UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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CUSTOMPLAY, LLC,
Petitioner,

v.

CLEARPLAY, INC.,
Patent Owner.

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Case IPR2014-00383
Patent 7,543,318 B2

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Before KARL D. EASTHOM, JUSTIN T. ARBES, and
BARRY L. GROSSMAN, *Administrative Patent Judges.*

GROSSMAN, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

CustomPlay, LLC ("Petitioner") filed a Corrected Petition requesting an *inter partes* review of claims 1–29 (all of the claims) of U.S. Patent No. 7,543,318 B2 ("the '318 patent"). Paper 6 ("Pet."). ClearPlay, Inc. ("Patent Owner") filed a Patent Owner Preliminary Response. Paper 9 ("Prelim. Resp."). We instituted an *inter partes review* of claims 1–29 on the ground of obviousness under 35 U.S.C. § 103(a) based on Abecassis[1] and Malkin.[2] Paper 10 ("Dec. on Inst."). We denied Patent Owner's Request for Rehearing (Paper 13, "Req. Reh'g"). Paper 15. Patent Owner filed a Patent Owner Response. Paper 16 ("PO Resp."). Petitioner filed a Reply. Paper 17 ("Pet. Reply").

An oral hearing was held on April 20, 2015. A transcript of the hearing is included in the record. Paper 25 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

For the reasons that follow, we determine Petitioner has shown, by a preponderance of the evidence, that claims 1–22 and 24–29 are unpatentable.

A. Related Proceedings

The '318 patent is related to the patents involved in IPR2013-00484, IPR2014-00339, and IPR2014-00430.

B. The '318 Patent

The '318 patent relates generally to filtering multimedia content, such as scenes or language unsuitable for viewers of some ages. Ex. 1001, col. 1, ll. 21–28. More specifically, the invention claimed in the '318 patent relates to a computerized system for identifying and filtering automatically portions of

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[1] US Pat. No. 6,408,128 B1, filed Nov. 12, 1998, issued June 18, 2002. Ex. 1004.
[2] US Pat. No. 6,317,795 B1, filed July 22, 1997, issued Nov. 13, 2001. Ex. 1005.

multimedia content during the decoding process. *Id.* The decoding process creates various continuous multimedia streams by identifying, selecting, retrieving, and transmitting content segments from a number of available segments stored on a content source, such as a DVD. *Id.* at col. 2, ll. 9–12.

Figure 2 of the '318 patent, shown below, is a block diagram showing the four basic components of a system embodying the claimed invention.
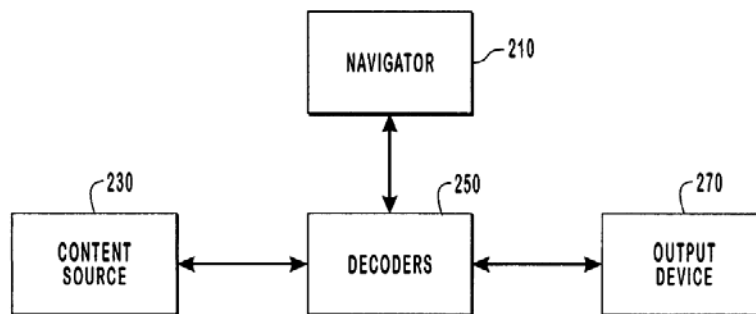

Figure 2 is a block diagram of basic components of a system
for filtering multimedia content.

Figure 3C of the '318 patent, shown below, provides additional details for the four basic components shown in Figure 2.

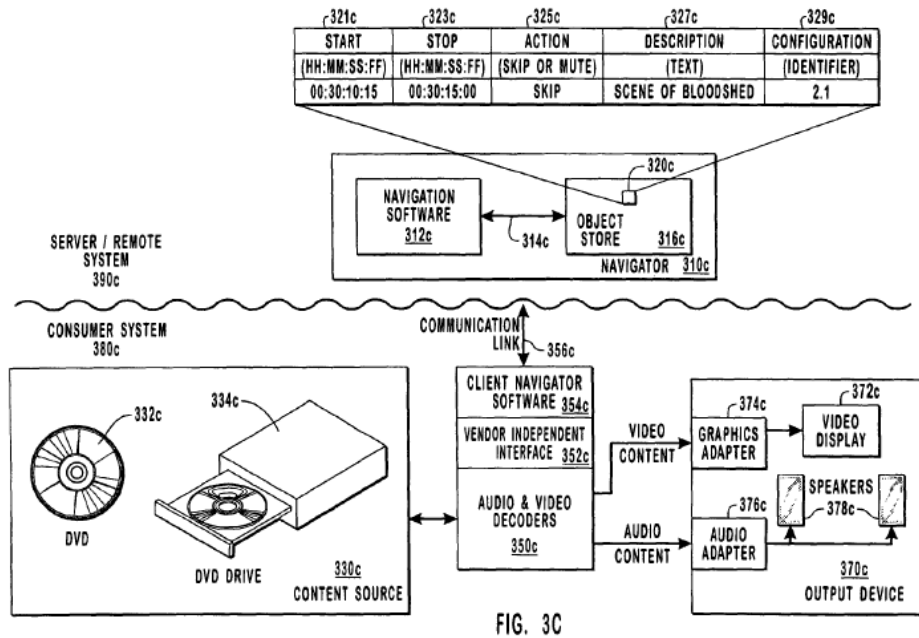| START	STOP	ACTION	DESCRIPTION	CONFIGURATION
321c	323c	325c	327c	329c
(HH:MM:SS:FF)	(HH:MM:SS:FF)	(SKIP OR MUTE)	(TEXT)	(IDENTIFIER)
00:30:10:15	00:30:15:00	SKIP	SCENE OF BLOODSHED	2.1

FIG. 3C

Fig. 3C is a block diagram showing system components.

As described in the Specification, and as shown generally in Figure 3C, the system includes server/remote system 390c and consumer system 380c. *Id.* at col. 13, ll. 5–10. Content source 330c, audio and video decoders 350c, and output device 370c are located at consumer system 380c. *Id.* Navigator 310c is located at server/remote system 390c. *Id.* The navigator "is software and/or hardware that control the decoders by determining if the content being decoded needs to be filtered." *Id.* at col. 10, ll. 38–40. Server/remote system 390c and consumer system 380c are connected through communication link 356c. *Id.* at col. 13, ll. 25–38.

