

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HULU, LLC,

Petitioner,

v.

PIRANHA MEDIA DISTRIBUTION, LLC,

Patent Owner.

Case No. IPR2024-01253

U.S. Patent No. 11,463,768

PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 11,463,768

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EXHIBIT LIST

Exhibit No.	Description
1001	U.S. Patent No. 11,463,768 to Donian <i>et al.</i> (the '768 patent)
1002	Prosecution History for the '768 patent
1003	Declaration of Henry Houh, Ph.D.
1004	U.S. Patent Application Publication No. 2002/0083439 ("Eldering-I")
1005	U.S. Patent Application Publication No. 2003/0149975 ("Eldering-II")
1006	Prosecution History for U.S. Patent No. 10,986,403 (the '403 patent)
1007	U.S. Pat. App. Pub. 2002/0161739 (Oh)
1008	U.S. Pat. App. Pub. 2001/0042249 (Knepper)
1009	U.S. Pat. App. Pub. 2003/0154128 (Liga)
1010	U.S. Pat. App. Pub. 2003/0149621 (Shteyn)
1011	<i>Piranha Media Distribution, LLC v. Hulu, LLC</i> , CDCA-2-24-cv-00498, Dkt. No. 28 (Piranha's Opposition to Hulu's Motion to Dismiss)
1012	U.S. Pat. App. Pub. 2002/0002674 (Grimes)
1013	U.S. Pat. App. Pub. 2003/0079133 (Breiter)
1014	U.S. Pat. App. Pub. 2001/0047338 (Jones)
1015	U.S. Patent No. 6,161,142 (Wolfe)
1016	U.S. Pat. App. Pub. 2002/0120515 (Morimoto)
1017	U.S. Pat. App. Pub. 2001/0049820 (Barton)
1018	U.S. Pat. App. Pub. 2003/0044162 (Angel)
1019	U.S. Patent No. 7,006,760 (Takagi)
1020	U.S. Patent No. 7,302,160 (Wells)
1021	U.S. Pat. App. Pub. 2002/0056107 (Schlack)
1022	<i>Piranha Media Distribution, LLC v. Hulu, LLC</i> , CDCA-2-24-cv-00498, Piranha's Infringement Contentions for the '768 Patent

The sponsorship revenue model has long been applied to the provision of media content, where advertisements are inserted in audio/video media such as television programs. The '768 patent does not purport to invent the practice of inserting advertisements but claims to be directed to adaptively selecting and re-sequencing advertisements in response to user playback controls. This concept was known before the '768 patent's priority date.

I. BACKGROUND

By the late 1990s, advertisements were integrated with audio/video media based on content structures, such as being organized into playlists and avails (available slots for ads) in media content. Ex-1003, ¶¶3-4.

The advent of video recording devices such as Personal Video Recorders (PVRs) revolutionized the media content viewing experience in the late 1990s. These devices offered increased flexibility for advertisement insertion, enabling providers to tailor ads to individual users and dynamically control their timing. Advertisers developed various approaches to schedule ads to optimize impact and engagement, such as by matching advertisements with user identity, type of media content, and time of viewing and dynamically adapting advertisement selection to changing conditions. *See, e.g.*, Ex-1007, ¶33; Ex-1008, ¶41, ¶61; Ex-1009, ¶6; Ex-1004, ¶16, ¶30; Ex-1003, ¶5.

Video recording technologies also enabled viewers to skip commercials, altering the traditional advertising model. In response, providers implemented various measures to counteract ad-skipping. Commonly used techniques included disabling user control such as skipping and fast forwarding during commercial breaks. Ex-1009, ¶10. The techniques also included strategies to provide alternatives in response to user actions skipping advertisements. For example, while a user might be allowed to skip an advertisement, a replacement would be displayed to the user at an alternative time. Types of replacements included the same advertisement, a different advertisement, or an advertisement in another format or state (e.g., overlay or pop-ups, shorter versions). By 2002, various techniques had been developed to select and schedule replacement advertisements. *See, e.g.*, Ex-1010, ¶¶10-11; Ex-1003, ¶6.

II. THE '768 PATENT

A. Overview

The '768 patent “relates generally to the distribution of audio, video, and print media content via digital replication and delivery channels.” Ex-1001, 1:27-29. The '768 patent discusses inserting and displaying advertisements within media content. Ex-1001, 7:45-55; Ex-1003, ¶7.

The '768 patent admits that displaying advertising content within media content was known in the art. Ex-1001, 7:4-18; Ex-1003, ¶8. The purportedly

inventive concept of the '768 patent is to adaptively select and re-sequence ads in response to user playback controls. *See* Ex-1001, 7:45-55, 15:4-18, 28:62-29:7. By doing so, the '768 patent claims to ensure ads playing without user interruption and allow users to access free media content in exchange of exposure to ads. *See, e.g.,* Ex-1001, 6:63-7:3, 8:46-58, 14:37-59, 15:4-18; Ex-1003, ¶9. However, the idea of selecting and re-sequencing ads for display and the business model of providing free access to media content were known well before the '768 patent. *Supra* §I; Ex-1001, 8:32-45, 42:51-67; Ex-1003, ¶10.

B. Prosecution History

The '768 patent was allowed after two Office Actions. Ex-1002, 000345. In the first Office Action, the Examiner rejected the claims as being anticipated over U.S. Patent Application Publication No. 2007/0204310. Ex-1002, 000125-130. In response, the Applicant argued that the cited reference is not prior art. Ex-1002, 000153-154. In the second Office Action, the Examiner rejected the claims under non-statutory double patenting and did not raise any prior-art rejection. Ex-1002, 000297-301; Ex-1003, ¶11.

In the last Office Action with prior-art rejections for the parent of the '768 patent, U.S. Patent No. 10,986,403 (the '403 patent), the examiner rejected pending independent claims as obvious over U.S. Pat. App. Pub. No. 2001/0042249 (Knepper) in view of U.S. Patent No. 7,761,327 (Hannah) and U.S.

Pat. App. Pub. No. 2002/0191950 (Wang). Ex-1006, 000632. Upon appeal by the Applicant (Ex-1006, 000727-767), the PTAB stated that it did not see where Knepper teaches that “when a user does not follow the pre-set order of the playlist, by skipping media files in the sequence, the order of the play list changes [and] the position of the ad file also changes within the playlist” and “adaptively modifying or re-sequencing the presentation position in response to user input[.]” Ex-1006, 000895-96; Ex-1003, ¶12. As explained below, Ground 1 provides the teachings that the PTAB found to be lacking in Knepper.

C. Priority Date

The '768 patent was filed April 19, 2021, and claims priority to the '403 patent, filed on June 26, 2003, and U.S. Provisional Patent Application Nos. 60/393,193 and 60/392,232, both filed on June 27, 2002. This Petition analyzes obviousness as of June 27, 2002, and all relied-upon art predates this date. Ex-1003, ¶13.

III. LEVEL OF ORDINARY SKILL IN THE ART

The field of the '768 patent is media display. *See, e.g.*, Ex-1001, Abstract, 1:27-29; Ex-1003, ¶15. A POSITA at the time of the alleged invention of the '768 patent would have been a person with a bachelor's degree in electrical engineering, computer science, or a similar field with at least two years of experience in media display or a person with a master's degree in electrical engineering, computer

science, or a similar field with a specialization in media display. Additional experience can substitute for the level of education, and vice-versa. Ex-1003, ¶¶16-18.

