

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TIKTOK INC.,
Petitioner,

v.

NTECH PROPERTIES, INC.,
Patent Owner.

IPR2024-01342
Patent 8,886,753 B2

Before KEN B. BARRETT, TERRENCE W. McMILLIN, and
SCOTT B. HOWARD, *Administrative Patent Judges*.

McMILLIN, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining Some Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

A. *Background and Summary*

TikTok Inc. (“Petitioner”)¹ filed a Petition for *inter partes* review of claims 1–10 of U.S. Patent No. 8,886,753 B2 (Ex. 1001, “the ’753 patent”). Paper 2 (“Pet.”). NTECH Properties, Inc. (“Patent Owner”)² filed a Preliminary Response. Paper 8. We instituted the petitioned review. Paper 9.

Patent Owner filed a Patent Owner Response (Paper 17, “PO Resp.”) to oppose the Petition. Petitioner filed a Reply (Paper 22, “Pet. Reply”) to the Patent Owner Response. Patent Owner filed a Sur-reply (Paper 27, “PO Sur-reply”) to the Reply. We conducted an oral hearing on December 18, 2025. A transcript has been entered into the record (Paper 37, “Tr.”).³

We have jurisdiction under 35 U.S.C. § 6(b)(4) and § 318(a). This Decision is a final written decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73 as to the patentability of claims 1–10 of the ’753 patent. We determine Petitioner has shown by a preponderance of the evidence that claims 1–4 and 6–10 of the ’753 patent are unpatentable, but has not shown that claim 5 of the ’753 patent is unpatentable.

B. *Related Proceedings*

The parties identify the following district court matter related to the ’753 patent: *NTECH Properties, Inc. v. ByteDance Ltd.*, Case No. 2:24-cv-

¹ Petitioner identifies TikTok Inc., Bytedance Ltd., Bytedance Pte. Ltd., and TikTok Pte. Ltd. as the real parties-in-interest to this proceeding. Pet. 2.

² Patent Owner identifies NTECH Properties, Inc. as the real party-in-interest to this proceeding. Paper 3, 1.

³ Patent Owner’s Objections to Petitioner’s Demonstratives (Paper 36) are overruled for the reasons given during oral argument. See Tr. 5:10–16.

00130-JRG (E.D. Tex.), transferred to the Central District of California as *NTECH Properties, Inc. v. ByteDance Ltd. et al.*, Case No. 2:25-cv-03635-FLA-JC (C.D. Cal.). Pet. 2; Paper 3, 1; Paper 15, 2.

The parties also identify U.S. Patent Nos. 8,145,704, 9,215,261, and 9,923,947 as patents that are in the same family as the '753 patent and against which Petitioner has filed IPR petitions. Pet. 2; Paper 3, 1; Paper 15, 2. Although the parties do not identify these other IPR petitions, we identify them as: IPR2024-01340⁴ (challenging U.S. 8,145,704, pending final written decision); IPR2024-01341 (challenging U.S. 9,215,261, not instituted); and IPR2024-01343 (challenging U.S. 9,923,947, not instituted).

C. The '753 Patent (Ex. 1001)

The '753 patent is titled “Method and System for Providing Media Programming.” Ex. 1001, code (54). The '753 patent generally relates to providing media programming. Ex. 1001, 1:17–19. The '753 patent discloses a method of generating media programming that includes the steps of: providing by an aggregator to a client a list of feeds; receiving by the aggregator from the client a selection of one of the feeds; receiving by a publisher from the aggregator the feed selection; and providing to the client media programming based on a publisher-initiated feed responsive to the feed selection and including media elements selected and concatenated with the feed responsive to the client information. *Id.* at code (57).

Figure 1 of the '753 patent, reproduced below, depicts a system for providing media programming:

⁴ The oral argument in IPR2024-01340 was consolidated with the oral argument in this proceeding. *See* Tr. 1; Paper 30 (Order Setting Oral Argument), 2.

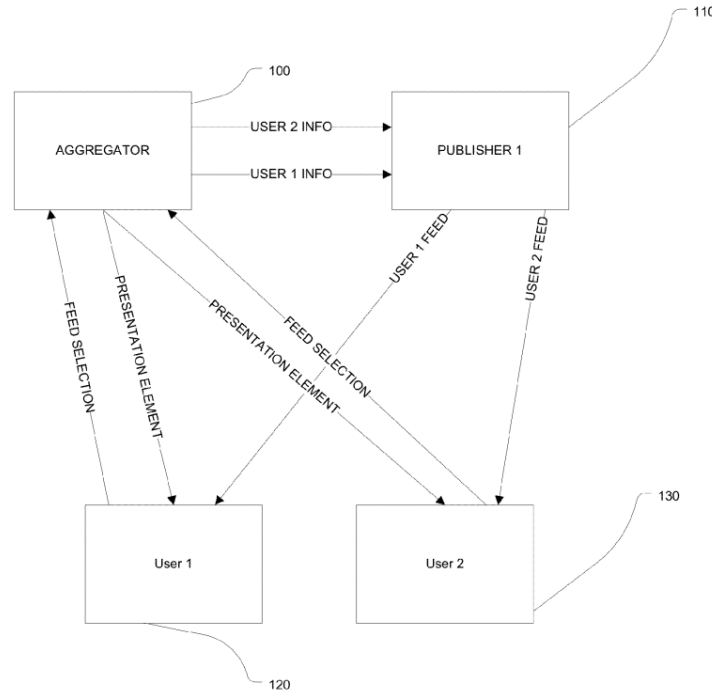


Fig. 1

Id. at 2:11–12, 2:48–3:10. In Figure 1, aggregator 100 (which may be a web server) provides a presentation element, including one or more feeds, to user 1 and user 2. *Id.* at 2:49–56, 3:21–22. A presentation element provides a selection of one or more feeds to the user, whereby the presentation element may include selections of sources of media programming, such as by a menu or selectable icons. *Id.* at 2:55–56, 3:16–19. The users each provide a selection of a feed to aggregator 100. *Id.* at 2:56–58. Aggregator 100 provides information relating to each user to publisher 110. *Id.* at 2:58–59. Based on the selected feed and the user information, publisher 110 provides individual feeds to the users, the feeds being responsive at least in part to the user information, in addition to feed selection. *Id.* at 2:59–63. The feeds may include media elements selected and concatenated by publisher 110 responsive to at least both feed selection and user information. *Id.* at 2:63–66. The same feed selection by user 1 and user 2 may result in the provision

of different feeds by publisher 110 to the different users. *Id.* at 2:65–3:1. The feeds may include a concatenated sequence of media elements, in which the order and selection of media elements is determined by algorithms including as variables user information. *Id.* at 3:1–6. The content of a media feed may include a video feed, an audio only feed, a sequence of still images, and a combination of one or more of audio, video and still images. *Id.* at 3:6–10.

Figure 5 of the '753 patent, reproduced below, depicts an example display 500 showing a presentation element generated by an aggregator:

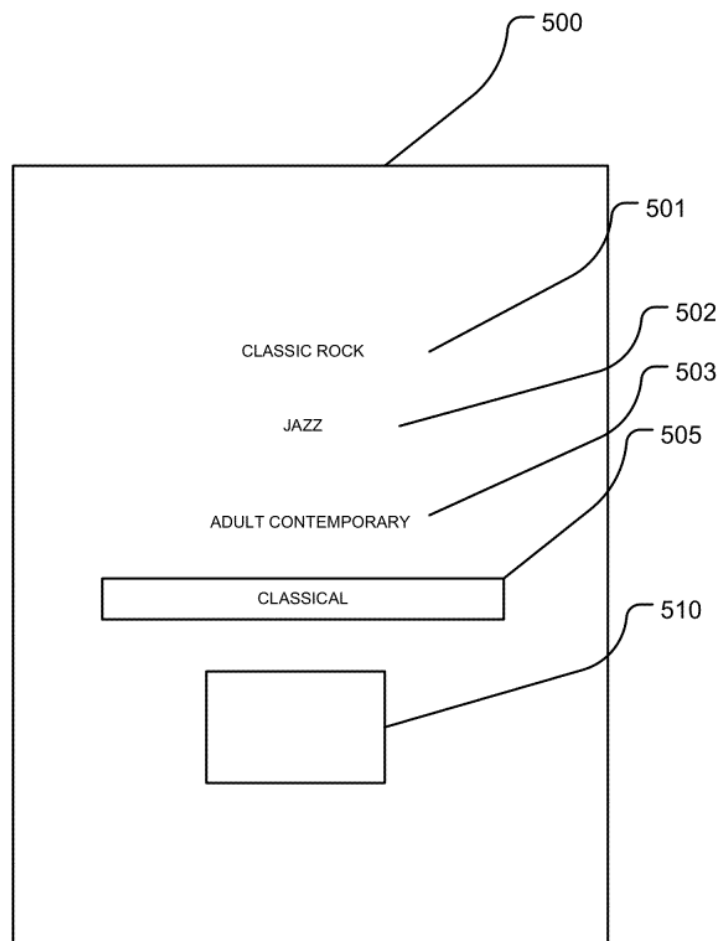


Fig. 5

Id. at 6:1–3. In display 500 of Figure 5, music feeds 501–503, 505 are

available, and “classical” feed 505 has been highlighted in response to user selection. *Id.* at 6:1–8. The user may select a feed by clicking on a mouse or on an enter button on a television remote control, or by scrolling up to highlight a different feed. *Id.*

Figure 7 of the ’753 patent, reproduced below, illustrates operations for providing user-specific feeds:

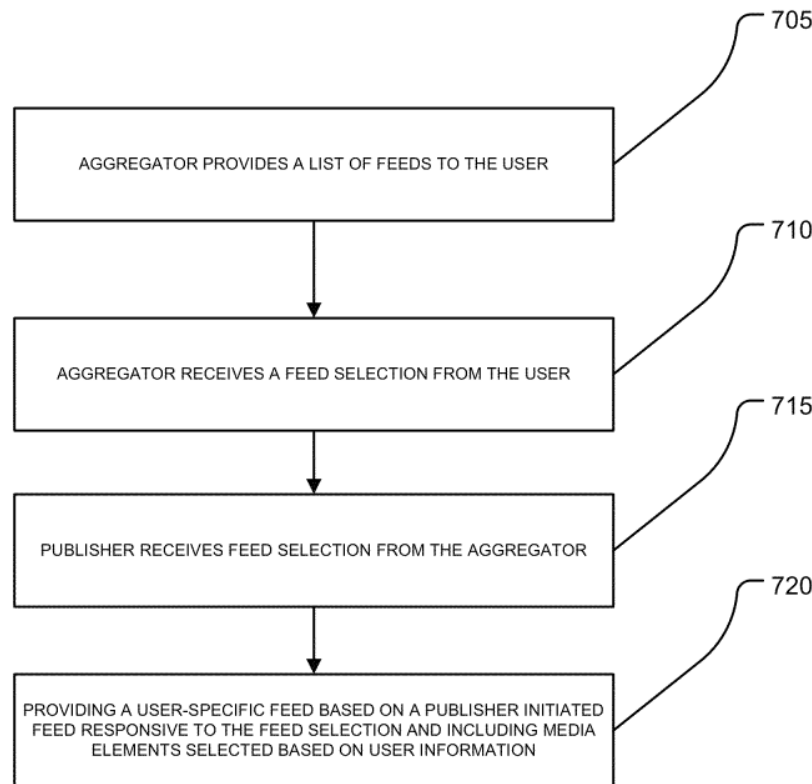


Fig. 7

Id. at 13:18–20. In the process flow illustrated in Figure 7, a list of feeds is provided to a client device by an aggregator (operation 705). *Id.* at 13:19–32. The aggregator receives a client selection of one of the listed feeds (step 710). *Id.* The aggregator provides the selection to a publisher (step 715). *Id.* The aggregator may also provide client information to the publisher, for the publisher to use in generating a user-specific stream. *Id.* A feed is then

provided to the user, based at least on a stream from the publisher and media elements selected based on the user information (step 720). *Id.* The publisher may generate a stream including selection of media elements based on the user information, or the publisher may provide a predetermined stream to a client device, which selects additional media elements based on user information to create the user-specific stream. *Id.*

Figure 8 of the '753 patent, reproduced below, illustrates a method for aggregating media programming:

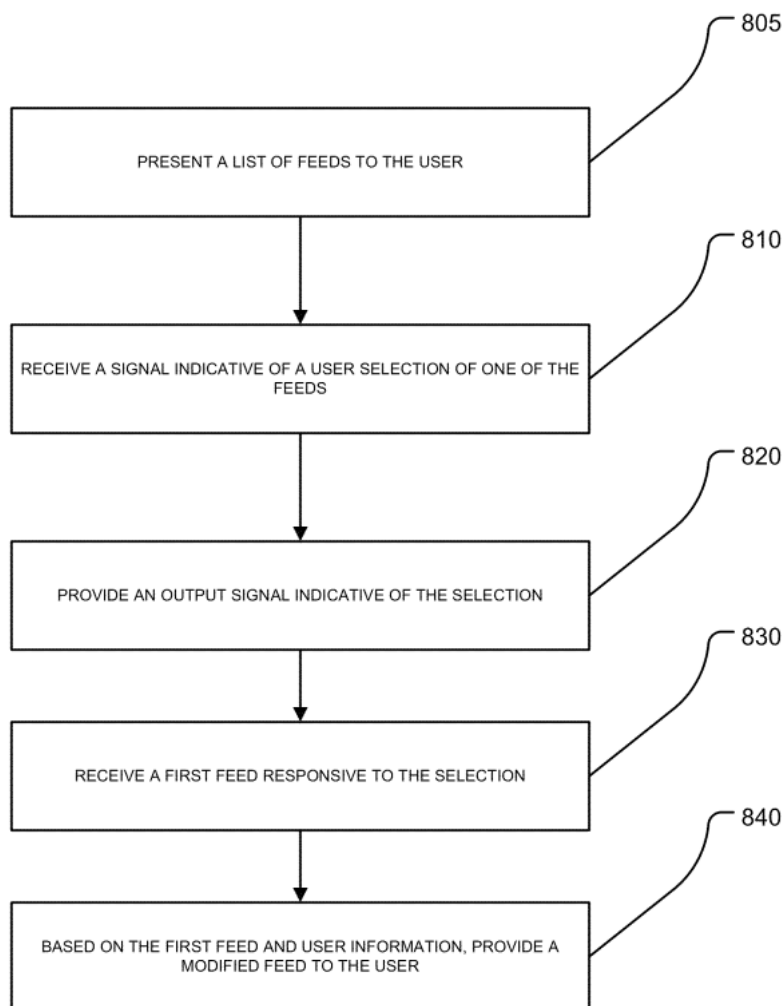


Fig. 8

Id. at 13:33–35. In step 805 in Figure 8, which may be performed by an aggregator, a list of feeds is presented to a user. *Id.* at 13:35–51. An input signal is received, indicative of a selection of one of the feeds from the list (step 810), whereby the signal may also be received by the aggregator. *Id.* An output signal is provided indicative of the selection at step 820, which may also be performed by the aggregator and the signal provided to a publisher. *Id.* At least a first feed is received responsive to the output signal (step 830), whereby the first feed may be received from a publisher at a client device, at an aggregator, or other media assembly engine. *Id.* Based on the first feed and user information, a modified feed is provided to the user (step 840). *Id.* Step 840 may be performed by a media assembly engine at a client device, at an aggregator, or at a component of a publisher. *Id.*

D. Challenged Claims

Petitioner challenges claims 1–10 of the ’753 patent. Pet. 3–4. Claim 1 is independent, and is illustrative of the challenged claims:⁵

1. A method of generating media programming, comprising:
 - [a] delivering by an aggregator to a client a list of feeds;
 - [b] receiving by the aggregator from the client a selection of one of the feeds;
 - [c] acquiring by a publisher from the aggregator the feed selection;
 - [d] collecting by the publisher from the aggregator client information, wherein said client information comprises user information; and
 - [e] providing to the client individual customized media programming based on a publisher-initiated feed responsive to the feed selection and including media elements selected,

⁵ We use a similar numbering and paragraph style as the Petition. *See* Pet. 3 (Note that, after page 4, the Petition starts over at page 1.).

ordered, and concatenated with the feed that are responsive at least in part to the user information.