The '318 patent system creates "navigation objects" that are transmitted from the server to the consumer through the communication link. The navigation objects define portions of the multimedia content to be filtered. *Id*, at col. 4, ll. 52–

54. Each navigation object contains a start position, a stop position, and a filtering action for the portion of the multimedia content defined by the start and stop positions. *Id.* at col. 4, ll. 54–57. The Specification of the '318 patent discloses several filtering actions: "skip" (*id.* at col. 5, l. 11); "mute" (*id.* at col. 5, l. 31); and "reframe" (*id.* at col. 5, l. 48). The '318 patent also refers to these filtering actions as "editing actions." *Id.* at col. 5, l. 63–col. 6, l. 10. In summary, server system 390c sends the navigation objects, including the filtering actions, to consumer system 380c so that the video consumer watches filtered/edited videos as defined by the navigation objects. *Id.* at col. 8, ll. 1–14.

C. Illustrative Claim

Claims 1 and 15 are independent claims. Claim 1 is illustrative of the claimed subject matter and is reproduced below.

> 1. A computing system comprising:
> a first computer readable media including computer executable instructions comprising:
> a multimedia content navigation object comprising:
> a start indicator associated with a first position in a multimedia content presentation;
> an end indicator[3] associated with a second position in the multimedia content presentation;
> at least one content descriptor identifying a type of multimedia content associated with the multimedia content presentation between the first position and the second position;
> at least one filtering action associated with the start indicator and the end indicator, the at least one filtering action comprising a skip filtering action; and

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[3] Claims in the related proceedings cited above use slightly different terminology for the start and end positions. For example, in IPR2014-00339, the claims refer to a "start position" and a "stop position" rather than a "start indicator" and an "end indicator." Among these related cases, we, and the parties, have treated this as a distinction without a substantive difference.

at least one processor in communication with the first computer readable media and configured to decode and deliver the multimedia content to a display, the at least one processor further configured to monitor a position code of the multimedia content during decoding, the processor executing a skip filtering action when the position code matches the start indicator of the multimedia content navigation object, the skip filtering action causing the processor to discontinue decoding the multimedia content between the start indicator and the end indicator and to immediately resume decoding and delivering the multimedia content after the end indicator.

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are interpreted according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *In re Cuozzo Speed Techs. LLC*, – F.3d –, No. 2014-1301, 2015 WL 4097949, at *7–8 (Fed. Cir. July 8, 2015) ("Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA," and "the standard was properly adopted by PTO regulation"). Claim terms also are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

We address below a claim construction for three terms in this proceeding.

1. Navigation Object

Independent claims 1 and 15, and thus all the challenged claims, require a "navigation object."

The Specification states that "navigation objects" "define portions of the multimedia content that should be filtered." Ex. 1001, col. 4, ll. 52–54. The Specification also discloses that each navigation object contains a start position, a

stop position, and a filtering action to be performed on the portion of the multimedia content that is defined by the start position and stop position. *Id.* at col. 4, ll. 54–56. Independent claims 1 and 15 mirror this language, requiring that each navigation object comprise a start indicator associated with a first position, an end indicator associated with a second position, and at least one filtering action. The challenged claims also require the at least one filtering action of the navigation object to include a "skip filtering action."

Accordingly, the broadest reasonable construction of the phrase "navigation object" in light of the Specification of the '318 patent is information that defines both (1) a portion of multimedia content to filter and (2) at least one filtering action to be taken on a defined portion of multimedia content, the filtering action including, but not limited to, a skip filtering action.

2. *Start and End Indicators*

The challenged claims state that the navigation object defines a portion of the multimedia content to be filtered by defining a start indicator associated with a first position and an end indicator associated with a second position. We agree with Patent Owner that the two positions must be different in order to define a portion of multimedia content. *See* PO. Resp. 14 ("[T]he only reasonable interpretation of the start and end indicators is that they are information that identifies two distinct time-separated positions within the multimedia content."). The Specification states that "[e]ach navigation object contains a start position, a stop position, and a filtering action to be performed on the portion of the multimedia content that is defined by the start position and stop position." Ex. 1001, col. 4, ll. 54–57. In the context of a skip-type filtering action, for example, the portion of the multimedia content defined between the start and stop positions of the multimedia content is never decoded and, as a result, is never

transferred to a multimedia output device, such as a video display. *Id.* at col. 5, ll. 11–23. Accordingly, the broadest reasonable construction of the term "start indicator" in light of the Specification of the '318 patent is information that defines a beginning of a portion of multimedia content; and the broadest reasonable construction of the term "end indicator" in light of the Specification of the '318 patent is information that defines an ending of a portion of multimedia content, which is different than the start indicator.

B. Asserted Ground of Unpatentability

1. Obviousness Based on Abecassis and Malkin

To prevail on its patentability challenge, Petitioner must establish facts supporting its challenge by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). Petitioner asserts that the challenged claims are unpatentable under 35 U.S.C. § 103(a) over Abecassis and Malkin. Pet. 27; Pet. Reply 4. Patent Owner disagrees with Petitioner's assertions (PO Resp. 15) and relies on the Declaration of Sayfe Kiaei, Ph.D. (Ex. 2001) for support (e.g., PO Resp. 3). We have reviewed the evidence and arguments presented by the parties and determine that Petitioner has demonstrated, by a preponderance of the evidence, that Abecassis and Malkin teach all of the limitations of the claims and that a person of ordinary skill in the art would have had reason to combine their teachings to yield the claimed inventions.

According to Petitioner, "the question of patentability before the Board rests in the analysis of the '*navigation object*' claim limitation." Pet. 22; *see also* Tr. 4, ll. 8–11 ("[T]he principal issue, if not the only issue, that remains for the hearing concerns the navigation object or filtering information limitations that are found in all of the claims under review."). Petitioner frames the dispositive issue as follows: "the issue is whether the combined teachings of Abecassis and Malkin

would suggest to one of ordinary skill in the art what is claimed in the navigation object limitation." Tr. 4, ll. 17–20.

Patent Owner agrees that the claimed navigation object is the critical, dispositive element, but asserts that the combination of Abecassis and Malkin fails to teach or suggest a navigation object. PO Resp. 44. Patent Owner states the dispositive issue as "whether the combination of Malkin and Abecassis teaches or suggests a navigation object or its use to implement a skip." *Id.* at 53.

We frame the issue somewhat differently than the parties. The issue is whether the differences between the subject matter sought to be patented and the prior art are such that *the subject matter as a whole* would have been obvious at the time the invention was made to a person having ordinary skill in the art.

Patent Owner agrees with Petitioner that "to a large extent regarding what Clearplay does, what Abecassis does, what Malkin does, is very similar." Tr. 30, ll. 19–21. Patent Owner states that

> from the user's perspective, it may be hard to tell a difference, especially with what Abecassis does and what Clearplay does. They are very, very similar. That doesn't matter. It's not what they do, it's how they do it, and that's what's been lost in Petitioner's argument. What matters is what's in the claims.