IV. CLAIM CONSTRUCTION

A. “intersplicer”

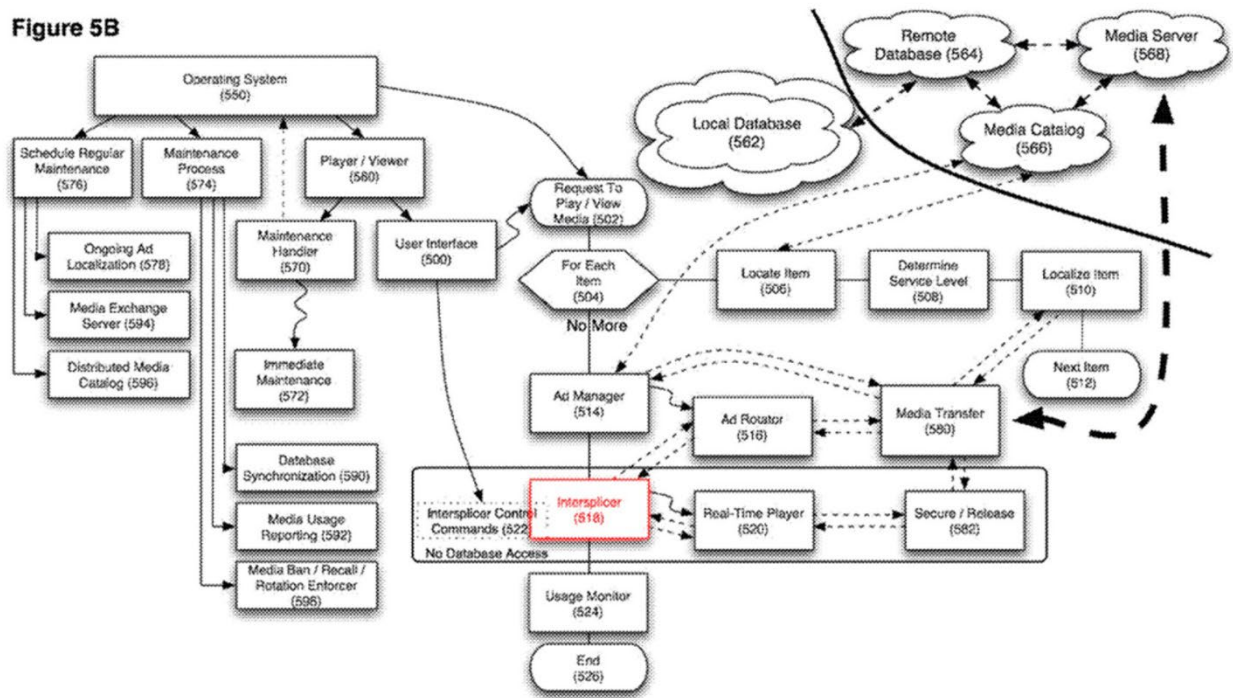
A POSITA would have understood “intersplicer” to mean “software that selects advertising content and controls insertion and conveyance of advertising content in media content.” Ex-1003, ¶21. Claims of the ’768 patent recite multiple ways that the intersplicer controls the insertion and conveyance of advertising content in media content, including, for example, “chang[ing] a predetermined advertisement insertion point in the digital media content to an adapted advertisement insertion point.” Ex-1001, cl. 1; *see also id.*, cls. 3, 6. The claims further specify the intersplicer’s functionality to select advertising content by requiring it to “request, from the advertisement rotator, digital advertising content to be played at the adapted advertisement insertion point.” *Id.*, cl. 1; Ex-1003, ¶22. This interpretation is confirmed by the specification of the ’768 patent, which states that the intersplicer “select[s] ... the ads to be shown” and controls the insertion and conveyance of ads by, for example, “automatically edits the selected advertisements into the presentation stream.” Ex-1001, 7:45-55; *see also, e.g.*, Abstract, 15:4-18; Ex-1003, ¶23.

In the district court litigation, Patent Owner proposed to construe “intersplicer” as “digital rights management software that enforces the conveyance of advertisements inserted into a digital media stream for presentation during the course of media playback to allow for free, unlimited viewing of requested digital media through a general licensing process that is transparent to the user.” Ex-1011, 000006, 000012. This construction is incorrect because it imports unsupported limitations. Ex-1003, ¶24.

First, the claims do not recite that the intersplicer is “digital rights management software” or that the intersplicer “allow[s] for free, unlimited viewing of requested digital media through a general licensing process that is transparent to the user.” *Id.*; Ex-1001, 44:17-48:20; Ex-1003, ¶24.

Second, the specification states that the player/viewer software has digital rights management functionalities and has the ability to provide means for unlimited free viewing. *E.g.*, Ex-1001, 6:53-62, 14:37-49. However, the intersplicer is just one of many components of the player/viewer software. Ex-1001, 22:24-38, 23:46-57, Fig. 5A, 24:31-36, Fig. 5B (showing “logical components of the player/viewer” including the intersplicer 518 among various others):

Figure 5B



The specification states that another module (i.e., the real-time player module) provides digital rights management functionalities. Ex-1001, 14:61-15:3 (“a digital rights management enabled real-time player module”). Ex-1003, ¶25. It is improper to attribute the specification’s description of the player/viewer software to the intersplior. Furthermore, the specification is not limited to providing free, unlimited viewing of requested digital media through a general licensing process because it discloses a purchased service level with advertisements among others. *E.g.*, Ex-1001, 27:11-26 (“[E]ach title may be ... included (with or without ads) as part of a specific subscription package, specifically purchased for uninterrupted use on a short-term basis (fixed time period or total number of uses)[.]”). Ex-1003, ¶26.

Patent Owner’s proposed construction is also inconsistent with its Infringement Contentions for the ’768 patent. The Infringement Contentions allege that the intersplicer is “for controlling one or more insertion points of the digital advertising content into the digital media content” (Ex-1022, 000021, 25), and do not assert that the accused software is “digital rights management software,” “enforces the conveyance of advertisements inserted into a digital media stream,” or “allow[s] for free, unlimited viewing of requested digital media through a general licensing process that is transparent to the user.” Ex-1022, 000021-30; Ex-1003, ¶27.

V. IDENTIFICATION OF CHALLENGE

Petitioner requests *inter partes* review and cancelation of the challenged claims on the following ground:

Ground	Claims	Statutory Basis	Prior Art ¹
1	1-3, 5-12, 14-21, 23-25, 27-29, 31-33	§ 103	Eldering-I in view of Eldering-II

The Ground renders the challenged claims obvious because any differences between the claimed subject matter 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

¹ Pre-AIA 35 U.S.C. §102 applies. MPEP §2159.02.

a POSITA to which the subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007).

A. Ground 1

1. Eldering-I (Ex-1004)

Eldering-I was filed December 21, 2000 and later published. Eldering-I is prior art under pre-AIA §102(e) because it was filed before June 27, 2002. Ex-1003, ¶32.

Eldering-I “pertains to targeted advertising, such as in television programming delivery systems utilizing set top boxes.” Ex-1004, ¶3; Ex-1003, ¶33. Eldering-I teaches an ad scheduler that selects advertisements and schedules insertion of advertisements. *E.g.*, Ex-1004, Abstract, ¶44, Fig. 2. “The ad scheduler[] provides a schedule of ads to be inserted in the form of a queue or other forms.” Ex-1004, ¶¶49-50. The ad scheduler re-selects and reschedules advertisements in real time when there are changes to viewing parameters such as channel selection, viewer identity, and the type of program being watched. *E.g.*, Ex-1004, ¶16, ¶30, ¶32. The selecting and scheduling is based on a hybrid orthogonal-linked sponsorship model. Ex-1004, ¶¶76-82; Ex-1003, ¶34.

Eldering-I teaches an ad insertion module, which receives the ordered list about the next advertisement from the ad scheduler, and in response requests ads

from local storage and inserts them into media content. Ex-1004, Abstract, ¶11, ¶17, ¶33, ¶¶46-49, Fig. 2; Ex-1003, ¶35.

