

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

**SAMSUNG ELECTRONICS CO., LTD. AND
SAMSUNG ELECTRONICS AMERICA, INC.,**

Petitioners,

v.

**MAXELL, LTD.,
Patent Owner**

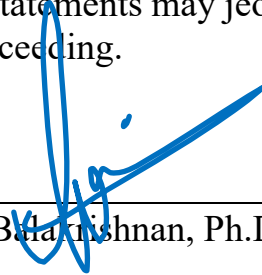
Case: IPR2025-01314

U.S. Patent No. 8,180,198

**DECLARATION OF RAVIN BALAKRISHNAN, PH.D.
CONCERNING PATENTABILITY OF U.S. PATENT NO. 8,180,198**

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 statements were made with the knowledge that willful false statements and the like so made are punishable by fine and/or imprisonment under Section 1001 of Title 18 of the United States Code, and such willful false statements may jeopardize the validity of the patent which is under review in this proceeding.

Dated: May 8, 2026



Ravin Balakrishnan, Ph.D.

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I. INTRODUCTION

1. My name is Ravin Balakrishnan. I have been asked by Patent Owner in this IPR (Maxell, Ltd.) to respond to the Declaration of Dr. Benjamin Bederson (the “Bederson Decl.”) and to provide my opinion as to the patentability of U.S. Patent No. 8,180,198 (EX1001, the “’198 Patent”) in view of the opinions in the Bederson Decl.

2. Although I am being compensated at my usual consulting rate of \$750 per hour for my time reviewing materials and preparing this declaration, my opinions expressed here are my own. My compensation is in no way dependent on the outcome of this case or upon the Court or jury accepting my opinions. I have no other financial interest in this matter or the parties thereto.

3. Depending on new information learned during discovery or positions taken throughout the IPR by Samsung or its experts, I may edit, add to, or otherwise refine the topics and expected testimony described here. I reserve the right to supplement my opinions based on new information.

II. BACKGROUND AND QUALIFICATIONS

4. My qualifications to testify about the ’198 Patent and the relevant technology are set forth in my curriculum vitae (“CV” or EX2021). My CV includes a list of all my publications within at least the past ten years, as well as the matters in which I have testified (either at trial or by deposition) in the past four years.

5. I will briefly summarize my qualifications to render opinions regarding this technology in the following paragraphs.

6. I am currently a tenured Full Professor of Computer Science in the Department of Computer Science at the University of Toronto. I joined the faculty at the University in 2001, received tenure in 2006, and served as Chair of my Department from 2015 to 2019. From 2006-2016, I held the Canada Research Chair in Human-Centered Interfaces in the Department of Computer Science.

7. I earned a B.Sc. in Computer Science from the University of New Brunswick in 1993. From the University of Toronto, I received an M.Sc. in Computer Science in 1997 and a Ph.D. in Computer Science in 2001. Since receiving my Ph.D., I have been a member of the faculty of the Department of Computer Science at the University of Toronto where my research has focused on human-computer interaction (“HCI”), interactive computer graphics, and computer systems. Within these areas, my research has included the development of user interface technologies on a variety of computational platforms and application areas including mobile devices, touch input devices, video editing systems, computer vision and image detection/tracking systems, video games, large displays, televisions, 3D displays, and virtual and augmented reality technologies.

8. I am also the co-founder of the following companies: Conceptualiz, a company that develops virtual surgical planning technology;

FindSpace (formerly Arcestra and Sketch2Corp), a commercial real estate marketing and interior design platform; and Bump Technologies Inc., which developed a physically realistic desktop user interface system. FindSpace grew out of research conducted in my lab and was acquired by Cougar Group in 2021. Bump Technologies, Inc. also grew out of research conducted in my lab and was acquired by Google in May 2010.

9. I teach and supervise graduate students and postdoctoral fellows in their research work as part of my professorial duties. To date, 27 research M.Sc. students, 16 Ph.D. students, and 9 postdoctoral fellows have completed their research training under my guidance. Their research has led to theses and peer-reviewed publications over a broad range of topics covering interactive computing and user interfaces for multiple applications and technology platforms. Example systems built by my team include a new physics enabled touch computing platform, a video conferencing system using face detection to identify and track multiple participants in meetings to enable dynamic camera positioning and focus, and a large scale interactive display system that used camera based image detection and tracking to handle user interaction by multiple simultaneous users in a room sized environment. I have taught courses covering computing topics, including interactive computing, human-computer interaction, information systems and design, digital

design, and computer architecture, and courses covering various user interface technologies for various platforms.

10. I have published over 150 refereed publications in peer-reviewed journals. I have presented numerous conference abstracts, posters, talks, and demonstrations in my field. My work has been cited more than 22,800 times across a spectrum of high-impact publications, and my current h-index score (from Google Scholar) is 86, which is an indication of the significant impact of my research on scholarly literature in the field of Computer Science.

11. I have received major awards and honors in my field. For example, in 2007, I received an Alfred P. Sloan Research Fellowship. In 2011, I was elected into the Association for Computing Machinery's Computer Human Interaction Academy, which is an honorary group consisting of researchers who have made extensive contributions to the study of HCI and who have led the shaping of the HCI field. The stated criteria for being elected into the Association for Computing Machinery's Computer Human Interaction Academy are: (1) cumulative contributions in the field; (2) impact on the field through development of new research directions and/or innovations; and (3) influence on the work of others. In 2020, I was presented with the Canadian Human Computer Communications Society's Achievement Award, which recognizes researchers who have made a

substantial contribution to the fields of computer graphics, visualization, or human-computer interaction.

12. In addition to my research at the University of Toronto, I have collaborated with researchers at leading institutions worldwide. For example, I have been a visiting professor at Laboratoire de Recherche en Informatique (LRI) at the Université Paris-Sud, France and at INRIA Lille, France. Additionally, I have been a visiting researcher at several industrial laboratories, including: (1) HPLabs, (2) Mitsubishi Electric Research Laboratories (MERL), and (3) Microsoft Research Labs. At those companies, my work generally focused on developing new user interface techniques for a variety of technology platforms. Before becoming a professor, during my MSc and PhD studies, I was concurrently a part-time researcher at Alias|wavefront (now part of Autodesk), a leading developer of 3D graphics software applications. Some of my work at these companies, and at my startup companies, have resulted in software and hardware implementations that were shipped within consumer-level products.

13. I have also served on the organizing and paper-reviewing committees of leading conferences in my field, and I have taken on editorial roles for leading technical journals in fields pertinent to my research. For example, I have been an associate editor of the Association for Computing Machinery (“ACM”) Transactions on Computer-Human Interaction and an associate editor of the IEEE

Transactions on Visualization and Computer Graphics, both peer-reviewed journals. Similarly, I have been the paper's chair for the ACM UIST Symposium on User Interface Software and Technology, and have served multiple times as an associate chair for the ACM CHI Conference on Human-Computer Interaction. Over my career, I have also reviewed hundreds of published and unpublished papers, including many on user interfaces for mobile devices.

14. I am the co-inventor on 20 patents, all in the area of user interfaces, including new techniques and technologies for handling user input to computational platforms in novel and more facile ways.

III. UNDERSTANDING OF LEGAL STANDARDS

15. I am not a lawyer, but I have been informed by Maxell's counsel of the legal principles necessary to my validity analysis. In this section, I set forth my understanding of these legal principles as they have been explained to me.

16. I understand that a validity analysis of a patent claim consists of two steps. The first step is the construction (or interpretation) of any disputed claim terms. The second step is a comparison of the properly construed claims to the prior art.

A. Obviousness

17. I understand that a patent claim can be invalid under 35 U.S.C. § 103 if the claimed subject matter would have been "obvious" to a person of ordinary

skill in the art as of the priority date of the patent based upon one or more prior art references. I understand that an obviousness analysis should consider each of the following so-called “*Graham* factors”: (1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the pertinent art; and (4) secondary considerations, if any (such as unexpected results, commercial success, long felt but unsolved needs, failure of others, copying by others, licensing, and skepticism of experts).

18. I understand that a conclusion of obviousness may be based upon either a single prior art reference or a combination of prior art references, particularly if the combination of elements does no more than yield predictable results. However, I understand that merely demonstrating that each of the claim elements was, independently, known in the prior art does not prove that a patent composed of several claim elements is obvious.

19. Moreover, I understand that it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in a way the claimed new invention does.

20. I further understand that, to determine obviousness, courts look to the interrelated teachings of multiple patents or other prior art references, the effects of demands known to the design community or present in the marketplace, and the background knowledge possessed by a person having ordinary skill in the art.

21. I also understand that, in determining whether a combination of prior art references renders a claim obvious, it may be helpful to consider whether there is some teaching, suggestion, or motivation to combine the references and a reasonable expectation of success in doing so. I understand, however, that the teaching, suggestion, or motivation to combine inquiry is not required and may not be relied upon in lieu of the obviousness analysis outlined above.

22. I understand that the following exemplary rationales may lead to a conclusion of obviousness: the combination of prior art elements according to known methods to yield predictable results; the substitution of one known element for another to obtain predictable results; and the use of known techniques to improve similar devices in the same way.

23. However, a claim is not obvious if the improvement is more than the predictable use of prior art elements according to their established functions. Similarly, a claim is not obvious if the application of a known technique is beyond the level of ordinary skill in the art.

24. Further, when the prior art teaches away from combining certain known elements, discovery of successful means of combining them is not obvious. I understand that similar subject matter may not be sufficient motivation for a person of skill in the art to combine references if the references have conflicting elements.

25. I understand that, in order to be used in an obviousness combination, a prior art reference must be “analogous.” I understand that a prior art reference may be analogous if it is in the same field of endeavor as the other references with which it is combined, or if the reference is reasonably pertinent to the solving the problems the inventors of the patent-at-issue sought to solve.

26. I understand that obviousness of a patent claim cannot properly be established through hindsight, and that elements from different prior art references, or different embodiments of a single prior art reference, cannot be selected to create the claimed invention using the invention itself as a roadmap. I understand that the claimed invention as a whole must be compared to the prior art as a whole, and courts must avoid aggregating pieces of prior art through hindsight that would not have been combined absent the inventors’ insight.

27. I understand that obviousness is not established by simply combining previously known elements from the prior art. A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. An invention is unpatentable as obvious if the differences between the patented subject matter and the prior art would have been obvious at the time of the invention to a person of ordinary skill in the art.

28. I understand that obviousness of a patent cannot properly be established by mere conclusory statements. Instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. When an expert opines that all the elements of a claim disparately exist in the prior art, the expert should provide the rationale to combine the disparate references. A reason for combining disparate prior art references is a critical component of an obviousness analysis. The obviousness analysis should be made explicit and needs to provide an articulated reasoning with some rational underpinning to identify the reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.

29. I also understand that inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known. This is another reason why merely pointing to the elements being known in the art in separate locations is not the end of the obviousness inquiry.

30. I understand that technical experts may testify to matters like the level of skill in the art at the time of the invention and what a skilled artisan might find obvious in light of the prior art without addressing objective indicia of non-obviousness. However, where an expert purports to testify not just to certain

factual components underlying the obviousness inquiry, but to the ultimate question of obviousness, the expert must consider all factors relevant to that ultimate question, including all objective evidence of nonobviousness.

B. Priority Date and Written Description

31. I understand that a patent claim is entitled to the priority date of the earliest application providing written description support to which it claims priority. I further understand that, where there is a “chain” of priority, such that a patent claims priority to another patent application which in turn claims priority to another application, each application in the chain leading back to the earlier application must comply with the written description requirement. However, I also understand that each application in the chain need not use the exact same language.

32. I also understand that a patent claim is entitled to the priority date of a foreign patent application if the foreign application provides written description support for the patent claim and enables a person of ordinary skill in the art to make and use the invention recited in the patent claim without undue experimentation.

33. I understand that that written description requirement requires an application to provide a description of all limitations of a claim. I understand that the analysis of whether a prior application satisfies the “written description” requirement is performed from the viewpoint of a person having ordinary skill in the field of technology of the patent when that application was filed. The written

description is sufficient if it reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.

34. I understand that the enablement requirement requires an application to contain sufficient information regarding the subject matter of a claim such that a person having ordinary skill in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation. I further understand that enablement is determined from the viewpoint of a person having ordinary skill in the art as of the filing date of the application.

C. Claim Construction

35. I understand that a patent may include two types of claims: independent claims and dependent claims. An independent claim stands alone and includes only the limitations it recites. A dependent claim can depend from an independent claim or another dependent claim and includes all the limitations that it recites in addition to all of the limitations recited in the claim or claims from which it depends.

36. I understand that the claim construction exercise begins with the language of the claims themselves, and that the general rule is that claim terms are given their plain and ordinary meaning to a person of ordinary skill in the art, in view of the specification of the patent, at the time of the invention. I also understand that

the intrinsic evidence (i.e., the claims, written description, and prosecution history) are the primary sources used in interpreting claim language.

37. I understand that if disputed claim language is clear on its face, the intrinsic evidence should be consulted to determine whether some deviation from the ordinary meaning of the claim language is warranted.

38. When the disputed claim language is not clear on its face, I understand that the intrinsic evidence should be used to resolve, if possible, any lack of clarity. I also understand that the specification is the best evidence of what the patentee intended the term to mean when there is no clear meaning of a claim term, and that the prosecution history may also shed light on the meaning of ambiguous terms. However, I understand that it is improper to import limitations from the specification into a patent claim through claim construction.

39. I have been informed that sometimes the ordinary meaning of claim language as understood by a person of ordinary skill in the art may be readily apparent even to lay persons. I understand that claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.

D. Level of Ordinary Skill in the Art

40. I understand that claims are to be interpreted from the viewpoint of one of ordinary skill in the relevant art. To determine the level of skill that would

be “ordinary,” I understand that a person of ordinary skill must generally have the capability of understanding the general principles that are applicable to the pertinent art.

41. In the case of the ’198 Patent, these general principles include the concepts of digital image recording and processing, user interfaces, and content management. A person of ordinary skill in the art should be familiar with these principles.

42. In my opinion, “a person of ordinary skill in the art” (POSITA) in the field of the ’198 Patent would have at least a Bachelor’s degree in Electrical Engineering, Computer science, or a related field, with at least two years of experience in the field of digital image recording and processing, user interfaces, and content management. More education (e.g., a Master’s degree) or work experience may compensate for a deficit in one of the relevant qualifications stated invention.

IV. MATERIALS CONSIDERED

43. Among the materials I specifically considered at the time I formed my opinions on validity are the ’198 Patent (EX1001); the ’198 Patent’s prosecution history (EX1002); the Bederson Declaration (EX1003) and the materials cited therein; Samsung’s Petitions for institution of an Inter Partes Review (IPR) of the ’198 Patent, matter number IPR2025-01314 (“’198 IPR Petition”) and related filings

from that matter; the alleged prior art relied upon by Dr. Bederson; and the other materials that I specifically cite to and mention throughout this declaration.

44. In addition to these materials, I relied upon my decades of experience and expertise in computer science, particularly in system design, user interfaces, image processing, and communications. I have also taken into account the knowledge and background principles that a person of ordinary skill in the art would be familiar with at the time of the Patent Owner's invention (no later than July 21, 2004).

V. BACKGROUND OF THE TECHNOLOGY OF THE '198 PATENT

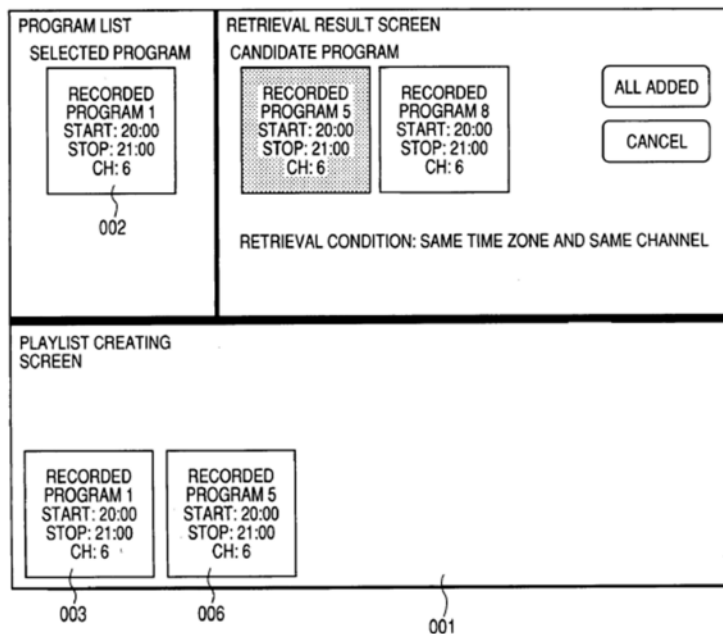
A. Overview of the '198 Patent

45. The '198 Patent, entitled "Playlist Creating Apparatus and Method, and Dubbing List Creating Apparatus and Method," is generally directed to a digital image recording and reproducing apparatus that includes an output module and control module to provide a playlist creating apparatus that "allows a user to select desired digital images from a plurality of programs and use the digital images to create a simple playlist or to select digital images to be dubbed to another recording medium."

46. U.S. Patent Application No. 11/054,775, which would ultimately issue as the '198 Patent, claims priority to Japanese application published on July 21, 2004.