Ex. 1001, 14:47–61; Pet. 3.

E. The Asserted Grounds

Petitioner asserts the following challenges to patentability (Pet. 3–4):

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–10	103	Whitehead ⁶
1–10	103	Whitehead, Marcus '904 ⁷
1–10	103	Cristofalo, ⁸ Marcus '904

To support these challenges, Petitioner relies on Declarations of Kevin Almeroth, Ph.D. (Ex. 1002 (Declaration submitted with Petition); Ex. 1024 (Reply Declaration); *see also* Ex. 2016 (transcript of the deposition of Dr. Almeroth taken on May 30, 2025); Ex. 2027 (transcript of the deposition of Dr. Almeroth taken on October 16, 2025)).

Patent Owner relies on the Declaration of Michael T. Goodrich, Ph.D. (Ex. 2014; *see also* Ex. 2001 (Declaration of Dr. Goodrich submitted in support of the Preliminary Response); Ex. 1028 (transcript of the deposition of Dr. Goodrich)).

⁶ US 8,555,318 B2, issued Oct. 8, 2013 (Ex. 1003). Petitioner's exhibit list lists U.S. Pat. Pub. No. 2008/0141307 as Whitehead and Exhibit 1003. However, Exhibit 1003 submitted by Petitioner is the corresponding patent document (i.e., US 8,555,318 B2).

⁷ US 2006/0015904 A1, published Jan. 19, 2006 (Ex. 1005).

⁸ US 2002/0152117 A1, published Oct. 17, 2002 (Ex. 1004).

II. OBVIOUSNESS ANALYSIS

A. Principles of Law

Under 35 U.S.C. § 103(a), “[a] patent claim is unpatentable if 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.” *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (similar language). The question of obviousness involves resolving underlying factual determinations including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and when presented (4) objective evidence of non-obviousness (not presented here). *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). Further, “there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *See KSR*, 550 U.S. at 418.

B. Level of Ordinary Skill in the Art

Petitioner contends:

[a] person of ordinary skill in the art at the time of the ’753 patent (“POSITA”) had at least a Bachelor of Science in electrical engineering, computer engineering, or similar fields **and** at least two years of practical experience in the field of media processing and/or transmission. More education can supplement for less practical experience, and vice versa.

Pet. 9 (citing Ex. 1002 ¶¶ 48–50) (emphasis added).

Patent Owner offers a very similar assessment of the level of skill in the art as Petitioner, arguing the following:

[a] person of ordinary skill in the art (“POSITA”) at the relevant time period between 2006 and 2007 would be one having a bachelor’s degree in computer science, computer

engineering, **or** an equivalent, **or** two years of professional experience in the field of distributed computing. More education can supplement for less professional experience, and vice versa.

PO Resp. 3–4 (citing Ex. 2014 ¶¶ 15–19) (emphasis added).

The parties’ definitions are similar, although we observe that Patent Owner proposes that the person of ordinary skill would have a bachelor’s degree *or* an equivalent *or* professional experience, whereas Petitioner proposes that such a person would have both a degree *and* experience. Neither party presents any arguments relating or referring to the level of ordinary skill in the art.

Determining the level of ordinary skill in the art involves various factors, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citation omitted). The prior art of record also reflects the level of ordinary skill in the art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

We adopt Petitioner’s assessment of the level of skill in the art. Petitioner’s assessment is supported by the testimony of Dr. Almeroth and is consistent with the ’753 patent and the asserted prior art. However, our obviousness analysis would be the same under either party’s assessment. *See* Ex. 2014 ¶ 17 (Patent Owner’s declarant, Dr. Goodrich, stating that “I note that my definition of a POSITA is similar to that of Dr. Almeroth” and “My opinions in this declaration would not change were I to adopt the definition of a POSITA offered by Dr. Almeroth.”).

C. Claim Construction

In *inter partes* reviews, the Board construes claims using the same claim construction standard employed in a civil action under 35 U.S.C. § 282(b). 37 C.F.R. § 42.100(b) (2023). Claim terms are generally given their ordinary and customary meaning. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). “[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Id.* at 1313. “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–1317). Extrinsic evidence consisting of all evidence external to the patent and prosecution history includes expert and inventor testimony, dictionaries, and learned treatises. *Phillips* at 1317. While extrinsic evidence can shed useful light on the relevant art, it is less significant than the intrinsic record in determining the legally operative meaning of claim language. *Id.* “[T]he specification and prosecution history only compel departure from the plain meaning in two instances: lexicography and disavowal.” *GE Lighting Sols., LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014).

With regard to claim construction, the entire presentation in the Petition consists of a single sentence that states, “No express constructions are required to find the ’753 patent claims invalid; however, Petitioner

identifies and addresses the plain meaning of certain terms in the analysis for the presented Grounds.” Pet. 9.

Under the heading “Claim Construction” in the Response, Patent Owner presents an argument relating to the plain and ordinary meaning of “feed” as recited in the claims of the ’753 patent. PO Resp. 4–8. Patent Owner does not present an argument for explicit claim construction or argue lexicography or disavowal. *See id.* In the Sur-reply, Patent Owner states that “Although the parties fundamentally dispute the plain meaning of the term ‘feed,’ the Board need not formally construe the term.” PO Sur-reply 1.

The term “feed” and/or its plural “feeds” are used in limitations 1a, 1b, 1c, and 1e of claim 1 and in claims 4 and 5 of the ’753 patent. Patent Owner contends that the plain and ordinary meaning of “feed” is “one or more associated media elements.” *See, e.g.,* PO Resp. 4. However, as discussed below, this alleged plain and ordinary meaning of feed is not supported by the claim language, the specification of the ’753 patent, or dictionary definitions of feed as contended by Patent Owner. We reject this contention and the related contentions that the cited art may be distinguished from the claims of the ’753 patent based on the recited term “feed.”

Patent Owner relies on the language of claim 1 to support its definition of “feed.” PO Resp. 5. Specifically, Patent Owner argues:

The plain language of the claims confirms that the term “feed” refers to one or more associated media elements because each claim requires the “feed” to be concatenated with **additional** media elements. ’753 Patent at Claim 1 (reciting (1) that a user is presented with a “list of feeds” and selects “one of the feeds” and (2) that the publisher “acquir[es] . . . the feed selection” and “select[s], order[s], and concatenate[s]” **additional** media elements” with “the feed.”). This language

requiring the concatenation of “**additional**” media elements with the feed would make little sense if “the feed” did not also include media elements. *See* Ex. 2015 at 1 (describing “concatenate” as “to link together in a series or chain”); Goodrich PO Resp. Decl. at ¶ 36.

Antecedent basis confirms that the feed must also include at least one media element at the time selected from “a list of feeds.” *See Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1356-57 (Fed. Cir. 1999) (noting the importance of an antecedent basis in claim construction). Because “the feed” derives antecedent basis from “a list of feeds” and the “selection,” “the feed” is the same feed listed and selected. Ex. 2016 at 76:5-77:7 (Almeroth Tr.) (agreeing that “the feed” is “referring to the feeds that are identified in the list of feeds.”). Therefore, at the time the feed is selected from the list, the feed must include at least one media element to be “concatenated with” **additional** media elements selected and ordered based on user information. Goodrich PO Resp. Decl. at ¶ 37.

Id. at 5–6 (emphasis added) (alterations in original). This argument is not supported by the language of claim 1 (or any other claim). The word “additional” is not found in claim 1 (Ex. 1001, 14:47–61) and Patent Owner provides no persuasive reasoning for reading “additional” into claim 1 (or any other claim). Moreover, even if we read “additional” into claim 1, we do not discern how the claim language supports defining “feed” as “one or more associated media elements” and Patent Owner provides no persuasive reasoning for doing so.

Patent Owner argues that the specification of the ’753 patent also supports that the plain and ordinary meaning of “feed” is “one or more associated media elements.” PO Resp. 6–8. Patent Owner relies on the alleged consistent use of the term “feed” in the specification of the ’753 patent as supporting this argument and states that “all feeds described in the ’753 Patent are described [as] a collection of media elements.” *Id.* at 7.

However, each of the examples of the use of “feed” cited in support of this argument state what a “feed” “**may** include.” *Id.* (emphasis added). These quotes from the specification are, thus, explicitly not definitional and are presented as being non-limiting.

Patent Owner also relies on “dictionary definitions”⁹ to support its asserted plain and ordinary meaning of “feed.” PO Resp. 6 (“Dictionary definitions of the term ‘feed’ confirm that the term refers to at least one associated media element.”). Patent Owner cites three documents (Exhibits 2017, 2018, and 2019). *Id.* The first definition for “feed” that Patent Owner relies on defines “feed” as “[a] general term for the electronic distribution of information, including text, images, audio and video.” *Id.* (citing Ex. 2017 which is not a dictionary). However, Exhibit 2017 also refers to “feed” as “Any Distributed Content” and provides that “[t]he term may refer to any content that is ‘fed into’ some other repository.” Ex. 2017, 1. Patent Owner does not explain, and we do not discern, how Exhibit 2017 that describes a “feed” as any content that is fed supports its argument that the plain and

⁹ Patent Owner fails to cite any dictionaries in support of this argument. Patent Owner cites three documents (Exhibits 2017, 2018, and 2019). PO Resp. 6. According to Patent Owner’s exhibit list, Exhibit 2017 is a “PC Mag Encyclopedia webpage,” Exhibit 2018 is a “Sprinklr Glossary webpage,” and Exhibit 2019 is a “Google Ad Manager Help webpage.” *Id.* at v. Elsewhere, Patent Owner cites dictionaries but not to support its argument relating to the plain and ordinary meaning of “feed.” *See id.* at v–vi (Ex. 2015 (“Merriam-Webster Dictionary webpage, definition of ‘concatenate’”), Ex. 2020 (“Excerpts from Microsoft Computer Dictionary (5th ed. 2002)”)), Ex. 2025 (“Merriam-Webster Dictionary webpage, definition of ‘furnish’”), Ex. 2026 (“Collins English Dictionary webpage, definition of ‘furnish’”).

ordinary meaning of “feed” is “one or more associated media elements.”
See PO Resp. 6.

Patent Owner also relies on Exhibit 2018 (again, not a dictionary, but described as a “Sprinklr Glossary webpage” in the Patent Owner’s Exhibit List (PO Resp. v)) as “describing a feed as ‘the dynamic stream of content’ with the ‘content that can show up on a user’s feed include[ing] text posts, links, ads, and visuals.’” *Id.* at 6 (alteration in original). Patent Owner does not explain, and we do not discern, how Exhibit 2018 supports its argument that the plain and ordinary meaning of “feed” is “one or more associated media elements.” *See id.* A description of a “feed” as content that includes a dynamic stream of text posts and links does not support limiting a feed to “associated media elements.”

Patent Owner also relies on Exhibit 2019 (again, not a dictionary, but described as a “Google Ad Manager Help webpage” in the Patent Owner’s Exhibit List (PO Resp. v)) as “describing a feed as ‘a stream of content that you can scroll through.’” *Id.* at 6. Exhibit 2019 also states that “A feed can be editorial (like, a list of articles or news) or listings (like, a list of products and services;” “Feeds can include . . . Text-only feed;” and “A desktop grid layout becomes a feed when viewed on a mobile device.” Ex. 2019, 1. Patent Owner does not explain, and we do not discern, how Exhibit 2019 supports its argument that the plain and ordinary meaning of “feed” is “one or more associated media elements.” *See* PO Resp. 6. A description of a “feed” as a stream of content including a list of articles, products, and services and including only text does not support limiting a feed to “associated media elements.”

Patent Owner's argument that "dictionary definitions" support its asserted plain and ordinary meaning of "feed" as "one or more associated media elements" (PO Resp. 6) is not explained or supported. Indeed, the definitions and descriptions of a "feed" that Patent Owner cites contradict its asserted plain and ordinary meaning. We reject Patent Owner's argument that dictionary definitions support its asserted plain and ordinary meaning of "feed."

It is also unclear why the word "associated" is included in Patent Owner's alleged plain and ordinary meaning of "feed." Indeed, Patent Owner's explanation as the meaning of "associated" in its definition of "feed" shows that "associated" is intended to mean nothing beyond what the phrase "one or more associated media elements" means without including the word "associated" and adds unnecessary confusion and ambiguity to Patent Owner's definition of "feed." Patent Owner argues that a feed is "**one or more associated media elements**" (PO Resp. 4 (emphasis added)) or "**at least one associated media element**" (*id.* at 6 (emphasis added)). It is unclear how one media element could be "associated" with itself or what "associated" means if a "feed" is one media element. Patent Owner provides this explanation as to the meaning of "associated" in its definition of "feed:"

The word "associated" is meant to be understood broadly to include any association between the media elements and does not imply that the media elements in a feed must share any particular characteristics. For example, a feed may be a group of randomly selected [sic] of media elements, but the fact that the media elements were selected to be part of the group is sufficient for them to be "associated."

PO Resp. 4 n.1. Accepting Patent Owner's broad understanding of "associated" in its definition of "feed," any group of media elements are

“associated” merely by being part of the same “feed” and the same meaning for “feed” would be conveyed if the definition were “one or more media elements.”

For these reasons, we do not adopt Patent Owner’s limiting definition of “feed” as “one or more associated media elements.” To the extent necessary in considering the patentability of the challenged claims of the ’753 patent, we will further consider the plain and ordinary meaning of “feed” as recited.

We do not explicitly construe any terms in the challenged claims of the ’753 patent and accord the claims, and all the recited terms therein, a plain and ordinary meaning.

D. Ground 1: Asserted Obviousness of Claims 1–10 Based on Whitehead

Petitioner challenges claims 1–10 as being rendered obvious by Whitehead. *See* Pet. 3, 10–33.

Patent Owner disputes the showing in the Petition as to several limitations of claim 1 and the limitations of dependent claim 5. PO Resp. 10–18. We start our analysis of this ground with a description of the disclosure of Whitehead and then consider the arguments and evidence presented by the parties.

1. Whitehead (Ex. 1003)

Whitehead is titled, “Customized Media on Demand.” Ex. 1003, code (54). Whitehead discloses a mixing server configured to create a custom media channel based on a profile indicating topics of interest, and a playback application configured to provide the custom media channel upon a request from a user, the custom media channel including items of

multimedia content. *Id.* at code (57). Whitehead's Figure 1, reproduced below, illustrates a system for delivering video. *Id.* at 1:53–55.