Eldering-I is in the same field of endeavor as the '768 patent because it is directed to displaying media. *See supra* §III; *e.g.*, Ex-1004, ¶3, ¶17; Ex-1003, ¶36.

2. Eldering-II (Ex-1005)

Eldering-II was filed February 5, 2002 and later published. Eldering-II is prior art under at least pre-AIA §102(e) because it was filed before June 27, 2002. Ex-1003, ¶38.

Eldering-II “is related to a method, system, apparatus, and computer program for presenting targeted advertisements to a subscriber along with content selected by the subscriber.” Ex-1005, ¶52, Abstract; Ex-1003, ¶39.

Eldering-II teaches a user interface implemented through a set top box, which receives user input such as skipping, fast forwarding, rewinding, pausing, and stopping playback. Ex-1005, ¶74, ¶¶109-110; Ex-1003, ¶40. Eldering-II displays an alternative advertisement when a user fast forwards or skips advertisements. *E.g.*, Ex-1005, Abstract, ¶58 (“[W]hen the subscriber attempts to skip or fast forward the ad they are presented with an alternative ad in place of or in conjunction the targeted ad.”), ¶110, ¶138, ¶¶165-179, ¶¶69-70, Figs. 9-10; Ex-1003, ¶41.

Eldering-II is in the same field of endeavor as the '768 patent because it is directed to displaying media. *See supra* §III; *e.g.*, Ex-1005, Abstract, ¶52; Ex-1003, ¶42.

3. Independent Claim 1

[1a] A digital media system comprising:
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Eldering-I teaches the preamble. Ex-1003, ¶¶43-45.

Eldering-I teaches **a digital media system** (*e.g.*, subscriber system). Ex-1004, ¶¶25-26 (“A ‘subscriber system’ is a system at the subscriber’s end which receives, processes, and/or displays media signals (*e.g.*, TV Programs) including advertisement signals.”), ¶¶29-30, ¶33, ¶34, ¶¶36-37, Fig.1:

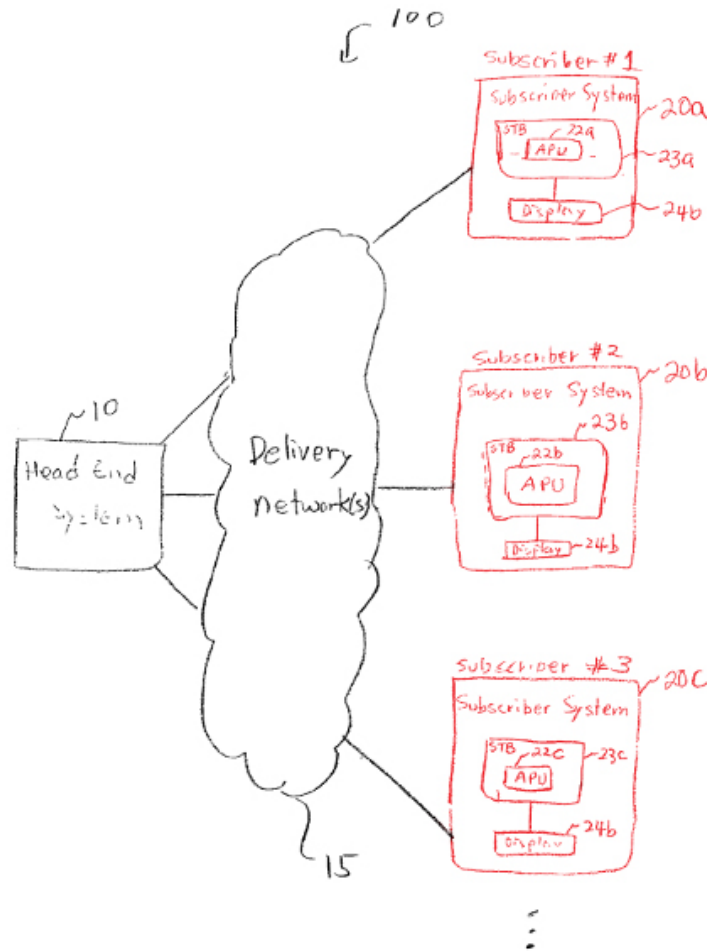


FIGURE 1

Eldering-I teaches that its subscriber system provides **digital** media for presentation. Ex-1004, ¶26, ¶5-8, ¶35, ¶39, ¶47; Ex-1003, ¶44.

The combination of Eldering-I and Eldering-II teaches a digital media system that comprises the components and operations explained below for limitations [1b]-[1h]. *Infra* §§V.A.3[1b]-[1h]; Ex-1003, ¶45.

[1b] a user interface for receiving user input for controlling a course of presentation of digital media content;
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Eldering-I teaches a digital media system (e.g., subscriber system) that includes **a user interface**, such as one implemented through a set top box. Ex-1004, ¶37 (“In accordance with one embodiment, each of the subscriber systems 20 includes a set top box 23a, 23b or 23c, and a display device 24a, 24b or 24c coupled to the set top box. ... Each of the set top boxes 23 may further include components typically found in set top boxes, such as a tuner, *a user interface*, a CPU, ROM, RAM, etc.”),² ¶25, ¶34, Fig. 1; Ex-1003, ¶46. Eldering-I’s user interface is for receiving user input (e.g., channel change) for controlling a course of presentation of digital media content. *E.g.*, Ex-1004, ¶32, ¶36, ¶38, ¶59, ¶61, Fig. 1; Ex-1003, ¶47.

Eldering-II also teaches a user interface implemented through a set top box. *E.g.*, Ex-1005, ¶74 (“The interaction device 110 is the interface for the subscriber 100 to select content that they wish to receive.”), ¶75 (“The interaction device 110 may be ... a set top box (STB) ...”), Fig. 1; Ex-1003, ¶48.

This user interface is **for receiving user input for controlling a course of presentation of digital media content** because Eldering-II teaches user input causing the digital media system to perform operations such as skipping and fast

² All annotations/emphasis added unless otherwise noted.

forwarding. *E.g.*, Ex-1005, ¶109 (“VoD systems allow a subscriber to use VCR functions (i.e., *rewind, pause, fast-forward, stop the playback*)[.]”), ¶110. These control functionalities allow the user to fast forward through or skip over advertisements. Ex-1005, ¶110, ¶112, ¶124, ¶165; Ex-1003, ¶¶49-50.

Control functionalities such as skipping and fast forwarding were commonplace and readily applicable to Eldering-I’s subscriber system. Eldering-I contemplates its subscriber system being implemented in a variety of devices (e.g., PVRs, video on demand) for handling various media playback scenarios. Ex-1004, ¶8, ¶¶25-27, ¶¶70-72; Ex-1003, ¶51. Well-known control functionalities such as skipping and fast forwarding were commonly implemented on devices such as TV set top boxes and personal video recorders (PVRs). Ex-1005, ¶54, ¶109. A POSITA would have understood that Eldering-I contemplates that its subscriber system includes these common functionalities. A POSITA would have been motivated to do so because these control functionalities improve users’ flexibility in controlling the presentation of the media content (e.g., by allowing the user to skip a boring part and move to a more interesting part of a program). Since Eldering-I and Eldering-II teaches the same types of devices (e.g., set top box, PVR), which Eldering-II teaches to have the control functionalities, a POSITA would have had a reasonable expectation of success when implementing Eldering-II’s teachings to Eldering-I. Ex-1003, ¶52.

Therefore, Eldering-I by itself, as well as the combination of Eldering-I and Eldering-II, teaches limitation [1b]. Ex-1003, ¶¶46-53.