47. The '198 Patent discloses a digital image recording and reproducing apparatus comprising methods such as a control module that retrieves a plurality of digital images, based on one of a plurality of related information concerning a selected digital image chosen by the user, which corresponds to one of a plurality of said related information concerning each of said plurality of digital images, and an output module that displays said plurality of digital images and said plurality of related information on a display module. *See* EX1001 at 2:28-4:42. For example, said plurality of related information can include channels, dates, and times that said digital images were recorded by the recording apparatus. *See* EX1001 at 2:63-6:06. In such cases, the control module will retrieve a plurality of digital images as candidates for a playlist based on a retrieval condition (*i.e.* same time zone and same channel) for display on the display module, as shown below in FIG. 3 of the '198 Patent:

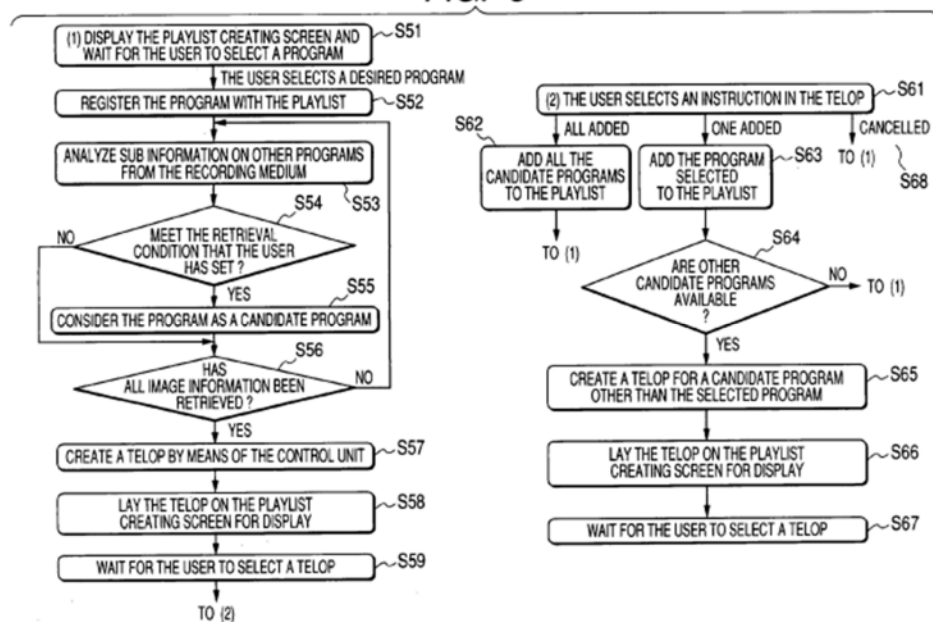
FIG. 3



Id. at FIG. 3.

Further, the '198 Patent discloses that the digital image recording and reproducing apparatus and methods also include techniques to provide dubbing functionality as part of playlist generation. *See id.* at 4:46-6:30. An exemplary configuration is shown below in Figure 5 of the '198 Patent:

FIG. 5



Id. at Fig. 5.

B. Prosecution History of the '198 Patent

48. U.S. Patent Application No. 11/054,775, which would ultimately issue as the '198 Patent, claims priority to Japanese application published on July 21, 2004. During prosecution of the '198 Patent, the Examiner issued five office actions (three non-final office actions and two final office actions). EX1002 at 17, 37, 57, 74, 92. Throughout the course of prosecution, the claims were substantially amended, with challenged claim 1 included as illustrative:

1. (currently amended) A digital image recording and reproducing apparatus connectable to a display module, said apparatus comprising:

an output module which displays a plurality of digital image images and a plurality of related information concerning said digital images recorded in a recording medium on the display module, each digital image corresponding to one of said plurality of related information; and

a control module which selects a digital image, based on one of the plurality of information concerning the digital image recorded in said recording medium;

wherein for a selected digital image selected by the user, said control module; ~~said control module selects a digital image that corresponds to information concerning a digital image specified by a user, from digital images recorded in said recording medium, and adds information showing the selected digital image to said display module through said output module for display~~

retrieves other digital images whose related information is the same as the selected digital image,

outputs a list identifying the other digital images retrieved based on their related information, and

outputs a telop to select a plurality of the other digital images at one time when the telop is selected.

See id. at 85 (September 19, 2008 amendments to claim 1).

1. (Currently Amended) A digital image recording and reproducing apparatus connectable to a display module, said apparatus comprising:

an output module which displays a plurality of digital images and a plurality of related information concerning said digital images recorded in a recording medium on the display module, each digital image corresponding to one of said plurality of related information;

and

a control module which selects a digital image to add in a playlist, based on one of the plurality of information concerning the digital image recorded in said recording medium;

wherein for a selected digital image selected by the user, said control module:

retrieves other digital images whose related information is the same as the selected digital image,

outputs a list identifying the other digital images retrieved based on their related information to select another digital image to add in said playlist when said another digital image is selected by the user, and

~~outputs a telop to select a plurality of the other digital images at one time when the telop is selected~~

outputs said playlist including a plurality of said digital images added, wherein said plurality of digital images, said plurality of related information, said list identifying the other digital images, and said playlist are outputted in a same display.

See id. at 69 (June 26, 2009 amendments to claim 1).

1. (Currently Amended) A digital image recording and reproducing apparatus connectable to a display module, said apparatus comprising:

an output module which displays a plurality of digital images and a plurality of related information concerning said digital images recorded in a recording medium on the display module, each digital image corresponding to one of said plurality of related information; and

a control module which selects a digital image to add in a playlist, based on one of the plurality of information concerning the digital image recorded in said recording medium;

wherein for a selected digital image selected by the user, said control module:

retrieves other digital images whose related information is the same as the selected digital image,

outputs a list identifying the other digital images retrieved based on their related information to select another digital image to add in said playlist when said another digital image is selected by the user, [[and]]

outputs said playlist including a plurality of said digital images added, wherein said plurality of digital images, said plurality of related information, said list identifying the other digital images, and said playlist are outputted in a same display, and

outputs one of the other digital images to be positioned next to another one of the other digital images in said list identifying the other digital images.

See id. at 48 (February 16, 2010 amendments to claim 1).

1. (Currently Amended) A digital image recording and reproducing apparatus connectable to a display module, said apparatus comprising:

an output module which displays a plurality of digital images and a plurality of related information concerning said digital images recorded in a recording medium on the display module, each digital image corresponding to one of said plurality of related information; and

a control module which selects a digital image to add in a playlist, based on one of the plurality of information concerning the digital image recorded in said recording medium; wherein for a selected digital image selected by the user, said control module:

retrieves other digital images whose related information is the same as the selected digital image, the other digital images being candidates for adding in said playlist,

outputs a list identifying the other digital images retrieved based on their related information to select another digital image to add in said playlist when said another digital image is selected from other digital images as the candidates by the user,

outputs said playlist including a plurality of said digital images added, wherein said plurality of digital images, said plurality of related information, said list identifying the other digital images, and said playlist are outputted in a same display, and

outputs one of the other digital images to be positioned next to another one of the other digital images in said list identifying the other digital images.

See id. at 48 (September 30, 2011 amendments to claim 1).

49. The prosecution history therefore demonstrates that the USPTO recognized that the interplay between the output module, control module including the digital image retrieval, and digital image output and arrangement of the '198 Patent is patentably distinct over the relevant art. *See also* Pet. Br. at 18-22. As shown below, Petitioner's cited references fail to disclose at least the same limitations as were discussed at length during prosecution, leading to the Notice of Allowance.

C. Challenged Claims

50. The challenged claims are 1-16. The language of these claims is as follows:

CLAIMS
[1pre] A digital image recording and reproducing apparatus connectable to a display module, said apparatus comprising:
[1a] an output module which displays a plurality of digital images and a plurality of related information concerning said digital images recorded in a recording medium on the display module, each digital image corresponding to one of said plurality of related information; and
[1b] a control module which selects a digital image to add in a playlist, based on one of the plurality of information concerning the digital image recorded in said recording medium;
[1c.i] wherein for a selected digital image selected by the user, said control module; retrieves other digital images whose related information is the same as the selected digital image, the other digital images being candidates for adding in said playlist,
[1c.ii] outputs a list identifying the other digital images retrieved based on their related information to select another digital image to add in said playlist when said another digital image is selected from other digital images as the candidates by the user,
[1c.iii] outputs said playlist including a plurality of said digital images added, wherein said plurality of digital images, said plurality of related information, said list identifying the other digital images, and said playlist are outputted in a same display, and
[1c.iv] outputs one of the other digital images to be positioned next to another one of the other digital images in said list identifying the other digital images.
[2] The digital image recording and reproduction apparatus according to claim 1, wherein said control module rearranges the information showing said selected digital image, based on related information concerning a digital image other than the related information concerning the digital image specified by the user and adds the rearranged information to said display module for display.
[3] The digital image recording and reproduction apparatus according to claim 2, wherein said control module displays information concerning a digital image in which information showing said selected digital image is rearranged.

[4] The digital image recording/reproduction apparatus according to claim 1, wherein a reduced image is displayed on said display module as the information showing the digital image selected by said control module.
[5] The digital image recording and reproducing apparatus accordingly to claim 1, wherein for a selected digital image selected by the user, said control module outputs a telop to select another digital image from a plurality of the other digital images to add in said playlist when the telop is selected.
[6pre] A method for creating a playlist designating an reproduction order for image data reproduced from a recording medium having a plurality of image data and associated information concerning said image data that are recorded thereon, said method comprising:
[6a] listing the associated information concerning an image data recorded on said recording medium as a program list;
[6b] receiving, from a user, selection of a desired image data to be registered with a playlist from said program list;
[6c] retrieving an image data associated with associated information selected, from associated information concerning said selected image data;
[6d] retrieving other image data whose related information is the same as the desired image data selected by the user, the other digital images being candidates for adding in said playlist;
[6e] listing information identifying said other image data to select another digital image to add in said playlist when said another digital image is selected from other digital images as the candidates by the user;
[6f] displaying said plurality of image data, said associated information, said listed information identifying the other image data, and said playlist including a plurality of said digital image data added in a same display; and
[6g] displaying one of the other digital image data to be positioned next to another one of the other digital image data in said list identifying the other digital image data.
[7] The method for creating a playlist according to claim 6, wherein said image data is a recorded program and information identifying said image information is a program title and/or a program time zone.
[8] The method for creating a playlist according to claim 7, wherein said selecting-menu contains a selecting-menu used for registering all image data retrieved.
[9] The method for creating a playlist according to claim 7, wherein a retrieval condition used in retrieving said selected image data is displayed.
[10] The method for creating a playlist according to claim 7, wherein when information identifying said retrieved image data is added to a display, the

information is rearranged for display based on associated information different from a retrieval condition used for the retrieval.
[11] The method for creating a playlist according to claim 6, wherein when information identifying said retrieved image data is added to a display, the information is rearranged for display based on associated information different from a retrieval condition used for the retrieval.
[12] A method for creating a playlist according to claim 6, wherein for a selected digital image selected by the user, displaying a selection menu including a telop to determine whether or not to register a plurality of said other image data to add in said playlist, when the telop is selected.
[13a] A dubbing list-creating method for selecting an image data in dubbing from a recording medium having a plurality of image data and associated information thereof that are recorded thereon to another recording medium, said method comprising:
[13b] receiving, from a user, selection of desired image information to be registered with a dubbing list from said program list;
[13c] retrieving image information associated with image information selected, from the associated information concerning the selected image data;
[13d] retrieving other digital images whose related information is same as the one of the digital images selected from other digital images as the candidates by the user, the other digital images being candidates for adding in said playlist;
[13e] listing information identifying the retrieved image information;
[13f] displaying said plurality of image data said associated information, said listed information identifying said retrieved image information, and said dubbing list including a plurality of said digital image data added in a same display; and
[13g] displaying one of the other digital image data to be positioned next to another one of the other digital image data in said list identifying the other digital image data.
[14] The dubbing list-creating method according to claim 13, wherein said selecting menu includes a telop to determine a bit rate so as to registering all the retrieved image data.
[15] The dubbing list-creating method according to claim 14, wherein the bit rate for said image data is determined based on a recordable capacity of said another recording medium on which dubbing is made.
[16] A dubbing list creating method according to claim 13, wherein for a selected digital image selected by the user, displaying a selection menu including a telop to determine whether or not to register a plurality of said retrieved images to add in said dubbing list when the telop is selected.

VI. CLAIM CONSTRUCTION FOR THE '198 PATENT

51. I have interpreted the remaining terms in accordance with their “plain and ordinary” meaning. As such, I have applied the ordinary and customary meaning that the terms would have had to a person of ordinary skill in the art at the time of the invention of July 21, 2004 (the '198 Patent's priority date) in view of the patent's specification.

A. “retrieve”/ “retrieval”

52. In order to overcome the deficiencies of its primary reference, Nagaoka, Petitioners advocate for an overly broad construction of “retrieve” or “retrieval” that is contrary to the plain and ordinary meaning of the term and the intrinsic record.

53. In particular, Petitioners allege that “Nagaoka's facial recognition software (the claimed control module) retrieves other digital images whose related information is the same as the selected digital image.” EX1003 ¶113; Pet. Br. 56-57. Specifically, Dr. Bederson alleges that Nagaoka's “Figure 6 shows the retrieval of digital images based on the similarity measure data (e.g., “similar to Momoko”) being the same:

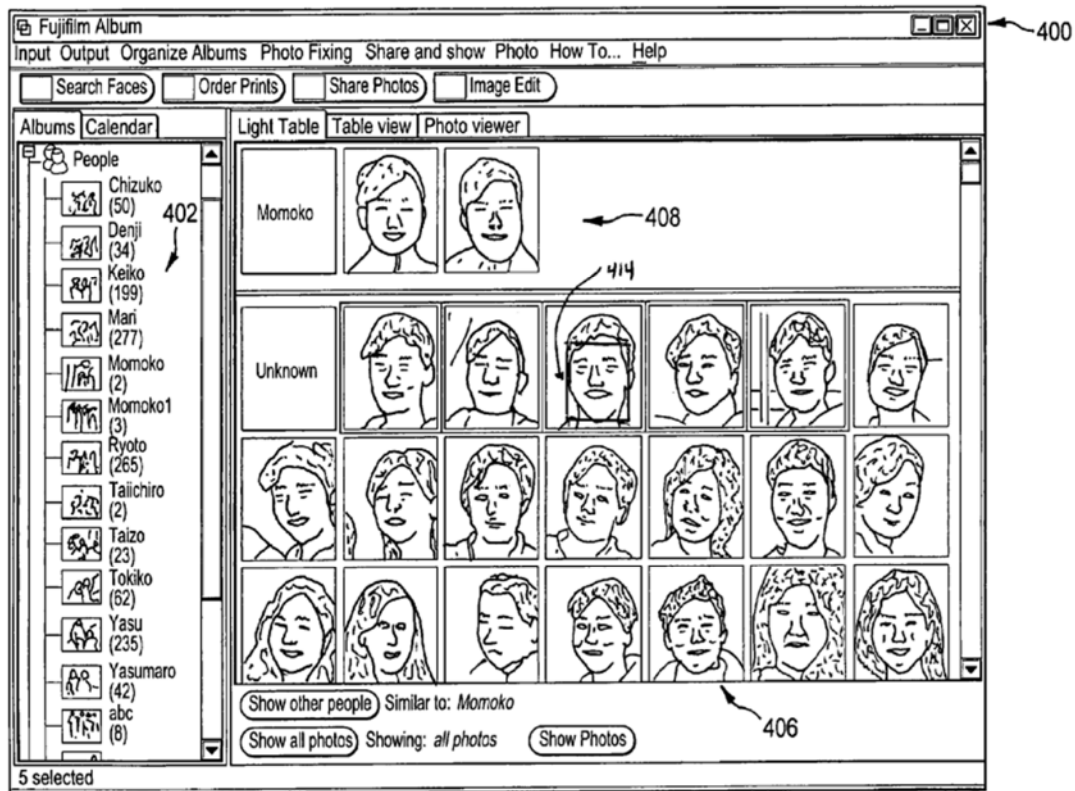


FIG.6

Nagaoka, FIG. 6; EX1003 ¶113.

54. In essence, Petitioners are advocating that Nagaoka’s function of sorting a pre-identified set of digital images (unknown faces in the “unknown” display window portion 406) based on a “similarity measure” in order of “most similar to least similar” to reference images (images in the model display window portion 408) constitutes a “retrieval.” Nagaoka, 5:22-25, 5:43-49; *see* EX1003 ¶113.

55. Petitioners are forced to take such an overly broad construction because Nagaoka is completely silent as to any “retrieve” or “retrieval” operation. *See generally* EX1004. In fact, Petitioners’ own expert, Dr. Bederson, confirmed at deposition that he does not know whether Nagaoka ever uses the word “retrieve” in

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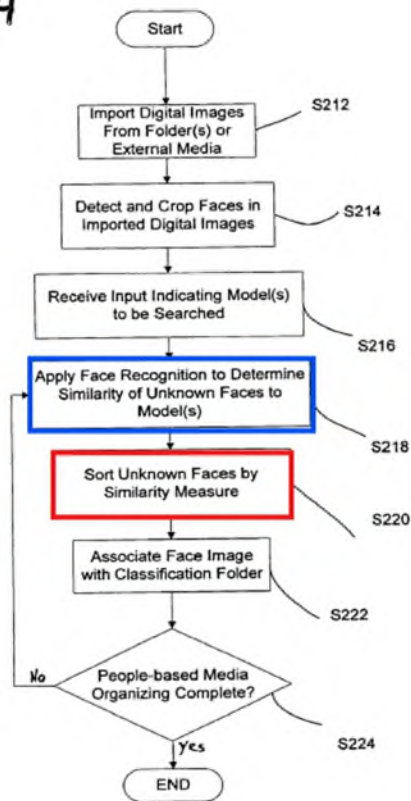
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its specification. EX2020 at 77:13-16 (“I don’t know, I would have to check.”); *see also* EX2020 at 78:5-7 (“I don’t recall specifically checking to see if Nagaoka ever uses the word retrieve.”).