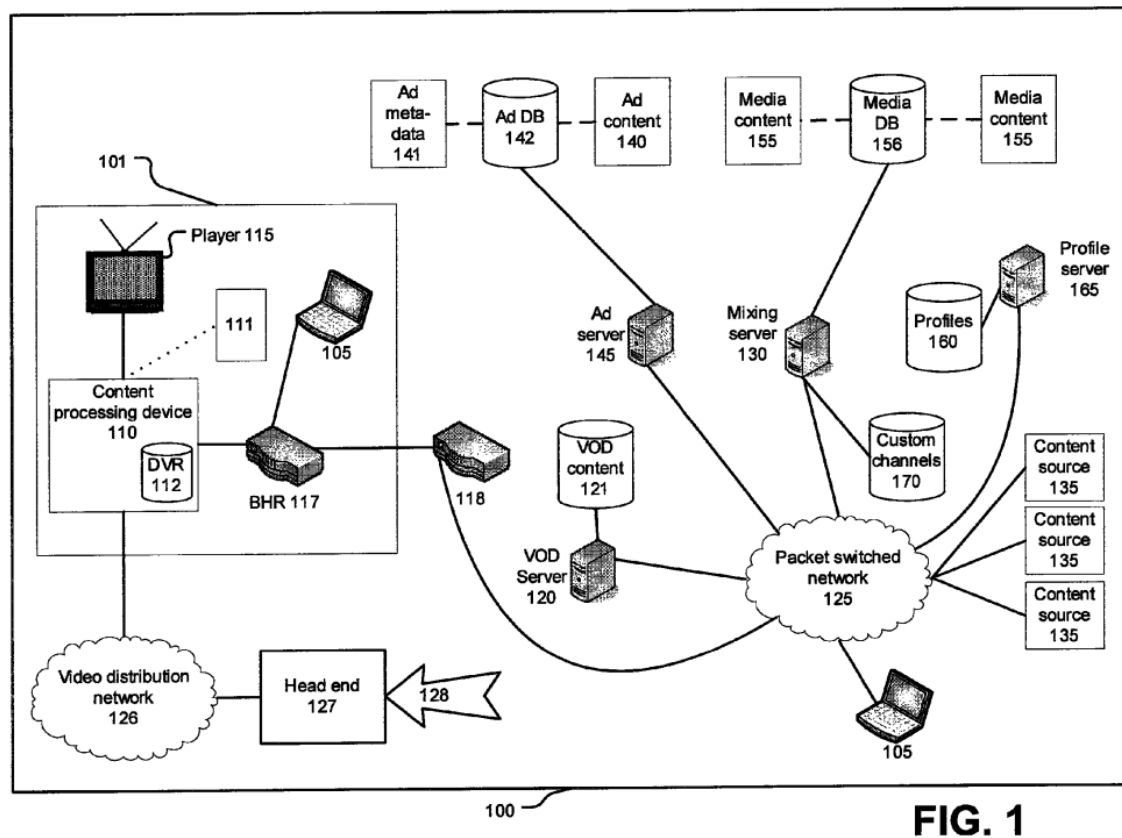


Figure 1 illustrates a system 100 for delivering a video signal 128 and supporting custom media channels 170. *Id.* at 2:4–6.

As shown in Figure 1, a customer premise 101 includes a content processing device 110 that provides video or other multimedia to a user on a media player 115 (such as a television set or video monitor). *Id.* at 2:7–16. Content processing device 110 may be a set top box (STB) or similar device for receiving a video signal and providing programming to media player 115. *Id.* Content processing device 110 performs and coordinates operations associated with receiving, decoding, storing, and displaying multimedia content 150, and operations related to generating a user interface displayed in media player 115. *Id.* at 2:63–3:2. Computer(s) 105, which

communicate with content processing device 110, include program instructions for providing a user interface through which a user may submit information concerning media of interest, and for submitting such information to a mixing server 130 and/or profile server 165 to be stored in a custom channel profile 160. *Id.* at 2:17–30. A broadband home router (BHR) 117 distributes audio, video, and data to content processing device 110, while gateway router 118 allows content processing device 110 to access a packet switched network 125. *Id.* at 2:60–64, 3:29–32, 3:40–43. Content processing device 110 may accordingly make requests to, and to receive data from, servers 120 and 130 via network 125. *Id.* at 3:48–51. Video on demand (VOD) server 120 provides video-on-demand to a user of content processing device 110, whereby content processing device 110 makes a request to VOD server 120 for VOD content 121 selected by the user. *Id.* at 3:52–64. Mixing server 130 selectively communicates with content processing device 110 via network 125 and/or router 118. Mixing server 130 assembles and delivers to content processing device 110, one or more custom media channels 170. *Id.* at 4:10–20. Mixing server 130 also provides functionality for combining advertising content 140 and/or media content 155 to create the custom media channels 170. *Id.* at 4:27–30.

A custom media channel 170 includes “a logical concept of an aggregated collection of media content 155 and/or advertising content 140, e.g., video clips, along with associated media metadata 150 and/or advertising metadata 141.” *Id.* at 4:33–37. Metadata 150 and 141 may include control information such as metadata information about content 155 and 140, play out order information, or channel policy control information. *Id.* at 4:37–40. Content 155 and 140 included in a custom media channel

170 may be assembled and stored in advance of a user request for the media channel, or it may be assembled and managed in real-time or near real-time. *Id.* at 4:40–44. Media content 155 is provided by content sources 135, whereby an individual media content item 155 may contain content pertaining to a single, specific topic, while media metadata 150 includes information about media content 155. *Id.* at 5:9–30. For example, one media content 155 item may be a video clip for a specific news story, while another media content item 155 may be a video clip for another story. *Id.*

Custom channel profiles 160 are created and stored in association with a profile server 165, whereby a custom channel profile 160 is generally created by a user of computer 105 accessing profile server 165. *Id.* at 5:56–57, 6:35–37. Content processing device 110 may also be used to create, modify, and/or delete profiles 160. *Id.* at 6:37–40. The purpose of a profile 160 is to provide criteria for selecting media content 155 to be included in a given custom media channel 170 for a user, as well as to provide other policy control information related to retrieval and playback of a channel 170. *Id.* at 5:57–6:9. Profile 160 may therefore include information by which media metadata 150 may be queried, and according to which it may be determined whether an item of media content 155 meets criteria specified in custom channel profile 160. *Id.* Criteria for selecting media content 155 include categories of content 155 in which a user is interested. *Id.*

Profile server 165 provides a graphical user interface (GUI) through which a user may provide information for a profile 160. *Id.* at 7:3–17. Such information includes a username and other identifying information along with information concerning topics of interest to the user. *Id.*

Figure 2 of Whitehead, reproduced below, illustrates a custom media channel and a playlist. *Id.* at 1:55–56.

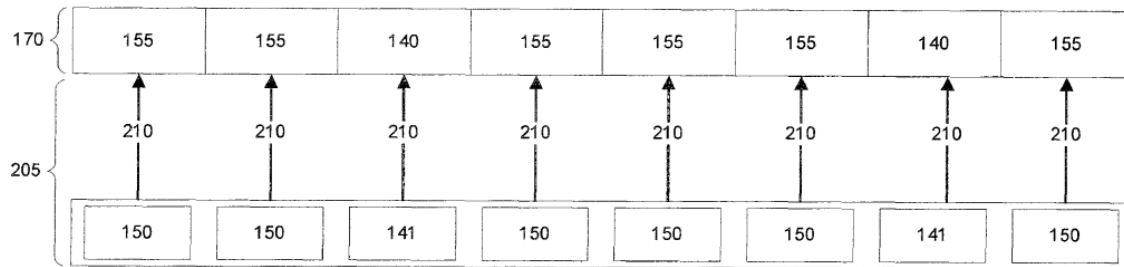


FIG. 2

Figure 2 illustrates a custom media channel 170 and a playlist 205. *Id.* at 8:28–30.

As shown in Figure 2, a custom media channel 170 includes advertising content 140 and media content 155, assembled and provided to content processing device 110 according to playlist 205. *Id.* at 8:28–41. The particular advertising content 140 and media content 155 included in custom media channel 170 depends on a custom channel profile 160. *Id.* Playlist 205 determines an order in which items of advertising content 140 and media content 155 are provided in custom media channel 170. *Id.* at 8:42–64. A custom media channel 170 may include multiple multimedia files retrieved by mixing server 130 from databases 142/156 (*see* Figure 1) and sequentially streamed, as a single custom media channel 170, to content processing device 110/computer 105, in response to a user request for a custom media channel 170 on a real-time basis. *Id.* A custom media channel 170 may include different kinds of multimedia files, such as MPEG files and JPEG files. *Id.* A custom media channel 170 may also be instantiated as a single multimedia file (e.g., an MPEG file) created by aggregating or concatenating various items of advertising content 140 and/or media content 155. *Id.*

Figure 4 of Whitehead, reproduced below, illustrates a process for instantiating a custom media channel. *Id.* at 1:59–61.

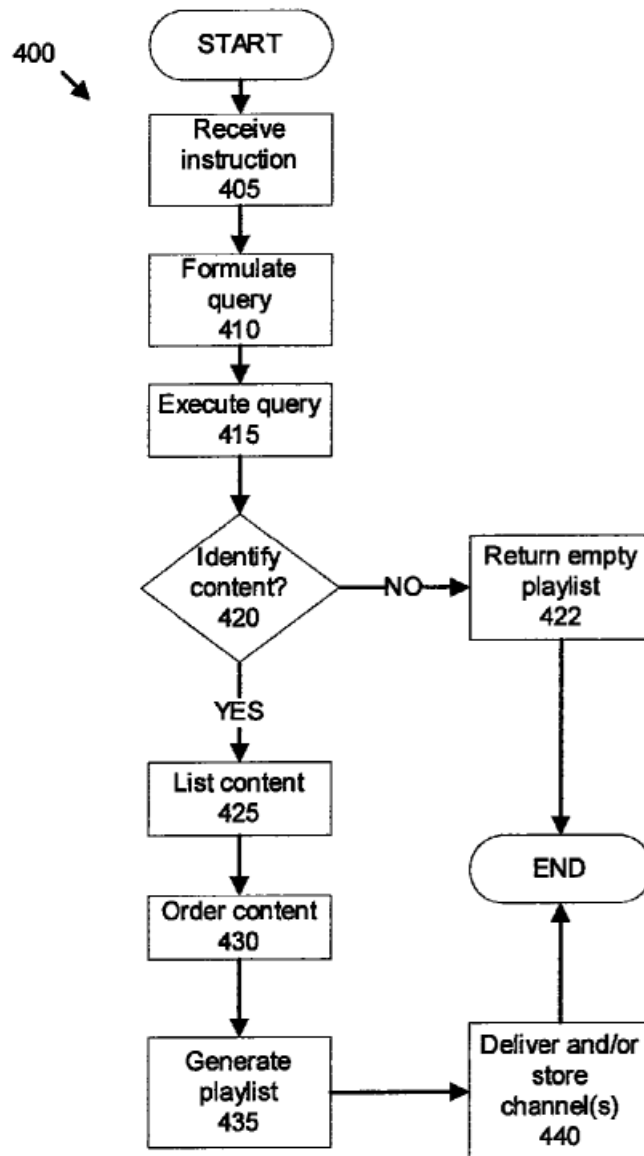


FIG. 4

Figure 4 illustrates a process 400 for instantiating one or more custom media channels 170. *Id.* at 11:38–39.

In step 405 shown in Figure 4, mixing server 130 receives an instruction/message triggering it to create one or more custom media

channels 170 based on one or more custom channel profiles 160.

Id. at 11:40–58. The trigger to create a custom media channels 170 may result from a user request to access a channel 170, in which case a playlist 205 is generated and a custom media channel 170 is created in real-time or near real-time when a user “tunes” to channel 170. *Id.* Creating and delivering custom media channel 170 in real-time or near real-time based on the custom channel profile 160 allows for providing the user with customized content and providing the user with up-to-date content. *Id.* A custom media channel 170 may also be created and stored prior to a user’s request to access the channel 170. *Id.* at 11:59–65. For example, mixing server 130 could receive a message from profile server 165 that a custom channel profile 160 has been created or revised. *Id.* Receipt of the message may then cause mixing server 130 to invoke a process for creating or modifying one or more custom media channels 170 based on a profile 160 provided in the message. *Id.* at 12:8–17.

Next, in step 410 shown in Figure 4, mixing server 130 analyzes the custom channel profile 160 received in step 405 to formulate a query of media metadata 150. *Id.* at 12:18–37. For example, if a profile 160 indicates a particular subject of interest, such as a particular keyword, then the subject of interest or keyword may be parameters for the query. *Id.* Next, in step 415, mixing server 130 executes the query or queries for media content 155 and advertising content 140, formulated in step 410. *Id.* at 12:64–66. In step 420, mixing server 130 receives results of the query or queries executed in step 415, and evaluates the results to determine if the query results identify any media content 155, e.g., any video file or files. *Id.*

at 13:7–14. If media content 155 is identified in the query executed in step 415, then process 400 proceeds to step 425. *Id.*

In step 425, mixing server 130 uses the media metadata 150 and/or advertising content 140 returned in step 420 to generate a list of media content 155 and/or advertising content 140 to be included in a custom channel 170 based on custom channel profile 160. *Id.* at 13:35–45. Information from profile 160 may be used to generate the playlist 205. *Id.* For example, profile 160 may include an indication that media content 155 relating to a first category of media content, e.g., sports, is of more interest to a user than media content 155 relating to a second category, e.g., weather. *Id.* Thus, the order of media content 155 reflected in playlist 205 may be at least partly determined by profile 160. *Id.* In step 430, mixing server 130 determines an order for the media listed in step 425, and in step 435, mixing server 130 generates a playlist 205 based on the query results listed as determined in steps 425 and 430. *Id.* at 13:62–64, 14:20–22. Finally, in step 440, mixing server 130 delivers (e.g., isochronously streams or progressively downloads) media content 155 and/or advertising content 140 to content processing device 110. *Id.* at 14:23–30. According to playlist 205, content 155 and/or advertisements 140 are retrieved from databases 142/156 on a real-time or near real-time basis (that is, when needed as part of a custom media channel 170). *Id.*

2. *Analysis of Independent Claim 1*

For the reasons that follow, we are persuaded that Petitioner establishes that the subject matter of independent claim 1 would have been obvious in view of Whitehead. Our limitation-by-limitation analysis of claim 1 is provided below.

A method of generating media programming, comprising:

Petitioner shows that Whitehead teaches the preamble of claim 1. Pet. 10 (“Whitehead discloses system 100 for ‘receiving a video signal from a network and providing programming such as video to media player 115.’ EX1003 at 2:4-16. EX1002 ¶¶ 69.”). Patent Owner does not argue that the preamble is limiting or dispute Petitioner’s showing relating to the preamble of claim 1. *See* PO Resp. We find that Whitehead teaches the preamble of claim 1.

[a] delivering by an aggregator to a client a list of feeds;

Petitioner contends that Whitehead discloses or renders obvious this limitation. Pet. 10–16 (citing Ex. 1002 (Almeroth Decl.) ¶¶ 72–81; Ex. 1003 (Whitehead) 2:4–16, 2:31–39, 2:52–3:7, 3:14–28, 3:59–4:9, 4:45–52, 5:9–42, 5:56–6:9, 6:20–34, 6:47–7:2, 7:3–18, 8:42–64, 10:46–67, 11:9–16, 11:40–58, 15:16–16:53, 18:47–62, Fig. 1; Ex. 1006, 32:61–33:8; Ex. 1007, 5–6). Patent Owner does not specifically address whether Whitehead teaches or suggests this limitation.¹⁰ *See* PO Resp.