[1c] an advertisement rotator for managing one or more requests for advertising content to be presented during the course of presentation of the digital media content either visually or audibly; and

Eldering-I teaches **an advertisement rotator** (e.g., advertisement insertion module) **for managing one or more requests for advertising content** (e.g., notice from an ad scheduler about advertisement to be inserted). Ex-1004, Abstract (“The system further includes an ad insertion module which inserts the advertisements into the programming channels according to the stored ordered list.”), ¶42, Fig. 2:

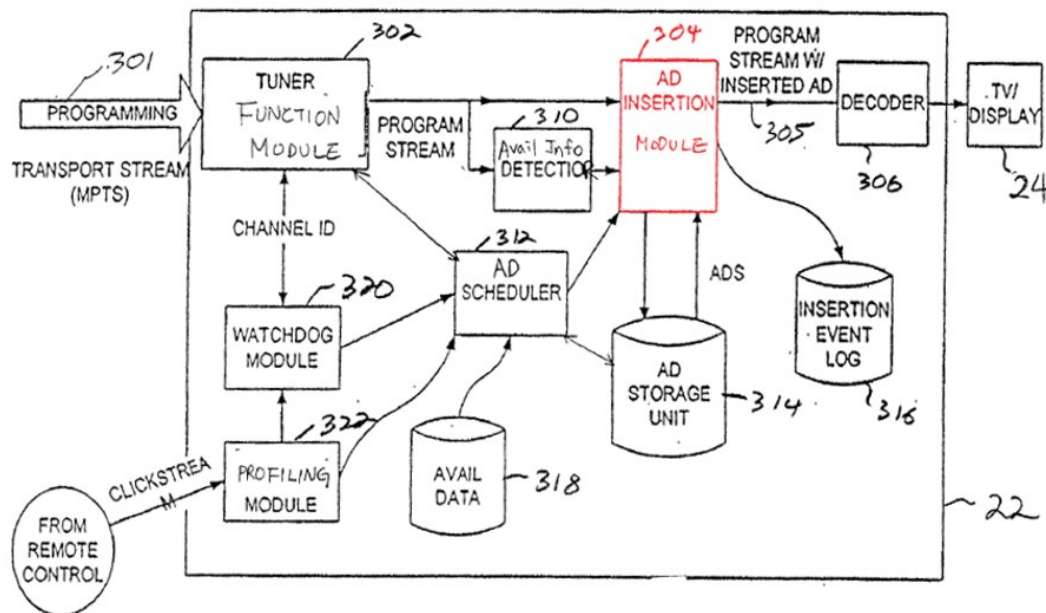


Figure 2

Ex-1003, ¶54.

The advertisement insertion module receives an ad insertion schedule or information about the next advertisement from an ad scheduler³, and in response, requests an advertisement from local storage and inserts it in digital media content. Ex-1004, ¶49 (“The ad scheduler 31 notifies the advertisement insertion module 304 of either the entire ad insertion schedule or the next advertisement to be inserted according to the ad insertion schedule.”), ¶46 (“[T]he advertisement insertion module 304, according to the ad insertion schedule provided by the ad scheduler 312, requests a particular advertisement from the advertisement storage unit 314[.]”), ¶47 (“The advertisement insertion module 304 inserts or splices the received advertisement into the avail of the programming stream channel.”), ¶48, Abstract, ¶11, ¶17, ¶33, Fig. 2. Here, the advertisement insertion module selects from the advertisements stored in local storage advertisements that match the ad insertion schedule. Ex-1003, ¶55.

Here, the notification from the ad scheduler regarding ad insertion schedule or the next advertisement is a request for advertising content because it is sent from the ad scheduler to the advertisement insertion module, requesting advertising content to be retrieved from local storage and inserted into the media stream. *See* Ex-1004, ¶¶46-49. The advertisement insertion module manages such requests for

³ The ad scheduler is further discussed below with respect to limitations [1d]-[1h]. *Infra* §§V.A.3[1d]-[1h].

advertising content by selecting an advertisement that matches the ad insertion schedule and obtaining the requested advertisement from local storage and inserting it for presentation. *Id.*; Ex-1003, ¶56.

Eldering-I's teachings regarding the advertisement insertion module satisfy "advertisement rotator" as the term is used in the '768 patent. The '768 patent uses "advertisement rotator" to refer to software that provides advertisements in response to requests for advertisements. *See, e.g.*, '768 patent, 28:37-29:31, 32:52-33:40, Fig. 5B. As explained above, the advertisement insertion module provides advertisements in response to requests. Ex-1004, Abstract, ¶¶46-49; Ex-1003, ¶57.

Eldering-I further teaches that the advertising content is **presented during the course of presentation of the digital media content** (e.g., TV programming, recorded programming). *E.g.*, Ex-1004, ¶33 ("[T]he subscriber system inserts the ads into the incoming programming channel according to the most current ad insertion schedule and displays the programming channel with the inserted advertisements[.]"), Abstract, ¶¶25-27, ¶¶34-37, ¶¶70-71; Ex-1003, ¶58. Eldering-I further teaches presenting advertisements and digital media content **either visually or audibly**. *E.g.*, Ex-1004, ¶¶25-27, ¶36; Ex-1003, ¶59.

[1d] an intersplicer in communication with the advertisement rotator, the intersplicer configured to:

Eldering-I teaches an intersplicer (e.g., ad scheduler) in communication with the advertisement rotator (e.g., advertisement insertion module). Ex-1004, Abstract (“The system includes an ad scheduler for identifying a predetermined order in which the advertisements are to be inserted into the channels of media programming. The ad scheduler stores an ordered list corresponding to the identified order and modifies the stored ordered list whenever a modification requiring event occurs.”), ¶42, Fig. 2:

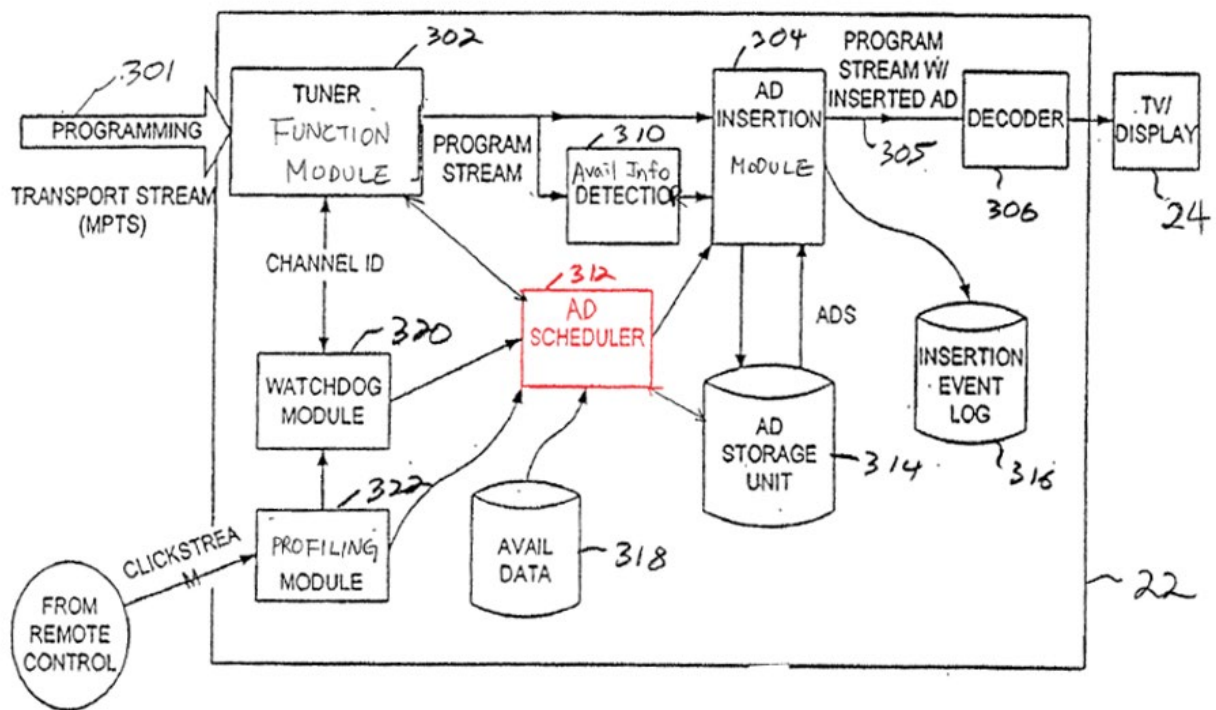


Figure 2

Ex-1003, ¶60.