Tr. 31, ll. 1–5. We agree; what matters is what is claimed.[4] Accordingly, we proceed to an analysis of the claims in the context of the references to determine whether the preponderance of the evidence establishes that the challenged claims would have been obvious in view of Abecassis and Malkin.

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[4] "The name of the game is the claim." Giles S. Rich, *The Extent of the Protection and Interpretation of Claims-American Perspectives*, 21 Int'l Rev. Indus. Prop. & Copyright L., 497, 499 (1990). "It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (citation omitted).

Section 103(a) provides that a patent claim is unpatentable when "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a) (2004). In *Graham v. John Deere Co.,* 383 U.S. 1 (1966), the Court set out a framework for applying the statutory language of § 103:

> Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.

Id. at 17–18. "While the sequence of these questions might be reordered in any particular case, the factors continue to define the inquiry that controls." *KSR Int'l. Co. v. Teleflex Inc.,* 550 U.S. 398, 407 (2007).

The Supreme Court has made clear that we apply "an expansive and flexible approach" to the question of obviousness. *Id.* at 415. Whether a patent claiming a combination of prior art elements would have been obvious is determined by whether the improvement is more than the predictable use of prior art elements according to their established functions. *Id.* at 417. To reach this conclusion, however, requires "more than a mere showing that the prior art includes separate references covering each separate limitation in a claim." *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011). "Rather, obviousness requires the additional showing that a person of ordinary skill at the time of the invention would have selected and combined those prior art elements in the normal course of research and development to yield the claimed invention." *Id.*

Against this general background, we consider the references, other evidence, and arguments on which the parties rely.

2. *Scope and Content of the Prior Art*

a. Abecassis

Petitioner relies on the combined teachings of Abecassis and Malkin as teaching a navigation object comprising a start indicator associated with a first position, an end indicator associated with a second position, and at least one filtering action comprising a skip filtering action, as recited in the challenged claims. *E.g.*, Pet. 27–28. Specifically, Petitioner relies on Malkin's teaching of fuzz-balls in a control specification for the "filtering action" aspect of the claim, and relies on Abecassis for other aspects of the claim. *Id.* at 30. As stated by Petitioner, "[w]e're relying on Malkin to supply the third information element of the navigation object [i.e., the filtering action]. And that's it. Everything else is in Abecassis." Tr. 97, ll. 1–3. We briefly describe the "everything else" disclosed in Abecassis.

Abecassis discloses the use of "video maps" that identify the start, stop, and subject matter content of various scenes in a movie or other multi-media presentation. Ex. 1004, col. 16, ll. 13–22. A video map identifies the beginning frame and end frame in each of the relevant segments, and assigns the segment a content category code and/or descriptor(s). *Id.* at col. 16, ll. 19–22. The descriptors may define categories such as profanity, violence, bloodshed, monsters, nudity, or sex. *Id.* at Fig. 5B. The video map may indicate that the described category has none of the defined category (for example, no bloodshed), or may indicate various levels of the defined category, such as implied, explicit, or graphic levels of the defined category. *Id.* Once a segment is assigned a descriptor, logical entry (start) and exit (stop) references are assigned. *Id.* at col. 16, ll. 25-26; col. 20,

ll. 1–6. Thus, each segment "is defined by a beginning and ending frame and comprises any number of frames." *Id.* at col. 20, ll. 4–6. The resulting segment definitions are mapped and the required user interface is produced. *Id.* at col. 16, ll. 26–28. The video map's data are provided with video and audio data contained on a CD or other multi-media content source. *Id.* at col. 16, ll. 34–35.

The steps in the production of a variable content video are summarized with respect to the flow chart in Figure 5A. Each scene, segment, or fragment of a segment on a video script is reviewed according to an appropriate video descriptive structure, as shown in Figures 5B–5E. *Id.* at col. 15, ll. 58–63. Where necessary, a video segment is associated with an audio segment, and corresponding separate audio and video category codes are provided. *Id.* at col. 16, ll. 13–18.

The video map itself does not establish or define any specific filtering action to be performed. The video map descriptors, such as profanity, violence, bloodshed, monsters, nudity, and sex, by themselves, do not describe or specify a distinct filtering operation to be performed. In the context of a movie, for example, a user may watch the movie unedited, without filtering any content. The video map, and the corresponding user interface, however, allows the user to filter out, or skip, selected segments, for example, explicit bloodshed, while retaining all other content, based on the video map descriptors as guides as to what to filter and why. *See id.* at col. 20, ll. 14–25. Alternatively, the video map may identify a segment from somewhere else within that video that can be "grafted" in place of the skipped segment to enhance the artistic seamlessness of a scene. *Id.* at col. 20, ll. 61–65. A grafted segment need not be of the same duration as the segment it replaces. *Id.*

In other words, whatever specific filtering or editing action that may occur, if the user desires, in Abecassis, is defined at some later time in a different step of

the process. The specific filtering action is not defined as part of the video map that also includes the start and end indicators, or duration, of content that may be filtered, as called for in the claims of the '318 patent. At the end of the process, however, once the viewer has selected specific filtering actions, as explained above and further below, Abecassis provides the capability for the system to define a start indicator for a segment of multimedia content, an end indicator for the segment, and a user initiated specific filtering action on the portion of the multimedia content defined by the start and end indicators. Indeed, Patent Owner admitted that Abecassis "accomplishes filtering." Tr. 32, ll. 20–21 ("Q. Does Abecassis disclose filtering?" "A. It accomplishes filtering.").

As explained in Abecassis, the disclosed editing system "is intended to significantly transfer censorship, and time-constrained editing decision making from the producer and/or editor to the viewer." Ex. 1004, col. 22, ll. 22–26. Thus, the producer can maximize the content range of the video "to permit the creation of a greater number of versions of a video and thus appeal to a wider audience and to multiple viewings." *Id.* at col. 22, ll. 26–29.