56. However, Petitioners misconstrue the term “retrieve”/“retrieval” here, as Nagaoka makes no disclosure that its similarity measurement function includes any type of retrieval within the plain and ordinary meaning of the term. Rather, Nagaoka merely **sorts** a pre-identified set of images classified as “unknown faces” **based on similarity measure** for display in the display window portion 406, rather than “retrieving” images of the unknown faces. *See* Nagaoka, 5:8-11 (“FIG. 6 is an exemplary graphical user interface display screen associated with displaying face images **sorted by similarity to model face images**”) (emphasis added), 5:43-48 (“the media organizing control unit 38 **sorts the unknown faces by similarity measure** (most similar to least similar) and outputs an updated ‘unknown’ display window portion 406 (FIG. 6.) showing the unknown faces in **sorted** order (S220)”) (emphasis added). Specifically, FIG. 4 of Nagaoka shows that only **after** all unknown faces have been detected (Step S214) and the face recognition-based organization function determines the similarity measure of the pre-detected unknown faces (Step S214, highlighted in blue below), the unknown faces are then **sorted based on similarity measure** (Step S220, highlighted in red below):

FIG. 4



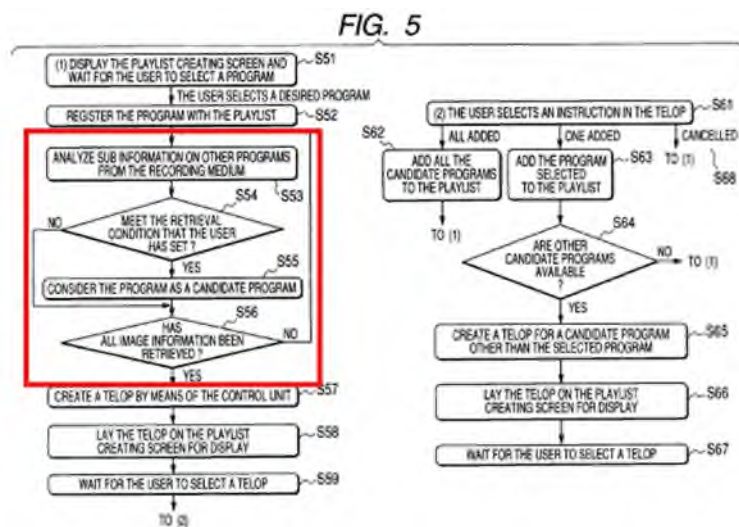
Nagaoka, FIG. 4, 2:26-28.

57. In my opinion, sorting a pre-determined set of images, which are already compiled and displayed for the user, does not equate to retrieval. Such an interpretation is inconsistent with the intrinsic record. Petitioner's inconsistent reading of the claim terms renders this proposed construction necessary.

58. The intrinsic evidence repeatedly discloses that the plain and ordinary meaning of these claim terms is abundantly clear. For example, the '198 Patent discloses that the user may "retrieve among the recorded programs" a subset of programs that meet the retrieval condition (*i.e.* "a program having a title name with the same first few letters as those of the program selected" or "a program having

the same series information as that of the recorded program selected by the user”).

’198 Patent, 4:15-19, 4:23-27, 5:56-61, 5:66-6:03. Further, FIG. 5 of the ’198 Patent includes a flow diagram showing that, when analyzing “information on other programs” considered in Step S53, only the subset of programs that “meet the retrieval condition that the user has set” (Yes at Step S54) are considered “as a candidate program” by the control module (S55):



Id. at FIG. 5.

59. The specification makes clear that the plain and ordinary meaning of retrieve/retrieval is to extract a subset of items (*i.e.*, candidate programs meeting a specific condition) from a set of stored items (*i.e.*, all programs stored in the recording medium). Notably, Dr. Bederson agreed at deposition that claim limitation [1c.i] “uses the term retrieves and I don’t see it using the term sorts,” and likewise confirmed that [1c.i] “uses the word ‘retrieves,’ I don’t see it using the term

organizes.” EX2020 at 19:22-20:7. Dr. Bederson further agreed that sorting and selecting are “not the same word.” EX2020 at 60:23-61:7. Thus, in my opinion that a POSITA would not understand this meaning to include a sorting function merely organizing preselected items that are previously compiled and displayed.

60. Extrinsic evidence also supports this plain and ordinary meaning of a “retrieval” function as evidenced by the technical dictionary definition of “retrieve” and “retrieval:”

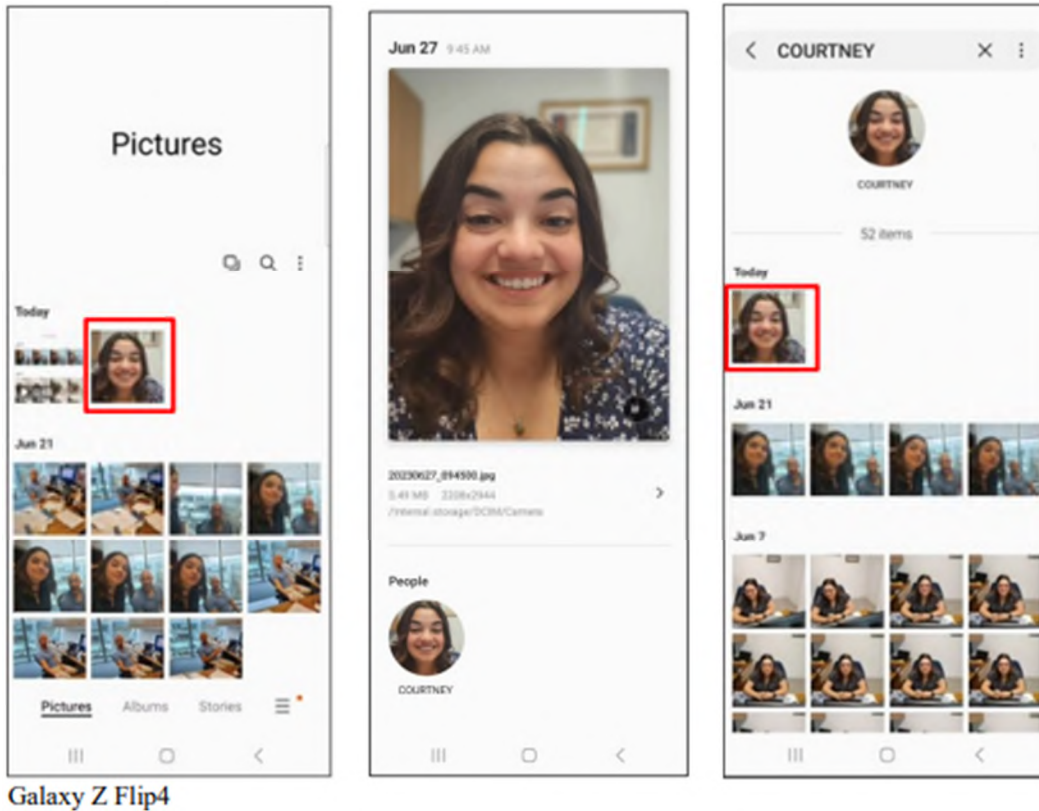
retrieve *vb.* To obtain a specific requested item or set of data by locating it and returning it to a program or to the user. Computers can retrieve information from any source of storage—disks, tapes, or memory.

retrieve, Microsoft Computer Dictionary (5th ed. 2002).

retrieval /rɪˈtri:v(ə)/ *noun* the process of searching, locating and recovering information from a file or storage device
retrieve /rɪˈtri:v/ *verb* to extract information from a file or storage device ○
These are the records retrieved in that search.

retrieval, retrieve, Bloomsbury Dictionary of Computing (5th ed. 2004).

61. This definition is also consistent with Maxell’s Infringement Contentions, where the infringement theories specifically identify retrieval operations, *i.e.* “after a user selects a specific recognized person . . . the control module (the Gallery’s software) . . . retrieves other digital images from the device’s storage.” See EX1023 at 118-121 (excerpted below):



EX1023 at 121.

VII. SUMMARY OF MY OPINIONS

62. After considering the material available to me in this proceeding in view of my experience in the field of image recording and reproduction and processing, it is my opinion that the challenged claims of the '198 Patent are patentable over the cited prior art. Specifically, it is my opinion that Dr. Bederson has not shown by a preponderance of the evidence that the challenged claims 1-16 are rendered obvious by the cited prior art.

63. Moreover, it is my understanding that, even if the claimed elements of the '198 Patent independently existed in the prior art references (which

they do not), such disclosure is not enough to demonstrate that the challenged claims are unpatentable.

64. Accordingly, and as I will explain in greater detail in the following section, it is my opinion that Claims 1-16 of the '198 Patent are patentable over the art and arguments that Petitioners and Dr. Bederson have presented. I discuss the bases for my opinions in the following section.

VIII. THE PRIOR ART

65. Here, I will provide a brief overview of each of the references used in Dr. Bederson's obviousness combinations.

A. Description of Nagaoka

66. Nagaoka is entitled "Method and Apparatus for Organizing Digital Media Based on Face Recognition." EX1004.

67. Nagaoka is directed to "a computer-based method and system for organizing media, and more particularly to a computer-based system and method for organizing digital photos in accordance with objects detected and recognized in the digital photos." EX1004, 2:46-49, Figs. 1-2.

68. In one implementation, , a user may "drag and drop" recognized faces from imported digital photos, which have not been associated with a known person's folder, from an "unknown" display window portion into a particular person's folder, where a face recognition-based organization function sorts the

unknown faces based on a “similarity measure” in order of “most similar to least similar” to the selected model. *See id.* at 5:19-29, 5:43-49.

B. Description of Benjamin

69. Benjamin is entitled “Play List Manager.” EX1005.

70. Benjamin is directed to the creation of playlists with respect to criteria pertaining to music (audio) information. *See generally* EX1005, *see also* 1:20-59.

71. Benjamin “provides for a play list manager than can be used to create and update play lists. The play lists can be used for audio information, visual information or a combination of audio and visual information. In one embodiment, a play list stores the names of tracks to be played. The user of the play list manager creates a play list and specifies certain criteria for automatically adding tracks to the play list. When a new track is added to the environment, the system tests whether the track’s properties satisfy the criteria for the play list. If so, the new track is automatically added to the play list. In one alternative, a user can select to create or update a predefined play list whose criteria has already been created. Upon selection of the predefined play list, the play list manager accesses each track and automatically adds the track to the play list if the track’s properties satisfy the criteria for the predefined playlist. In one embodiment, after a play list is created and tracks are added, the tracks on the play list are automatically played.” EX1005, 1:62-2:13.

C. Description of Nara

72. Nara is entitled “Digital Broadcast Receiver and Backup Method.” EX1006.

73. Nara relates to “a digital broadcast receiver capable of reducing time and labor to back-up contents recorded on one recording medium to another recording medium.” EX1006, Abstract.

74. Nara describes “a digital broadcast receiver characterized by comprising: extracting means for automatically extracting a plurality of contents recorded, out of order, on a recording medium by a first attribute of the contents; and arranging means for automatically rearranging contents extracted by the extracting means according to a second attribute of extracted contents, for recording onto a second recording medium.” EX1006, 1:44-51.

D. Description of Imada

75. Imada is entitled “Recording Apparatus, Recording Program, and Recording Method.” EX1007.

76. Imada relates to a recording apparatus for recording a plurality of audio-visual contents stored in a HD to a writable DVD. *See* EX1007, Abstract.

77. More particularly, Imada “relates to an improvement in a technique for making a backup copy of a content recorded in one recording medium in another recording medium.” EX1007, [0002].

E. Description of Watanabe

78. Watanabe is entitled “Apparatus and Method for Managing Contents in a Computer.” EX1008.

79. Watanabe “relates to a contents management apparatus and contents management method in a computer having a function of managing the number of duplicated contents of music, movies or the like, which can be stored in a storage medium” (*id.* at [0002]), where “an object of the present invention to provide a contents management apparatus and contents management method in a computer, which allows contents to be easily written to a storage medium and read therefrom and managements the number of duplicate contents to be recorded on the storage medium to limit the duplication of contents and thus protect the contents by copyright.” *Id.* at [0007].

F. Description of Looney

80. Looney is entitled “Media Organizer and Entertainment Center.” EX1009.

81. Looney “relates to media/data (music, books, movies, etc.) organization, playback and recording systems, and more particularly to a system that enables organization, storage, playback and recording of a wide range of individual music selections/songs according to user-defined or pre-programmed list of categories.” EX1009, 1:31-36.

82. Specifically, Looney discloses a “media and entertainment center” directed to the organization of music data that “enables a listener to organize and playback music in a highly customized manner.” EX1009, 1:45-46, 2:17.

83. Looney provides “a media organizer and entertainment center that enables customized playback of music or other media/data such as movies, films, books, tape, etc. having a variety of predetermined categories that are provided, typically, ahead of time by a service provider, but can also be customized and edited by a user.” EX1009, 2:8-13.

G. Description of Platt

84. Platt is entitled “Auto Playlist Generation with Multiple Seed Songs.” EX1022.

85. Platt is directed to a playlist generation method “for a library or collection of media items via selecting a plurality of seed items, at least one of which is an undesirable seed item.” EX1022, Abstract.

86. Platt “relates generally to systems and methodologies that facilitate generation of playlists. The invention can also facilitate organization and access to media items by identifying items similar to desirable characteristics and dissimilar to undesirable characteristics by analyzing user selectable seed items. The present invention facilitates playlist generation for a library or collection of media items by permitting a user to select a plurality of seed items.” EX1022, 2:10-18.

H. Description of Kaplan

87. Kaplan is entitled “Systems, Methods and Computer Program Products for Managing Multimedia Content.” EX1016.

88. Kaplan relates to “a multimedia management system for storing, manipulating, and displaying multimedia content. The system comprises a user interface, a plurality of predefined functions, a multimedia acquisition interface, and system controls. The system provides users with a simple and intuitive method and computer program for reviewing multimedia content, which can include digital video, digital audio and text, still images, animation, and MIDI.” EX1016, [0004].

IX. ANALYSIS OF INSTITUTED GROUNDS

89. I understand that the Board instituted review of the ’198 Patent on Grounds 1-6 in IPR2025-01314:

Ground	’198 Patent Claim(s)	Type of Challenge	Primary Reference	Secondary Reference(s)
1	1-4, 6, 9-11	§ 103	Nagaoka	None
2	5 and 12	§ 103	Nagaoka	Benyamin
3	7 and 13	§ 103	Nagaoka	Nara
4	14-15	§ 103	Nagaoka	(1) Nara (2) Benyamin (3) Imada
5	8, 16	§ 103	Nagaoka	(1) Nara (2) Benyamin
6	1-16	§ 103	Watanabe	(1) Looney (2) Platt (3) Kaplan

90. I have analyzed each of the instituted grounds. As explained in greater detail below, it is my opinion that each of these grounds does not show that the challenged claims of the '198 Patent are unpatentable as obvious.

91. As I discuss herein, Dr. Bederson and Petitioners failed to show that the challenged claims of the '198 Patent are obvious. Note that my decision not to discuss a particular limitation in detail here is not an indication that I agree that limitation is met by the prior art. Rather, I have elected to focus my opinions on the most glaring deficiencies in Dr. Bederson's obviousness analysis.

92. To show how the claims are not obvious over the prior art, I will follow the framework of the four *Graham* factors.

93. Regarding level of ordinary skill in the art, I have provided my opinions regarding the appropriate level of ordinary skill in the art in Section III(D) of this declaration. I incorporate that discussion by reference into my opinions for each Ground.

94. Regarding the scope and content of the prior art, I have provided a brief overview of the six prior art references at issue in Section VIII and incorporate that discussion by reference herein for each respective Ground that a given prior art reference is discussed.

95. Regarding the differences between the prior art and the claimed invention, I set forth my detailed analysis regarding those differences in the subsequent sections for each Ground.

A. Ground 1: Nagaoka Does Not Render Claims 1-4, 6, and 9-11 Obvious

96. For Ground 1, neither the Petitioners nor Dr. Bederson have shown a likelihood of prevailing because Nagaoka does not teach each and every element of Claims 1-4, 6, and 9-11. Specifically, the various embodiments of Nagaoka do not teach independent claim elements [1b], [1c.i], [1c.ii], [1c.iii], and [1c.iv] (and comparable elements of claim 6: [6b], [6c], [6d], [6e], [6f], and [6g]), as required for each of these claims. Additionally, because dependent claims 2-4 and 9-11 depend from claims 1 and 6 that Dr. Bederson has not shown to be unpatentable, Petitioners and Dr. Bederson have also failed to show that claims 2-4 and 9-11 are unpatentable by Nagaoka.

