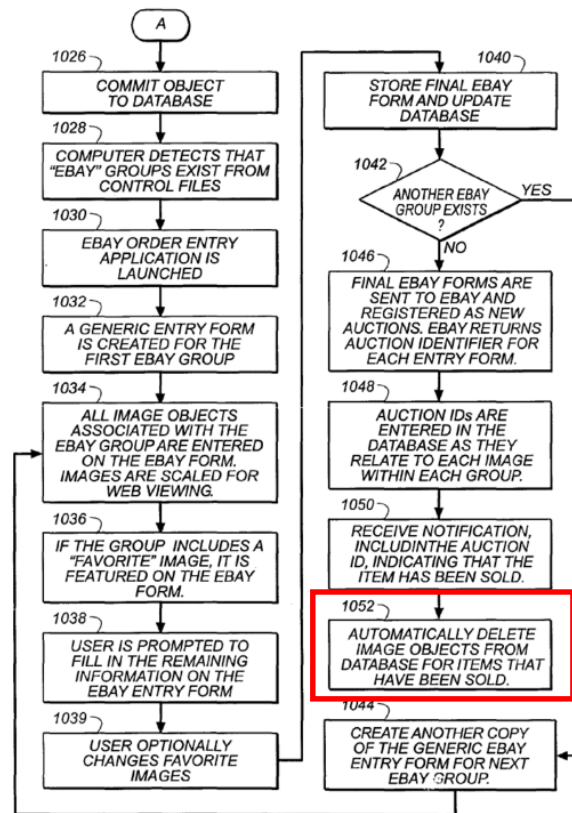


FIG. 11B

- b. “5. The method of claim 4 further including the step of automatically deleting from the computer, the first group of digital images when notification has been received that the first item offered for sale electronically has been sold.” Claim 5.
- c. “24. The method of claim 23 further including the step of automatically deleting from the computer, the first group of digital images when notification has been received that the first item offered for sale electronically has been sold.” Claim 24.

127. That Bryant's references to deletion of information is in the context of the electronic jobs embodiment rather than the Favorites/All Images examples that Dr. Bederson relies upon does not matter. It is my opinion that, when Bryant wanted to disclose and/or claim deletion of information, the patentees knew how to do so and did so explicitly.

128. Thus, it is my further opinion that, given this other disclosure of information deletion in Bryant, a POSITA would not read Dr. Bederson's Favorites/All Images example and automatically conclude that the resetting of metadata discloses element [2.9].

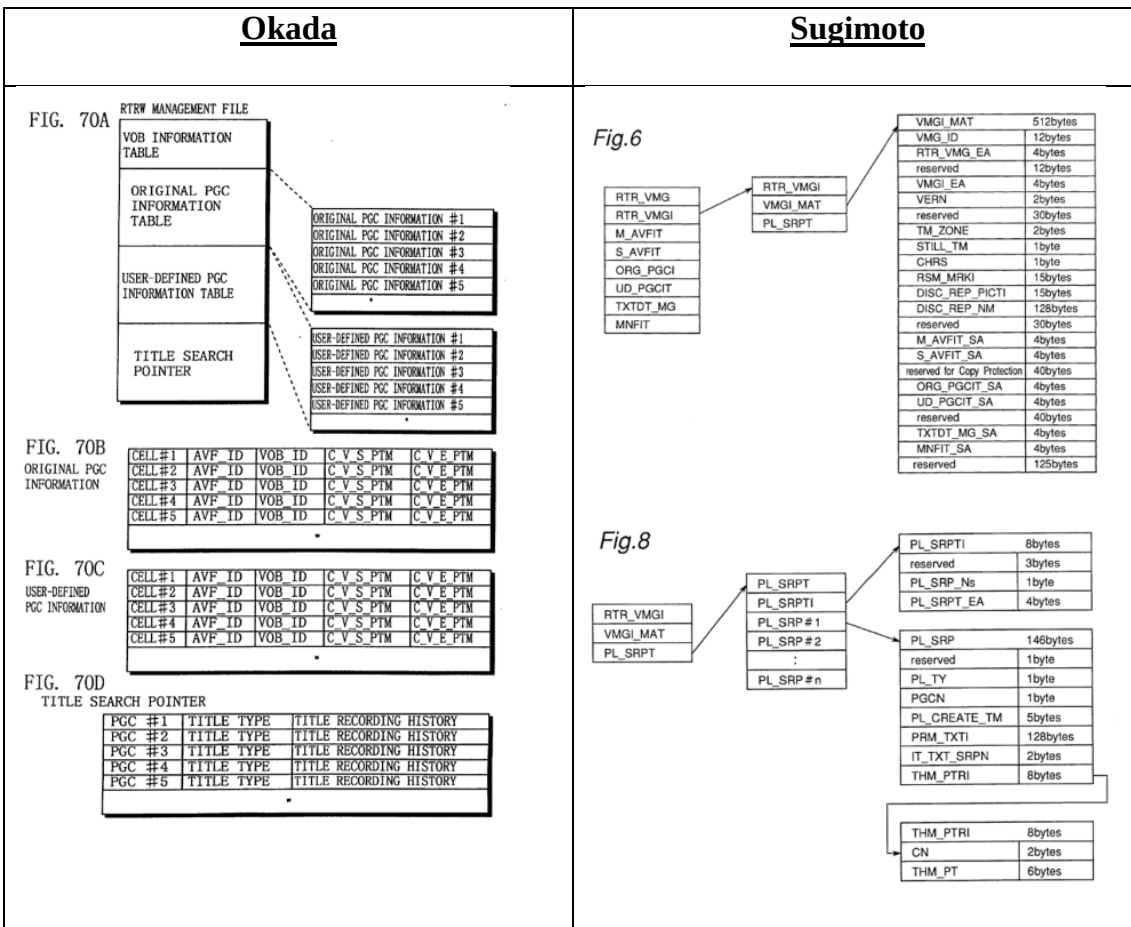
- c. Discussions of Pointers/Data Structures Similar to That in Bryant Were Explicitly Disclosed in the Prior Art and Considered by the Examiner and the Specific Claim Limitations Were Still Allowed.