Figure 7A in Abecassis, shown below, illustrates the separate editing or filtering step performed by the user or viewer. Figure 7A illustrates a viewer's content preferences selection screen 701 specific to the content of a selected video. *Id.* at col. 24, ll. 30–31.
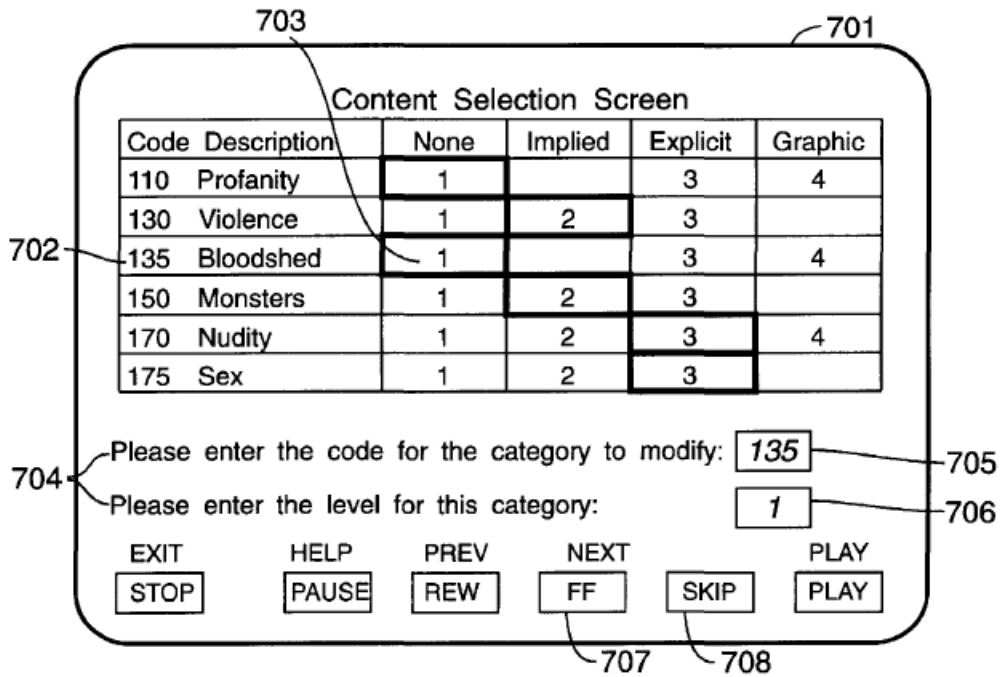
Code	Description	None	Implied	Explicit	Graphic
110	Profanity	1		3	4
130	Violence	1	2	3	
135	Bloodshed	1		3	4
150	Monsters	1	2	3	
170	Nudity	1	2	3	4
175	Sex	1	2	3	

Please enter the code for the category to modify: 135 — 705
Please enter the level for this category: 1 — 706

EXIT   HELP   PREV   NEXT   PLAY
STOP   PAUSE   REW   FF   SKIP   PLAY

FIG. 7A

Figure 7A from Abecassis shows a viewer's selections from the video map.

As shown in Figure 7A, the viewer or user selects content categories 702, shown by bold boxes 703. *Id.* at col. 24, ll. 33–38. In Figure 7A, for example, by selecting "None" for the categories of profanity and bloodshed, the viewer has selected to filter or skip all content that includes any profanity or bloodshed. Thus, in this example, the video map of Abecassis, provides for "the option of editing-out the explicit bloodshed" (*id.* at col. 20, ll. 13–15) and "skipping of the playing of a segment" (*id.* at col. 20, ll. 59–60). In other words, as choices 704 show, code descriptors (e.g., 110, 135, etc.) describe the content and allow the consumer to select what to filter based on user preferences. The example shown in Figure 7A provides four levels of potential filtering for each content code – none, implied, explicit, graphic.

b. Malkin

Malkin also discloses a system for editing multimedia video and audio.

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Ex. 1005, col. 2, ll. 44–52. The disclosed system allows the multimedia content to be "masked, filtered, or modified according to the user's content specification." *Id.* at col. 2, ll. 29–30. A control specification is created, which can be part of the multimedia stream or provided as a separate stream, to allow viewers to specify content preferences. *Id.* at col. 2, ll. 53–62.

A control specification (reference numeral 237) "indicates how the stream content should be modified." *Id.* at col. 12, ll. 59–62. "It provides instructions on showing the frames or groups of frames of the multimedia streams, [and] specifies blocking, omissions, and overlays." *Id.* One type of control specification is a separate fuzz-ball track (reference numeral 337). *Id.* at col. 12, ll. 63–64. Another is an edit-decision list, "which indicates which frames to modify or replace." *Id.* at col. 12, ll. 64–65.

In the Malkin system, third party mask providers provide pre-constructed frame-level masks (as will be discussed below with reference to FIG. 3A) that are used to modify the multimedia content to filter out undesired information. *Id.* at col. 4, ll. 7–12. For example, a client specifies in a video request to the third party provider a content specification "having a violence level value no higher than 3 and a nudity level value no higher than 2" for a particular video. *Id.* at col. 8, ll. 1–6. The appropriate mask, or control specification, is provided so that only the requested level of content is played. *Id.* at col. 8, ll. 1–30. Thus, in Malkin, a third party provides a single system that identifies the frames or groups of frames to be filtered *and also provides the filtering action* for the identified frames. In Abecassis, one party identifies content, and another party, the viewer, performs the filtering action.

Figure 3A in Malkin, shown below, depicts examples of a "fuzz-ball" and a fuzz-ball control specification. A "fuzz ball" can modify/mask one or more

specified objects, such as a portion of a video frame or sample of audio, according to user specifications. *Id.* at col. 3, ll. 18–21. Figure 3A in Malkin illustrates a fuzz ball control specification for a video stream comprising multiple frames.
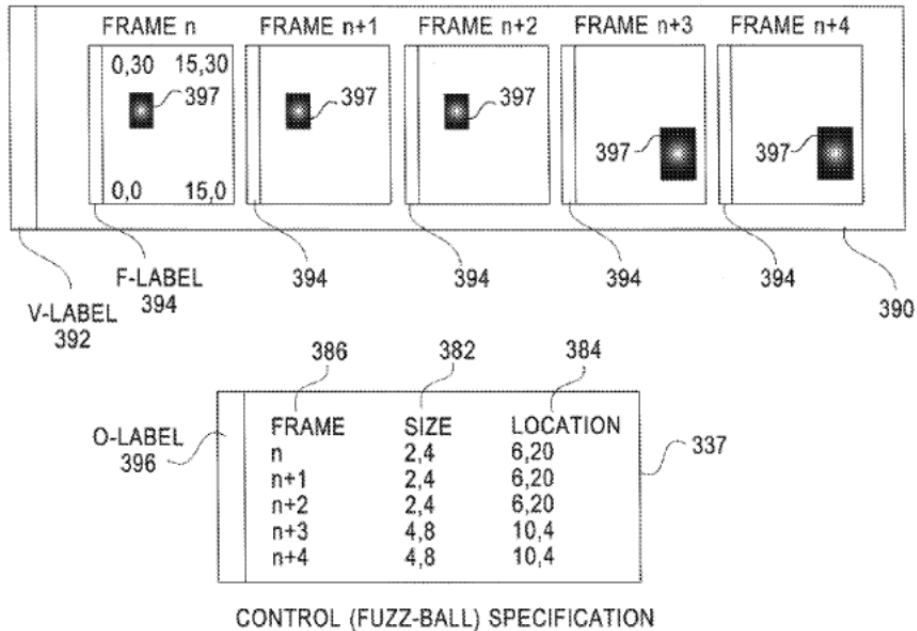

Figure 3A of Malkin shows a fuzz-ball control specification.