1. Nagaoka Fails to Render Obvious Limitations [1b] and [6b]

97. Petitioners and Dr. Bederson fail to show that that Nagaoka renders obvious claim elements [1b]: “a control module which selects a digital image to add in a playlist, based on one of the plurality of information concerning the digital image recorded in said recording medium” as well as [6b]: “receiving, from a user, selection of a desired image data to be registered with a playlist from said program list.”

98. Specifically, Dr. Bederson and Petitioners point to no evidence that the “control module” (which they define as the “media organizing control unit 38”) “selects a digital image” based on one of the plurality of information concerning a digital image as required by [1b]. *See* EX1003, ¶109-111; Pet Br. 52-55. Rather, Nagaoka’s “media organizing control unit 38” merely **“organize[s] and/or browse[s] digital photos”** based on **selections made by the user**. *See* EX1003, ¶109 (quoting Nagaoka, 4:3-5).

99. As a first example, Dr. Bederson and Petitioners point to Nagaoka’s media and control organizing unit’s capability to **“organize and/or browse** digital photos organized by date,” in which “the **user may select** dates.” EX1003, ¶109-111 (quoting Nagaoka, 4:3-5); Pet. Br. 52-53. In describing this function, Nagaoka’s specification explains that “the **user may select from this category list** to organize digital photos,” in which categories may include “dates, events, places, and people.” Nagaoka, 3:61-67. Thus, it is clear that the **user**, not the control module (*i.e.*, the “media organizing control unit”) carries out the selection function.

100. Moreover, in this example the user merely **selects a category** from “a category list” rather than “a digital image” as required by [1b]. Recognizing the weakness of its argument, Dr. Bederson claims that a “POSITA would have further found it obvious to organize digital images based on underlying metadata,

including the date the photo was taken.” See EX1003, ¶109; Pet. Br. 53. But that assertion does not satisfy the “control module which selects a digital image to add in a playlist” element. Dr. Bederson himself conceded at deposition that “a category list is probably not itself a digital image, it’s a category list which can contain digital images, or which is information related to digital images.” EX2020 at 45:8-17. Thus, Petitioners and Dr. Bederson fail to demonstrate Nagaoka’s disclosure of “a control module which selects a digital image to add in a playlist” using this first example.

101. As a second example, Dr. Bederson and Petitioners claim that Nagaoka’s software (acting as the “control module”) “selects digital images to add in a playlist based on the related information (facial recognition).” EX1003, ¶110 (citing Nagaoka, 5:22-29); Pet. Br. 53 (citing Nagaoka, 5:22-29). However, Petitioners and Dr. Bederson once again mischaracterize Nagaoka here and thus fail to show that Nagaoka renders obvious “a control module which selects a digital image to add in a playlist” as required by [1b].

102. Nagaoka’s face recognition-based organization function, which Petitioners and Dr. Bederson rely on for this limitation, is carried out by the “facial recognition unit 36,” which “**obtains a similarity measure** for each unknown face,” the unknown faces being pre-identified “faces from imported digital photos that have not been associated with a particular person folder,” which the “media organizing control unit 38 **sorts** (most similar to least similar) and outputs an updated

‘unknown’ display window portion 406 (FIG. 6.), showing the unknown faces in **sorted** order.” Nagaoka, 5:05-16, 5:22-25, 5:43-49 (emphasis added).

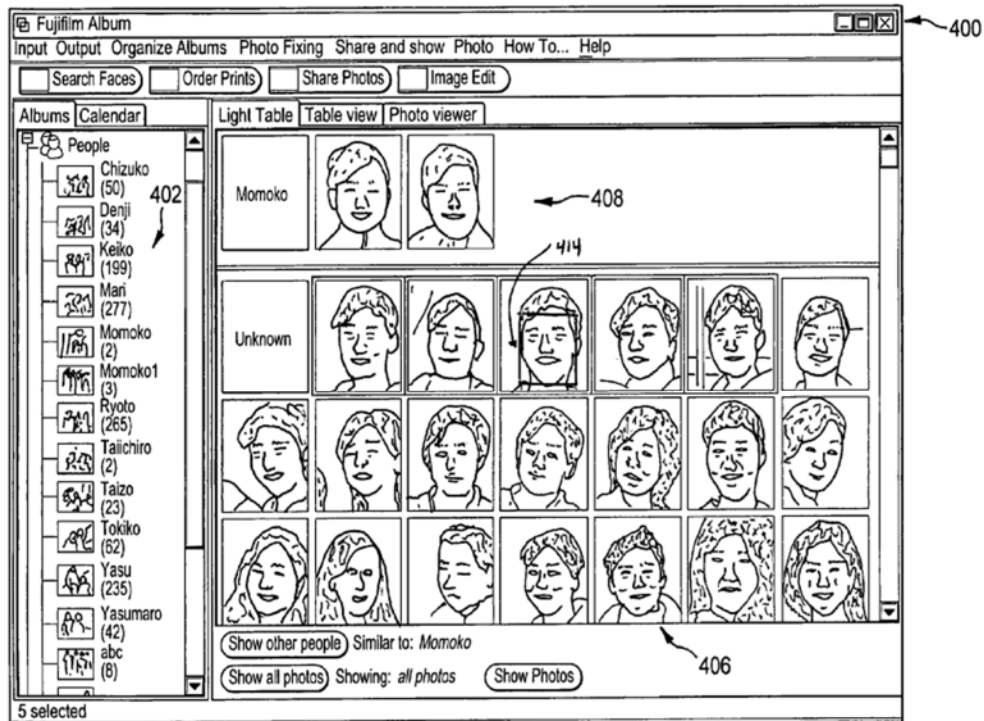


FIG.6

Nagaoka, FIG. 6.

103. Specifically, the '198 Patent's claim 1 requires that an image is selected by a control module to add into a playlist. This is different than what the claimed steps requires from Nagaoka that is sorting based on a “similarity measure.” Specifically, Nagaoka confirms that sorting by similarity measure does not correspond to a selection function “because the media organizing control unit 38 sorts the unknown faces by similarity measure (*most similar to least similar*).”

Nagaoka, 5:43-49 (emphasis added). This is an index of types, not a selection function. That is why even after Nagaoka completes “sorting” it:

outputs an updated unknown display window portion 406 (FIG. 6) showing the unknown faces in sorted order (S220). Using this updated display 400, the user is able to drag and drop one or more of the Sorted unknown faces from the “unknown display window portion 406 into a model display window portion 408 (step S222). If, after the user has dragged and dropped an unknown face into the model display window portion 408, there are additional unknown faces the face recognition algorithm is repeated (S218).

Nagaoka, 5:47-56.

If Nagaoka already had “selected” images, it would not require the user to then “drag and drop” after the fact and the system to run face recognition again in Step S218. *Id.* Thus, the entire flow of Nagaoka is different. First, the system provides a preliminary similarity information (Step S218), then it uses this to sort unknown faces, then it presents these to a user who then selects them, and then in the end additional face recognition is provided again. Nagaoka, 5:46-56. At no point is an image selected by a control module. In fact, Nagaoka only uses the term “select” in association with user functions. *See, e.g.*, Nagaoka, 3:67 (“the user may select”), 4:03 (“the user may select”), 4:09 (“the user may select”), 4:21-31, 4:43-46 (“allows the user to select folders or individual images”), 4:62-63 (“the user can select”), 5:3-4 (“the user may select”), 5:18 (“the user may select”), 5:25-26 (“Once the user has selected”). Dr. Bederson confirmed this at deposition, testifying that

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sorting and selecting are “not the same word.” EX2020 at 60:23-61:7.

104. Moreover, Petitioners do not set forth any analysis here as to how a POSITA would find it obvious to alter Nagaoka’s functionality to render obvious this limitation, and thus do not meet their burden of proof. *See* Pet. Br. 52-53. The output and purpose of Nagaoka's step S220 is fundamentally different from the selection function contemplated by the '198 patent. Nagaoka's step S220 sorts all unknown faces and displays them in a ranked order for user review — no faces are excluded or selected as specific candidates. *See* Nagaoka, 5:43-49 (describing Step S220). Any attempt to modify Nagaoka's step S220 to arrive at the “select [ion] of a digital image” limitation of claim 1 of the '198 patent would not be a simple substitution or minor adjustment. It would require a fundamental restructuring of Nagaoka's entire operational flow, for several independent reasons. Nagaoka's workflow is specifically and purposefully designed around the iterative refinement of a similarity gradient. After the user drags and drops one or more sorted unknown faces from the “unknown” display window portion into the model display window portion at step S222, “there are additional unknown faces (S224), the face recognition algorithm is repeated (S218).” Nagaoka, 5:52-55. This iterative loop — applying face recognition, sorting by similarity, receiving user input of a selection, and repeating — is the core of Nagaoka's system. Replacing the similarity-based

sorting with a selection of a single digital image would require a complete redesign of the this iterative refinement loop entirely.

105. Further, Nagaoka's system requires continuous user judgment to classify faces precisely because the similarity measure does not, and cannot, definitively establish identity. The user must visually inspect sorted faces and manually drag and drop those that the user believes belong to a given person. Nagaoka, 5:46-56 . Replacing Nagaoka's similarity-dependent user judgment workflow with a selection function based on same related information would require eliminating the user's role in selecting items and fundamentally changing the nature of the system's output from a sorted display to a filtered selection result. The '198 patent's claim element, by contrast, involves a control module that selects specific digital images and presents them “as candidates for adding in said playlist,” excluding non-matching images from the candidate set. See '198 Patent at Claim 1. Converting Nagaoka's inclusive, ranked display into an exclusive, filtered candidate selection would alter the fundamental character of Nagaoka's output.

106. Furthermore, Petitioner's characterization of Nagaoka's model display window portion 408 as a “playlist” is unsupported. Nagaoka never uses the word “playlist” anywhere in its specification—a fact Dr. Bederson confirmed at deposition, testifying “I don't recall it doing so.” EX2020 at 63:3-6. Rather, display window portion 408 functions as a comparison model for the face recognition

algorithm: the user drags and drops unknown faces into 408 so that the facial recognition unit 36 can “determine similarity of unknown faces to the selected model.” Nagaoka, 5:25-29. Dr. Bederson acknowledged that dragging images into 408 “does perform facial recognition” and only offered an alternative “obviousness opinion” that “if 408 is determined to not be a playlist it would be obvious to modify 408 so it could be a playlist.” EX2020 at 84:2-20. For the reasons stated above, Petitioners and Dr. Bederson fail to point to or articulate any disclosure by Nagaoka of “a control module which selects a digital image to add in a playlist.”

107. With regards to [6b] in view of Nagaoka, Petitioners and Dr. Bederson merely repeat [1b]’s arguments without citing to any additional arguments, evidence, or addressing differences in claim language, namely [6b]’s disclosure of “associated information” or “a program list”. See EX1003, ¶125; Pet. Br. 65. Thus, it is my opinion that, for at least the same reasons as [1b] is not met, Petitioners and Dr. Bederson have also not properly demonstrated that [6b] is rendered obvious by Nagaoka by a preponderance of the evidence.

108. Therefore, because Petitioners and Dr. Bederson has not shown Nagaoka renders obvious claim elements [1b] and [6b], in my opinion, there is no reasonable likelihood of success of any claim challenged in Ground 1.

2. Nagaoka Fails to Render Obvious Limitations [1c.i], [6c], and [6d]

109. Petitioners and Dr. Bederson fail to show that that Nagaoka renders obvious claim elements [1c.i]: “wherein for a selected digital image selected by the user, said control module; retrieves other digital images whose related information is the same as the selected digital image” as well as [6c]: “retrieving an image data associated with associated information selected, from associated information concerning said selected image data,” and [6d]: “retrieving other image data whose related information is the same as the desired image data selected by the user, the other digital images being candidates for adding in said playlist.”

110. Specifically, Dr. Bederson and Petitioners fail to show that Nagaoka’s “control module” (which they define as the “media organizing control unit 38 and/or Nagaoka’s facial recognition software”) “retrieves other digital images whose related information is the same as the selected digital image” required by [1c.i]. See EX1003, ¶112-114; Pet. Br. 55-57.

111. Nagaoka’s “media organizing control unit 38 and/or facial recognition software” does not render obvious “the retrieval of digital images based on the similarity measure data” as Petitioners and Dr. Bederson argue. EX1003, ¶113; Pet. Br. 56-57. Rather, Nagaoka’s “media organizing control unit 38 and/or facial recognition software” merely “**sorts the unknown faces by similarity measure.**” See Nagaoka, 5:05-11, 5:25-29, 5:43-49 (emphasis added). As explained

above in Section VI(A) and below, **sorting** image data is not the same as **retrieving** image data as the term “retrieve” would be understood by a POSITA. Moreover, Petitioners fail to demonstrate how a POSITA would find it obvious to modify Nagaoka to render obvious such a retrieval function under the proper construction.

112. Specifically, the ’198 Patent’s claim requires that retrieval needs to occur for other digital images whose related information is the same. This is different than what the claimed steps requires from Nagaoka that is sorting based on a “similarity measure.” Specifically, Nagaoka confirms that similarity measure does not correspond to the same related information “because the media organizing control unit 38 sorts the unknown faces by similarity measure (*most similar to least similar*).” Nagaoka, 5:43-49 (emphasis added). This is an index of types, not retrieval of media containing the “same” information. That is why even after Nagaoka completes “sorting” it:

“outputs an updated unknown display window portion 406 (FIG. 6) showing the unknown faces in sorted order (S220). Using this updated display 400, the user is able to drag and drop one or more of the Sorted unknown faces from the “unknown display window portion 406 into a model display window portion 408 (step S222). If, after the user has dragged and dropped an unknown face into the model display window portion 408, there are additional unknown faces the face recognition algorithm is repeated (S218).”

Nagaoka, 5:47-56.

113. If Nagaoka already had “retrieved” images based on the same related information, it would not require the user to then “drag and drop” after the fact and the system to run face recognition again in Step S218. *Id.* Thus, the entire flow of Nagaoka is different. First, the system provides a preliminary similarity information (Step S218), then it uses this to sort unknown faces, then it presents these to a user who then selects them, and then in the end additional face recognition is provided again. Nagaoka, 5:46-56. At no point is the same related information used to retrieve anything from memory. Moreover, the output and purpose of Nagaoka's step S220 is fundamentally different from the retrieval contemplated by the '198 patent. Nagaoka's step S220 sorts all unknown faces and displays them in a ranked order for user review — no faces are excluded or retrieved as specific candidates. *See* Nagaoka, 5:43-49 (describing Step S220).

114. Additionally, any attempt to modify Nagaoka's step S220 to arrive at the “retrieves other digital images whose related information is the same” limitation of claim 1 of the '198 patent would not be a simple substitution or minor adjustment. It would require a fundamental restructuring of Nagaoka's entire operational flow, for several independent reasons. Nagaoka's workflow is specifically and purposefully designed around the iterative refinement of a similarity gradient. After the user drags and drops one or more sorted unknown faces from the “unknown” display window portion into the model display window portion at step

S222, “there are additional unknown faces (S224), the face recognition algorithm is repeated (S218).” Nagaoka, 5:52-55. This iterative loop — applying face recognition, sorting by similarity, receiving user input, and repeating — is the core of Nagaoka's system. Replacing the similarity-based sorting with a retrieval of images with the “same related information” would require a complete redesign of the this iterative refinement loop entirely.

115. Further, Nagaoka's system requires continuous user judgment to classify faces precisely because the similarity measure does not, and cannot, definitively establish identity. The user must visually inspect sorted faces and manually drag and drop those that the user believes belong to a given person. Nagaoka, 5:46-56 . Replacing Nagaoka's similarity-dependent user judgment workflow with a retrieval based on same related information would require eliminating the user's role in classifying items and fundamentally changing the nature of the system's output from a sorted display to a filtered retrieval result. The '198 patent's claim element, by contrast, involves a retrieval that selects only those digital images meeting the “same” criterion and presents them “as candidates for adding in said playlist,” excluding non-matching images from the candidate set. *See* '198 Patent at Claim 1. Converting Nagaoka's inclusive, ranked display into an exclusive, filtered candidate retrieval would alter the fundamental character of Nagaoka's output.

116. Thus, Nagaoka's face recognition-based organization function does not "retriev[e] digital images based on the similarity measure data" as Petitioners and Dr. Bederson argue, as Nagaoka's sorting functionality does not render obvious retrieval within the plain and ordinary meaning as would be understood by a POSITA as explained above in Section VI(A).

117. For the reasons stated above, Petitioners and Dr. Bederson fail to point to or articulate any disclosure by Nagaoka of limitation [1c.i] "wherein for a selected digital image selected by the user, said control module; retrieves other digital images whose related information is the same as the selected digital image." In the absence of such a disclosure, neither Petitioners nor Dr. Bederson explain how or why incorporating any retrieval function would be obvious to a POSITA.

118. With regards to [6c] and [6d] in view of Nagaoka, Petitioners and Dr. Bederson merely repeat [1c.i]'s arguments without citing to any additional arguments, evidence, or addressing differences in claim language, namely [6c] and [6d]'s disclosure of "associated information." See EX1003, ¶126-127; Pet. Br. 65. For this and reasons stated above with respect to Nagaoka's lack of disclosure of a retrieval function, it is my opinion that Petitioners and Dr. Bederson have not properly demonstrated that [6c] and [6d] are rendered obvious by Nagaoka by a preponderance of the evidence.