129. In addition, and similar to Kaplan, the considered prior art demonstrates that general references to pointers and/or data structures (as in Bryant and in Section VI of Dr. Bederson's background) do not automatically equal element [2.9].

130. As I explained in Section V(C), there were numerous references—e.g., Okada, Sugimoto, and Tsumageri—that the examiner considered during the prosecution history of the '783 Patent that generally related to pointers and thumbnail data structures (similar to Dr. Bederson's references in Section VI of his

declaration). These references that were specifically cited in the parent and grandparent applications to the '783 Patent, which matured in the '383 and '684 Patents, respectively.

131. For example, both Okada and Sugimoto disclose pointers in the context of thumbnails as follows:



See Ex. 2009, Okada, Fig. 70; Ex. 2010, Sugimoto, Figs. 6, 8 (describing structure of certain data blocks). These Figures in Okada and Sugimoto look very similar to Figure 8 in Bryant, which is relied upon heavily by Dr. Bederson:

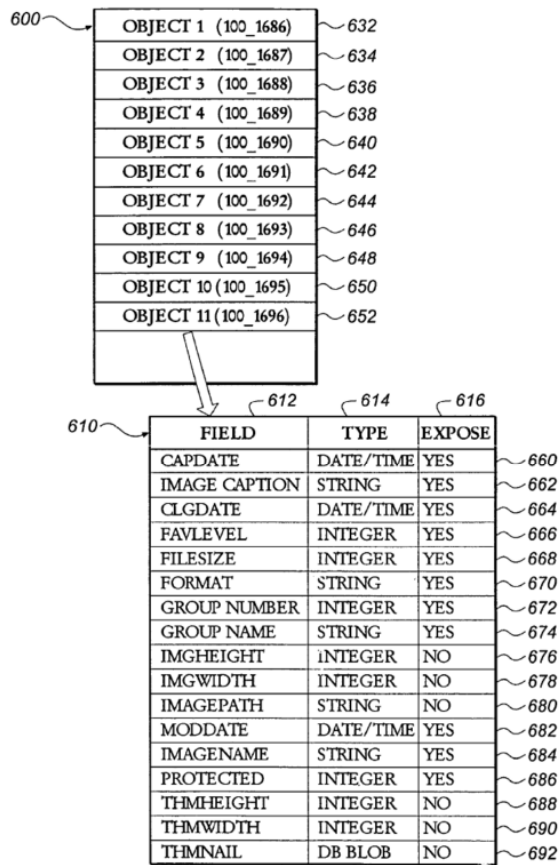


FIG. 8

Ex. 1005, Fig. 8.

132. In my opinion, Bryant's reference to resetting the metadata (*see* Ex. 1005, ¶¶82-87, 96-101) is no different than the prior art relating to pointers and/or data structures already considered by the examiner.

133. And, importantly, despite this knowledge of pointers and thumbnails the same examiner that reviewed the '383 and '684 Patents allowed the challenged claims **after** element [2.9] was added during prosecution. *See* Ex. 1003, at 40-41. In other words, the examiner possessed the same general knowledge of pointers/data structures and thumbnails as in Bryant but allowed the challenged claims because of the novel and nonobvious nature of the challenged claims as a whole, including the specificity of element [2.9] in context of all of the limitations.

3. Petitioner cannot demonstrate the unpatentability of claims 5 and 6.

134. Both claims 5 and 6 are dependent claims that depend on independent claim 2. As such, for the same reasons in Section VI(B)(1)-(2) above—i.e., that Bryant in view of the knowledge of a POSITA does not render obvious claim 2 because of the absence of element [2.9]—claims 5 and 6 are equally not obvious.