Figure 3A depicts an example of a video stream having a series of adjacent frames, shown as "Frame n," "Frame n+1," . . . "Frame n+4." *Id.* at col. 7, ll. 21– 22. In the example shown in Figure 3A, control specification 237 is a separate "fuzz ball" track (reference numeral 337 in Fig. 3A). *Id.* at ll. 23–25. Fuzz ball track 337 specifies a sequence of fuzz balls 397 having a size (382), location (384), and a temporal relationship (386) to the video stream (390). *Id.* at ll. 32–35. Each frame has a "known dimension." *Id.* at l. 37.

The fuzz balls shown in Figure 3A are embodiments of control specification 237, which indicates how the stream content should be modified. *Id.* at col. 12, ll. 59–60. Control specification 237 "provides instructions on showing the frames

or groups of frames of the multimedia streams, and specifies *blocking, omissions, and overlays*." *Id.* at ll. 60–62 (emphases added). One type of control specification is fuzz-ball track 337. The control specification is transmitted as a separate stream or file, such as a "fuzz-ball track" (reference numeral 337 in Fig. 3A). *Id.* at col. 8, ll. 42–44.

3. *Asserted Differences Between the Prior Art and Claims*

In determining the differences between the prior art and the claims, the question under 35 U.S.C. § 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 164 (Fed. Cir. 1985) ("It is elementary that the claimed invention must be considered as a *whole* in deciding the question of obviousness."); *see also Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1537 (Fed. Cir. 1983) ("[T]he question under 35 U.S.C. § 103 is not whether the differences *themselves* would have been obvious. Consideration of differences, like each of the findings set forth in *Graham*, is but an aid in reaching the ultimate determination of whether the claimed invention *as a whole* would have been obvious.").

As presented by the parties, we focus on the limitations in challenged independent claims 1 and 15 requiring a navigation object defining a portion of the multimedia content that is to be filtered by defining a start indicator, an end indicator, and at least one filtering action comprising a skip filtering action.

Patent Owner focuses its argument on Malkin. *E.g.*, PO Resp. 15, 31, 42. Patent Owner acknowledges that Malkin discloses a specific filtering action. *Id.* at 17 ("Malkin analyzes each frame on a frame-by-frame basis to determine if the frame should be edited and, if so, how the frame should be edited."). Patent Owner admits, however, the "start" and "end" indicators defining the duration of

content to be filtered in claim 1 could "theoretically" correspond with a single frame, but contends that Malkin does not do so because it does not "have both a start indicator and an end indicator, and without both a start indicator and an end indicator it is incapable of defining a filtering action for anything but a single frame." *Id.* at 7. Substantially all of Patent Owner's argument is directed to the assertion that Malkin does not disclose a "navigation object" with a start indicator; an end indicator; and a filtering action. E.g., *id.*

Patent Owner's proffered expert, Sayfe Kiaei, Ph.D., also focuses on Malkin and opines that "Malkin implements this frame-by-frame fuzz-ball editing" (Ex. 2001 ¶ 48); "Malkin's frame-by-frame method filters each frame individually" (*id.* ¶ 49); and "[a]ll editing in Malkin is performed on a single frame basis without requiring anything similar to a start and end indicator" (*id.* ¶ 56). Dr. Kiaei also opines that "Malkin employs an entirely different technique to edit video content than is disclosed and claimed in the '318 Patent." *Id.* ¶ 58.[5]

Dr. Kiaei concludes that "[b]ecause Malkin does not employ start and end indicators, Malkin's techniques would be incapable of implementing a skip filtering action that starts at a start indicator and ends at an end indicator." *Id.* ¶ 57.

Patent Owner argues that the combination of Malkin and Abecassis does not teach or suggest each limitation of the challenged claims. Specifically, Patent Owner argues "the combination of Malkin and Abecassis does not teach or suggest a navigation object that defines the associated start indicator, end indicator, and filtering action." PO Resp. 44. According to Patent Owner, the references fail to

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[5] This is somewhat inconsistent with Patent Owner's acknowledgement that "to a large extent regarding what Clearplay does, what Abeccasis does, what Malkin does, is very similar." Tr. 30, ll. 19–21.

identify any filtering action that is, or could be, "associated with both a start indicator and an end indicator." *Id.*

Abecassis discloses start and end positions for defining segments that may be edited or filtered. Ex. 1004, col. 20, ll. 4–6 ("Each segment 603 is defined by a beginning and ending frame and comprises any number of frames 604"); Pet. Reply 4–5. As noted above, Patent Owner acknowledges that the claimed start and end indicators can define a single frame. PO Resp. 7 ("The duration of content defined by a navigation object could theoretically correspond with a single frame."). The Abecassis system is intended to include a user-defined filtering action. *See, e.g.*, Ex. 1004, col. 22, ll. 22–26, col. 24, ll. 33–38, Fig. 7A. The evidence also is clear that Malkin discloses a specific filtering action to be applied to selected frames or groups of frames. *See, e.g.*, Ex. 1005, col. 12, ll. 59–62 (control specification 237 "provides instructions on showing the frames or groups of frames of the multimedia streams, and specifies blocking, omissions, and overlays").

Patent Owner also states that independent claims 1 and 15 of the '318 patent "specifically require that the navigation object include a skip filtering action that is associated with the start and end indicators." PO Resp. 45. These claims also require that the skip filtering action causes the processor to discontinue decoding the multimedia content between the start indicator and the end indicator, and to immediately resume decoding and delivering the multimedia content after the end indicator. *Id.* Patent Owner asserts that Malkin does not disclose these limitations. *Id.* at 46 ("Malkin never skips forward;" "Malkin's 'skipping' has no relevance to the skipping . . . required by the '318 [patent] claims"). According to Patent Owner, "Malkin's skipping is merely the sending of a blank frame in place of the current frame." *Id.*

We need not resolve whether Malkin discloses the "skip filtering" and "decoding" limitations of the challenged claims. As discussed above, and also discussed below, Petitioner relies on Abecassis for the disclosure of these limitations.

Abecassis discloses skip filtering. E.g., Ex. 1004, Abstract (disclosing "skipping, responsive to the replay request, the video to a replay position that is responsive to a preestablished replay preference"). As explained in Abecassis,

> the application of the viewer's content preferences to the video map results in the automated logical selection of sequential and non-sequential segments of the selected video 924 consistent with the viewer's video content preferences and the video map. In other words, any segments with a content coding higher (abstract) than the viewer-selected content preference for the corresponding category would not be included in the video produced for the viewer. The segment selected for viewing having a coding level equal to or lower than the viewer specified content preference for that category is selected and provides, where necessary, the next segment beginning frame information. *This will skip over parallel segments* of a lower coding than the viewed segment.