119. Therefore, because Petitioners and Dr. Bederson has not shown Nagaoka renders obvious claim elements [1c.i], [6c], and [6d], in my opinion, there is no reasonable likelihood of success of any claim challenged in Ground 1. Because Petitioners and Dr. Bederson rely on this analysis of elements [1c.i], [6c], and [6d] for all of Ground 1 as well as Grounds 2-5, they fail to establish unpatentability by a preponderance of the evidence for any claim challenged in Grounds 1-5.

3. Nagaoka Fails to Render Obvious Limitations [1c.ii] and [6e]

120. Petitioners and Dr. Bederson fail to show that that Nagaoka renders obvious claim elements [1c.ii]: “outputs a list identifying the other digital images retrieved based on their related information to select another digital image to add in said playlist when said another digital image is selected from other digital images as the candidates by the user” as well as [6e]: “listing information identifying said other image data to select another digital image to add in said playlist when said another digital image is selected from other digital images as the candidates by the user.”

121. As set forth above in Section IX(A)(2), Nagaoka does not render obvious “retriev[ing] other digital images whose related information is the same as the selected digital image.” According to the plain and ordinary meaning of the term “retrieve” as set forth in Section VI(A), it is my opinion that a POSITA would understand that Nagaoka’s “face recognition-based organization function” merely

“sorts” digital images as opposed to “retrieving” digital images. In fact, Nagaoka itself confirms that, even when another digital image is selected by the user, merely **“the arrangement of unknown faces in display window portion 406 is updated** as the user drags and drops unknown faces into the model display window portion 408.” Nagaoka, 5:62-67. Thus, the Petition’s deficiency in regard to elements [1c.i], [6c], and [6d] renders limitation [1c.ii] nonobvious by Nagaoka, as Nagaoka does not render obvious “the other digital images retrieved based on their related information.”

122. With regards to [6e] in view of Nagaoka, Petitioners and Dr. Bederson merely repeat [1c.ii]’s arguments without citing to any additional arguments, evidence, or addressing differences in claim language EX1003, ¶128; Pet. Br. 65. For this and reasons stated above with respect to Nagaoka’s failure to render obvious “retrieving” of “said other image data” as required by [6d] it is my opinion that Petitioners and Dr. Bederson have not properly demonstrated that [6e] are rendered obvious by Nagaoka by a preponderance of the evidence.

123. Therefore, Petitioners and Dr. Bederson failed to establish unpatentability by a preponderance of the evidence for any claim challenged in Ground 1. Because Petitioners rely on this analysis of elements [1c.ii] and [6e] for all of Ground 1 as well as Grounds 2-5, Petitioners fail to establish unpatentability by a preponderance of the evidence for any claim challenged in Grounds 1-5.

4. Nagaoka Fails to Render Obvious Limitations [1c.iii], [1c.iv], [6f], and [6g]

124. Petitioners and Dr. Bederson fail to show that that Nagaoka renders obvious claim elements [1c.iii] and [1c.iv], specifically output of a “said list identifying the other digital images,” as well as claim elements [6f] and [6g], specifically “said list identifying the other digital image data.”

125. As set forth above in Section IX(A)(2), Nagaoka does not render obvious “retriev[ing] other digital images whose related information is the same as the selected digital image.” According to the plain and ordinary meaning of the term “retrieve” that I set forth in Section VI(A), a POSITA would understand that Nagaoka’s “face recognition-based organization function” merely “sorts” digital images and thus does not render obvious “retrieving” digital images. Thus, the Petition’s deficiency in regard to elements [1c.i], [6c], and [6d] renders limitations [1c.iii] and [1c.iv] nonobvious by Nagaoka, as Nagaoka does not render obvious “the other digital images,” which are “retrieved based on their related information.”

126. With regards to [6f] and [6g] in view of Nagaoka, Petitioners and Dr. Bederson merely repeat their arguments for claim elements [1c.iii] and [1c.iv] without citing to any additional arguments, evidence, or addressing differences in claim language. EX1003, ¶¶129-130; Pet. Br. 65-66. For this and reasons stated above with respect to Nagaoka’s failure to render obvious “retrieving” of “said other image data” as required by claim 6, it is my opinion that Petitioners and Dr. Bederson

have not properly demonstrated that [6f] and [6g] are rendered obvious by Nagaoka by a preponderance of the evidence.

127. Therefore, Petitioners and Dr. Bederson failed to establish unpatentability by a preponderance of the evidence for any claim challenged in Ground 1. Because Petitioners and Dr. Bederson rely on this analysis of elements [1c.iii], [1c.iv], [6f], and [6g] for all of Ground 1 as well as Grounds 2-5, they fail to establish unpatentability by a preponderance of the evidence for any claim challenged in Grounds 1-5.

5. Nagaoka Fails to Render Obvious Claims 2-4 and 9-11

128. Petitioners and Dr. Bederson fail to show that that Nagaoka renders obvious claim 2: wherein said control module rearranges the information showing said selected digital image, based on related information concerning a digital image other than the related information concerning the digital image specified by the user and adds the rearranged information to said display module for display, claim 3: wherein said control module displays information concerning a digital image in which information showing said selected digital image is rearranged, claim 4: wherein a reduced image is displayed on said display module as the information showing the digital image selected by said control module, claim 9: wherein a retrieval condition used in retrieving said selected image data is displayed, claim 10: wherein when information identifying said retrieved image data is added

to a display, the information is rearranged for display based on associated information different from a retrieval condition used for the retrieval, and claim 11: wherein when information identifying said retrieved image data is added to a display, the information is rearranged for display based on associated information different from a retrieval condition used for the retrieval.

129. As set forth above in Sections IX(A)(1)-(4), Nagaoka does not render obvious key elements of independent claims 1 and 6, specifically a “retrieval” function within its facial recognition capabilities. According to the plain and ordinary meaning of the term “retrieve” that I set forth in Section VI(A), a POSITA would understand that Nagaoka’s “face recognition-based organization function” merely “sorts” digital images as opposed to “retrieving” digital images. Thus, the Petition’s deficiency in regard to independent claims 1 and 6 render corresponding dependent claims 2-4 and 9-11 nonobvious by Nagaoka.

130. Specifically with regards to claims 3, 10, and 11, Petitioners and Dr. Bederson merely repeat the same arguments made for claim 2 arguments without citing to any additional arguments, evidence, or addressing differences in claim language. EX1003, ¶121, 132-133; Pet. Br. 63-64, 66. Thus, Petitioners have failed to meet their burden of proof for claims 3, 10, and 11 by merely reapplying their claim 2 arguments without addressing any differences in claim language. For this and reasons stated above with respect to Nagaoka’s failure to render obvious

“retrieving” of “said other image data” as required by independent claim 6 it is my opinion that Petitioners and Dr. Bederson have not properly demonstrated that dependent claims 3, 10, and 11 are rendered obvious by Nagaoka by a preponderance of the evidence.

131. Therefore, Petitioners and Dr. Bederson failed to establish unpatentability by a preponderance of the evidence for claims 2-4 and 9-11.

B. Ground 2: Nagaoka in View of Benjamin Does Not Render Claims 5 and 12

132. Claim 5 depends from claim 1, and claim 12 depends from claim 6. As set forth above in Sections IX(A)(1)-(4), Nagaoka fails to teach all of the limitations of claims 1 and 6. Additionally, Petitioners and Dr. Bederson have not provided sufficient evidence to show that a POSITA would combine Benjamin with Nagaoka to render obvious a telop. For these reasons, Ground 2 fails to show unpatentability by a preponderance of the evidence.

1. No Motivation to Combine Nagaoka with Benjamin

133. For Ground 2, Petitioners and Dr. Bederson attempt to use the Benjamin reference to fill in the various gaps of the teachings of Nagaoka with regard to the dependent claims of the '198 Patent, particularly with regards to Nagaoka's missing telop. *See generally* Pet. Br., 66-69; Ex. 1003, ¶¶135-140. However, Petitioners and Dr. Bederson have not met their burden in showing that a

POSITA would be motivated to combine Nagaoka and Benyamin. Thus, Ground 2 fails for this reason alone.

134. Petitioners and Dr. Bederson have not shown how a POSITA would have combined the teachings of Benyamin with at least the teachings of Nagaoka with any expectation of success. In my opinion, a POSITA wouldn't be motivated to combine Nagaoka with Benyamin because they are two different systems directed at solving different problems. The problem solved by Benyamin is unrelated to the technical solutions addressed by Nagaoka. Nagaoka relates to "organizing **digital media, particularly digital photos**, using face recognition." EX1004, Abstract (emphasis added). On the other hand, Benyamin is specifically directed to solving problems within the field "**digital music technology**," discussing in detail the creation of playlists with respect to criteria pertaining to music (audio) information. *See generally* EX1005, *see also* 1:20-59. Benyamin does not relate to or mention facial recognition for organizing digital information at all. A POSITA would not be motivated to combine the musical playlist manager from Benyamin with Nagaoka's facial recognition organizational system, because Nagaoka is directed to "organizing digital media, particularly digital photos, using face recognition," and is not directed to generating playlists based on criteria pertaining to audio or audiovisual data. *See* EX1004, Abstract; EX1005, Abstract. Thus, in my

opinion, a POSITA would not be motivated to combine Nagaoka and Benjamin because they are two different systems directed to solving different problems.

135. Therefore, in my opinion, Petitioners and Dr. Bederson failed to establish unpatentability by a preponderance of the evidence for any claim in Ground 2.

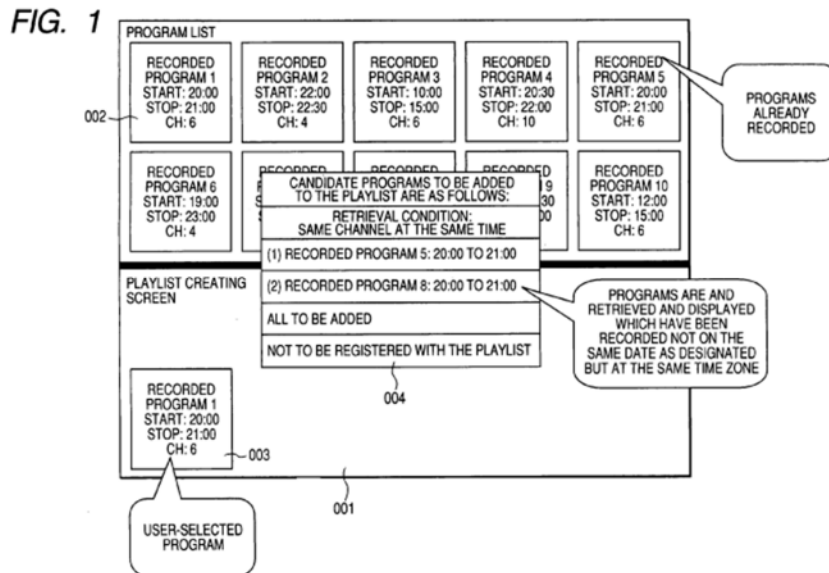
2. The Combination of Nagaoka with Benjamin Fails to Render Obvious Claims 5 and 12

136. Petitioners and Dr. Bederson fail to show that that Nagaoka in combination with Benjamin renders obvious claim 5: “a telop to select another digital image from a plurality of the other digital images to add in said playlist when the telop is selected,” and claim 12: “a selection menu including a telop to determine whether or not to register a plurality of said other image data to add in said playlist, when the telop is selected.”

137. Even if we were to assume, *arguendo*, that a POSITA would have been motivated to combine Nagaoka with Benjamin with any expectation of success, the combination of Nagaoka with Benjamin still fails to render obvious “a telop.” Petitioners and Dr. Bederson argue that claim 5 and 12 are rendered obvious in part because “a POSITA would have found it obvious to use a telop, such as the one disclosed in Benjamin” and that Benjamin discloses a telop because “[i]n one embodiment, Benjamin discloses that ‘the software provides a window indicating to the user that the track meets the criteria for a play list and requests that the user

confirm that the track should be added to the play list.’ EX1005, 15:57-60.” Pet. Br. 68-69; *see also* EX1003, ¶¶139-140. However, Benjamin does not make any mention of the word “telop,” nor is Benjamin’s reference to a “window” the claimed telop.

138. For example, a telop is discussed in the ’198 Patent within the context of Figure 1 where “Reference numeral 004 denotes a telop displayed on a display screen (*i.e.* a small frame displayed on a display screen in piles).” EX1001, 2:45-47. Figure 1 is reproduced below:



Id., Fig. 1; *see also id.* at 2:53-62, 5:1-8, 6:20-30, Figs. 2, 8, 9.

Petitioners and Dr. Bederson do not provide any evidence that the “window” in Benjamin is a “telop to select another digital image from a plurality of the other digital images” as required by Claim 5. In the absence of Benjamin’s express

disclosure of a “telop,” Petitioners and Dr. Bederson make no attempt to construe the term “telop.” See EX1003, ¶¶139-140; Pet. Br., 66-69. Moreover, Petitioner’s assertion that “A POSITA would have been motivated because Benjamin demonstrates that such telops were well known in the art” is not supported by any evidence. See EX1003, ¶139; *see also* Pet. at 69. Thus, Petitioners and Dr. Bederson fail to show that Benjamin rendered obvious a “telop” as required by claim 5.

139. Moreover, because Petitioners and Dr. Bederson fail to show that claim 5 is met by Nagaoka in combination with Benjamin as explained above, and rely on these same arguments for claim 12 without citing to any additional arguments, evidence, or addressing differences in claim language, Petitioners and Dr. Bederson fail to show that claim 12 is met for at least the same reasons explained above. See EX1003 ¶¶139-140; Pet. Br., 69.

140. In sum, it is my opinion that Petitioners and Dr. Bederson have failed to show by a preponderance of evidence that Nagaoka in view of Benjamin renders obvious claims 5 and 12 for at least the reasons stated above.

C. Ground 3: Nagaoka in View of Nara Does Not Render Claims 7 and 13 Obvious

141. As I describe above in Sections IX(A)(1)-(4), Nagaoka fails to teach all of the limitations of independent claim 6, from which dependent claim 7 depends. Additionally, Dr. Bederson and Petitioners have not shown how a POSITA would have been motivated to combine the teachings of Nagaoka with the teachings

of Nara to render obvious a dubbing function. For these reasons, Ground 3 fails to show unpatentability by a preponderance of the evidence.

1. No Motivation to Combine Nagaoka with Nara

142. For Ground 3, Petitioners and Dr. Bederson attempt to use the Nara reference to fill in the various gaps of the teachings of Nagaoka with regard to the dependent claims of the '198 Patent, particularly with regards to Nagaoka's missing dubbing list creating method. *See generally* Pet. Br., 69-75; EX1003, ¶¶141-155. However, Petitioners and Dr. Bederson have not met their burden in showing that a POSITA would be motivated to combine Nagaoka and Nara. Thus, Ground 3 fails for this reason alone.

143. Petitioners and Dr. Bederson have not shown how a POSITA would be motivated to combine the teachings of Nara with the teachings of Nagaoka with any expectation of success. In my opinion, a POSITA wouldn't be motivated to combine Nagaoka with Nara because they are not analogous. Moreover, Nagaoka and Nara are two different systems directed at solving different problems. The problem solved by Nara is unrelated to the technical solutions addressed by Nagaoka. Nagaoka relates to “**organizing digital media**, particularly digital photos, **using face recognition**,” and does not disclose more than one medium. *See* EX1004, Abstract (emphasis added). On the other hand, Nara relates to “a digital broadcast receiver capable of reducing time and labor **to back-up contents recorded on one**

recording medium to another recording medium.” EX1006, Abstract. Nara does not relate to or mention organization of digital information using face recognition at all. In my opinion, a POSITA would not be motivated to combine the backup function between mediums from Nara with Nagaoka’s facial recognition organizational system, because Nagaoka is directed to “organizing digital media, particularly digital photos, using face recognition,” and is not directed to the solution of “reducing time and labor to back-up contents recorded on one recording medium to another recording medium.” *Compare* EX1004, Abstract, *with* EX1006, Abstract.

144. Moreover, Dr. Bederson does not explain how a POSITA would modify Nagaoka’s facial recognition system to integrate Nara’s back-up capabilities from one medium to another, leaving a POSITA to engage in an uncertain and speculative process. *See* EX1003, ¶¶141-145; Pet. Br., 69-71. Critically, Dr. Bederson confirmed at deposition that Nara does not disclose face recognition technology, testifying: “sitting here right now, I don’t see it specifically describing an algorithm for face recognition.” EX2020 at 107:15-108:4. Dr. Bederson could not point to any express teaching, instead relying on the general proposition that “Nagaoka provides a general system including the ability to support digital images into lists and managing the content using digital recorders and a person of skill in the art would be motivated to use that system and improve it.” EX2020 at 116:5-17. Thus, Petitioners and Dr. Bederson fail to show how a POSITA would be motivated

to combine and/or modify Nagaoka and Nara because they are directed to solving different problems using different methods.

145. Therefore, in my opinion, Petitioners and Dr. Bederson failed to establish unpatentability by a preponderance of the evidence for any claim in Ground 3.

2. The Combination of Nagaoka with Nara Fails to Render Obvious Claim 7

146. Petitioners and Dr. Bederson fail to show that that Nagaoka in combination with Nara renders obvious claim 7: “wherein said image data is a recorded program and information identifying said image information is a program title and/or a program time zone.”