The ad scheduler selects advertisements and schedules insertion of advertisements. Ex-1004, ¶44 (“The ad scheduler 312 may schedule or reschedule the ad insertion ...”), ¶49 (“The ad scheduler 312 provides a schedule of ads to be inserted in the form of a queue or other forms.”), ¶50; Ex-1003, ¶61. The ad scheduler re-selects and reschedules advertisements in real time when there are changes to viewing parameters. Ex-1004, ¶16 (“The ad processing unit may also readily change the ad insertion schedule so that the most appropriate ads are actually inserted into the incoming programming channel. Changes in one or more of certain viewing parameters may warrant a change in the ad insertion schedule ...”), ¶30, ¶32, ¶¶51-52, ¶¶56-61, ¶¶63-64, ¶75. As explained below with respect to limitation [1e], a POSITA would have understood that a user input updating a play position of the digital media content (e.g., skipping or fast forwarding) changes viewing parameters contemplated by Eldering-I and that it would have been obvious to reschedule advertisements in response to such a user input. *Infra* §V.A.3[1e]; Ex-1003, ¶62.

The ad scheduler is in communication with the advertisement insertion module by notifying the advertisement insertion module of the advertisement insertion schedule or the next advertisement to insert. *Supra* §V.A.3[1c]; Ex-1004, ¶42 (“As shown in FIG. 2, the APU 22 may include ... an ad insertion module 304, ... an ad scheduler 312, ... *all operatively connected*.”); ¶49 (“The ad

scheduler 31 notifies the advertisement insertion module 304 of either the entire ad insertion schedule or the next advertisement to be inserted according to the ad insertion schedule.”), ¶46, ¶33, Fig. 2:

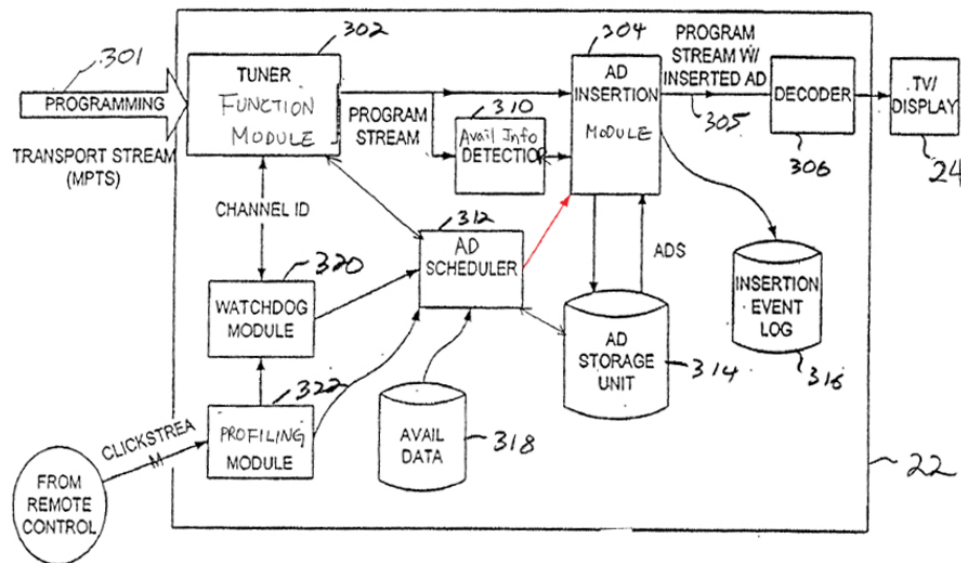


Figure 2

Ex-1003, ¶63.

Eldering-I’s ad scheduler teaches an intersplicer because it selects advertising content and controls insertion and conveyance of advertising content in media content and is configured to perform the operations recited in limitations [1e]-[1h], as explained below. *Supra* §IV.A; *infra* §§V.A.3[1e]-[1h]. As explained above, Eldering-I’s ad scheduler selects, schedules, and reschedules advertisements. By scheduling and rescheduling advertisements, the ad scheduler controls how advertisements are inserted in media content and conveyed to the user. *E.g.*, Ex-1004, ¶33, ¶44, ¶¶46-47; Ex-1003, ¶64.

The combination of Eldering-I and Eldering-II teaches an intersplicer configured to perform the operations recited in limitations [1e]-[1h], as explained below. *Infra* §§V.A.3[1e]-[1h]; Ex-1003, ¶65.

The combination teaches “intersplicer” even under Patent Owner’s proposed construction. *Supra* §IV.A; Ex-1011, 000006, 000012. First, Eldering-I’s ad scheduler selects, schedules and reschedules advertisements. *E.g.*, Ex-1004, ¶16, ¶30, ¶32, ¶44, ¶¶49-52, ¶¶56-61, ¶¶63-64, ¶75. Eldering-I further teaches scheduling advertisements based on an hybrid orthogonal-linked sponsorship model, which includes rules regarding the advertisements to select for different avails. *Infra* §V.A.3[1f]; Ex-1004, ¶¶76-82. Therefore, Eldering-I teaches an intersplicer that **enforces the conveyance of advertisements** by scheduling their insertion into a digital media stream based on rules. Ex-1003, ¶¶66-67.

Eldering-II further teaches enforcing the conveyance of advertisements by disabling the user’s ability to fast forward through or skip over them. Ex-1005, ¶110 (“ [T]he content provider may not allow the subscriber to fast-forward or skip ads.”), Abstract, ¶58, ¶165. A POSITA would be motivated to apply Eldering-II’s teachings to Eldering-I to limit the user’s ability to skip over or fast forward through advertisements because doing so would have provided the benefit of ensuring exposure to advertising content and protecting the interest of advertisers in sponsoring media content. As explained above, it would have been obvious to

implement control functionalities such as fast forwarding and skipping on Elderling-I's subscriber system. *Supra* §V.A.3[1b]. Because disabling user control merely involves suspending these functionalities using software configurations, a POSITA would have been more than capable of doing so and would have had a reasonable expectation of success in implementing Elderling-II's teachings to Elderling-I. The combination thus teaches **enforcing the conveyance of advertisements**. Ex-1003, ¶68.

Elderling-I teaches the ad scheduler manages a user's access to digital media content by controlling when digital media content, as opposed to advertisements, are being presented. *E.g.*, Ex-1004, ¶44, ¶¶49-52. Furthermore, Elderling-II limits the user's access to digital media content, for example, by disabling fast-forwarding and skipping of advertisements. *E.g.*, Ex-1005, ¶58, ¶110, ¶165. Therefore, Elderling-I, as well as the combination of Elderling-I and Elderling-II, teaches **digital rights management software**. Ex-1003, ¶69.

Furthermore, digital rights management software, with functionalities such as encrypting and decrypting media content, was widely used for distribution of digital media content in the 2002 timeframe. *See* Ex-1012, Ex-1013. Elderling-I teaches providing copyrighted content (e.g., television programming) to a user and allowing the capabilities of recording and playing back such content. *E.g.*, Ex-1004, 25. A POSITA would have understood digital rights management

functionalities were often implemented on systems with capabilities to record and play back copyrighted content to manage access, copying, or sharing of the content and that it would have been obvious to apply such functionalities to Eldering-I's digital media system. Ex-1003, ¶70.