Id. at col. 33, ll. 48–61 (emphasis added).

Regarding the "discontinue decoding" limitation, Petitioner asserts that "Abecassis discloses a variety of methodologies comprising 'one or more read/write laser units and/or video buffers to produce a continuous transmission of non-sequential video segments.'" Pet. 37 (citing Ex. 1004, col. 28, ll. 56–61). The various methodologies in Abecassis permit the reading unit to read into buffers sufficient video information to provide a "synchronized, seamless transition from the first segment to the second segment without any gaps in the transmission of the retrieved video segments as a continuous video." Ex. 1004, col. 29, ll. 32-35. Specifically, as Petitioner points out, "[c]oncurrently with the repositioning of the

reading unit, the video buffer provides the last read frames 4498-5109 to cause a seamless transition from the reading of the *current segment*, frames 4112-5109, to the reading of the *next non-sequential segment*, frames 35351-38975." *Id.* at col. 31, ll. 11–16 (emphases added); Fig. 8A; *see* Pet. 37–38. Thus, in effect, playing the selected "current" segment and then the "next non-sequential" segment (i.e., skipping non-selected segments) causes the processor to discontinue decoding the non-selected segments (between the selected segments).

Thus, based on our analysis, and contrary to Patent Owner's position, the argued elements of the claimed navigation object are known – start and end indicators, skip filtering, and decoding, as claimed in the challenged claims, from Abecassis; and a pre-defined filtering action included in the system for editing from Malkin. The dispositive issue is whether it would have been obvious to a person of ordinary skill in the relevant technology to include pre-defined skip filtering actions in Abecassis based on the disclosure in Malkin, rather than require the end-user to make all the filtering decisions. *See* Pet. Reply 4–5.

4. Level of Ordinary Skill in the Art

The level of skill in the art is "a prism or lens" through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) ("the level of skill in the art is a prism or lens through which a judge, jury, or the Board views the prior art and the claimed invention"). Dr. Kiaei opines that a person having ordinary skill in the art on October 23, 2000

> would typically have (i) a M.S. degree in electrical engineering or computer science (or a related field) with at least a 2-3 years of experience working with signal, video, or data processing, or (ii) a B.S. in electrical engineering or computer science (or a related field) with significant practical experience (4 or more years) working with signal, video, or data processing.

Ex. 2001¶ 15. The prior art also reflects a skill level in the relevant technology.

Okajima, 261 F.3d at 1355. Petitioner does not propose a specific level of ordinary skill. Based on our review of the '318 patent, the types of problems and solutions described in the '318 patent and cited prior art, and the testimony of Dr. Kiaei, we agree with Dr. Kiaei and adopt the level of ordinary skill proposed by Dr. Kiaei.

5. Rationale to Combine

Petitioner relies on Malkin solely "to supply the third information element of the navigation object [i.e., a filtering action associated with the start and end indicators and comprising a skip filtering action]. And that's it. Everything else is in Abecassis." Tr. 97, ll. 1–3; Pet. 27–39. As a reason to combine Abecassis and Malkin, Petitioner asserts that both references "teach systems and methods for filtering offensive or otherwise undesirable content from multimedia content during playback," are in the same field of endeavor, and deal with related subject matter. Pet. 27, 39 ("Both references share the same object of skipping objectionable material from multimedia content and the proposed combination yields predictable results."). Petitioner concludes that a person of ordinary skill in the art "would have readily known to combine the teachings of the two references, yielding 'predictable variation[s].'" *Id.* (citing *KSR*, 550 U.S. at 417).

Patent Owner asserts that if Malkin's single frame filtering actions were incorporated into Abecassis's teachings, "it would not yield a navigation object. PO Resp. 42 (citing Ex. 2001 ¶ 66). According to Patent Owner, "it would yield two redundant techniques for editing that are not compatible." *Id.* Dr. Kiaei opines that the editing technique of Malkin "would not be compatible with the editing technique of Abecassis" (Ex. 2001 ¶ 65) and that the two editing techniques are "fundamentally different" (*id.* ¶ 68).

Patent Owner bases its position on the mistaken premise that the entire Malkin system would be grafted onto the entire Abecassis system. PO Resp. 42 ("[I]f Malkin's single frame filtering actions were incorporated into Abecassis' teachings, . . . it would yield two redundant techniques for editing that are not compatible."). The obviousness inquiry, however, does not ask whether the references could be physically combined, but whether the claimed inventions are rendered obvious by the teachings of the prior art as a whole. *In re Etter*, 756 F.2d 852, 859 (Fed. Cir. 1985) (en banc) (assertions that two references cannot be combined "are basically irrelevant, the criterion being not whether the references could be physically combined but whether the claimed inventions are rendered obvious by the teachings of the prior art as a whole"). Rather, in a case such as this where each of the elements of the claim is known in the art, the obviousness inquiry requires a determination whether the combination of known elements would have been obvious to a person with ordinary skill in the art.

As stated in *KSR*, the question we must ask is "whether the improvement is more than the predictable use of prior art elements according to their established functions." *KSR*, 550 U.S. at 417. In determining whether a patent claiming a combination of elements would have been obvious, the Supreme Court made clear that the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ. *Id.* at 418. "[I]n many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 420. As discussed above, based on education and experience, a person of ordinary skill in the relevant technology would have been sophisticated in the relevant technologies, with a background in electrical engineering, computer science, or a related field and with

experience in signal, video, or data processing. We also recognize that "[a] person of ordinary skill is also a person of ordinary creativity, not an automaton." *Id.* at 421. Moreover, "[a] reference must be considered for everything it teaches by way of technology and is not limited to the particular invention it is describing and attempting to protect." *EWP Corp. v. Reliance Universal Inc.*, 755 F.2d 898, 907 (Fed. Cir. 1985) (emphasis omitted).

Here, it is clear, based on the reference disclosures, that Abecassis discloses filtering actions taken with respect to the segments defined by start and end indicators (but not included with the indicators in a single "navigation object"). Whether those filtering actions are provided by the end-user, as suggested by Abecassis, or are pre-programmed as part of the video map, as suggested by Malkin, would have been an obvious choice for a person of ordinary skill and creativity.

The rationale for the modification comes from the references. First, Abecassis identifies the desirability of incorporating "capabilities and environments that automatically customize the playing of videos to satisfy the particular video requirement" of various viewers, and that deliver "a more enjoyable video experience without requiring the level of active participation inherent in interactive systems." Ex. 1004, col. 1, ll. 45–52. Abecassis also states the desirability for "automated selective retrieval of non-sequentially stored, parallel, transitional, and overlapping video segments" (*id.* at col. 2, ll. 1–3); "automated capabilities for efficiently retrieving and playing only a specified class, category, or subject matter included in segments within the selected video" (*id.* at col. 2, ll. 50–53); and "intermittent content skipping methods" (*id.* at col. 3, l. 2).