* * *

135. For all these reasons, Bryant does not invalidate claims 2, 5, and 6 as obvious.

C. Ground 3: Claims 2, 5, and 6 as Obvious By Kaplan in view of Bryant.

136. Petitioner's third proposed ground of unpatentability—alleged obviousness in view of Kaplan as modified by Bryant—fails because, even if combined, these two references in combination still do not teach all of the limitations of claims 2, 5, and 6.

137. As described above in Sections VI(A)-(B), neither Kaplan nor Bryant teach or disclose “even if one video information recorded on the recording medium included in both the first group of video information and the second group of video information is deleted from the first group of video information, the one video information continue to be included in the second group of video information” as required by element [2.9].

138. As I described above, it is my opinion that Dr. Bederson took a far too expansive a view of pointers/data structures, taking a general knowledge of that subject matter and equating it with the very detailed limitation of element [2.9]. This was error. Kaplan's pointers and Bryant's database/reset do not, explicitly or inherently, disclose the deletion of information limitation in element [2.9]. *See supra* Section V(B), VI(A)-(B). Bryant also does not disclose reproducing the recorded video information as required by elements [2.1]-[2.3]. *See supra* Section VI(B)(1). Moreover, the examiner's consideration of essentially the same subject

matter in Kaplan and Bryant in the context of the prosecution histories of related applications to the '783 Patent further demonstrate that Kaplan's pointers and Bryant's database/reset was known to the examiner but the challenged claims were still allowed. *See supra* Sections VI(A)(2), VI(B)(2).

139. Accordingly, Patent Owner's arguments in Sections VI(A)-(B) (Grounds 1 and 2) are equally applicable for Ground 3.

140. In the Institution Decision, the Board stated that Petitioner's two motivations to combine Kaplan and Bryant were "sufficient for institution." Institution Decision at 30.

141. However, neither of Petitioner's motivations to combine actually address the deficiencies in either Kaplan or Bryant for the reasons described herein. In other words, neither Bryant's "more extensive metadata (e.g., affective information)" and/or customizable metadata disclose element [2.9], which is also missing from Kaplan.

142. As such, for the same reasons in Sections VI(A)-(B) above, Kaplan in view of Bryant does not render obvious claim 2 because of the absence of element [2.9], and dependent claims 5 and 6 are equally not obvious.

D. Ground 4: Claims 2, 5, and 6 as Obvious By Bryant in view of Kaplan.

143. Petitioner's fourth and final proposed ground of unpatentability—alleged obviousness in view of Bryant as modified by Kaplan—fails because, even if combined, these two references in combination still do not teach all of the limitations of claims 2, 5, and 6.

144. As described above in Sections VI(A)-(B), neither Bryant nor Kaplan teach or disclose “even if one video information recorded on the recording medium included in both the first group of video information and the second group of video information is deleted from the first group of video information, the one video information continue to be included in the second group of video information” as required by element [2.9].

145. As I described above, and similar to my opinions for Ground 3, it is my opinion that Dr. Bederson took a far too expansive a view of pointers/data structures, taking a general knowledge of that subject matter and equating it with the very detailed limitation of element [2.9]. This was error. Kaplan's pointers and Bryant's database/reset do not, explicitly or inherently, disclose the deletion of information limitation in element [2.9]. *See supra* Section VI(A)-(B). Bryant also does not disclose reproducing the recorded video information as required by elements [2.1]-[2.3]. *See supra* Section VI(B)(1). Moreover, the examiner's

consideration of essentially the same subject matter in Kaplan and Bryant in the context of the prosecution histories of related applications to the '783 Patent further demonstrate that Kaplan's pointers and Bryant's database/reset was known to the examiner but the challenged claims were still allowed. *See supra* Sections VI(A)(2), VI(B)(2).

146. Accordingly, Patent Owner's arguments in Sections VI(A)-(B) (Grounds 1 and 2) are equally applicable for Ground 4.

147. In the Institution Decision, the Board agreed with Petitioner and stated that a POSITA would have combined Kaplan with Bryant "to improve Bryant's playback capabilities with additional playback modes." Institution Decision at 31.

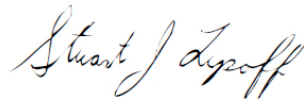
148. However, none of Petitioner's motivations to combine actually address the deficiencies in either Kaplan or Bryant for the reasons described herein. In other words, Kaplan's "'specific reproduction (e.g., playback) features,' such as the 'in-window thumbnail playback mechanism, or the specific full/partial screen playback mechanism'" does not disclose element [2.9], which is also missing from Bryant.

149. As such, for the same reasons in Sections VI(A)-(B) above, Bryant in view of Kaplan does not render obvious claim 2 because of the absence of element [2.9], and dependent claims 5 and 6 are equally not obvious.

* * *

I hereby declare that all statements made herein of my own knowledge are true and that all statements made herein on information and belief are believed to be true. Further, these statements were made with the knowledge that willful false statements and the like so made are punishable by fine, imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above-identified patent.

Executed on May 13, 2019, in Las Vegas, Nevada.

A handwritten signature in cursive script, reading "Stuart J. Lipoff".

Stuart Lipoff