Finally, in the 2002 timeframe, digital media content was commonly made available to the public on the Internet for free, unlimited use with the help of advertisement revenue. *See, e.g.*, Ex-1014, ¶¶13-14; Ex-1015, 1:57-65; Ex-1016, ¶11. This is confirmed by the '768 patent's "Description of Background Art" section, which acknowledges that the advertising sponsorship business model was known. *See* Ex-1001, 1:66-2:16; Ex-1003, ¶71. Because Eldering-I's ad scheduler enables inserting advertisements in media streams (*infra* §V.A.3[1e]), the combination allows the copyright owner of the media streams to be rewarded by advertisement revenue. Furthermore, Eldering-II teaches allowing users to freely access any portion of media content and maintain control over the play position. *E.g.*, Ex-1005, ¶109 ("VoD systems allow a subscriber to use VCR functions (i.e., *rewind, pause, fast-forward, stop the playback*) while viewing an on-demand program."); *supra* §V.A.3[1b]. Eldering-II does not limit the user's ability to use these control functionalities other than when advertisements are being presented. Therefore, the scheduling software allows **for free, unlimited viewing of requested digital media through a general licensing process that is**

transparent to the user as long as it is used by a content provider that does not charge a fee or hide the licensing terms from users. Ex-1003, ¶72.

[1e] change a predetermined advertisement insertion point in the digital media content to an adapted advertisement insertion point in the digital media content, in response to receiving a user input to update a current play position in the digital media content to a new play position in the digital media content,
--

Eldering-I teaches **changing a predetermined advertisement insertion point** (e.g., avail corresponding to an advertisement’s original position in the ad insertion schedule) **in the digital media content to an adapted advertisement insertion point** (e.g., avail corresponding to the advertisement’s new position in the ad insertion schedule) **in the digital media content** in response to changes to viewing parameters. Ex-1003, ¶73.

Eldering-I teaches inserting advertisements into digital media content based on an ad insertion schedule. *E.g.*, Ex-1004, ¶33 (“[T]he subscriber system inserts the ads into the incoming programming channel according to the most current ad insertion schedule[.]”), Abstract, ¶11, ¶17; *supra* §§V.A.3[1c]-[1d]; Ex-1003, ¶74.

Eldering-I teaches the scheduler predetermining the ad insertion schedule in the form of a queue. *E.g.*, Ex-1004, ¶29 (“An ad processing unit of the subscriber system can determine in advance which ads are to be inserted and in what order[.]”), ¶50 (“[T]he scheduler 312 may prepare in advance the ad schedule in the form of a queue discussed above.”). The ad insertion schedule includes an

ordered list of advertisement resource locators (ARLs) respectively corresponding to the scheduled advertisements. Ex-1004, ¶¶29, ¶¶34-35, ¶49, ¶66, Fig. 3:

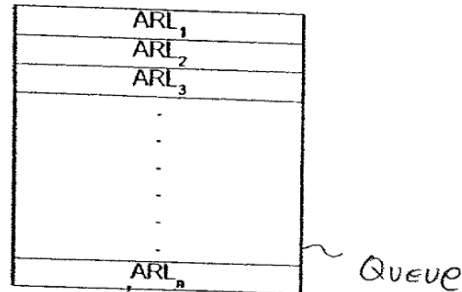


Figure 3

Ex-1003, ¶75.

The advertisements are inserted into avails in the digital media content based on the ad insertion schedule. *Supra* §V.A.3[1c]; *E.g.*, Ex-1004, ¶15, ¶¶28-29, ¶¶46-47, ¶63, Fig. 4; Ex-1003, ¶76. Each avail corresponds to a position in the digital media content that is appropriate for inserting an advertisement. Ex-1004, ¶28 (“[V]arious television programming channels or streams include open commercial breaks designated specifically for the insertion of ads by the television service provider. That is, the normal stream of information in the channel includes intervals with default ads (avails) which can be substituted with other advertisements.”), ¶44, ¶46, ¶50. By predetermining a schedule of advertisements to be inserted in the avails, Eldering-I teaches a predetermined advertisement insertion point in the digital media content for each advertisement in the ad

insertion schedule, i.e., the avail corresponding to the advertisement's position in the queue. Ex-1003, ¶77.

Eldering-I teaches that this predetermined advertisement insertion point is changed by the ad scheduler, as it reschedules advertisements in response to changes to viewing parameters. *Supra* §V.A.3[1d]; Ex-1004, Abstract (“The ad scheduler ... modifies the stored ordered list whenever a modification requiring event occurs.”), ¶16 (“Changes in one or more of certain viewing parameters may warrant a change in the ad insertion schedule ...”), ¶30, ¶32, ¶¶51-52, ¶¶56-61, ¶¶63-64, ¶75, ¶82; Ex-1003, ¶78.

Eldering-I contemplates a broad range of viewing parameters, such as type of program being watched, characteristics of the next avail, identity of the current viewer, and the time of day. Ex-1004, ¶51 (“Such circumstances may include, but are not limited to, the time of day, program or type of program being watched, channel selection, identity of the current viewer, and timing/duration of the upcoming avail. In the present specification, these circumstances are also referred to as viewing parameters.”), ¶16, ¶30, ¶75; Ex-1003, ¶79.

The rescheduling changes advertisements' positions in the queue (e.g., moving an advertisement to the top of the queue, moving the next ad in the queue down). *E.g.*, Ex-1004, ¶53 (“[T]he ad schedule may be changed so that another ad, which is more appropriate to the new viewer, is moved to the top of the queue for

insertion.”), ¶54. Eldering-I teaches doing so by reordering ARLs of advertisements in the queue. Ex-1004, ¶56 (“The rescheduling of advertisements (i.e., changing the ad insertion schedule) in the queue may encompass reordering the entire list of ARLs, or selectively changing the first or few items on the queue list, which may vary depending on the application.”), ¶77; Ex-1003, ¶80.

For example, by way of the reordering, an advertisement is moved from an original lower position in the queue to the top of the queue. Before rescheduling, the advertisement is scheduled to be inserted in an avail corresponding to its original position in the ad insertion schedule. This is a predetermined advertisement insertion point. As the rescheduling moves the advertisement to the top of the queue, the advertisement is scheduled to be inserted in the first upcoming avail after the changes to the viewing parameters occur. This changes the advertisement insertion point. Eldering-I teaches performing rescheduling on a continuous, on-going, and real-time basis. Ex-1004, ¶32 (“Based on the detection of the changes in the viewing parameters, the ad processing unit may *modify the ad insertion schedule on a on-going, real-time basis* so that ads that are most appropriate to the current viewer are inserted and displayed to the current viewer.”), ¶52, ¶55, ¶58, ¶63, ¶75. In this way, the ad scheduler continuously adapts advertisement insertion points based on changes to viewing parameters,

making the new advertisement insertion point an *adapted* advertisement insertion point. Ex-1003, ¶81.

Eldering-II teaches **receiving a user input** (e.g., skipping, fast forwarding). *E.g.*, Ex-1005, ¶¶109-110; *supra* §V.A.3[1b]. These control functionalities allow the user to fast forward through or skip over advertisements. Ex-1005, ¶58, ¶110, ¶112, ¶124, ¶165; Ex-1003, ¶82.