Petitioner maps “content processing device 110” of Whitehead to the recited “aggregator” and “mixing server 130” of Whitehead to the recited “publisher.” Pet. 10 (“Whitehead discloses **content processing device 110**, which is the claimed ‘*aggregator*,’ and **mixing server 130**, which is the

¹⁰ Clearly, Patent Owner, based on its alleged plain and ordinary meaning of “feeds,” disputes that the Whitehead (and the other cited art) discloses providing a “list of feeds,” but Patent Owner presents these arguments, as related to patentability in view of Whitehead, in the context of its discussion of the plain and ordinary meaning of “feed” and limitations 1c and 1e. As these arguments are not specifically directed at the showing for limitation 1a, we discuss them elsewhere in this decision.

claimed “***publisher.***”).¹¹ The Petition provides this explanation of how this limitation is taught or suggested by Whitehead:

The ’753 patent specification describes an “***aggregator***” as “provid[ing] a presentation element”—i.e., a user interface—“to user 1 120 and 2 130” for different media feeds. EX1001 2:48-51, 3:11-23. Whitehead similarly discloses that its **content processing device 110** presents a menu of media programming available from different sources. For example, Whitehead discloses that its **content processing device 110** “performs operations relating to generating a user interface, e.g., that is displayed in media player 115.” EX1003 at 2:60-3:7; see also EX1003 at 15:16-22. A user may then “browse a menu of video-on-demand-options displayed on media player 115.” *Id.* at 3:59-4:9, 6:47-7:2. The user may also use **content processing device 110** to “select a channel ... associated with a custom media channel 170.” *Id.* at 15:23-41; *see also id.* at 18:47-62. Each of these custom media channels 170 includes content from one or more different content sources 135, and a collection of custom media channels thus covers multiple different content sources 135. *Id.* at 3:14-28, 5:56-6:9, 7:3-18. Whitehead also discloses media player 115 that is either a stand-alone device or software running on computer 105 (“***client***”). EX1003 at 2:4-16, 2:31-39, 2:52-3:7, 3:59-4:9, 15:16-22. EX1002 ¶¶ 70-72.

Finally, Whitehead’s **content processing device 110** delivers to media player 115 (“***client***”) for display a menu “indicat[ing] a plurality of custom media channels 170” (“***list of media feeds***”). EX1003 at 2:60-3:7, 3:59-4:9, 4:45-52, 6:20-34, 10:46-67, 11:9-16, 11:40-58, 15:16-16:53, 18:47-62.

¹¹ Petitioner uses colored text and colored annotations in figures in the Petition. For example, on page 10, the text “content processing device 110” and “***aggregator***” is colored blue. On page 11, the “Content processing device 110” in Figure 1 of Whitehead is annotated in the same blue color. On page 8, the “AGGREGATOR” in Figure 1 of the ’753 patent is annotated in the same blue color. We omit the colors from our quotations of text from the Petition and other papers filed by the parties, but, in copying annotated figures, we include the coloration in the annotations.

Whitehead discloses or renders obvious this limitation under two mappings: the “*media feeds*” are either (1) custom media channels 170 made available by **mixing server 130** to **content processing device 110 (Media Feed Mapping 1)**; or (2) media content transmitted by content sources 135 to mixing server 130 (**Media Feed Mapping 2**).^[12] EX1002 ¶¶ 73-74.

Id. at 11–12. The cited passages in Whitehead support Petitioner’s contention that Whitehead teaches or suggests this limitation.

We find that Whitehead teaches or suggests this limitation.

[b] receiving by the aggregator from the client a selection of one of the feeds;

Petitioner contends that Whitehead discloses or renders obvious this limitation. Pet. 16 (citing Ex. 1002 (Almeroth Decl.) ¶ 82; Ex. 1003 (Whitehead)4;45–52, 11:9–16, 11:40–58, 15:16–16:53, 18:47–62. Patent Owner disputes the showing for this limitation. *See, e.g.*, PO Resp. 1 (“Whitehead does not disclose a user selecting a ‘feed’ from a ‘list of feeds.’”).

With regard to this limitation, the Petition states:

Whitehead’s **content processing device 100** receives a user selection of one of these custom media channels 170 (“*a selection of one of the feeds*”) from media player 115 (“*client*”). EX1003 at 4:45-52, 11:9-16, 11:40-58, 15:16-16:53, 18:47-62. This selection corresponds to selection of both the custom media channel 170 itself (“*one of the media feeds*” under **Media Feed Mapping 1**) and the content source 135 corresponding to that custom media channel 170 (“*one of the media feeds*” under **Media Feed Mapping 2**). EX1002 ¶ 82.

¹² “Media Feed Mapping 1” in which custom media channels 170 described in Whitehead are asserted to be the recited “feeds” and “Media Feed Mapping 2” in which content sources 135 described in Whitehead are asserted to be the recited “feeds” are further described on pages 13–16 of the Petition.

Pet. 16. Whitehead provides:

In step 405, mixing server 130 receives an instruction, e.g., a message triggering it to create one or more custom media channels 170 based on one or more custom channel profiles 160. In some embodiments, the trigger to create a custom media channels 170 results from a user request to access the channel 170. That is, a playlist 205 may be generated and a custom media channel 170 may be created in real-time or near real-time when a user “tunes” to the channel 170 or otherwise selects the channel 170 for viewing through playback device 115.

. . . .

Accordingly, embodiments are possible and likely in which a user may interactively browse and select one or more clips, i.e., items of media content 155, for playback from the playlist of a media channel 170 as rendered via the menu displayed in step 510.

From the foregoing it should be clear that a user may select a menu option by navigating with arrow keys or the like using control 111 to highlight options displayed on media player 115, selecting a number on a numeric keypad on control 111, by selecting a link in a webpage displayed on computer 105, etc. If the playback application is located on mixing server 130, the user's selection of a menu option may be transmitted to mixing server 130 in a variety of ways. For example, a user's selection may be transmitted from computer 105 to mixing server 130 using known protocols such as hypertext transfer protocol (HTTP). Further, extensions to RTSP are possible for allowing selection of menu options to be provided to mixing server 130 from content processing device 110.^[13]

. . . .

For example, the menu displayed in step 510 may indicate a plurality of custom media channels 170 that are available for playing, e.g., according to titles or other

¹³ As noted above, Petitioner maps Whitehead's content processing device 110 to the recited “aggregator.” Pet. 10.

descriptions, categories of information, particular sources of media content 155, specified keywords, etc. Pressing a key on control 111 or providing some other input may allow a user to specify that a different media channel 170 should be played.

Ex. 1003, 11:40–49, 16:17–35, 18:50–56. Whitehead supports Petitioner’s contention that this limitation is taught or suggested.

Patent Owner argues this limitation based upon its asserted plain and ordinary meaning of “feed” which we have not adopted. Patent Owner argues:

In Whitehead’s system, when a user selects a “custom media channel,” the system either plays a pre-generated custom media channel or generates the custom media channel in real time. In the former embodiment, no **additional** media elements are concatenated with the alleged selected feed. In the latter embodiment, there is no existing “feed” available to be selected and concatenated with **additional** media elements.

PO Resp. 1 (emphasis added). We determine that Patent Owner’s argument lacks merit as it is not supported by the plain and ordinary claim language.

We find that Whitehead teaches or suggests this limitation.

[c] acquiring by a publisher from the aggregator the feed selection

Petitioner contends that Whitehead discloses or renders obvious limitation 1c. Pet. 16–20 (citing Ex. 1002 (Almeroth Decl.) ¶¶ 83–87; Ex. 1003 (Whitehead), 3:40–51, 4:10–26, 9:30–58, 11:9–16, 11:40–12:17, Fig. 1). Patent Owner disputes the showing for this limitation. PO Resp. 10–15 (citing Ex. 1003 (Whitehead) 11:45–49, 11:59–12:7, 16:1–21, 16:66–17:17; Ex. 2014 (Goodrich Decl.) ¶¶ 51–64; Ex. 2020, 94, Ex. 2021).

Petitioner maps the recited “publisher” to Whitehead’s mixing server 130. Pet. 16. As cited in the Petition (*id.* at 17), Whitehead states that “[a]

basic purpose of the mixing server 130 is to assemble and deliver to content processing device 110 one or more custom media channels” and that the mixing server 130 may be “combined” with VOD (video on demand) server 120. Ex. 1003, 4:17–24. The Petition provides that “Whitehead’s **mixing server 130** is a source of media content (custom media channels 170 and content from VOD server 120) for **content processing device 110** and accordingly the claimed ‘*publisher*.’” Pet. 17.

Petitioner contends that “Whitehead discloses or renders obvious that the **mixing server 130** receives from the **content processing device 110** a user selection of the media channel 170 (“*feed selection*”).” Pet. 18 (footnote omitted). The Petition provides:

Whitehead discloses that “[c]ontent processing device 110 may ... make requests to ... [**mixing server**] **130**, etc. via network 125.” EX1003 at 3:40-51; *see also* EX1003 at 9:30-58. This request “trigger[s]” **mixing server 130** “to create one or more custom media channels 170 based on one or more custom channel profiles 160” in “real-time or near real-time.” EX1003 at 11:40-12:17. Where the user has multiple custom media channels 170 to choose from (EX1003 at 11:9-16), this request (“*feed selection*”) necessarily identifies the selected custom media channel 170 (“*feed*”). Otherwise, the **mixing server 130** would not know which custom media channel was selected by the user and thus should be created. EX1002 ¶¶ 85-86.

To the extent PO argues Whitehead does not disclose that its custom channel request from **content processing device 110** to **mixing server 130** includes data indicative of the selected custom media channel 170 (“*feed selection*”) in its request to **mixing server 130**, Whitehead renders this obvious. **Mixing server 130** must know which custom media channel 170 the user selected to create that channel. EX1003 at 3:40-51, 11:40-58. An obvious implementation is for the **content processing device 110** to include an identifier or other data corresponding to the selected custom media channel 170 (“*feed selection*”) in

its request. Simply including this identifier in the request (rather than conveying it in some other manner) allows **mixing server 130** to locate the corresponding profile 160 faster and thereby facilitates creating the selected custom media channel 170 in real time or near-real-time. EX1003 at 11:40-58. EX1002 ¶¶ 87.

Id. at 19–20 (alterations in original). Petitioner’s contention that Whitehead teaches or suggests this limitation is well-supported.

Patent Owner contends that “Whitehead does not disclose a publisher ‘acquiring the feed selection.’” PO Resp. 10 (bolding and capitalization omitted from heading). However, Patent Owner never clearly sets forth reasoning or an explanation as to how or why Whitehead fails to teach or suggest Whitehead’s publisher (mapped to Whitehead’s mixing server 130 in the Petition (Pet. 16)) does not acquire the feed selection. *See id.* at 10–15. Indeed, Patent Owner and its declarant (Dr. Goodrich) acknowledge that the contrary is true. The Response states:

In Whitehead, the user’s selection of “custom media channels 170” (allegedly, the “individual custom media programming”) causes the system to either (1) play a pre-generated custom media channel (the “pre-generated embodiment”) or (2) generate a custom media channel in real-time (the “real time embodiment”). *See, e.g.,* Whitehead at 16:1–21; Goodrich PO Resp. Decl. at ¶ 52.

. . . .

In Whitehead’s real-time embodiment, the user’s selection of custom media channel 170 causes the mixing server to generate the custom media channel in real-time. Whitehead at 11:43-49 (“That is, a playlist 205 may be generated and a custom media channel 170 may be created in real-time or near real-time when a user ‘tunes’ to the channel 170 or otherwise selects the channel 170 for viewing through playback device 115.”). In this embodiment, a user tunes to a channel, and the custom channel is generated. Goodrich PO Resp. Decl. at ¶ 56.

. . . .

Whitehead at 11:45-49 (disclosing that “a custom media channel 170 may be created in real-time or near real-time when a user ‘tunes’ to the channel 170 or otherwise selects the channel 170”). Goodrich PO Resp. Decl. at ¶ 57.

. . . .

In Whitehead’s pre-generated embodiment, pre-generated custom media channels 170 and their media elements are listed in the menu for selection and playback. Whitehead at 16:14-21 (disclosing that “***particular items of media content 155 included in a custom media channel 170 may be listed in the menu***” where “a user may interactively browse and ***select one or more clips, i.e., items of media content 155, for playback***”) (emphasis added); Goodrich PO Resp. Decl. at ¶ 60.

Id. at 11–14. We do not discern, and Patent Owner fails to explain, how the user’s selection of a custom media channel causes the system, or more specifically, the mixing server or publisher, to generate a custom media channel or playback clips of media content, if the mixing server or publisher does not acquire the selection. We reject Patent Owner’s argument that this limitation is not taught or suggested by Whitehead.

We find that Whitehead teaches or suggests this limitation.

[d] collecting by the publisher from the aggregator client information, wherein said client information comprises user information; and

The Petition provides a showing that all the elements of this limitation are taught in Whitehead. *See* Pet. 20–23 (citing Ex. 1002 (Almeroth Decl.) ¶¶ 88, 89; Ex. 1003 (Whitehead) 2:52–59, 4:10–26, 5:56–6:9, 6:35–46, 7:3–18, 10:6–32, 11:40–12:17, 13:47–61, 15:16–41, 15:65–16:21, 18:63–19:38, 19:44–63, Fig. 1). Patent Owner does not specifically dispute the showing for this limitation. *See* PO Resp.

The Petition provides:

Whitehead discloses that **mixing server 130** receives a profile 160 (“*client information compris[ing] user information*”) client information from **content processing device 110**. Specifically, Whitehead’s **content processing device 110** can be “used to create, modify, and/or delete profiles 160.” EX1003 at 6:35-46, 10:6-32, 15:16-22, 15:65-16:21, 19:16-38. This includes provision of “*client information compris[ing] user information*” included in those profiles, such as a username, user interests, and playback capabilities to profile server 165. EX1003 at 5:56-6:9, 7:3-18. Whitehead’s profile 160 (“*client information compris[ing] user information*”) also tracks user feedback and viewing history. EX1003 at 13:47-61, 18:63-19:15. Whitehead’s profile server 165 then transmits that profile (“*client information compris[ing] user information*”) to **mixing server 130**. EX1003 at 11:40-12:17. Thus, Whitehead’s **content processing device 110** transmits “*client information compris[ing] user information*” in connection with creating or modifying a profile 160, and Whitehead’s **mixing server 130** receives that same “*client information compris[ing] user information*” when the user selects the corresponding custom media channel 170. EX1002 ¶¶ 88.

. . . .

To the extent PO argues that this limitation requires the ***publisher*** to receive the client information directly from the ***aggregator*** or that the ***publisher*** itself must track this client information, it would have been obvious to implement profile server 165 as part of **mixing server 130**, and **mixing server 130** would maintain profile 160 (“*client information compris[ing] user information*”) collected from **content processing device 110**. Whitehead already recognizes that various functionalities in Figure 1 can be combined or shifted between system components. EX1003 at 2:52-59, 4:10-26, 6:35-46, 15:16-22, 19:44-63. Maintaining profiles 160 on **mixing server 130** would simplify processing and communications, since it would eliminate the need for a separate profile server 165 or transmitting complete profile 160 over the network every time the user requests a custom media channel 170 be generated. EX1002 ¶ 89.