147. Even if we were to assume, *arguendo*, that a POSITA would have been motivated to combine Nagaoka with Nara with any expectation of success, the combination of Nagaoka with Nara still fails to render obvious claim 7 because, as explained above in Sections IX(A)(1)-(4), Nagaoka fails to render obvious each and every element of independent claim 6, from which claim 7 depends.

148. Thus, it is my opinion that Petitioners and Dr. Bederson have failed to show by a preponderance of evidence that Nagaoka in view of Nara renders obvious claim 7 for at least the reasons stated above.

3. The Combination of Nagaoka with Nara Fails to Render Obvious Claim 13

149. Petitioners and Dr. Bederson fail to show that Nagaoka in combination with Nara renders obvious claim 13: A dubbing list-creating method for selecting an image data in dubbing from a recording medium having a plurality of image data and associated information thereof that are recorded thereon to another recording medium.

150. As explained above in Section IX(C)(1), it is my opinion that a POSITA would not be motivated to combine Nagaoka with Nara.

151. Moreover, because Petitioners and Dr. Bederson fail to show that claim 1 and 6 are met by Nagaoka as explained in Sections IX(A)(1)-(5), and rely on these same arguments for claim [13a]-[13g] without citing to any additional arguments, evidence, or addressing differences in claim language, Petitioners and Dr. Bederson fail to show that claim 13 is met for at least the same reasons explained above in Sections IX(A)(1)-(5). *See* EX1003 ¶¶149-155, Pet. Br., 74-75.

152. In sum, it is my opinion that Petitioners and Dr. Bederson have failed to show by a preponderance of evidence that Nagaoka in view of Nara renders obvious claim 13 for at least the reasons stated above.

153. Therefore, Petitioners and Dr. Bederson failed to show unpatentability by a preponderance of the evidence for any claim in Ground 3.

D. Ground 4: Nagaoka in View of Nara, Benyamin, and Imada Does Not Render Claims 14-15 Obvious

154. As I describe above in Section IX(C)(3), Petitioners and Dr. Bederson fail to demonstrate that Nagaoka in view of Nara teaches all of the limitations of independent claim 13, from which dependent claims 14 and 15 depend. Additionally, Dr. Bederson and Petitioners have not shown how a POSITA would have been motivated to combine the teachings of Nagaoka with the teachings of Nara, Benyamin, and Imada to establish that claims 14-15 would have been rendered obvious. Moreover, the four-reference combination of Ground 4 presents a case of impermissible hindsight reconstruction. Petitioners ask the Board to combine Nagaoka (organizing photos by face recognition), Nara (backing up broadcast content between media), Benyamin (managing audio playlists in an automobile), and Imada (copying audio-visual content from an HD to a DVD)—four non analogous references directed to four fundamentally different problems. The proposed combination of all four references thus requires a person of ordinary skill in the art to: (1) start with Imada's HD-to-DVD backup system with bit rate re-encoding; (2) incorporate from Benyamin a criteria-based playlist creation methodology that operates in an entirely different manner than the '198 Patent's user-selection-triggered retrieval; (3) import from Nagaoka a face recognition-based photo organizing paradigm that has no logical application to recorded broadcast programs; and (4) add from Nara a metadata-based content extraction system designed for a

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completely different purpose (backup, not playlist creation). No person of ordinary skill in the art would have had any reason to look to these four disparate references—spanning face recognition, in-vehicle music servers, HD-to-DVD backup recorders, and digital broadcast tape backup systems—and understand how to combine their teachings to arrive at the specific playlist-creating apparatus of the '198 Patent. The proposed combination is the product of impermissible hindsight, using the '198 Patent itself as a roadmap to selectively pick and choose elements from unrelated references that, taken together, do not teach or suggest the claimed invention. At deposition, Dr. Bederson was confronted with this fact and could not deny it, conceding only that the references “address some of the same issues” and “also address different problems.” EX2020 at 125:2-9. When asked to identify what single problem a POSITA would have been trying to solve that would lead to combining all four references, Dr. Bederson could not articulate one, instead deflecting that “having a single problem that all the pieces of prior art solve is not on the list of criteria that was provided to me.” EX2020 at 128:6-21. Dr. Bederson further admitted that no single reference among the four suggests combining with the others, asserting only that there is no legal “requirement” that one reference must motivate the inclusion of others. EX2020 at 127:10-128:5. For these reasons, Ground 4 fails to show unpatentability by a preponderance of the evidence.

1. Dr. Bederson Does Not Adequately Articulate a Combination of Imada's Teachings With Nagaoka

155. For Ground 4, Petitioners and Dr. Bederson attempt to use the Imada reference to fill in the various gaps of the teachings of Nagaoka with regard to the dependent claims of the '198 Patent, particularly with regards to Imada's disclosure of bit rates. *See generally* EX1003, ¶¶156-162; Pet. Br. 75-77. However, Petitioners and Dr. Bederson have not met their burden in showing that a POSITA would be motivated to combine Nagaoka with Imada. Thus, Ground 4 fails for this reason alone.

156. Dr. Bederson's general motivation-to-combine discussion makes only conclusory statements that a POSITA would have modified the teachings in Nagaoka based on Imada's "recording apparatus for recording a plurality of audio-visual contents stored in a HD to a writable DVD." EX1003, ¶157, Pet. Br., 75-76. However, because Nagaoka and Imada are directed to two fundamentally different systems solving different problems, it is my opinion that a POSITA would not be motivated to combine the two references in the manner suggested by Petitioner.

157. Nagaoka relates to organizing digital images using face recognition. *See* Nagaoka, Abstract. On the other hand, Imada relates to a recording apparatus for recording a plurality of audio-visual contents stored in a HD to a writable DVD. *See* EX1007, Abstract. Imada does not relate to or mention facial recognition for organizing digital information at all. In an attempt to avoid these

fundamental differences, Dr. Bederson fails to provide sufficient facts and/or data to support his positions. *See* EX1003, ¶¶156-159, Pet. Br. 75-76. Dr. Bederson does not provide any factual basis regarding how a POSITA would modify Nagaoka's system to incorporate the technology in Imada. For example, Petitioners and Dr. Bederson assert that "it was well known in the art to utilize bit rate to determine recording capacity." *See* Pet. Br., 76; EX1003, ¶157. However, neither Petitioners nor Dr. Bederson provide any evidence or facts to support this statement. Thus, Petitioners and Dr. Bederson have not met their burden in showing that a POSITA would be motivated to combine Nagaoka with Nara or Benjamin.

158. Therefore, Petitioners and Dr. Bederson failed to show unpatentability by a preponderance of the evidence for any claim in Ground 4.

2. No Motivation to Combine Nagaoka with Nara or Benjamin

159. For Ground 4, Petitioners and Dr. Bederson attempt to use the Nara and Benjamin reference to fill in the various gaps of the teachings of Nagaoka with regard to the dependent claims of the '198 Patent. *See generally* EX1003, ¶¶134-155; Pet. Br., 75-77. However, as explained above in Sections IX(C)(1) and IX(B)(1), and Petitioners and Dr. Bederson have not met their burden in showing that a POSITA would be motivated to combine Nagaoka with Nara or Benjamin. Thus, Ground 4 fails for this reason alone.

160. Therefore, in my opinion, Petitioners and Dr. Bederson failed to establish unpatentability by a preponderance of the evidence for any claim in Ground 4.

3. The Combination of Nara, Benyamin, and Imada Fails to Render Obvious Claims 14-15

161. Petitioners and Dr. Bederson fail to show that that Nagaoka in combination with Nara renders obvious claim 14: “wherein said selecting menu includes a telop to determine a bit rate so as to registering all the retrieved image data” and claim 15: “wherein the bit rate for said image data is determined based on a recordable capacity of said another recording medium on which dubbing is made.”

162. Even if we were to assume, *arguendo*, that a POSITA would have been motivated to combine Nagaoka with Nara, Benyamin, and Imada with any expectation of success, this combination still fails to render obvious claims 14-15 because, as explained above in Section IX(C)(3), Nagaoka in combination with Nara fails to render obvious each and every element of independent claim 13, from which claims 14-15 depend.

163. Thus, it is my opinion that Petitioners and Dr. Bederson have failed to show by a preponderance of evidence that Nagaoka in view of Nara renders obvious claims 14-15 for at least the reasons stated above.

164. Therefore, Petitioners and Dr. Bederson failed to show unpatentability by a preponderance of the evidence for any claim in Ground 4.

E. Ground 5: Nagaoka in View of Nara and Benjamin Does Not Render Claims 8 and 16 Obvious

1. No Motivation to Combine Nagaoka with Nara or Benjamin

165. For Ground 5, Petitioners and Dr. Bederson attempt to use the Nara and Benjamin reference to fill in the various gaps of the teachings of Nagaoka with regard to the dependent claims of the '198 Patent. *See generally* EX1003, ¶¶134-155; Pet. Br. 77-78. However, as explained above in Section IX(D)(2), it is my opinion that Petitioners and Dr. Bederson have not met their burden in showing that a POSITA would be motivated to combine Nagaoka with Nara or Benjamin. Petitioners again ask the Board to combine Nagaoka (organizing photos by face recognition), Nara (backing up broadcast content between media), and Benjamin (managing audio playlists in an automobile). The proposed combination of these three references requires a person of ordinary skill in the art to: (1) start with Benjamin, a criteria-based playlist creation methodology that operates in an entirely different manner than the '198 Patent's user-selection-triggered retrieval; (3) import from Nagaoka a face recognition-based photo organizing paradigm that has no logical application to Nara's recorded broadcast programs; and (4) add from Nara a metadata-based content extraction system designed for a completely different purpose (backup, not playlist creation). No person of ordinary skill in the art would have had any reason to look to these four disparate references—spanning face recognition, in-vehicle music servers, and digital broadcast tape backup systems—

and understand how to combine their teachings to arrive at the specific playlist-creating apparatus of the '198 Patent. The proposed combination is the product of impermissible hindsight, using the '198 Patent itself as a roadmap to selectively pick and choose elements from unrelated references that, taken together, do not teach or suggest the claimed invention.

166. Dr. Bederson's deposition testimony confirms that the references are directed to different problems—Nagaoka to facial recognition-based photo organization, Nara to broadcast backup between media, and Benyamin to audio playlist management in automobiles. EX2020 at 125:2-127:9. Dr. Bederson could not identify any express teaching, suggestion, or motivation in Nagaoka's disclosure that would lead a POSITA to seek out and combine the dubbing functionality of Nara, admitting only that "Nagaoka provides a general system" for managing digital media. EX2020 at 116:5-17. Similarly, with respect to Benyamin, Dr. Bederson conceded he did not recall Benyamin "specifically describing an algorithm for face recognition technology" and could not explain how a POSITA would integrate Benyamin's audio-focused system into Nagaoka's face recognition system. EX2020 at 99:13-20. Thus, Ground 5 fails for this reason alone.

167. Therefore, in my opinion, Petitioners and Dr. Bederson failed to establish unpatentability by a preponderance of the evidence for any claim in Ground 5.

2. The Combination of Nara and Benjamin Fails to Render Obvious Claims 8 and 16

168. Petitioners and Dr. Bederson fail to show that that Nagaoka in combination with Benjamin and Nara renders obvious claim 8: “a telop to select another digital image from a plurality of the other digital images to add in said playlist when the telop is selected,” and claim 16: “wherein for a selected digital image selected by the user, displaying a selection menu including a telop to determine whether or not to register a plurality of said retrieved images to add in said dubbing list when the telop is selected.”

169. Even if we were to assume, *arguendo*, that a POSITA would have been motivated to combine Nagaoka with Nara and Benjamin with any expectation of success, the combination of Nagaoka with Nara and Benjamin still fails to render obvious claim 8 because, as explained above in Sections IX(A)(1)-(4) and IX(C)(2), Nagaoka in combination with Nara fails to render obvious each and every element of independent claim 6 as well as dependent claim 7, both of which claim 8 depends on.

170. Moreover, because Petitioners and Dr. Bederson fail to show that claim 5 is met by Nagaoka in combination with Benjamin as explained above in Section IX(B)(2), and relies on these same arguments for claims 8 and 16 without citing to any additional arguments, evidence, or addressing differences in claim language, Petitioners and Dr. Bederson fail to show that claims 8 and 16 are met for

at least the same reasons explained above in Section IX(B)(2). *See* EX1003 ¶¶164-165.

171. In sum, it is my opinion that Petitioners and Dr. Bederson have failed to show by a preponderance of evidence that Nagaoka in view of Benjamin renders obvious claims 8 and 16 for at least the reasons stated above.

172. Therefore, Petitioners and Dr. Bederson failed to show unpatentability by a preponderance of the evidence for any claim in Grounds 5.

F. Ground 6: Watanabe in view of Looney, Platt, and Kaplan Does Not Render Claims 1-16 Obvious

173. For Ground 6, neither the Petitioners nor Dr. Bederson has shown a likelihood of prevailing because Watanabe in view of Looney, Platt, and Kaplan does not teach each and every element of Claims 1-16. Petitioners use impermissible hindsight to combine these four references. Watanabe organizes content by music-specific metadata (artist, album, genre) with no content analysis or face recognition. *See generally* Watanabe. Looney organizes content by user-defined or service-provider-defined categories (music style, dance type, speed, energy) with no face recognition or visual content analysis. *See generally* Looney. Platt organizes content by computing similarity metrics from music-characterizing feature vectors using machine-learned lookup tables—again with no face recognition functionality. *See generally* Platt. Kaplan organizes content into user-created containers with thumbnail representations and discloses biometric/facial recognition as a search tool

for locating individuals' images, but does not disclose playlist creation or retrieval of candidate programs based on shared recording attributes. *See generally* Kaplan. The proposed combination of Watanabe with Looney, Platt, and Kaplan thus requires a person of ordinary skill in the art to: (1) start with Watanabe's music DRM check-in/check-out system; (2) incorporate from Looney a category-button-driven search paradigm that operates on music-specific categories entirely unlike broadcast recording metadata; (3) import from Platt a multi-seed weighted similarity computation system based on music feature vectors; and (4) add from Kaplan a manual thumbnail-selection playlist feature with an unrelated biometric search capability. None of these references teaches or suggests the specific mechanism of claims 1 and 13—the automatic retrieval of other digital images whose related information is the same as a user-selected digital image, the output of a list identifying those retrieved images as candidates for playlist addition, and the display of the digital images, related information, candidate list, and playlist in a same display. The proposed combination can only be achieved through impermissible hindsight reconstruction, using the '198 Patent itself as a roadmap to selectively extract and recombine disparate teachings from four unrelated multimedia management systems that, taken together, do not arrive at the claimed invention. Even when combined, Watanabe in combination with Looney and Platt does not teach each and every element of claim 1, 6, and 13. Additionally, because dependent

claims 2-5, 7-12, and 14-16 depend from claims that Petitioners have not shown to be unpatentable, Petitioners have also failed to show that claims 2-5, 7-12, and 14-16 are unpatentable by Watanabe in view of Looney, Platt, and Kaplan.

1. No Motivation to Combine Watanabe with Looney or Platt

174. In my opinion, at the time of the '198 Patent, it would not have been obvious to a POSITA to combine Watanabe with Looney or Platt. Dr. Bederson's statements as to why Watanabe should be combined with Looney or Platt is conclusory and unsupported by sufficient evidence and analysis.

175. It is my opinion that a POSITA would not be motivated to combine Watanabe with Looney or Platt because they are all different systems directed at solving different problems. The problem solved by Watanabe is unrelated to the technical problems addressed by Looney and Platt. Watanabe discloses an "apparatus and contents management **method** in a computer having a **function of managing the number of duplicated contents** of music, movies or the like" in a "**medium-to-medium**" data transmission. EX1008, [0002], [0005] (emphasis added). Moreover, Watanabe proposes a content management method directed to "**reliably manage[]** the duplication of the original data, especially the **contents to be protected by copyright.**" EX1008, [0006] (emphasis added).

176. In contrast, Looney discloses a "**media and entertainment center**" directed to the organization of music data that "**enables a listener to**

organize and playback music in a highly customized manner.” EX1009, 1:45-46, 2:17. In my opinion, a POSITA would not be motivated to combine the components from Watanabe’s media duplication management system between mediums with Looney’s music organization apparatus, because Watanabe is directed to managing “duplication of the original data” for “copyright purposes” in a “medium-to-medium” data transmission, and is not directed to user customization of music data.

177. It is also my opinion that a POSITA would not be motivated to combine the components from Watanabe’s media duplication management system to Platt’s **playlist generation method** “for a library or collection of media items **via selecting a plurality of seed items**, at least one of which is an undesirable seed item.” EX1022, Abstract (emphasis added). A POSITA would not be motivated to combine Watanabe with Platt because Watanabe is directed to managing “duplication of the original data” for “copyright purposes” in a “medium-to-medium” data transmission, and is not directed to playlist generation methods according to user preference via selection of seed items.

178. Additionally, Dr. Bederson fails to provide any rationale as to why a POSITA would combine the data transmission methods of Watanabe with the media and entertainment center of Looney, or the playlist generation methods of Platt. Petitioners and Dr. Bederson simply provide a conclusory statement that a

POSITA would have been motivated to combine Watanabe with Looney and Platt because they “relate to the same general subject matter organizing digital images into lists and managing the content.” EX1003, ¶167, Pet. Br., 78-79. Dr. Bederson’s conclusory statements are insufficient to establish a motivation to combine Watanabe with Looney or Platt.