Malkin similarly points out that the prior art includes "various systems directed towards storing user preferences to select correspondingly encoded

videos, and/or video streams." Ex. 1005, col. 1, ll. 56–58. These systems include

"both time and content controls for multiple and variable numbers of viewers." *Id.*

at col. 2, ll. 10–12. Malkin states that there was a need for a system for "flexibly

modifying multimedia content so that specific objects, for example a portion of a

single video frame or sample of audio, can be dynamically masked, filtered, or

modified according to the user's content specification." *Id.* at col. 2, ll. 26–30.

Malkin cites specifically to a related Abecassis patent, U.S. Patent No. 5,434,678,[6]

as an example of a system that can be improved by the Malkin system. *Id.* at col.

2, ll. 14–25; *see* Pet. 23–24; s*ee also* Tr. 7, l. 15–Tr. 9, l. 22 (describing generally

that "Malkin itself provides the motivation" (Tr. 8, l. 22)).

Second, Abecassis's use of skipping provides a reason why a person of

ordinary skill in the art would have looked to Malkin. Petitioner argues that

> in the context of Abecassis, systems and methods are described
> which provide for the editing out of content of a video through
> the use of a video map. The video map includes segment
> definitions and descriptors, including content codes of possibly
> objectionable content (e.g., bloodshed) which implicitly specifies
> a distinct filtering operation.

Pet. 31. Specifically, "including a 'skip' designation in a map with the other

descriptors is nothing more than an obvious design choice to make explicit what is

implicit and obvious." *Id.* at 32 (emphasis omitted). As Petitioner correctly points

out, the video map in Abecassis includes codes and descriptors with "logical entry

and exit references," "linkages of segments, and/or pointers among segments,"

such that segments may be linked to each other, skipping video content in between

the segments. *Id.* at 33–34 (citing Ex. 1004, col. 16, ll. 26–27; col. 21, l. 62;

col. 20, ll. 58–60). Abecassis teaches skipping portions of multimedia content, as

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[6] U.S. Patent No. 5,434,678 is incorporated by reference in Abecassis. Ex. 1004,
col. 4, ll. 26–27.

well as including information with the segments of the video map to implement the skipping. We are persuaded by a preponderance of the evidence that the combined teachings of Abecasis and Malkin would have suggested to a person of ordinary skill in the art the benefits of providing a pre-defined start indicator, a pre-defined end indicator, and a pre-defined skip filtering action as an alternative to user-defined criteria.

Abecassis further discloses linking the end of one segment to the beginning of another, such that content in between would be skipped. *E.g.*, *id.* at col. 20, ll. 14–23 ("Segment definition 621 beginning at frame 4112 and ending at frame 5205 . . . is linked to a new transitional segment 622 beginning at frame 35205 and ending at 35350, the end of which is linked to frame 6027. In this fashion, frames are omitted and added to provide a continuous transparent edited version of any segment of a scene.").

We are persuaded that this teaching at least would have prompted a person of ordinary skill in the art to look to a reference like Malkin, which includes a similar filtering action in the object itself.

Patent Owner argues that in Abecassis, "frames that include objectionable content are not defined for retrieval within a video map," and, therefore, "the decoding process would never reach such frames when a video map is employed." PO Resp. 42 (citing Ex. 2001 ¶ 65).

Abecassis discloses a preferred embodiment in which "*the application of the viewer's content preferences to the video map* results in the automated logical selection of sequential and non-sequential segments of the selected video . . . consistent with the viewer's video content preferences and the video map." Ex. 1004, col. 33, ll. 48–52 (emphasis added). The video map itself defines segments within a video, including the beginning and ending of each segment and

the segment's content category code or descriptor. *Id.* at col. 16, ll. 13–36. In Abecassis, it is only *after* the application of the viewer's content preferences to the defined segments on the video map that the defined segments are skipped. Contrary to Patent Owner's assertion, the skipped segments in Abecassis are skipped because they contain a content category that the viewer has selected for editing.

Dr. Kiaei opines similarly that, if combined with Malkin, Abecassis's "[s]equences that contain objectionable content would not be included in the video map." Ex. 2001 ¶ 65 (citing Ex. 1004, col. 20, ll. 1–25). The cited portion of Abecassis does not support Dr. Kiaei's opinion. In the cited portion, Abecassis refers to the example in Figures 6A–6D. As described in Abecassis, the various scenes or chapters of the video are divided into appropriate segments according to the evaluation or coding of the contents of the scenes or chapters. Ex. 1004, col. 20, ll. 1–4. *Each segment* is defined by a beginning and ending frame and comprises any number of frames. *Id.* at col. 20, ll. 4–6. Contrary to Dr. Kiaei's opinion, Abecassis states that this video map, with each segment defined and coded for its content, provides "for the option of editing-out" or skipping segments and content according to the viewer's preferences. *Id.* at col. 20, ll. 13–17. Thus, as stated above, the skipped or omitted segments have a descriptor or content category. They are skipped or omitted because of the application of the viewer's content preferences to the video map. Thus, we are not persuaded by Patent Owner's argument that a person of ordinary skill in the art could not have combined the teachings of Abecassis and Malkin.

Based on all of the evidence of record, we determine, by a preponderance of the evidence, that it would have been obvious to modify Abecassis to include a pre-defined filtering action, as disclosed in Malkin, such that the combined

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teaphings of the references would result in a navigation object containing a start indicator, end indicator, and filtering action including a skip filtering action. Accordingly, we determine that claims 1 and 15 would have been obvious based on Abecassis and Malkin.

6. Dependent Claims 2–14 and 16–29

We have reviewed the evidence and arguments presented by the parties and determine that Petitioner has demonstrated, by a preponderance of the evidence, that Abecassis and Malkin teach all of the limitations of challenged dependent claims 2–22 and 24–29, and that a person of ordinary skill in the art would have had reason to combine their teachings to yield the claimed inventions. *See* Pet. 27–47.

Patent Owner asserts generally that because the combination of Abecassis and Malkin fails to teach or suggest a navigation object or the use of a navigation object to edit content, it also cannot teach or suggest the limitations of the dependent claims. PO Resp. 59. In its Patent Owner Response, Patent Owner discusses specifically some of the dependent claims (*id.* at 59–61), which we address below.