Pet. 20–23 (alterations in original) (footnote omitted). We find that Whitehead teaches or suggests this limitation.

[e] providing to the client individual customized media programming based on a publisher-initiated feed responsive to the feed selection and including media elements selected, ordered, and concatenated with the feed that are responsive at least in part to the user information.

The Petition provides a showing that all the elements of this limitation are taught or suggested in Whitehead. *See* Pet. 23–25 (citing Ex. 1002 (Almeroth Decl.) ¶¶ 90–92; Ex. 1003 (Whitehead) 2:7–16, 4:10–26, 4:53–5:8, 5:56–6:9, 6:20–34, 6:47–7:2, 8:28–64, 10:68–11:8, 11:38–58, 12:8–55, 13:7–14, 13:35–46, 14:20–55, 15:16–22, 16:66–17:7, 20:8–21:11, Fig. 2). Patent Owner disputes the showing for this limitation. PO Resp. 10–15 (citing Ex. 1003 (Whitehead) 11:45–49, 11:59–12:7, 16:1–21, 16:66–17:17; Ex. 2014 (Goodrich Decl.) ¶¶ 51–64; Ex. 2020, 94, Ex. 2021).¹⁴

With regard to this limitation, the Petition provides:

Responsive to the user selection of a custom media channel (“*the media feed selection*”) and based on profile 160 (“*user information*”), Whitehead’s **mixing server 130** triggers “process 400” for creating a custom media channel 170 (“*media programming*”). EX1003 at 11:38–39, 11:40–58, 12:8–17. As part of this process, **mixing server 130** “instantiate[es]” (and thus “*initiate[s]*”) the custom media channel 170 consisting of media content 155 (“*publisher-initiated feed*”) and then inserts advertising content 140 (“*media elements*”). EX1003 at 4:53–5:3, 11:38–39, 12:38–55, 12:56–63. EX1002 ¶ 90.

Moreover, Whitehead *selects, orders, and concatenates* the media content 155 and advertising content 140 based on profile 160 (“*user information*”). Specifically, **mixing server 130** “formulate[s] a query” based on profile 160 (“*user*

¹⁴ Patent Owner combines its discussion of limitations 1c and 1e in this section of the Response. *See* PO Resp. 10–15.

information”) to *select* “media content 155, e.g., any video file or files” for inclusion in playlist 205, which in turn is used to generate custom media channel 170. EX1003 at 8:28-41, 12:18-37, 13:7-14. As part of process 400, **mixing server 130** also determines “the **order** of media content 155” in playlist 205 based on profile 160 (“*user information*”). EX1003 at 10:68-11:8, 13:35-46, 16:66-17:17, 20:8-21:11. Whitehead does the same for the advertising content 140 (“*element*”) inserted into custom media channel 170 (“*media programming*”). EX1003 at 5:4-8, 6:20-34, 8:28-41, 12:38-55. Finally, Whitehead’s **mixing server 130** “*concatenate[s]*” the content and advertisements that comprise custom media channel 170 into a single file according to the order specified by playlist 205 based profile 160 (“*user information*”). EX1003 at 4:10-26, 5:56-6:9, 6:47-7:2, 8:28-41, 8:42-64, 13:35-46. In addition, profile 160 (“*user information*”) includes “a specification of a playback mode” (e.g., “continuous” vs. interactive) which in turn dictates whether, for example, to generate custom media channel 170 by “**concatenating** various items of advertising content 140 and/or media content 155.” EX1003 at 5:56-6:9, 6:47-7:2, 8:42-64. Exemplary “*media programming*” with advertising content 140 and/or media content 155 “*selected, ordered, and concatenated*” is shown in Whitehead’s Figure 2.

. . . .

Finally, Whitehead’s **mixing server 130** “stream[s]” the assembled custom media channel 170 (“*individual customized media programming*”) to media player 115 (“*client*”) via **content processing device 110**. EX1003 at 2:7-16, 8:42-64, 13:35-46, 14:20-55, 15:16-22. EX1002 ¶¶ 91-92.

Pet. 23–25 (footnote omitted). The cited passages in Whitehead support Petitioner’s argument that Whitehead teaches all the elements of this limitation.

Patent Owner argues that “each independent claim^[15] requires the selection of a feed and the concatenation of that feed with additional media elements.” PO Resp. 10. This argument is based on adding a temporal limitation to claim 1 that is not supported by the language of claim 1—that claim 1 requires that additional media elements be concatenated with the feed after it is selected. This is not required by claim 1. Limitation 1e recites “providing to the client individual customized media programming” that is (1) “based on a publisher-initiated feed responsive to the feed selection” and (2) “including media elements selected, ordered, and concatenated with the feed that are responsive at least in part to the user information.” Ex. 1001, 14:57–61. The “individual customized media programming” must include “media elements” that are “concatenated with the feed,” but claim 1 does not recite that the concatenation occur after the feed is selected. Claim 1 requires that the media elements that are concatenated with the feed be “responsive at least in part to the user information,” but does not require that the user information be provided or the concatenation be performed after the “feed selection.”

We find that Whitehead teaches or suggests this limitation.

Summary as to Claim 1

Considering all the evidence and arguments related to claim 1, we find that the Petition provides a detailed, well-reasoned, and well-supported showing that Whitehead teaches or suggests all the limitations of claim 1. We conclude that claim 1 is unpatentable in view of Whitehead.

¹⁵ There is only one independent claim in the ’753 patent, claim 1. Ex. 1001, 14:47–15:23.

3. *Dependent Claim 5*

Patent Owner challenges Petitioner’s contention that claim 5 is rendered obvious by Whitehead. *See* PO Resp. 15–18. Specifically, Patent Owner argues that “[r]ather than furnish two different feeds at different time periods, Whitehead provides only a single custom media channel 170.” *Id.* at 16. Claim 5 recites:

The method according to claim 1, wherein a first feed responsive to the selection of one of the feeds is furnished during a first time period and a second feed comprising the individual customized media programming is furnished during a second time period.

Ex. 1001, 15:6–10. The entire presentation in the Petition as to claim 5 provides:

Whitehead discloses that custom media channel 170 may be dynamically generated in “near real-time.” EX1003 at 11:40-58. But “near real-time” is different from “real time.” Thus, there is a short interval after the user selects the custom media channel 170 and before that custom media channel 170 is generated (“*during a first time period*”). After the system completes this processing (“*during a second time period*”), it begins playing the custom programming (“individual customized media programming”). EX1002 ¶ 97.

Moreover, it would have been obvious during this “first time period”—before dynamic programming becomes available—to instead provide “a first feed.” For example, it would be obvious to play a predetermined advertisement during this time. Whitehead already discloses that advertisement need not be based on user information. EX1003 at 12:38-55. Showing the user a predetermined advertisement rather than forcing the user to just wait while the custom media channel 170 is being created would generate additional advertising revenue and lower the likelihood the user loses interest while waiting for custom media channel 170. Moreover, there is a reasonable expectation of success since Whitehead already

discloses providing such predetermined advertisements.
EX1002 ¶ 98.

Id. 37 C.F.R. § 42.104(b)(4) states that “[t]he petition must specify where each element of the claim is found in the prior art patents or printed publications relied upon.” As to claim 5, the Petition fails to identify where the elements recited in claim 5 are found in Whitehead.¹⁶

With regard to the first paragraph of Petitioner’s argument relating to claim 5, we do not discern how or why the reference in Whitehead to dynamically generating a custom media channel in “near-real-time” supports finding that Whitehead discloses furnishing “a first feed . . . during a first time period” as recited in claim 5. The passage cited in Whitehead (Pet. 28 (citing Ex. 1003, 11:40–58)) provides the following disclosure with regard to “near real-time;”

Creating and delivering custom media channel 170 in real-time or **near real-time** based on the custom channel profile 160 allows for not only providing the user with customized content, but also for providing the user with the most up-to-date content. Further, creating and delivering custom media channel 170 in real-time or **near real-time** means that computer and network resources are not unnecessarily consumed creating and storing custom media channels 170 that a user might never access, or

¹⁶ With regard to claim 5, the Petition cites paragraphs 97 and 98 of the Almeroth Declaration (Ex. 1002). *See* Pet. 28–29. We have considered the cited paragraphs in the Almeroth Declaration and found that they consist of nothing more than the inadequate and conclusory contentions in the Petition preceded by, in paragraph 97, “[i]n my opinion” and “it is my opinion” and, in paragraph 98, “[i]t is also my opinion.” Ex. 1003 ¶¶ 97, 98. As related to claim 5, we accord the Almeroth Declaration little or no weight. *See* 37 C.F.R. § 42.65 (a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”).

that might become out-of-date before a user accesses access [sic] them.

Ex. 1003, 11:49–58 (emphasis added). The cited passage in Whitehead mentioning “near real-time” does not support finding that Whitehead teaches or suggests the elements recited in claim 5.

With regard to Petitioner’s contention that it would have obvious to play a predetermined advertisement as “a first feed” during a “first time period,” we also find no support for this contention in Whitehead. The Petition states that “Whitehead already discloses that advertisement need not be based on user information.” Pet. 28 (citing Ex. 1003, 12:38–55).¹⁷ We do not discern, and Petitioner provides no explanation or reasoning, as to how or why disclosing that advertisement need not be based on user information teaches or suggests playing a predetermined advertisement as “a first feed” during a “first time period.”

Patent Owner argues that “Petitioner does not attempt to estimate how long such a delay would be expected to take in Whitehead’s system or demonstrate that any such delay would be on the right order of magnitude to make it *obvious* to fill that time with an advertisement”¹⁸ and “given that Whitehead states that the custom media channel may be delivered in or close to real-time, it is reasonable to infer that a POSITA would *not* have found it

¹⁷ With regard to not basing advertising content on user information, in the cited passage, Whitehead states that “it is also possible for advertising content 140 to be selected according to some other criteria, for example, according to a number of insertions that an advertiser has paid for, according to random selection, etc.” Ex. 1003, 12:46–50. This sentence does not support finding Whitehead teaches or suggests claim 5.

¹⁸ Upon being questioned at oral argument, Petitioner’s counsel was unable to provide an example or estimate of the length of the delay. Tr. 56–58.

obvious to delay the delivery of the custom media channel in order to play a non-personalized advertisement.” PO Resp. 17.

We find that Petitioner has failed to establish that Whitehead teaches or suggests the additional elements recited in dependent claim 5.

4. Claims 2–4 and 6–10

Petitioner also asserts that dependent claims 2–4 and 6–10 are rendered obvious by Whitehead. Pet. 3, 25–28 (claims 2–4), 29–32 (claims 6–10). The Petition provides a detailed and supported showing that the additional limitations recited in dependent claims 2–4 and 6–10 are taught or suggested by Whitehead. *Id.*

Patent Owner does not specifically address the showing in the Petition as to dependent claims 2–4 and 6–10. *See* PO Resp.

We find that Petitioner has established that all the limitations of claims 2–4 and 6–10 are taught or suggested by the cited art. We conclude that claims 2–4 and 6–10 are unpatentable as obvious in view of Whitehead.

E. Ground 2: Asserted Obviousness of Claims 1–10 Based on Whitehead and Marcus ’904

Petitioner also challenges claims 1–10 as being obvious over Whitehead and Marcus ’904. *See* Pet. 4, 33–37. Petitioner relies heavily on its showing for Ground 1 and Whitehead alone for Ground 2. *See, e.g., id.* at 33 n.7 (“All limitations of the challenged claims not expressly addressed in Ground 2 are disclosed or rendered obvious by Whitehead for the reasons in Ground 1.”).

Patent Owner argues Ground 2 based on Whitehead and Marcus ’904 fails for the same reasons as Ground 1. PO Resp. 18 (“Marcus ’904 does not resolve the deficiencies of Ground 1. Therefore, Ground 2 fails for the same reasons Ground 1 fails.”).

We start our analysis of this ground with a description of the disclosure of Marcus '904 and then consider the showing in the Petition as to claims 1–10 in view of Whitehead and Marcus '904.

I. Marcus '904 (Ex. 1005)

Marcus '904 is titled “Method and Apparatus for Creation, Distribution, Assembly and Verification of Media.” Ex. 1005, code (54). In Marcus '904, media is transmitted to a receiver that assembles the media into programming. *Id.* at code (57). A source of media may perform a tagging operation to associate sets of tags with elements of a stream of media, with different combinations of look-and-feel, content, and other tags being associated with the media stream. *Id.* Tagging of the media stream may also be performed at the receiver. *Id.*

Figure 1 of Marcus '904, reproduced below, illustrates a data distribution system. *Id.* ¶ 21.

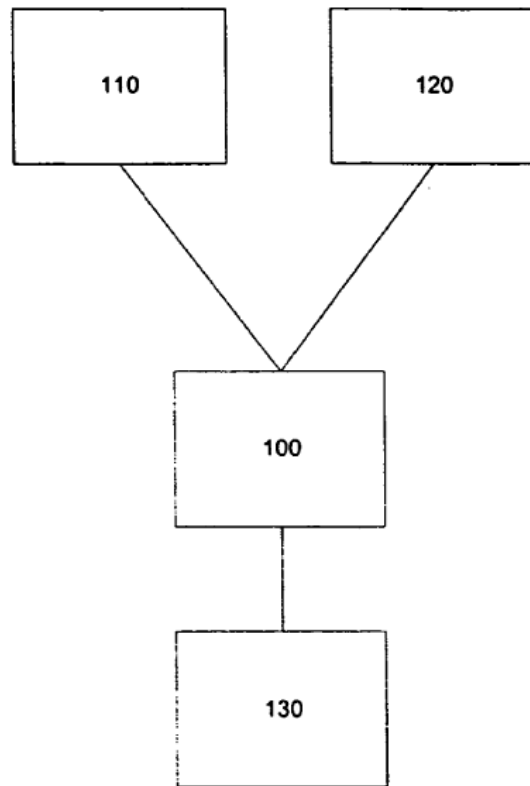


Figure 1

Figure 1 illustrates a data distribution system. *Id.* ¶ 21.

Receiver 100 illustrated in Figure 1 is connected to a first media source 110 and a second media source 120. *Id.* ¶ 31. The receiver collects media from the media sources and assembles a program from the collected media, the program displayed on display 130 to a user. *Id.*

A source of media may perform a tagging operation to associate sets of tags with elements of the stream of media. *Id.* ¶ 33. Some tags may indicate content information about the media stream, or look and feel data about the media stream. *Id.*

Figure 2 of Marcus '904, reproduced below, illustrates a process of assembling media programming. *Id.* ¶ 34.

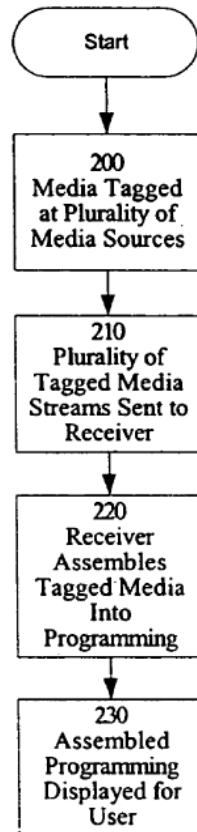


Figure 2

Figure 2 illustrates a process of assembling media programming. *Id.* ¶ 34.