179. In my opinion, Watanabe’s data management and transmission methods, directed towards managing the number of duplicated contents, is directed towards solving a different problem than Looney’s music organization apparatus, or Platt’s musical playlist generation methods. In sum, Dr. Bederson fails to properly articulate how a POSITA would be motivated to combine the Watanabe system with either Looney’s apparatus or Platt’s methods, as Dr. Bederson’s analysis fails to consider fundamental differences between these three references.

180. Therefore, it is my opinion that a POSITA would not have considered it obvious to combine Watanabe with Looney or Platt.

2. No Motivation to Combine Watanabe with Kaplan

181. In my opinion, at the time of the ’198 Patent, it would not have been obvious to a POSITA to combine Watanabe with Kaplan. Dr. Bederson’s statement as to why Watanabe should be combined with Kaplan is conclusory and unsupported by sufficient evidence and analysis.

182. A POSITA would not be motivated to combine Watanabe with Kaplan because they are two different systems directed at different problems. The problem solved by Watanabe is unrelated to the technical problems addressed by Kaplan. Watanabe discloses an “apparatus and contents management **method** in a computer having a **function of managing the number of duplicated contents** of music, movies or the like” in a “**medium-to-medium**” data transmission. EX1008, [0002], [0005] (emphasis added). Moreover, Watanabe proposes a content management method directed to “**reliably manage[]** the duplication of the original data, especially the **contents to be protected by copyright.**” EX1008, [0006] (emphasis added).

183. In contrast, Kaplan discloses “a multimedia management system for storing, manipulating, and displaying multimedia content” on a **singular “medium.”** See EX1016 Abstract, [0034] (emphasis added). In fact, Kaplan does not discuss media transmission or duplication at all between multiple mediums. See *generally id.*

184. Additionally, Dr. Bederson fails to provide any rationale as to why a POSITA would combine the medium-to-medium data transmission methods of Watanabe with the singular medium media management system of Kaplan. Dr. Bederson simply provides a conclusory statement that a POSITA would have been motivated to combine Watanabe with Kaplan because they “relate to the same

general subject matter organizing digital images into lists and managing the content.” EX1003, ¶167. Dr. Bederson’s conclusory statements provide no factual support.

185. In my opinion, Watanabe’s data management and transmission methods, directed towards managing the number of duplicated contents across mediums, is directed towards solving a different problem on an incompatible system than Kaplan’s singular medium multimedia management system. In sum, Dr. Bederson fails to properly articulate how a POSITA would be motivated to combine the Watanabe system with Kaplan’s system, as Dr. Bederson’s analysis fails to consider fundamental differences between these references. See EX1003 ¶180; Pet. Br., 88-89.

186. Therefore, it is my opinion that a POSITA would not have considered it obvious to combine Watanabe with Kaplan.

3. The Combination of Watanabe and Looney Fails to Render Obvious Limitations [1pre], [1a], [1b], [6pre], [6a], and [13a]

187. Petitioners and Dr. Bederson fail to show that that Watanabe in combination with Looney renders obvious claim elements [1pre], [1a], [1b], [6pre], [6a], [6b], and [13a], which all disclose “digital image” or “image data.”

188. Claim 1’s limitations disclose “display [of] a plurality of digital images,” as well as recording of “a plurality of related information concerning said digital images,” wherein each digital image “correspond[s] to one of said plurality

of related information.” See ‘198 Patent at claim 1. Further, these limitations require a control module that “selects a digital image to add in a playlist, based on one of the plurality of information concerning the digital image.” *Id.* Petitioners cite to its arguments for claim 1 to support its argument for Watanabe’s alleged disclosure of digital image/image data in claims 6 and 13. See Pet. Br., 91-92, 95-97. However, Watanabe’s disclosed embodiments, which Petitioners rely on for the above listed limitations, do not include digital images or image data.

189. Specifically, Dr. Bederson admits that, in the absence of Watanabe’s disclosure of digital image data in its disclosed embodiments, Watanabe’s embodiments “may include image data.” EX1003, ¶170 (citing EX1008 [0047]). Tellingly, when asked at deposition to identify digital images in Watanabe’s Figure 13, Dr. Bederson pointed only to the small music note icons displayed in box 87, testifying that “those music notes are digital images.” EX2020 at 132:14-23. Dr. Bederson admitted he was relying on Watanabe’s specification calling these music notes “icons” in paragraph 119, and offered only that “Icons I think generally are digital images.” EX2020 at 133:24-134:3-9. When pressed further, Dr. Bederson conceded he could not define the full scope of what an icon is, stating: “I don’t have a construction or definition to give you which is why I use the word typically.” EX2020 at 136:4-14. However, Watanabe’s described embodiments, and its functionalities which Petitioners rely on for all three independent claims, are directed

towards audio data. See EX1008, [0167] (“Note that, in the above embodiment, **audio data** is recorded and reproduced”) (emphasis added). For example, Petitioners and Dr. Bederson argue that Watanabe’s “library list display section 87” and icon demonstrates the presence of digital images. See Pet. Br., 79-81 (citing EX1008, [0115]-[119]). However, there is no such disclosure in Watanabe or Figure 13. See EX1008, FIG. 13. As shown in the excerpt below, the SD library manager of Watanabe does not disclose any “digital images” *e.g.*, thumbnails or pictures of individuals or places:

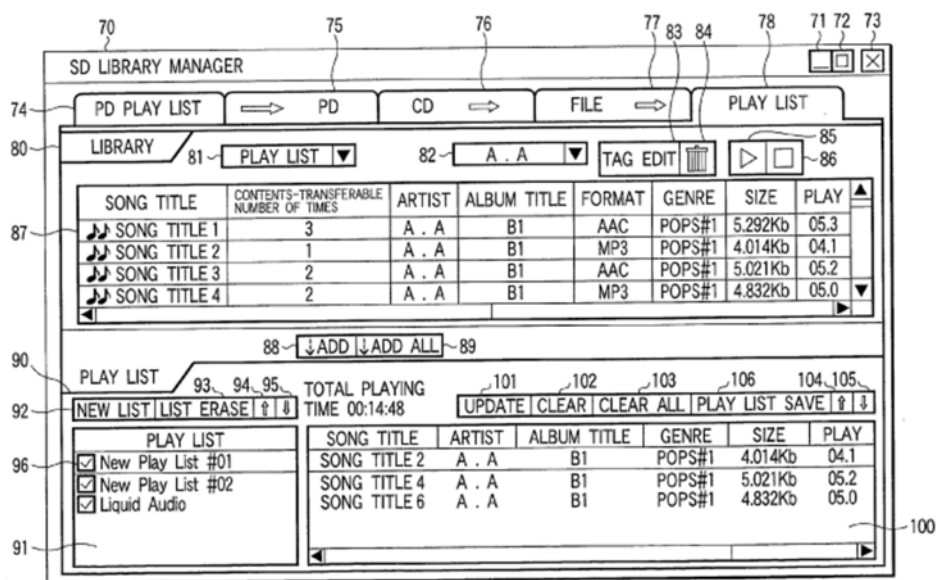


FIG. 13

Id. at FIG. 13.

190. Further, Watanabe’s reference to “icon”—mentioned only once in the entire patent publication—does not disclose the claimed digital image as

Watanabe only discloses a music icon. *See* EX1008, [0119]. Moreover, it would not have been obvious for a POSITA to incorporate digital image data into Watanabe's disclosed functionalities. Watanabe's system is designed primarily for music content—audio CDs imported via a CD drive, MP3 and WAV files imported from folders on a hard disk, and encrypted music data received via electronic music distribution over the Internet. *See generally* Watanabe. This is an entirely different category of metadata reflecting entirely different content domains from the digital image data of the '198 Patent, and there is no teaching in Watanabe that would suggest how music-library metadata (artist, album, genre) could be adapted to or replaced with image metadata as required by the '198 Patent. The modification required to transform Watanabe's system into the '198 Patent's system would go far beyond merely substituting image data for audio data; it would require fundamentally redesigning the system's entire approach to content organization, replacing manual library browsing with automatic candidate retrieval based on shared recording metadata, and introducing an entirely new class of sub-information (time zone, channel, series information) that has no analog in Watanabe's music-centric metadata schema.

191. In the absence of Petitioners evidence or argument regarding how Watanabe's library list display section 87 or icons disclose "digital image" or "image data," and failure to point to any disclosure of components that can record, display,

select, and/or manipulate “digital images” or “image data” in other ways as claimed, Petitioners and Dr. Bederson have not shown Watanabe in view of Looney discloses claim elements [1pre], [1a], [1b], [6pre], [6a], and [6b]. *See generally* EX1008.

192. Therefore, because Petitioners and Dr. Bederson have not shown Watanabe in view of Looney renders obvious claim elements [1pre], [1a], [1b], [6pre], [6a], [6b], and [13a], in my opinion, Petitioners and Dr. Bederson failed to show unpatentability by a preponderance of the evidence for any claim in Ground 6.

4. The Combination of Watanabe and Looney Fails to Render Obvious Limitation [13pre]

193. It is my opinion that Petitioners and Dr. Bederson fail to show that that Watanabe in combination with Looney renders obvious claim element [13pre], which discloses “a dubbing list-creating method for selecting an image data in dubbing.”

194. As explained above in Section IX(F)(3), Watanabe does not disclose “image data” in its functionalities, and is solely directed towards organization of audio data. For this reason alone, Watanabe in combination with Looney fails to renders obvious claim element [13pre].

195. Moreover, Petitioners and Dr. Bederson fail to show that Watanabe in combination with Looney renders obvious “a dubbing list-creating method” as required by claim element [13pre]. Looney makes no mention of “dubbing,” nor do Petitioners or Dr. Bederson set forth any explanation that a

POSITA would consider “dubbing” or “dubbing list” equivalent to Looney’s functionality in the absence of an express disclosure. *See generally* EX1009, Pet. Br., 95-96. Rather, both Petitioners and Dr. Bederson point to Looney’s functionality of “copying all compressed files,” with no other evidence or explanation, to argue disclosure of “a dubbing list creating method” by Looney. *See* EX1003 at 91-92, Pet. Br., 95-96.

196. In sum, it is my opinion that Petitioners and Dr. Bederson have failed to show by a preponderance of evidence that Watanabe in view of Looney renders obvious the “dubbing” method of claim [13pre], nor have they demonstrated unpatentability by a preponderance of the evidence for any claim in Ground 6.

5. The Combination of Watanabe, Looney, and Platt Fails to Render Obvious Limitations [1c.i], [6c], [6d], [13b], [13c], and [13d]

197. Petitioners and Dr. Bederson fail to show that that Watanabe in combination with Looney renders obvious claim elements [1c.i], [6c], [6d], [13b], [13c], and [13d] which all disclose, in some fashion, selection “by a user” or “from a user” of “a digital image,” “desired image data,” or “desired image information,” the method comprising or control module retrieving other digital images/image data/image information whose “related information is the same as the selected digital image.”

198. For elements [6c], [6d], [13b], [13c], and [13d], Petitioners and Dr. Bederson rely on arguments made for claim element [1c.i]. EX1003 ¶¶185-186, 198-200; Pet. Br., 91-92, 96. Thus, Petitioners and Dr. Bederson’s arguments for claim element [1c.i] will be addressed below, and understood to apply to the corresponding claim 6 and claim 13 elements where not otherwise specified.

199. As explained above in Section IX(F)(3), Watanabe does not disclose “digital image” or “image data” in its functionalities, and is directed towards organization of audio data. For this reason alone, Petitioners and Dr. Bederson fail to show that Watanabe in view of Looney renders obvious elements [1c.i], [6c], [6d], [13b], [13c], and [13d].

200. Moreover, Petitioners and Dr. Bederson fail to show that Watanabe in combination with Looney and Platt renders obvious claim element [1c.i]: “wherein for a selected digital image selected by the user, said control module; retrieves other digital images whose related information is the same as the selected digital image.”

201. Even if we were to assume, *arguendo*, that Watanabe in view of Looney and Platt discloses digital images—which it does not—the Watanabe-Looney-Platt combination still fails to satisfy the claim limitation requiring “a selected digital image selected by the user,” wherein “said control module: retrieves

other digital images whose related information is the same as the selected digital image” as specified in claim element [1.c.i].

202. Specifically, even if Watanabe’s icons or visual display features in Watanabe’s FIG. 13 were to be considered a digital image, the result is that Watanabe still does not disclose user selection of any digital image to enable any retrieval function of “other digital images whose related information is the same as the selected image” as required by element [1.c.i]. Rather, Watanabe merely discloses user selection of “a retrieval condition setting 81,” (*i.e.* artist, album) for which other musical data are “searched for desired contents, and only the contents are listed on the library list display section 87.” EX1008, [0119].

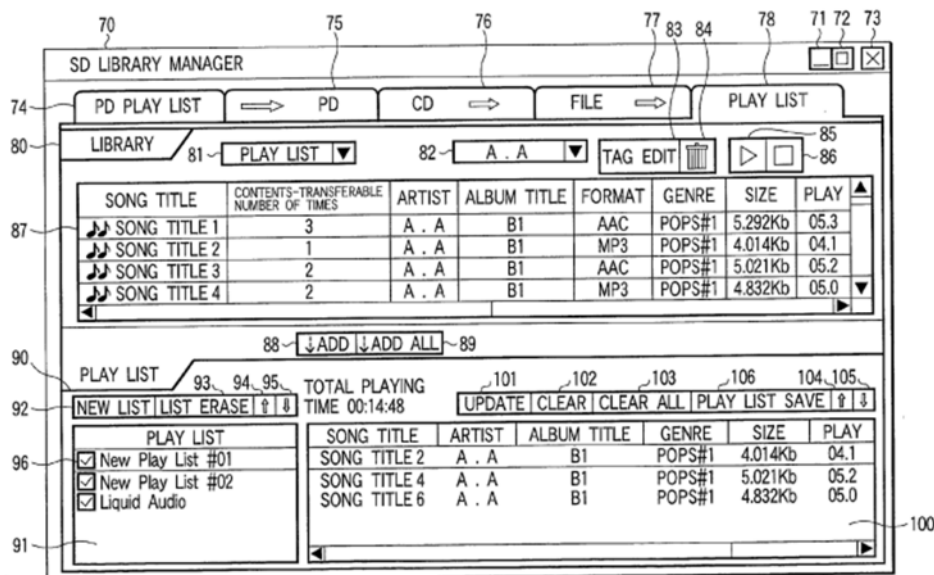


FIG. 13

Id. at FIG. 13.

203. Petitioners and Dr. Bederson seem to argue that user selection of the “retrieval condition setting” amounts to “a selected digital image selected by the user” as required by [1c.i]. Pet. Br., 83-84; EX1003 ¶173. However, in my opinion a POSITA reading this disclosure of Watanabe would understand that “a retrieval condition setting 81” does not amount to “a selected digital image” within the meaning of the ’198 patent, and is instead analogous to the ’198 Patent’s disclosed “retrieval condition,” which corresponds to “associated information” in “a program selected by the user” used to “retrieve[] information associated with the other programs stored in the recording medium.” ’198 Patent, 2:63-3:24, *see* Claim 9 (specifies “a **retrieval condition used in retrieving said selected image data**”) (emphasis added). Therefore, it is my opinion that a POSITA would understand that Watanabe’s “retrieval condition setting section 81,” selected by the user, does not correspond to “a selected digital image selected by the user” as required by element [1.c.i].

204. Thus, even if Watanabe could be read to disclose digital image data, which it does not, the user merely selects a “retrieval condition” rather than selecting a digital image for which “other digital images whose related information is the same as the selected digital image” are retrieved. Consequently, Watanabe’s “retrieval condition setting” does not disclose the claimed requirement for “a selected digital image selected by the user,” for which “other digital images whose

related information is the same as the selected digital image are retrieved.” Thus, Petitioners and Dr. Bederson fail to show that element [1.c.i] is disclosed by Watanabe.

205. Further, to the extent Petitioners and Dr. Bederson rely on Platt for disclosure of element [1.c.i], Platt also fails to disclose “a selected digital image selected by the user, said control module; retrieves other digital images whose related information is the same as the selected digital image.” Here, Petitioners and Dr. Bederson merely cite to Platt’s functionality to generate a playlist using “seed items,” for which “media items are added into the playlist by computation of similarity metrics or values.” EX1022, Abstract; see EX1003 ¶174 (citing EX1022, Abstract); Pet. Br., 84 (citing EX1022, Abstract). However, Platt’s “invention is described **primarily in relation to songs or audio**” as seed items, and exclusively uses such examples of audio data in its embodiments. See EX1022, 5:22-25 (emphasis added). Moreover, Platt discloses user “selecti[on] of a **plurality of seed items**, at least one of which is an **undesirable seed item**.” EX1022, Abstract (emphasis added). This contrasts with [1.c.i]’s requirement of a **singular “selected image,”** particularly where “the user **selects a desired program**” or “**desired image data**.” ’198 Patent at Claim 1, Claim 6, Claim 13, 2:63-64 (emphasis added). Neither Petitioners nor Dr. Bederson offer any support or explanation for why a POSITA would be motivated to modify Platt to allow a user to select **one desirable seed item**,

specifically a digital image, as required by element [1.c.i]. *See* EX1003 ¶174. The core innovation of Platt lies in its multi-seed, weighted preference function approach. Platt requires multiple seed items—including **at least one undesirable seed item**—weighted by user-assigned preference values, and generates a playlist by computing a **composite preference function** across the entire media collection. On the other hand, the '198 Patent operates on a single user-selected program: the user selects one program, and the system reactively retrieves candidates that share the same recording attributes. There is no concept in Platt of selecting a single item and having the system retrieve “candidates” based on shared recording metadata for the user's selective approval; conversely, there is no concept in the '198 Patent of multiple weighted seed items, undesirable seeds, or composite preference functions computed via similarity metrics. *See generally* '198 Patent; Platt. Thus, Petitioners and Dr. Bederson fail to show that element [1.c.i] is disclosed or rendered obvious by Platt.