Dependent claims 2, 3, 18, and 19 require the start and end indicators to be expressed as time codes in the form of hours, minutes, and seconds. Abecassis discloses time codes to define start and end indicators. Ex. 1004, col. 21, ll. 50–55 ("segment definitions need not be based on frame numbers," and "any timing or logging format, or physical addressing format, that defines the video material may instead or in addition be utilized"). Malkin also discloses time codes. Ex. 1005, col. 13, ll. 1–4 ("A control specification at a level of group of frames or the video header can be time-based so that the specific frame can be identified by the timing information."). Based on this evidence, we determine that it would have been

obvious to a person of ordinary skill and creativity to express the start and end indicators as time codes in the form of hours, minutes, and seconds.

Based on our analysis above, the preponderance of the evidence establishes that claims 2, 3, 18, and 19 would have been obvious based on Abecassis and Malkin. *See* Pet. 39–41.

Claim 4, dependent from claim 3, requires the start indicator and the end indicator to include first and second frame designations, respectively. Abecassis discloses the use of frame numbers, but further teaches that the "segment definitions need not be based on frame numbers," and "any timing or logging format, or physical addressing format . . . [may] be utilized . . . and can be automatically redefined or renumbered as a particular system or platform requires." Ex. 1004, col. 21, ll. 48–54; *see also id.*, col. 16, ll. 19–20 ("As each segment is defined, the beginning frame and end frame in each of the relevant segments are identified."). Malkin also discloses that the temporal relationship of the filtering action (e.g., a fuzz ball) to the media stream can be specified by a frame number, a time-stamp, or any means to identify a particular object to be modified. Ex. 1005, col. 7, ll. 39–42.

Based on our analysis above, we determine, by a preponderance of the evidence, that claim 4 would have been obvious based on Abecassis and Malkin. *See* Pet. 39–41.

Claims 5 and 20 requires the end indicator to include a frame count from the start indicator. As discussed above, such frame counts were well known and commonly used. Further, as Petitioner points out, Abecassis teaches the end of a segment calculated from the start of the segment. *See* Pet. 41 (citing Ex. 1004, col. 57, ll. 30–36). Accordingly, we determine that claims 5 and 20 would have been obvious based on Abecassis and Malkin. *See id.* at 41, 47.

Claim 17 requires at least one content descriptor identifying the type of multimedia content contained in a particular segment defined by the start and end indicators. As explained above, this is exactly what Abecassis does. Accordingly, we determine that claim 17 would have been obvious based on Abecassis and Malkin. *See* Pet. 47.

Patent Owner does not make any arguments directed specifically to the limitations of dependent claims 8 and 23. Both of these claims require a "configuration identifier." We address these claims below.

Dependent claim 8 recites the "computing system [of] claim 1 further comprising a configuration identifier." Figure 3A in the '318 patent shows that configuration identifier 329a is included within navigation object 320a. The configuration identifier identifies the hardware and software configuration of a consumer system to which the navigation object applies. Ex. 1001, col. 14, ll. 16–18; *see also id*. at col. 14, ll. 23–27 ("The motivation behind configuration 499 [in Figure 4B] is that different consumer systems may introduce variations in how navigation objects are processed. As those variations are identified, navigation objects may be customized for a particular consumer system without impacting other consumer systems.").

Petitioner asserts that Abecassis recognizes that different multimedia players have different configurations. Pet. 43 (citing Ex. 1004, col. 27, ll. 25–28). Petitioner also asserts that Abecassis discloses the correlation of a video map configuration and a multimedia-player configuration. *Id*. at 44 (citing Ex. 1004, col. 23, ll. 48–52 ("When completed, the map may be automatically keyed or configured to accommodate the requirements of the particular device to which the video is to be downloaded.")). Petitioner also states that Abecassis "discloses

'control codes for automatically configuring or controlling the functions of the Multimedia Player'" *Id.*(citing Ex. 1004, col. 11, ll. 31–35).

Accordingly, we are persuaded, by a preponderance of the evidence, that Abecassis teaches a system having a configuration identifier, and determine that claim 8 would have been obvious based on Abecassis and Malkin. *See*, *id*. at 43–44.

Dependent claim 23 recites the "computing system of claim 15 wherein the multimedia content navigation object further comprises a configuration identifier."

Concerning the configuration identifier in claim 23, Petitioner directs our attention to its arguments and evidence for claim 8. *Id.* at 47. Unlike claim 8, however, the configuration identifier in claim 23 is required to be part of the "navigation object." Petitioner's evidence addressing the "configuration identifier" in claim 23 focuses exclusively on the disclosure in Abecassis. *Id.* at 43–44, 47 (directing attention to claim 8). The cited portions of the disclosure in Abecassis apply to a completed video map, not to particular navigation objects. Petitioner has not directed us to any evidence disclosing a configuration identifier as part of a navigation object. Petitioner also has not directed us to evidence or a persuasive argument or rationale establishing that it would have been obvious to include the configuration identifier in Abecassis as part of a navigation object.[7]

Accordingly, we are not persuaded that Petitioner has met its burden of proof to establish that claim 23 would have been obvious.

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[7] *See CustomPlay, LLC v. ClearPlay, Inc.*, Case IPR2013-00484, slip op. at 7–10 (PTAB Nov. 5, 2014) (Paper 29) (reaching a similar conclusion as to claims that required a configuration identifier as part of a navigation object).

7. *Objective Indicia of Non-Obviousness*

Patent Owner argues, without citation to any supporting evidence, that "secondary considerations [of commercial success] support the validity of the claims." PO Resp. 61. Objective criteria, such as commercial success, constitute independent evidence of non-obviousness. *Mintz v. Dietz & Watson, Inc.*, 679 F.3d 1372, 1378 (Fed. Cir. 2013). The objective indicia, however, must establish a nexus with the claimed subject matter. *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1311–12 (Fed. Cir. 2006). Here, Patent Owner provides argument, but no evidence, of the alleged commercial success.[8] *See, e.g.*, PO Resp. 61 ("[s]ince 2001, [Patent Owner] has had gross sales of $21 million"). Patent Owner also fails to provide any evidence of the relevant market share, that the sales were due to the claimed navigation objects as argued, or that the alleged commercial success is due to the patented invention rather than other factors.

III. CONCLUSION

Based on the evidence and arguments, Petitioner has demonstrated, by a preponderance of the evidence, that claims 1–22 and 24–29 of the '318 patent are unpatentable under 35 U.S.C. § 103 based on Abecassis and Malkin, but has not demonstrated, by a preponderance of the evidence, that claim 23 is unpatentable.

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[8] "Argument in the brief does not take the place of evidence in the record." *In re Schulze*, 346 F.2d 600, 602 (CCPA 1965).

IV. ORDER

In consideration of the foregoing, it is hereby

ORDERED that, based on Petitioner's showing by a preponderance of the evidence, claims 1–22 and 24–29 of the '318 patent are unpatentable.

This is a final decision. Parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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