At block 200 shown in Figure 2, media is tagged at a plurality of media sources. *Id.* ¶ 34. At block 210, a plurality of tagged media streams is sent to a receiver. *Id.* At block 220, the receiver assembles the tagged media into programming, and at block 230, the assembled programming is displayed for the user. *Id.* The tagging of the media stream may also be performed at the receiver, where a media stream may be tagged using artificial intelligence methods, or tagged according to a default tagging scheme. *Id.* ¶ 35. An untagged media stream is thus tagged by the receiver and assembled into a program. *Id.*

Figure 3 of Marcus '904, reproduced below, illustrates a process of assembling media programming from a single untagged source, and Figure 4

of Marcus '904, reproduced below, illustrates a process employing user data and media tags to assemble programming for a user. *Id.* ¶¶ 36, 39.

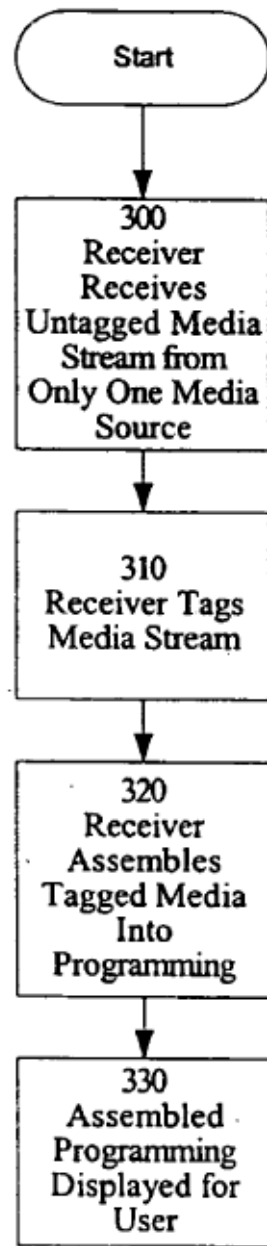


Figure 3

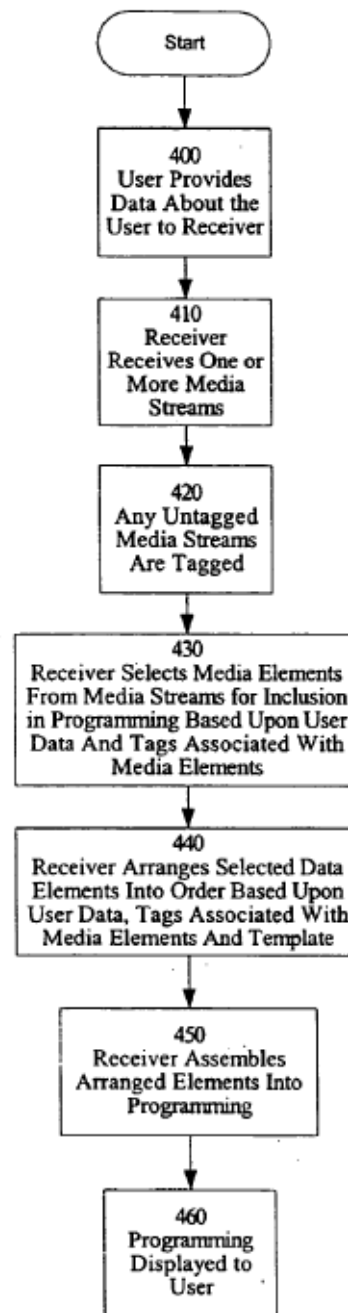


Figure 4

Figure 3 illustrates a process of assembling media programming from a single untagged source, and Figure 4 illustrates a process employing user data and media tags to assemble programming for a user. *Id.* ¶¶ 36, 39.

At block 300 in Figure 3, a receiver receives an untagged media stream from only one media source, and at block 310, the receiver tags the media stream. *Id.* ¶ 36. At block 320, the receiver assembles the tagged media into programming, and at block 330, the assembled programming is displayed for the user. *Id.*

A user at the receiver may provide data (such as demographic information, a desired look and feel for the programming, or desired content for the programming) about the user to the receiver. *Id.* ¶ 38. The receiver uses the user data and media tags to select media elements from a media stream to assemble programming for the user. *Id.* ¶ 39. Figure 4 illustrates a process of using user data and media tags to assemble programming for a user. *Id.* As shown in block 400, a user provides data about the user to the receiver, the receiver receives one or more media streams (block 410), and untagged media streams are tagged (block 420). *Id.* At block 430, the receiver selects media elements from the media streams for inclusion in the programming based upon the user data and the tags associated with the media elements. *Id.* ¶ 40. At block 440, the receiver arranges the selected data elements into an order based upon the user data, the tags associated with the media elements and a template. *Id.* At block 450, the receiver assembles the arranged elements into programming, and at block 460, the programming is displayed to the user. *Id.*

Figure 5 of Marcus '904, reproduced below, illustrates a process of media delivery with separately delivered advertisements. *Id.* ¶ 48.

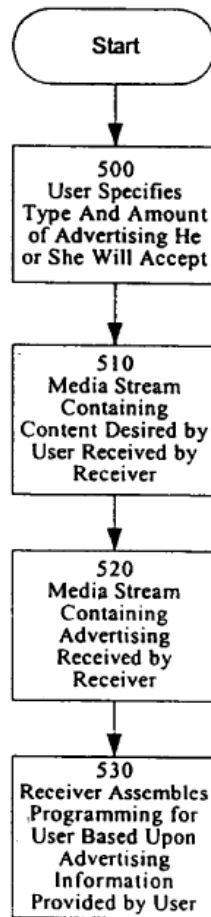


Figure 5

Figure 5 illustrates a process of media delivery with separately delivered advertisements. *Id.* ¶ 48.

At block 500 in Figure 5, a user specifies the type and amount of advertising the user will accept, and at block 510, a media stream containing content desired by the user is received by the receiver. *Id.* ¶ 48. At block 520, a media stream containing advertising is received by the receiver, and at block 530, the receiver assembles programming for the user based upon the advertising information provided by the user. *Id.*

2. Motivation to Combine and Reasonable Expectation of Success

Petitioner contends, “[a] POSITA would have modified Whitehead’s **mixing server 130** to incorporate Marcus ’904’s algorithm (running on Marcus ’904’s receiver) for receiving, selecting, ordering, and assembling different media streams (both for content and advertising).” Pet. 33. Petitioner supports this contention by articulating the following reasons for the asserted modification of Whitehead’s mixing server 130 to incorporate Marcus ’904’s algorithm: “makes it more likely the system will identify content best suited for a particular user,” “allows for more targeted advertising and/or an opportunity to maximize revenue,” “improves Whitehead’s ability to target content and advertising to a particular user,” “would unlock new revenue sources for Whitehead,” “Marcus ’904’s content selection and concatenation algorithm improves Whitehead’s efficiency,” “[b]oth Whitehead and Marcus ’904 generate custom media programming based on a user profile,” “incorporating Marcus ’904’s teachings would not require redesigning Whitehead’s architecture and instead merely supplements Whitehead’s disclosure,” and “Petitioner’s proposed modification can be implemented entirely in software and does not require any hardware modifications. Indeed, Whitehead acknowledges that such modifications are possible. EX1003 at 19:64-20:6, 22:26-40.” *Id.* at 33–35 (citing Ex. 1002 (Almeroth Decl.) ¶¶ 110–115) (emphasis omitted). Based on this undisputed showing, we find that one of ordinary skill would have had a motivation to combine the teachings of Whitehead and Marcus ’904 as asserted in the Petition with a reasonable expectation of success.

3. *Independent Claim 1*

With regard to claim 1 and Ground 2, Petitioner asserts that Marcus '904 provides teachings or suggestions relating to limitations 1a and 1e. *See* Pet. 35–36. With regard to limitation 1a (“*delivering by an aggregator to a client a list of feeds*”), the Petition provides:

All independent claims require “*a list of feeds.*” As addressed in Ground 1, **Media Feed Mapping 2** maps the claimed “*list of feeds*” onto Whitehead’s content sources 135. Marcus '904 further renders obvious that Whitehead’s content providers 135 are ‘*feeds.*’ Marcus '904 expressly discloses a ‘receiver’ that receives ‘a plurality of tagged media streams’ and ‘assembles’ those ‘media streams into ‘programming.’ EX1005 ¶¶ 34, 37-42, 48. EX1002 ¶ 116.

Pet. 35 (footnote omitted¹⁹). We find that the combination of Whitehead and Marcus '904 discloses “feeds” as recited in claim 1.

With regard to limitation 1e (“*providing to the client individual customized media programming based on a publisher-initiated feed responsive to the feed selection and including media elements selected, ordered, and concatenated with the feed that are responsive at least in part to the user information*”),²⁰ the Petition provides:

For limitation 1[e] and claims 2 and 4, as addressed in Ground 3, Marcus '904 discloses all aspects of the challenged claim pertaining to an algorithm for selecting, ordering, and assembling media programming by a “*publisher*” based on “*user information.*” *See* Section VII.C.2.f, VII.C.5. To the

¹⁹ The footnote states, “For **Media Feed Mapping 1**, there should be no dispute that Whitehead’s custom media channels are ‘feeds.’ Whitehead expressly teaches ‘stream[ing]’ these channels. EX1003 at 8:42-64.” Pet. 35 n.8 (alteration in original).

²⁰ Petitioner combines its discussion of limitation 1e with its discussion of claim 2 and claim 4 for Ground 2. *See* Pet. 36.

extent any of those elements are missing from Whitehead, they are rendered obvious by Marcus '904. EX1002 ¶ 117.

Pet. 36. We find that Marcus '904 teaches or suggests “*providing to the client individual customized media programming . . . including media elements selected, ordered, and concatenated with the feed that are responsive at least in part to the user information*” as recited in claim 1.

We find that the combination of Whitehead and Marcus '904 teaches or suggests all the limitations of claim 1. We also find that a skilled artisan would have been motivated to combine the relied-upon teachings of Whitehead and Marcus '904 with a reasonable expectation of success. We conclude that claim 1 is unpatentable as obvious in view of Whitehead and Marcus '904.

4. *Dependent Claim 5*

Although Petitioner contends that claim 5 is obvious based on the combination of Whitehead and Marcus 904, the Petition does not specifically address claim 5 in its presentation of Ground 2. *See* Pet. 33–37. As it does for every other claim, Patent Owner relies on its arguments relating to Ground 1 (Whitehead alone) for claim 5 and this ground. *See* PO Resp. 18 (“Ground 2 fails for the same reasons Ground 1 fails.”). As Petitioner fails to show that claim 5 is obvious under Ground 1, the challenge to claim 5 under Ground 2 also fails for the reasons discussed above with regard to Ground 1 and Whitehead.

5. *Dependent Claims 2–4 and 6–10*

Petitioner contends that Marcus '904 provides additional teachings relevant to the limitations recited in dependent claims 2, 3, 4, 8, and 10. *See*

Pet. 36–37. We find that Marcus ’904 supports Petitioner’s contentions as to these additional limitations of these dependent claims.

F. Ground 3: Asserted Obviousness of Claims 1–10 Based on Cristofalo and Marcus ’904

Petitioner challenges claims 1–10 as being obvious over Cristofalo and Marcus ’904. *See* Pet. 4, 37–54. Patent Owner disputes the showing as to certain limitations of independent claim 1, motivation to combine, and the limitations of dependent claim 5. PO Resp. 19–28. We start our analysis of this ground with a description of the disclosure of Cristofalo and then consider the arguments and evidence presented by the parties.

1. Cristofalo (Ex. 1004)

Cristofalo is titled “System and Method for Targeting Object Oriented Audio and Video Content to Users.” Ex. 1004, code (54). Cristofalo’s system and method provides for the generation of media object-based content, formatting and transmitting the content, and receiving and presenting the content to a user based upon user profile information. *Id.* at code (57). The system includes a media object creator, which creates media objects utilized in a programming signal, a transmitting system for transmitting the media objects, a receiving system connected to a presentation device for receiving and presenting the media objects, and a user profiling system which determines which media objects a user is to receive based upon user profile information. *Id.*

Figure 1 of Cristofalo, reproduced below, illustrates a system providing media object based content targeted to users based upon user profiles. *Id.* ¶ 11.

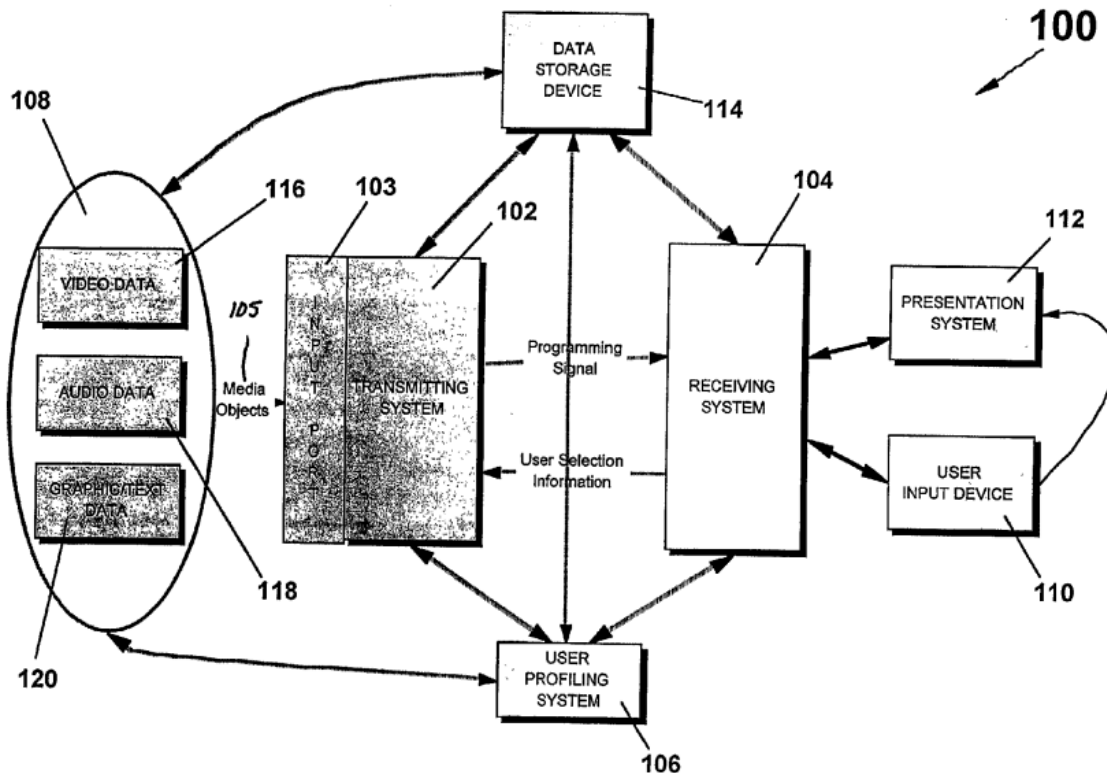


Figure 1 illustrates a system 100 providing media object based content targeted to users based upon user profiles. *Id.* ¶¶ 11, 20.

System 100 provides media object based content targeted to users and includes (i) a transmitting system 102, (ii) a receiving system 104, (iii) a user profiling system 106, (iv) media object creators 108 (which create content in the form of media objects utilized in the targeted advertising), and (v) ancillary devices such as user input devices 110, presentation systems 112, and data storage devices 114. *Id.* ¶ 20. Presentation system 112 provides output device(s) (such as television receivers, computer workstations, and wireless communication systems) by which content of media objects is presented to a user. *Id.* ¶ 24. Input devices 110 are utilized by the user to identify themselves, select media objects, select programming signals, and respond to queries. *Id.* ¶ 25. Data storage devices 114 are used for temporary or permanent storage of media objects. *Id.* ¶ 26.