The user input for skipping or fast forwarding **updates a current play position in the digital media content to a new play position in the digital media content**. As a POSITA would have understood, skipping over digital media content updates the play position from a position preceding the skipped over portion to a position subsequent to the skipped over portion. *See, e.g.*, Ex-1010, ¶21; Ex-1017, ¶34, ¶36, Fig. 5; Ex-1018, ¶¶10-15, Fig. 1. This is the case when the user input causes at least part of an advertisement to be skipped. *See, e.g.*, Ex-1010, ¶21; Ex-1017, ¶34, ¶36, Fig. 5. For example, a user may skip from a current play position in the digital media content before an advertisement to a new play position in the digital media content after an advertisement. Similarly, the play position is updated when a user skips over part of an advertisement. Ex-1003, ¶83.

Fast forwarding increases the playback speed of digital media content for a period of time, during which media content may or may not be viewable. *See, e.g.*, Ex-1010, ¶19 (“Portions of digital content may also be bypassed by increasing the

play out speed.”). Normal playback resumes after the fast forwarding operation. Similar to the case of skipping, as explained above, fast forwarding through a portion of digital media content that includes at least part of an advertisement updates the play position. Ex-1003, ¶84.

As explained above, a POSITA would have found it obvious to implement user control functionalities such as skipping and fast forwarding on Eldering-I’s digital media system. *Supra* §V.A.3[1b]. The combination of Eldering-I and Eldering-II teaches or suggests changing a predetermined advertisement insertion point to an adapted advertisement insertion point, **in response to** receiving a user input to update a current play position to a new play position because, as explained below, such a user input changes viewing parameters. Ex-1003, ¶85.

First, different sections of a digital media stream may include different types of programs (e.g., a sports program followed by a news program). When skipping over or fast forwarding through the program of a TV channel changes it from one section to another, thereby changing the type of program being watched, it would have been obvious to reschedule advertisements in light of Eldering-I’s teachings. E.g., Ex-1004, ¶51; Ex-1003, ¶86.

Second, Eldering-II teaches the skipping or fast forwarding operation bypassing advertisements. *Supra* §V.A.3[1b]. Because the advertisements are inserted in avails, this teaches bypassing one or multiple avails, causing a different

avail to be available after updated play position. *E.g.*, Ex-1005, ¶148, ¶¶162-164, ¶178, ¶182. A POSITA would have found it obvious to reschedule advertisements to accommodate the characteristics of the new avail, such as its size, which may be different from the previously available avails. *E.g.*, Ex-1004, ¶30; Ex-1003, ¶87.

Third, Eldering-I teaches identifying a viewer based on the viewer's viewing habits as shown by inputs. Ex-1004, ¶61 (“[T]he profiling module 322 may identify the current viewer of the TV programming channels by processing information such as data from remote control operation through the profiling module 322 (e.g., a volume control and/or channel change control), time of day, and program being watched. By prestoring viewing habits of each viewer in the subscriber household and analyzing the currently receiving viewing habits of the viewer with the prestored viewing habits, the current viewer may be identified.”). The ad scheduler reschedules advertisements based on changes to viewer identity. Ex-1004, ¶61 (“The profiling module 322 outputs the viewer change information to the ad scheduler 312 which uses this information to determine whether to reschedule ads.”). Inputs like skipping and fast forwarding pertain to viewers' viewing habits (e.g., lack of interest in certain types of content, being patient or skipping around frequently), which can be used to determine the viewer's identity. When inputs of skipping or fast forwarding suggests a change in viewer identity, Eldering-I teaches rescheduling advertisements. Ex-1003, ¶88.

Because user inputs such as skipping and fast forwarding change the viewing parameters, a POSITA would have found it obvious and been motivated to apply Eldering-II's teachings to Eldering-I, such that advertisements are rescheduled based on these user inputs. Eldering-I explains that changes to viewing parameters may make currently scheduled advertisements no longer appropriate and warrant rescheduling the advertisements, so that the most appropriate advertisements are inserted into the digital media content. Ex-1004, ¶16, ¶32, ¶52, ¶82; *supra* §V.A.3[1d]. User inputs such as skipping and fast forwarding are exactly the types of input that warrant changing a currently scheduled advertisement, as they may lead to the change in the type of program being watched, change the characteristics of the upcoming avails, and indicate that the viewer has changed. Ex-1003, ¶89. These factors all suggest that rescheduling is needed to make sure appropriate advertisements are displayed for upcoming avails. For example, if the user input causes the displayed media content to change from a news program to a sports program, this warrants reordering the ad insertion schedule to prioritize an advertisement related to sports. As another example, the user input may change the play position, such that the upcoming avail is 20 seconds rather than 30 seconds. This warrants bringing a shorter advertisement to the top of the queue. As yet another example, based on inputs of skipping and fast forwarding, it may be determined that the viewer has changed. This change

warrants prioritizing an advertisement of interest to the new viewer. Ex-1003, ¶90.

Eldering-I teaches that “any change in one of the viewing parameters or multiple changes in a combination of the viewing parameters may trigger rescheduling of advertisements[.]” Ex-1004, ¶56. Because user inputs of skipping or fast forwarding changes one or a combination of viewing parameters, it is obvious to reschedule advertisements based on such inputs. A POSITA would have been motivated to do so because doing so would have advanced Eldering-I’s goal of ensuring that appropriate advertisements are scheduled and displayed. Ex-1003, ¶91.

Rescheduling advertisements based on user inputs of skipping or fast forwarding does not change the principle of operation of either reference. Eldering-I explicitly uses open-ended language to indicate that conditions that would trigger the rescheduling of advertisements are not limited to the enumerated examples. Ex-1004, ¶16 (“Such viewing parameters may include, *but are not limited to*, channel selection, viewer identity, and the type of program being watched.”), ¶30, ¶51, ¶75. Treating skipping and fast forwarding operations as triggering conditions for rescheduling advertisements would have fallen within the scope contemplated by Eldering-I. Eldering-II teaches displaying an alternative advertisement when a user fast forwards through or skips over an original advertisement. Ex-1005, Abstract,

¶58 (“[W]hen the subscriber attempts to skip or fast forward the ad they are presented with an alternative ad in place of or in conjunction the targeted ad.”), ¶110. Because rescheduling advertisements causes different advertisements to be displayed at different avails, rescheduling advertisements in response to skipping or fast forwarding inputs is consistent with the teaching of Eldering-II. Ex-1003, ¶92.

Triggering advertisement rescheduling based on fast forwarding or skipping inputs would have been well within the knowledge and skills of a POSITA. *Supra* §III. Doing so would have been simply combining prior art elements (e.g., Eldering-I’s rescheduling advertisements, Eldering-II’s skipping and fast forwarding inputs) according to known methods (e.g., triggering rescheduling of advertisements based on changes to viewing parameters) to yield predictable results (e.g., rescheduling advertisements in response to skipping or fast forwarding inputs). Since Eldering-I teaches rescheduling advertisements based on certain inputs (e.g., channel change), implementing the system according to the combination of Eldering-I and Eldering-II involves a simple substitution of one known element (e.g., channel change input) for another (e.g., skipping or fast forwarding input) to obtain predictable results. A POSITA would have had a reasonable expectation of success in implementing a system based on the combination of Eldering-I and Eldering-II. Ex-1003, ¶93.

Furthermore, Eldering-I and Eldering-II have the same first-named inventor and Eldering-II explicitly incorporates Eldering-I in its entirety by reference. Ex-1004, 00001; Ex-1005, 00001, ¶2. Both Eldering-I and Eldering-II are directed to devices (e.g., set top box, PVR) that present media content and advertisements to users. These are strong indications that their technical features are suitable and intended to be used together. A POSITA would have had a reasonable expectation of success when implementing these related features together and would have understood that doing so does not change the principle of operation of either reference. Ex-1003, ¶94.