206. Nor does Petitioners provide any motivation to combine Platt with Watanabe (or Watanabe and Looney) for claim limitation [1c.i]. *See* EX1003 ¶¶173-174; Pet. Br. 78-81. To the extent Petitioners are relying on the motivation to combine all three references together, such arguments fail for at least the reasons set forth in Section IX(F)(1). None of Platt's alleged benefits raised by Petitioners relate to or solve any problem identified in Watanabe—a fundamentally different system—

so a POSITA would not have any motivation to look to Platt to combine with Watanabe (let alone Watanabe and Looney). Thus, Petitioners and Dr. Bederson fail to show that element [1.c.i] is disclosed by any combination of Watanabe and Platt.

207. Moreover, because Petitioners and Dr. Bederson fail to show that element [1c.i] is met by Watanabe in combination with Looney and Platt as explained above, and rely on these same arguments for independent claim elements [6c], [6d], [13b], [13c], and [13d], Petitioners and Dr. Bederson fail to show that elements [6c], [6d], [13b], [13c], and [13d], are met for the same reasons explained above. *See* EX1003 ¶¶185-186, 198-200; Pet. Br. 91-92, 96.

208. In sum, it is my opinion that Petitioners and Dr. Bederson have failed to show by a preponderance of evidence that Watanabe in view of Looney and Platt renders obvious [1c.i], [6c], [6d], [13b], [13c], and [13d].

209. Therefore, Petitioners and Dr. Bederson failed to show unpatentability by a preponderance of the evidence for any claim in Ground 6.

6. The Combination of Watanabe and Looney Fails to Render Obvious Limitations [1c.ii], [1c.iii], [1c.iv], [6e], [6f], [6g], [13e], [13f], and [13g]

210. Petitioners and Dr. Bederson fail to show that that Watanabe in combination with Looney renders obvious claim elements [1c.ii], [1c.iii], [1c.iv], [6e], [6f], [6g], [13e], [13f], and [13g] which all disclose, in part, output of a list identifying other digital images retrieved based on their related or associated

information with a digital image selected by the user, to select another digital image to add to a playlist.

211. For elements [6e], [6f], [6g], [13e], [13f], and [13g], Petitioners and Dr. Bederson rely solely on arguments made for claim elements [1c.ii]-[1c.iv]. EX1003 ¶¶187-189, 201-203; Pet. Br. 92, 97. Thus, Petitioners and Dr. Bederson’s arguments for these claim 1 elements will be addressed below, and understood to apply to the corresponding claim 6 and claim 13 elements where not otherwise specified.

212. As explained above in Section IX(F)(3), Watanabe does not disclose “digital image” or “image data” in its functionalities, and is solely directed towards organization of audio data. For this reason alone, Petitioners and Dr. Bederson fail to show that Watanabe in view of Looney discloses elements [1c.ii], [1c.iii], [1c.iv], [6e], [6f], [6g], [13e], [13f], and [13g].

213. Even if we were to assume, *arguendo*, that Watanabe in view of Looney discloses digital images—which it does not—the Watanabe-Looney combination still fails to satisfy the claim limitation “output[ting] a list identifying the other digital images retrieved based on their related information” required by claim element [1c.ii] because the “other digital images” are not retrieved based on “related information” being “the same as the selected digital image” as defined in prior limitation [1c.i], because as explained in Section IX(F)(5), Watanabe does not

disclose a “selected digital image selected by the user” as required by [1c.i]. Thus, Watanabe does not disclose “the other digital images” required by later limitations [1c.ii]-[1c.iv].

214. Moreover, because Petitioners and Dr. Bederson fail to show that element [1c.ii]-[1c.iv] is met by Watanabe in combination with Looney as explained above, and rely on these same arguments for independent claim elements [6e], [6f], [6g], [13e], [13f], and [13g], Petitioners and Dr. Bederson fail to show that elements [6e], [6f], [6g], [13e], [13f], and [13g] are met for the same reasons explained above. *See* EX1003 ¶¶185-186, 198-200; Pet. Br. 92, 97.

215. In sum, it is my opinion that Petitioners and Dr. Bederson have failed to show by a preponderance of evidence that Watanabe in view of Looney renders obvious [1c.ii]-[1c.iv], [6e]-[6g], and [13e]-[13g].

216. Therefore, Petitioners and Dr. Bederson failed to show unpatentability by a preponderance of the evidence for any claim in Ground 6.

7. The Combination of Watanabe, Looney, and Platt Fails to Render Obvious Claims 2-3, and 10-12

217. Petitioners and Dr. Bederson fail to show that that Watanabe in combination with Looney and Platt renders obvious claims 2-3 and 10-12, specifically the claimed “retrieved image data,” based on a “selected digital image.”

218. In particular, the Watanabe, Looney, and Platt disclosures fall short by failing to disclose key functionalities of independent claims 1 and 6 in the

context of digital image data or information, as explained above in Sections IX(F)(3)-(6). More specifically, Watanabe does not disclose the “image data” required by corresponding dependent claims 2-3 and 10-12, for the same reasons as explained above in Section IX(F)(3).

219. Even if we were to assume, *arguendo*, that Watanabe in view of Looney discloses digital images—which it does not—the Watanabe-Looney-Platt combination still fails to disclose “retrieved image data” as required by claims 10-11, nor does it disclose a “selected digital image” as required by claims 2-3 and 12. In particular, Watanabe in view of Looney and Platt does not disclose the retrieved image data based on “related information” being “the same as the selected digital image” or “the same as the desired image data selected by the user” as required by independent claims 1 and 6, because as explained in Section IX(F)(5), neither Watanabe nor Platt discloses a “selected digital image selected by the user.”

220. For at least these reasons, the Watanabe-Looney-Platt combination fails to render claims 2-3 and 10-12 obvious.

8. The Combination of Watanabe, Looney, Kaplan, and Platt Fails to Render Obvious Claim 4

221. Petitioners and Dr. Bederson fail to show that that Watanabe in combination with Looney, Platt, and Kaplan renders obvious claim 4, specifically the claimed “digital image selected by said control module.”

222. In particular, the Watanabe, Looney, Platt, and Kaplan disclosures fall short by failing to disclose key functionalities of independent claim 1 in the context of digital image data or information, as explained above in Sections IX(F)(3)-(6). More specifically, Watanabe does not disclose the “digital image” required by corresponding dependent claim 4, for the same reasons as explained above in Section IX(F)(3).

223. Moreover, as explained above, neither Petitioners nor Dr. Bederson properly articulate a motivation to combine Kaplan with Watanabe, as explained above in Section IX(F)(2). Petitioners purportedly claims that, despite the fact that “Watanabe’s does not describe a user interface for images,” a “POSITA would be motivated to look to Kaplan for details about what a user interface for filtering based on user images would look like.” See EX1003, ¶180. However, as explained above in Section IX(F)(2), none of Kaplan’s alleged benefits raised by Petitioners relate to or solve any problem identified in Watanabe, a fundamentally different system. At deposition, when confronted with the fact that the Ground 6 references address different problems, Dr. Bederson could not deny it, testifying only that the references “address some of the same issues” and “also address different problems.” EX2020 at 125:2-9. When asked to identify any single reference that suggests combining all four references together, Dr. Bederson could not do so, instead asserting there is no “requirement that says that any one piece of

prior art must provide a motivation specifically to include any other or all other pieces of prior art.” EX2020 at 127:10-21. Therefore, it is my opinion that a POSITA would not have any motivation to look to Kaplan to combine with Watanabe.

224. For at least these reasons, the Watanabe-Looney-Platt-Kaplan combination fails to render claim 4 obvious.

9. The Combination of Watanabe, Looney, and Platt Fails to Renders Obvious Claims 5 and 16

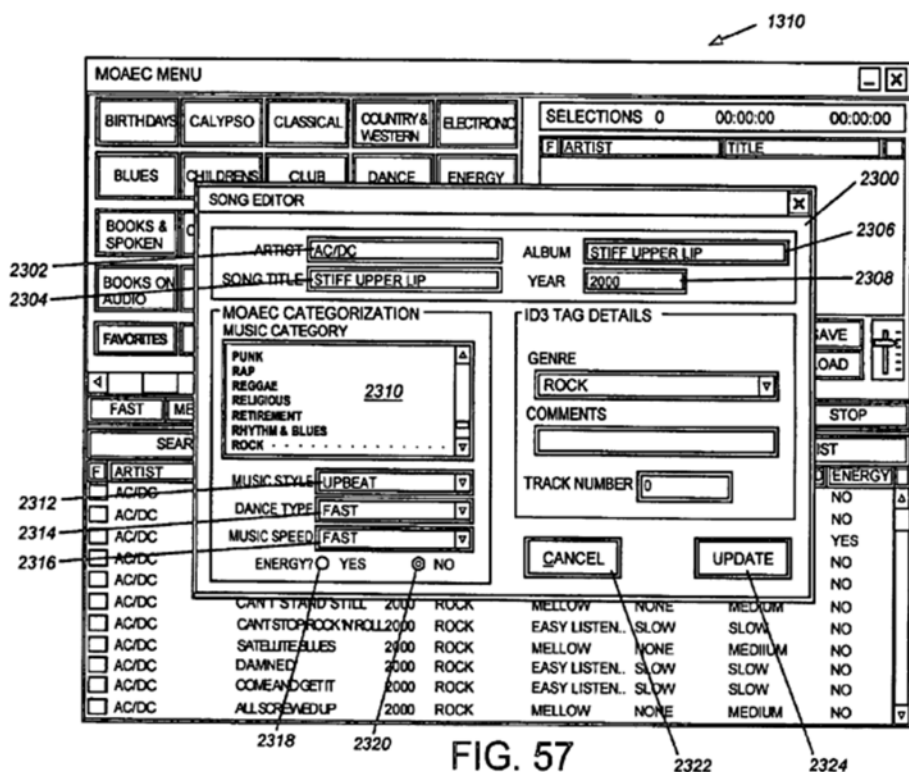
225. It is my opinion that Petitioners and Dr. Bederson fail to show that that Watanabe in combination with Looney and Platt renders obvious claims 5 and 16, specifically the claimed “wherein for a selected digital image selected by the user,” a “telop” is outputted or displayed.

226. In particular, the Watanabe, Looney, and Platt disclosures fall short by failing to disclose key functionalities of independent claims 1 and 13 in the context of digital image data or information, as explained above in Sections IX(F)(3)-(6). More specifically, Watanabe does not disclose the “digital image” required by corresponding dependent claims 5 and 16, as explained above in Section IX(F)(3).

227. Even if we were to assume, *arguendo*, that Watanabe in view of Looney discloses digital images—which it does not—the Watanabe-Looney

combination still fails to disclose a “selected digital image selected by the user” required by claims 5 and 16, as explained in Section IX(F)(5).

228. Moreover, Petitioners fail to meet its burden of proof in showing that the Watanabe-Looney combination still renders obvious a “telop” as required by claims 5 and 16. In the absence of Looney’s explicit disclosure of a “telop,” Petitioners and Dr. Bederson merely provide a citation to Looney’s FIG. 57 for the “telop” and “selecting menu” elements, without identifying which elements of this image comprise the “telop window.” See EX1003 ¶181.



EX1009 at FIG. 57.

229. Petitioners reliance on Looney for this dependent claim also fails because, as explained above, neither Petitioners nor Dr. Bederson properly articulate a motivation to combine Looney with Watanabe, as explained above in Section IX(F)(1). Petitioners purportedly claim that, despite Watanabe’s lack of a “telop,” a POSITA would be motivated to look to Looney for disclosure of a telop because “the use of telops was well known in the art, as discussed above with respect to the disclosure of Benyamin.” *See* EX1003, ¶167; Pet. Br., 89-90. However, as explained above in Sections IX(F)(1) and IX(B)(2), not only do none of Looney’s alleged benefits raised by Petitioners relate to or solve any problem identified in Watanabe, a fundamentally different system, but Petitioners and Dr. Bederson also mischaracterize Benyamin, which does not disclose telops. Thus, even if Petitioners did meet their burden of proof in showing that Looney discloses a telop, which it does not, Petitioners still fail to articulate why POSITA would have any motivation to look to Looney to combine with Watanabe in light of Benyamin to render obvious a “telop” as required by claims 5 and 16.

230. For at least these reasons, Petitioners and Dr. Bederson fail to show by a preponderance of the evidence that the Watanabe-Looney combination renders claims 5 and 16 obvious.

10. The Combination of Watanabe, Looney, and Platt Fails to Render Obvious Claims 7-9

231. Petitioners and Dr. Bederson fail to show that that Watanabe in combination with Looney and Platt renders obvious claims 7-9, specifically the claimed “image data.”

232. In particular, the Watanabe, Looney, and Platt disclosures fall short by failing to render obvious key functionalities of independent claim 6 in the context of digital image data or information, as explained above in Sections IX(F)(3)-(6). Specifically, Watanabe does not disclose the “image data” as required by claims 7-9, as explained above in Section IX(F)(3).

233. For at least these reasons, the Watanabe-Looney-Platt combination fails to render claims 7-9 obvious.

11. The Combination of Watanabe, Looney, and Platt Fails to Render Obvious Claim 14

234. Petitioners and Dr. Bederson fail to show that that Watanabe in combination with Looney and Platt renders obvious claim 14, specifically the claimed “dubbing list-creating method” wherein a “said selecting menu includes a telop to determine a bit rate so as to registering all the retrieved image data.”

235. In particular, the Watanabe, Looney, and Platt disclosures fall short by failing to render obvious key functionalities of independent claim 13 in the context of digital image data or information, as explained above in Sections

IX(F)(3)-(6). More specifically, Watanabe in combination with Looney does not render obvious the “image data” required by corresponding dependent claim 14, as explained above in Section IX(F)(3), nor do Petitioners and Dr. Bederson properly demonstrate disclosure of a “dubbing list-creating method” as explained in Section IX(F)(4).

236. Even if we were to assume, *arguendo*, that Watanabe in view of Looney renders obvious image data—which it does not—Petitioners and Dr. Bederson still fail to show that the Watanabe-Looney combination renders obvious the “telop” required by claim 14, as explained in Section IX(F)(10).

237. For at least these reasons, Petitioners and Dr. Bederson fail to show by a preponderance of the evidence that the Watanabe-Looney-Platt combination renders claim 14 obvious.

12. The Combination of Watanabe, Looney, and Platt Fails to Render Obvious Claim 15

238. Petitioners and Dr. Bederson fail to show that that Watanabe in combination with Looney and Platt renders obvious claim 15, specifically the claimed “dubbing list-creating method” wherein “the bit rate for said image data is determined based on a recordable capacity of said another recording medium on which dubbing is made.”

239. In particular, the Watanabe and Looney disclosures fall short by failing to disclose key functionalities of independent claim 13 in the context of

digital image data, as explained above in Sections IX(F)(3)-(6). More specifically, Watanabe in combination with Looney does not disclose the “image data” required by corresponding dependent claim 15, as explained above in Section IX(F)(3), nor do Petitioners and Dr. Bederson properly demonstrate disclosure a “dubbing list-creating method” as explained in Section IX(F)(4).

240. Even if we were to assume, *arguendo*, that Watanabe in view of Looney renders obvious image data or dubbing—which it does not—the Watanabe-Looney combination still fails to render obvious “the bit rate for said image data is determined based on a recordable capacity of said another recording medium on which dubbing is made” as required by claim 15. Petitioners and Dr. Bederson rely solely on Watanabe’s disclosure of “the bit rate select section 151,” which is “capable of selecting and designating one for encoding from among a plurality of bit rates.” EX1003 ¶205 (citing EX1008, [0146]); Pet. Br. 98 (citing EX1008, [0146]). While Watanabe discloses a capability of “selecting and designating” a bit rate “from among a plurality of bit rates,” the reference does not disclose nor do Petitioners attempt to argue that Watanabe’s bit rate “is determined based on a recordable capacity of said another recording medium on which dubbing is made” as required by claim 15. See EX1008, [0146]; EX1003 ¶205; Pet. Br. 98. Thus, Watanabe fails to render obvious claim 15.

241. For at least these reasons, Petitioners and Dr. Bederson fail to show by a preponderance of the evidence that the Watanabe-Looney combination renders claim 15 obvious.

242. For the reasons expressed above, Dr. Bederson and the Petitioners have failed to show that any of Grounds 1-6 render claims 1-16 unpatentable by a preponderance of the evidence.

X. RESERVATION OF RIGHTS

243. In addition to the opinions and evidence expressed herein, I reserve the right to rebut any arguments made or evidence presented in response to this report. I also reserve the right to supplement this report based on further investigation or analysis.