Transmitting system 102 includes a medium, system, or device capable of communicating media object oriented content to a user. *Id.* ¶ 21. Such media objects are communicated to the transmitting system by media object creators 108 over interface 105. *Id.* Transmitting system 102 may transmit the media objects as a live signal or as a pre-recorded signal from a previously recorded medium, and, with respect to an Internet connection, the media objects may be streamed. *Id.* ¶ 22. Media object creators 108 may utilize software programs, content creation techniques, and content capturing devices to generate media objects including natural, synthetic, and combined natural/synthetic content. *Id.* ¶ 23. Types of data utilized in creating media objects include video data 116, audio data 118, and graphic/textual data 120. *Id.*

Receiving system 104 receives the signal provided by transmitting system 102, and supports the reception, selection, and composition of media object based content into audio, video, and audio-video presentations. *Id.* ¶ 27. Receiving system 104 is not limited to receiving media objects in communications signals from only specific sources or only via specific mediums, and may be configured to support sources/media and provide bidirectional communications as needed. *Id.* ¶ 28. Receiving system 104 may also transmit information to transmitting system 102 and to user profiling system 106. *Id.* User/input device 110 facilitates interaction between the user and receiving system 104 by receiving selections, requests, queries, and responses by the user to system 100. *Id.* ¶ 32.

User profiling system 106 utilizes demographic and/or user specific information to determine which of the various media objects are available, at any time, to present and target to a user at a particular instance during a

program. *Id.* ¶ 34. User profiling system 106 develops a user profile and determines which media objects to present to the user during a program. *Id.* User profile information is based upon demographic or regional information collected or generated by transmitting system 102 or by media object creators 108. *Id.* Thus, media objects may be targeted to users based upon the user profiles. *Id.* For example, media objects may be transmitted as multiplexed data packets in the same programming signal to receiving system 104, which accesses a geographic region indicator to determine which of the received data packets the demultiplexer should select. *Id.* ¶ 36.

In another example, system 100 provides specific media object-based targeted content. *Id.* ¶ 37. In this example, system 100 is configured to utilize user provided information (such as answers to a survey or questionnaire), and based upon the user provided information, user profiling system 106 collects the data, filters the data, sorts the data, and manipulates the data to generate user profiles. *Id.* The user profile information, in turn, is utilized by media object creators 108 and broadcasters to provide targeted advertising and programming to users by originating and transmitting media objects targeted to specific users and/or classifications of users. *Id.*

System 100 also supports non-interrupting advertising and programming by providing program content in which media objects in the program itself are selected and presented to the user based upon a user profile. *Id.* ¶ 38. These media objects may then be selected, deleted and saved by the user while being presented with the underlying program, and such actions by the user (e.g., deleting a first media object while selecting a second media object) may be suitably utilized by the system to determine a user profile. *Id.* Such profile information is stored by receiving system 104

(or by the transmitting system and media object creators) such that subsequent media objects may then be inserted by the program creators or the transmitting system into the programming signal sent to the profiled user. *Id.* In this manner, the program content presented to a user may be uniquely tailored to the user such that targeted content is provided without interruptions of the advertising and/or programming. *Id.*

Figure 4 of Cristofalo, reproduced below, illustrates a process for pushing targeted advertising and programming to users via media objects selected based on a user profile. *Id.* ¶ 14.

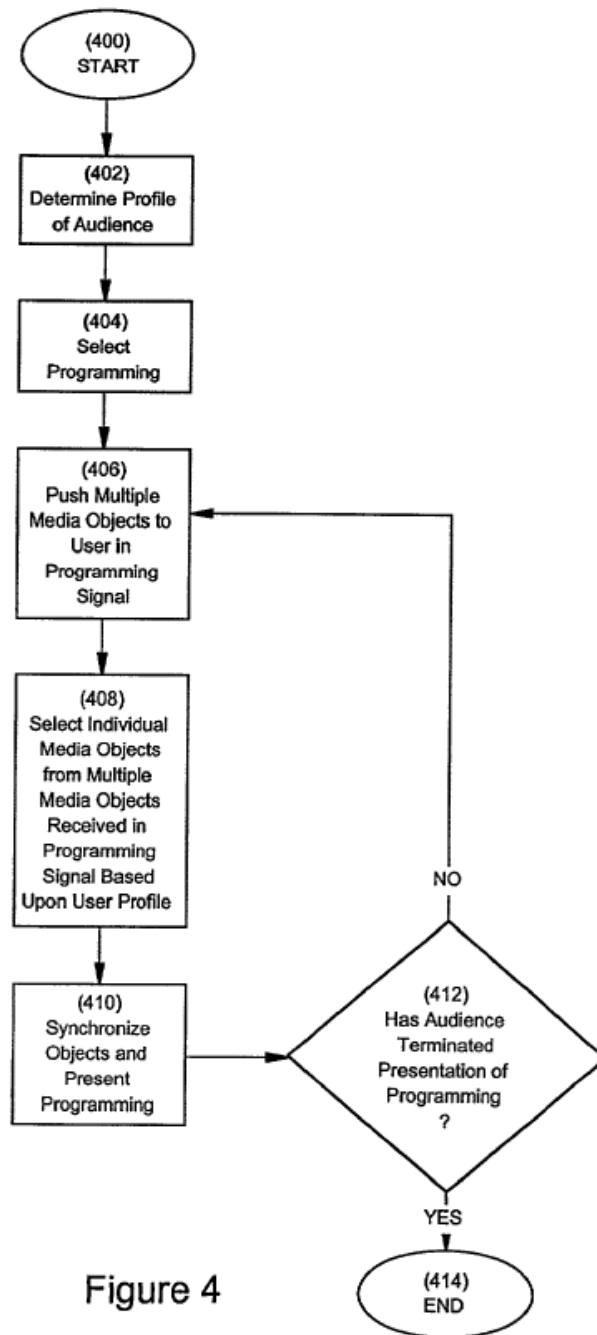


Figure 4

Figure 4 illustrates a process for pushing targeted advertising and programming to users via media objects selected based on a user profile.
Id. ¶ 14.

The illustrated process for providing media object based targeted advertising and programming begins with determining profiles for the user

audience (block 402). *Id.* ¶ 45. After user profiles are determined, the process continues with the user selecting the desired programming (block 404) to be received and presented. *Id.* ¶ 46. The user's choice of programming is communicated to the media object creators 108 and transmitting system 102 by receiving system 104. *Id.* After the programming choice has been made by the user, the process continues with pushing multi-object programming data to the user (block 406). *Id.* ¶ 48. The pushed objects are based upon profiles established on the transmitting side based upon the user viewing habits and programming choices. *Id.*

Additionally, for any given program, media object creators may desire to create media objects for a given number of profiles (for example, Coca-Cola drinkers may be a first profile, while Pepsi drinkers a second profile), and instead of creating a unique media object for each user's profile, the process may push media objects to specific users based upon user identifiers. *Id.* ¶ 48. Such identifiers are periodically loaded into receiving system 104 such that when receiving system 104 receives the multi-object programming data, receiving system 104 is programmed to select a specific media object based upon the user identifier. *Id.* The identification of users who are to receive specific media objects may also be determined and accomplished by other data routing and distribution techniques, such as assigning unique nodes on a network to each user. *Id.*

Upon receiving the multi-object programming signal, receiving system 104 selects specific media objects for decompression, composition and presentation based upon the user's profile (block 408). *Id.* ¶ 49. The process continues with synchronizing the various objects and presenting the programming (block 410). *Id.* ¶ 50. Because each program may contain

hundreds of media objects, the process determines whether the selected program has been terminated (for example, by switching to another channel) (block 412). *Id.* If the programming has not been switched, the process ends and restarts with the selection of the new programming signal as a user's profile may vary depending upon the chosen programming. *Id.*

2. Motivation to Combine and Reasonable Expectation of Success

Petitioner contends, “[a] POSITA would have modified Cristofalo’s **transmitting system 102** to incorporate Marcus ’904’s algorithm (running on Marcus ’904’s receiver) for receiving, selecting, ordering, and assembling different media streams (both for content and advertising).” Pet. 37–38. Petitioner supports this contention by articulating the following reasons for the asserted modification of Cristofalo’s transmitting system 102 to incorporate Marcus ’904’s algorithm: “Marcus ’904 includes additional disclosure of targeting media programming to specific users, leading to better customization of media programming by Cristofalo’s **transmitting system 102** (with Cristofalo’s **receiving system 104** retaining ability to insert media objects as overlays, *see* EX1004 ¶ 41),” “[i]ncorporating Marcus ’904’s content selection, ordering, and assembly algorithm provides additional implementation details for Cristofalo’s targeting system,” “[a] POSITA would be motivated to use Marcus ’904’s content and advertising sources to unlock additional potential revenue sources for Cristofalo’s system,” “[b]oth Cristofalo and Marcus ’904 generate custom media programming,” “Cristofalo already includes the framework necessary for implementing Marcus ’904’s selection, ordering, and assembly algorithm,” and “Petitioner’s proposed modification can be implemented entirely in software and does not require any hardware modifications. Indeed,

Cristofalo acknowledges that such modifications are possible. EX1004 ¶ 57.” *Id.* at 38–40 (citing Ex. 1002 (Almeroth Decl.) ¶¶ 122–127).

Patent Owner argues that “Petitioner also fails to present sufficient rationale for why a POSITA would have implemented Marcus ’904’s algorithm at Cristofalo’s transmitting system.” PO Resp. 22. Patent Owner’s argument is based on Petitioner failing to show that either Cristofalo or Marcus ’904 discloses “generating media programming at a publisher instead of an aggregator.” *See id.* at 23. However, Patent Owner’s argument that the claims of the ’753 patent require generating media programming at the publisher is not supported by the language of the claims. The relevant limitation in sole independent claim 1 of the ’753 patent is limitation 1e (“*providing to the client individual customized media programming based on a publisher-initiated feed responsive to the feed selection and including media elements selected, ordered, and concatenated with the feed that are responsive at least in part to the user information*”). Limitation 1e and claim 1 do not recite that the publisher provide to the client the media programming.²¹

Moreover, in discussing motivation to combine, the Petitioner contends that Cristofalo discloses incorporating algorithm teachings into

²¹ We note that, in contrast to limitation 1e, all the other method steps in claim 1 recite what apparatus performs the step. Limitation 1a recites, “delivering by an aggregator,” limitation 1b recites “receiving by the aggregator,” limitation 1c recites, “acquiring by the publisher,” and limitation 1d recites, “collecting by the publisher.” The failure of limitation 1e to specify the apparatus that performs this step provides a clear indication that this step should be not interpreted to require that this step be performed by the publisher.

either the recited aggregator or publisher. Pet. 38–39. The Petition provides:

Incorporating Marcus ’904’s content selection, ordering, and assembly algorithm provides additional implementation details for Cristofalo’s targeting system:

Cristofalo discloses that targeted content may be selected at **transmitting system 102**, **receiving system 104**, or a combination of the two. EX1004 ¶¶ 35–36, 44, 49. Cristofalo generally addresses creating custom programming but does not provide many details on how Cristofalo’s media objects are selected at its **transmitting system 102** or **receiving system 104** or how the final media programming is generated and formatted for display. The additional disclosure in Marcus ’904 (and Marcus ’156 incorporated by reference therein) provides such additional details, which can be incorporated into either Cristofalo’s transmitting system 102 or **receiving system 104**. EX1002 ¶ 123.

Id. Petitioner maps the transmitting system 102 to the recited “publisher” and the receiving system 104 to the recited “aggregator.” *Id.* at 40 (“Cristofalo discloses **receiving system 104**, which is an “*aggregator*,” and **transmitting system 102**, which is the claimed “*publisher*.”). The passages in Cristofalo cited in the above-quoted paragraph from the Petition provide:

[A] national television advertisement for a Ford Mustang® might include a media object directing a San Diego network affiliate's transmitting system 102 to select from a national data feed media objects (i.e., a data packet) depicting a convertible in San Diego. Meanwhile, during the broadcast of the same commercial, the network broadcaster may direct the Seattle affiliate to select media objects depicting a hard top Mustang in Seattle.

. . . .

Similarly, the selection of the media object (i.e., the convertible or the hard top roof) might also be accomplished by the receiving system 104, with or without user input. In this embodiment, both media objects (the convertible roof and the

hard top roof) are transmitted as multiplexed data packets in the same programming signal to the receiving system 104. The receiving system 104 accesses a geographic region indicator which is preferably stored in the data storage device 114 to determine which of the received data packets the demultiplexer 204 is to select and provide to the other devices within the system 104 for further processing.

. . . .

In short, the present invention enables content providers to target their advertising and programming to users by providing media objects which are selected either by the transmission side and/or the receiving side based upon a user's profile.

. . . .

Upon receiving the multi-object programming signal, the receiving system 104 then selects specific media objects for decompression, composition and presentation based upon the user's profile (Block 408). The selection of the media objects may be accomplished independently by the receiving system, in conjunction with the user profiling system, and/or in conjunction with the transmitting side.

¶ 35, 36, 44, 49. Thus, Cristofalo discloses that programming may be selected at the transmitting system 102 or “publisher” which supports Petitioner’s reasoning for the combination of the relevant teachings of Cristofalo and Marcus ’904. We determine Patent Owner’s argument lacks merit.

We find that one of ordinary skill would have had a motivation to combine the teachings of Cristofalo and Marcus ’904 as asserted in the Petition with a reasonable expectation of success.

3. Analysis of Independent Claim 1

For the reasons that follow, we are persuaded that Petitioner establishes that the subject matter of independent claim 1 would have been

obvious in view of the combination of Cristofalo and Marcus '904. Our limitation-by-limitation analysis of claim 1 is provided below.

A method of generating media programming, comprising:

Petitioner shows that Cristofalo teaches the preamble of claim 1. Pet. 40 (“Cristofalo discloses ‘a system and process for targeting programming (including, but not limited to, advertising) to users.’ EX1004 at Abstract, ¶ 46. EX1002 ¶ 128.”). Patent Owner does not argue that the preamble is limiting or dispute Petitioner’s showing relating to the preamble of claim 1. See PO Resp. We find that Cristofalo teaches the preamble of claim 1.

[a] delivering by an aggregator to a client a list of feeds;

Petitioner maps “aggregator” to receiving system 104 of Cristofalo. Pet. 40 (“Cristofalo discloses **receiving system 104**, which is an “**aggregator**.”). With regard to this limitation, the Petition provides:

The '753 patent specification describes an “**aggregator**” as “provid[ing] a presentation element to user 1 120 and 2 130” for different media feeds. EX1001 2:48-51, 3:11-23.

Cristofalo similarly discloses that its **receiving system 104** allows a user to “select[] the described programming ... to be received and presented” from among “numerous programming options.” EX1004 ¶ 46. Cristofalo further discloses that those “programming options” can be from different “media object creators 108, broadcasters, local affiliates, and others,” such as “a cable signal ... contain[ing] numerous programming signals (i.e., ABC, CBS, FOX, etc.).” EX1004 ¶¶ 29, 37, 52. EX1002 ¶¶ 129-30.

Cristofalo further discloses a presentation system 112 and user input device 110 (“**client**”). EX1004 ¶¶ 20, 24, 25, 32. EX1002 ¶¶ 130.

For Cristofalo’s user to be able to “select[] the desired programming” from “numerous programming options” (EX1004 ¶ 46), Cristofalo’s **receiving system 104** necessarily presents the user with the programming options (e.g., different broadcast channels) (“*a list of media feeds*”) via presentation

system 112 and user input device 110 (“*client*”). *See also* EX1004 ¶¶ 20, 25, 29, 32, 49. EX1002 ¶ 131.

Moreover, it would have been obvious to implement Cristofalo’s **receiving system 104** as a program guide for presenting programming options from different channels (“*a list of media feeds*”) via presentation system 112 and user input device 110 (“*client*”). A program guide was a well-known UI for interacting with television sources even before the ’753 patent’s priority date.

. . . .

A POSITA implementing Cristofalo would be motivated to present users with a UI they were already familiar with and would thus find it obvious to use a program guide. Using such a well-known system would also ensure there is a reasonable expectation the implementation would be successful. EX1002 ¶¶ 132-33.

Id. at 41–43 (alterations in original). The cited evidence supports Petitioner’s contentions related to this limitation.

Patent Owner does not specifically address this limitation. *See* PO Resp.

We find that Cristofalo teaches or suggests this limitation.

[b] receiving by the aggregator from the client a selection of one of the feeds;

With regard to this limitation, the Petition provides:

Cristofalo discloses that its **receiving system 104** allows a user to “select[] the described programming ... to be received and presented” from among “numerous programming options” (“*a selection of one of the feeds*”). EX1004 ¶¶ 46, 49. This selection is received from presentation system 112 and user input device 110 (“*client*”). EX1004 ¶¶ 20, 24, 25, 32. EX1002 ¶ 134.

Pet. 43–44 (alterations in original). Cristofalo supports Petitioner’s contention that this limitation is taught or suggested.

Patent Owner does not specifically dispute the showing in the Petition for this limitation. *See* PO Resp.

We find that Cristofalo teaches or suggests this limitation.

[c] acquiring by a publisher from the aggregator the feed selection;

[d] collecting by the publisher from the aggregator client information, wherein said client information comprises user information; and

Petitioner combines the showing as to limitations 1c and 1d in the Petition. *See* Pet. 44–47. Petitioner maps the transmitting system 102 to the recited “publisher.” *Id.* at 44 (“Cristofalo discloses **transmitting system 102**, which is the claimed ‘***publisher***.’”). With regard to these limitations, the Petition provides:

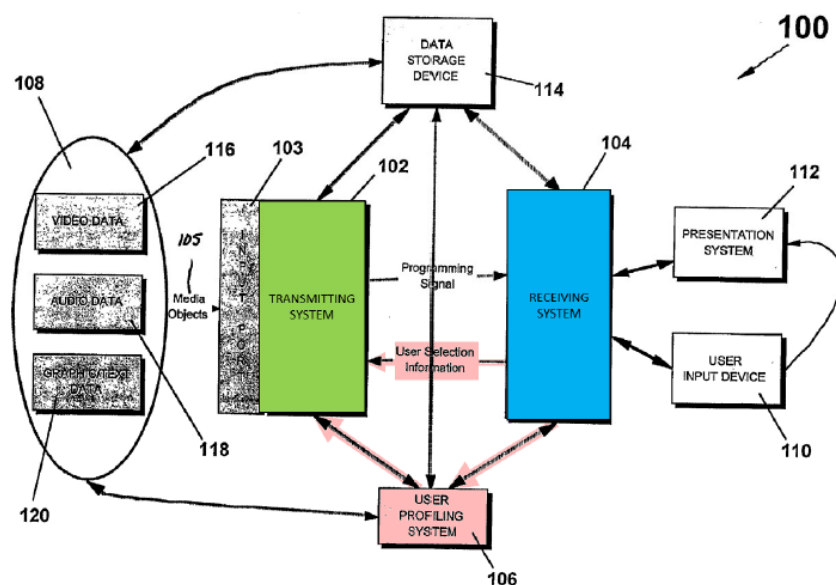
The ’753 patent describes the claimed “***publisher***” as a “source[] of media content.” EX1001 at 6:9-21. The same is true for Cristofalo’s **transmitting system 102**: it is the source of programming (e.g., media objects) for the **receiving system 104** and ultimately for the user. EX1004 ¶¶ 9, 19, 22, 34, 38, 47-48, 54; *see also* EX1004 at Fig. 1 (**transmitting system 102** sending “Programming Signal” to **receiving system 104**). EX1002 ¶ 135.

Cristofalo discloses that “the user’s choice of programming” (“media feed selection”) is provided by Cristofalo’s **receiving system 104** to Cristofalo’s **transmitting system 102** from the **receiving system 104**. EX1004 ¶ 46; *see also* EX1004 at Fig. 1 (**receiving system 104** sending “User Selection Information” to **transmitting system 102**). EX1002 ¶ 136.

In addition, Cristofalo discloses that its **receiving system 104** provides information on programs selected by the user and content to receive (“***user information***”) to Cristofalo’s **transmitting system 102**. Specifically, Cristofalo’s **receiving system 104** provides this user profile information (“***user information***”) to user profiling system 106, including programs selected by the user and content received, which in turn is co-

located with **transmitting system 102**. EX1004 ¶¶ 37, 39. Ultimately, the user profile information (“**user information**”) is received and analyzed by the **transmitting system 102**. EX1004 ¶¶ 28, 37-39, 47, 53; *see also* Section VII.C.2.f (Marcus ’904 also disclosing analyzing user profile information). EX1002 ¶ 137.

Cristofalo’s provision of “user selection information” (“**media feed selection**”) and user profile information (“**user information**”) from **receiving system 104** to **transmitting system 102** is shown in Cristofalo’s Figure 1:



Id. at 45–46 (alterations in original). Petitioner’s contention that Cristofalo teaches or suggests these limitations is well-supported.

Patent Owner does not specifically dispute the showing for these limitations. *See* PO Resp.

We find that Cristofalo teaches or suggests these limitations.

[e] providing to the client individual customized media programming based on a publisher-initiated feed responsive to the feed selection and including media elements selected, ordered, and concatenated with the feed that are responsive at least in part to the user information.

With regard to this limitation, the Petition provides:

Cristofalo's **transmitting system 102** generates media programming consisting of media objects based on the user's choice and user profile information ("*customized media programming based on a **publisher**-initiated feed responsive to the feed selection*") and provides that media programming to the user ("*providing to the client individual*"). EX1004 ¶¶ 9, 19, 22, 34, 38, 47-48, 54; *see also* EX1004 at FIG. 1 ("*programming signal*"). EX1002 ¶ 139.

. . . .

Moreover, Marcus '904 addresses the lack of detail in Cristofalo regarding targeting by **transmitting system 102** by describing a receiver 100 that "collects media" from different "media source[s]" and "assembles a program from the collected media." EX1005 ¶ 30. Specifically, Marcus '904's receiver "selects media elements from the media streams for inclusion in the programming based upon the user data," "arranges the selected data elements into an order based upon the user data," and concatenates the result, all based on user data ("selected, ordered, and concatenated ... responsive at least in part to the user information"). EX1005 ¶ 40, 48, 87, 148-49, 237, 307. The media elements include both a "primary" stream desired by the user ("publisher-initiated feed") and additional media elements, such as advertising or other programming ("media elements"). EX1005 ¶ 37-42, 48, 148, 252, 275, 307. EX1002 ¶ 140.

Marcus '904 further incorporates by reference Marcus '156, which provides additional details regarding the selection, ordering, and concatenating of media elements into media programming for a particular user. EX1005 ¶ 30; EX1008 at 8:1-9:21 (describing "Editor Program" that "selects and orders" clips), 9:22-10:8 (describing "Assembly Program"). The '753 patent relies on incorporating by reference that same Marcus '156 prior art reference for the exact same disclosure. EX1001 at 1:22-27, 5:45-52, 9:23-33, 9:48-52, 10:17-19. Thus, Marcus '904, at least via its incorporation of Marcus '156, discloses the very same "selected, ordered, and concatenated ... responsive at least in part to the user information" described and claimed in the '753 patent. EX1002 ¶ 141.

Pet. 47–49 (alterations in original). Patent Owner acknowledges:

As described with respect to Figure 4, for example, Cristofalo states that after a user selects desired programming (e.g., “Monday Night Football” (*see* Pet. at 43 (program guide depicting)) at step 404, the receiving system receives media objects (e.g., advertisements) at step 406, selects advertisements based upon the user profile at step 408, and composes the final media programming at step 410. Cristofalo at Fig. 4; *see also id.* at ¶¶ [0045]–[0050].

PO Resp. 20–21. The cited art supports Petitioner’s contentions for this limitation.

Patent Owner disputes the showing in the Petition for this limitation.

PO Resp. 19–22. Patent Owner argues “[t]he Challenged Claims are patentable over Cristofalo and Marcus ’904 because neither reference discloses generating customized media programming at a publisher.” *Id.* at 19. However, Patent Owner has failed to establish that the claims require generating customized media programming at a publisher. In support of its argument, in its Response, Patent Owner provides this contracted and altered version of limitations 1c and 1e of claim 1: “’753 Patent at Claim 1 (the “***publisher***” “acquiring . . . ***the feed selection***” and “providing . . . individual customized media programming . . . including media elements selected, ordered, and ***concatenated with the feed***”) (emphasis added).” Limitations 1c and 1e recite:

1[c] *acquiring by a publisher from the aggregator the feed selection;*

. . . .

1[e] *providing to the client individual customized media programming based on a publisher-initiated feed responsive*

to the feed selection and including media elements selected, ordered, and concatenated with the feed that are responsive at least in part to the user information.

Ex. 1001, 14:52–61. Limitation 1e does not recite the “*publisher*” “*providing to the client individual customized media programming . . . including media elements . . . concatenated with the feed.*” Claim 1 does not recite which apparatus does the “*providing,*” “*including,*” or “*concatenat[ing].*” We reject Patent Owner’s argument that is not supported by the claim language.

We find that the cited art teaches or suggests this limitation.

Summary as to Claim 1

We find that the Petition provides a detailed, well-reasoned, and well-supported showing that the combination of Cristofalo and Marcus ’904 teaches or suggests all the limitations of claim 1. We conclude that claim 1 is unpatentable in view of Cristofalo and Marcus ’904.

4. Dependent Claim 5

Patent Owner challenges Petitioner’s contention that claim 5 is rendered obvious by the Cristofalo/Marcus ’904 combination. *See* PO Resp. 27–28. Specifically, Patent Owner argues that “the Cristofalo-Marcus ’904 combination ***only furnishes one feed***: a user-specific final media programming. . . . Dependent Claim 5, however, requires furnishing ***two*** feeds.” *Id.* at 27. Claim 5 recites:

The method according to claim 1, wherein a first feed responsive to the selection of one of the feeds is furnished during a first time period and a second feed comprising the individual customized media programming is furnished during a second time period.

Ex. 1001, 15:6–10. The entire presentation in the Petition as to this ground and claim 5 provides:

In the proposed combination of Cristofalo and Marcus '904, the generated media programming consists of a desired program selected by the user from available media programming (“*a first feed*”) and other data elements inserted in response to the user profile information (“*individual customized media programming*”). See Section VII.C.2.e.^[22] In this combination, the desired program plays initially (“*during a first time period*”), and the other media elements only play once they are reached (“*during a second time*”). EX1002 ¶ 147.

Id. 37 C.F.R. § 42.104(b)(4) states that “[t]he petition must specify where each element of the claim is found in the prior art patents or printed publications relied upon.” As to claim 5, the Petition fails to identify where the elements recited in claim 5 are found in Cristofalo or Marcus '904.²³

Patent Owner argues:

²² Section VII.C.2.e. of the Petition relates to limitation 1d (“*collecting by the publisher from the aggregator client information, wherein said client information comprises user information*”). Pet. 44–47. There is no explanation or reasoning provided in the Petition as to how or why the discussion of limitation 1d in Section VII.C.2.e. of the Petition relates to the additional limitations recited in claim 5. See *id.* There is no discussion in Section VII.C.2.e. of the Petition of furnishing a first feed of a desired program selected by the user during a first time period or a second feed of other media elements during a second time period. See *id.*

²³ With regard to claim 5, the Petition cites paragraph 147 of the Almeroth Declaration (Ex. 1002). See Pet. 51. We have considered the cited paragraph in the Almeroth Declaration and found that it consists of nothing more than the inadequate and conclusory contentions in the Petition preceded by “[i]n my opinion.” Ex. 1002 ¶ 147. As related to claim 5, we accord the Almeroth Declaration little or no weight. See 37 C.F.R. § 42.65 (a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”).

Petitioner ignores that a “first feed” and “second feed” must *both* [be] furnished to the client. *See* Pet. at 51. Here, Petitioner asserts that the selected programming plays “during a first time period” and “the other media elements only play once they are reached (‘during a second time’).” *Id.* (emphasis omitted). But the selected programming and “other media elements” (advertisements) are part of the same user-specific final media programming provided to the client. *See* Cristofalo at ¶ [0050] (explaining that “[t]he process then continues with synchronizing the various objects and presenting the programming (Block 410).”). That is, only the user-specific final media programming—the selected programming and targeted media objects (advertisements)—is furnished. Missing from the Petition, and Cristofalo, is the identification of a “first feed” that is “furnished during a first time period.” ’753 Patent at Claim 5; Goodrich PO Resp. Decl. at ¶ 91.

PO Resp. 27–28. We agree with Patent Owner.

We find that Petitioner has failed to establish that the Cristofalo/Marcus ’904 combination teaches or suggests the additional elements recited in dependent claim 5.

5. *Claims 2–4 and 6–10*

Petitioner also asserts that dependent claims 2–4 and 6–10 are obvious in view of a combination of the teachings of Cristofalo and Marcus ’904. Pet. 4, 49–51 (claims 2–4), 52–54 (claims 6–10). The Petition provides a detailed and well-supported showing that the additional limitations recited in dependent claims 2–4 and 6–10 are taught by Cristofalo and Marcus ’904. *Id.*

Patent Owner does not specifically address the showing in the Petition as to dependent claims 2–4 and 6–10. *See generally* PO Resp.

We find that Petitioner has established that all the limitations of claims 2–4 and 6–10 are taught or suggested by the cited art. We conclude

that claims 2–4 and 6–10 are unpatentable as obvious in view of Cristofalo and Marcus '904.

III. CONCLUSION²⁴

After considering the evidence and arguments presented, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–4 and 6–10 are unpatentable as obvious based on each of the three independent grounds asserted. Petitioner has not shown by a preponderance of the evidence that claim 5 is unpatentable.

²⁴ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

A summary of our conclusions is set forth in the table below.

Claims	35 U.S.C. §	Reference(s)	Claims Shown Unpatentable	Claim Not shown Unpatentable
1–10	103	Whitehead	1–4, 6–10	5
1–10	103	Whitehead, Marcus '904	1–4, 6–10	5
1–10	103	Cristofalo, Marcus '904	1–4, 6–10	5
Overall Outcome			1–4, 6–10	5

IV. ORDER

Accordingly, it is

ORDERED that claims 1–4 and 6–10 of U.S. Patent No. 8,886,753 B2 are unpatentable;

FURTHER ORDERED that Petitioner has not shown by a preponderance of the evidence that claim 5 of U.S. Patent No. 8,886,753 B2 is unpatentable; and

FURTHER ORDERED that, because this is a Final Written 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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Patent 8,886,753 B2

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