Because Eldering-I's ad scheduler teaches "intersplicer" (*supra* §V.A.3[1d]), the combination of Eldering-I and Eldering-II teaches the intersplicer being configured to preform of the operation of limitation [1e]. Ex-1003, ¶¶73-95.

[1f] the adapted advertisement insertion point determined by an adaptive preference rule based on an advertisement requirement that applies to the digital media system;

Eldering-I further teaches that **the adapted advertisement insertion point is determined by an adaptive preference rule** (e.g., rules of the hybrid orthogonal-linked sponsorship model) **based on an advertisement requirement** (e.g., a requirement that a linked sponsorship parameter is satisfied) **that applies to the digital media system.** Ex-1003, ¶¶96-107.

As explained above, Eldering-I teaches rescheduling advertisements to be inserted into avails based on changes to viewing parameters. Ex-1004, Abstract, ¶16, ¶30, ¶32, ¶¶51-52, ¶¶56-61, ¶¶63-64, ¶75; *supra* §V.A.3[1e]; Ex-1003, ¶97. Considering the viewing parameters, Eldering-I teaches selecting and scheduling advertisements to present for each avail based on a hybrid orthogonal-linked sponsorship model. Ex-1004, ¶¶76-82. Eldering-I explains that an orthogonal sponsorship model “allows targeted ads to be delivered to appropriate viewers ... so that viewers will always see targeted ads even if they change channels or view programs at different times.” Ex-1004, ¶76. According to the traditional linked sponsorship model, “each advertisement is ‘linked’ to a particular point within a particular channel.” Ex-1004, ¶5. Eldering-I explains that its system enables combining the orthogonal sponsorship model “with the traditional linked sponsorship model to create hybrid orthogonal-linked sponsorship models.” Ex-1004, ¶76; Ex-1003, ¶98.

The hybrid orthogonal-linked sponsorship incorporates linked sponsorship parameters into the queue of advertisements:

In hybrid orthogonal-linked sponsorship models, the orthogonal sponsorship based queue can be provided with one or more linked sponsorship parameters. Some of these parameters may identify, e.g., time dependence (signifying a specific time), time-of-day dependence (e.g. morning, afternoon, prime time), viewer dependence, or any combination thereof.

Ex-1004, ¶77, ¶80. An ad queue according to the hybrid orthogonal-linked sponsorship model is shown in Figure 6:

AD QUEUE	TIME OF DAY	PROGRAMS	VIEWER
FORD	6-9PM		
MACY'S			A
KRAFT	9-12AM	SOAPS	
WALMART			
:			
SEARS	6-9PM	BUFFY	B

FIG. 6

Ex-1004, Fig. 6, ¶81:

As shown in FIG. 6, the ad queue can contain additional columns which indicate linked sponsorship parameters such as the time of day, programs in which the advertisement should be shown, and the viewer to which the advertisement should be shown. ... [I]f any one or more linked sponsorship columns are filled, then it indicates that the associated ads should be inserted into the programming streams according to the hybrid orthogonal-linked model depending on which column is filled.

This enables “hybrid of orthogonal and linked sponsorships,” which “increases the effectiveness of targeted advertising.” Ex-1004, ¶82. The linked sponsorship parameters apply to Eldering-I’s digital media system. Ex-1003, ¶99.

Changes to viewing parameters (e.g., type of program, viewer identity, time of upcoming avail) may affect whether one or more of the linked sponsorship parameters (e.g., program dependence, viewer dependence, time dependence) is satisfied, commanding rescheduling of advertisements according to the rules of the hybrid orthogonal-linked sponsorship model. *Supra* §V.A.3[1e]; Ex-1003, ¶¶100-103. As an example, Eldering-I teaches the scheduling and rescheduling of advertisements being based on “time dependence (signifying a specific time) [and] time-of-day dependence (e.g. morning, afternoon, prime time)[.]” Ex-1004, ¶77. The “time dependence” linked sponsorship parameter indicates a particular time in the media content. Ex-1004, ¶5 (“In essence, each advertisement is ‘linked’ to a particular point within a particular channel.”). The satisfaction of this parameter depends on the timing of an upcoming avail. Ex-1004, ¶¶50-51. A user input may adjust the play position such that one of the upcoming avails corresponds to a particular time in the media content specified by the “time dependence” parameter. This again determines an adapted advertisement insertion point by rules of the hybrid orthogonal-linked sponsorship model based on the time-dependence requirement. Ex-1003, ¶¶102-103.

Eldering-I's teachings fall within the scope of the plain and ordinary meaning of "an adaptive preference rule" and "an advertisement requirement" as these terms are used in the '768 patent. Ex-1003, ¶104.

First, the '768 patent uses the term "advertisement requirement" broadly, stating that it is "an arbitrary function" and describing that it is related to parameters used for advertisement selection or scheduling. Ex-1001, 30:16-30, 27:50-59, 32:16-30. Ex-1003, ¶105. As explained above, Eldering-I's requirements for its linked sponsorship parameters to be satisfied are functions of time, program type, and user identity that are related to advertisement selection and scheduling. Ex-1004, ¶¶76-82. Therefore, "advertisement requirement" is satisfied by a requirement that a linked sponsorship parameter is satisfied.⁴ Ex-1003, ¶106.

Second, the '768 patent indicates that "adaptive preference rules" "include ad preference tables [] and ad preference parameters" (Ex-1001, 33:6-13) and are "rules by which the intersplicer can perform adaptive ad selection and sequencing extemporaneously" (Ex-1001, 33:26-34:40). Eldering-I's hybrid orthogonal-linked sponsorship model includes rules by which the intersplicer (e.g., ad scheduler) can perform adaptive ad selection and sequencing extemporaneously. Ex-1004, ¶¶76-82; *supra* §V.A.3[1e]. Based on this mechanism, a table can be created to include

⁴ This is further confirmed by Patent Owner's Infringement Contentions that allege the advertisement requirement is satisfied by "Ad Decision Parameters," which are parameters used for selecting ads. Ex-1022, 000079-83.

parameters related to whether an advertisement is preferred to be played at a certain avail. Ex-1004, Fig. 6, ¶¶81-82. The '768 patent's description of adaptive preference rules is consistent with Eldering-I's rules of the hybrid orthogonal-linked sponsorship model. Ex-1003, ¶107.

[1g] modify the adapted insertion point of digital advertising content based on the advertisement requirement; and
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As explained with respect to limitations [1e] and [1f], Eldering-I's ad scheduler reschedules advertisements based on the advertisement requirement (e.g., a requirement that a linked sponsorship parameter is satisfied). *Supra* §§V.A.3[1e]-[1f]. Eldering-I teaches that the ad insertion schedule is modified on an on-going, real-time basis so that the most appropriate advertisements are inserted into the incoming programming stream. Ex-1004, ¶32, ¶52, ¶55, ¶58, ¶75. "[T]he rescheduling of ads may occur continuously so that ads that are most appropriate for the current viewer are inserted and played." Ex-1004, ¶63; Ex-1003, ¶108.

Because the rescheduling occurs continuously and the ad insertion schedule is modified on an on-going, real-time basis, when there is a further change to the viewing parameters, the ad scheduler reschedules the advertisements. This **modifies the adapted insertion point of digital advertising content** corresponding to the advertisement. Eldering-I contemplates that the advertising

content is in a digital format. Ex-1004, ¶26. The modification is **based on the advertisement requirement** because Eldering-I reschedules advertisements based on whether viewing parameters satisfy the linked sponsorship parameters of advertisements. *Supra* §V.A.3[1f]; Ex-1003, ¶109.

[1h] request, from the advertisement rotator, digital advertising content to be played at the adapted advertisement insertion point.
--

Eldering-I teaches an advertisement rotator (e.g., advertisement insertion module) that manages requests from the intersplicer (e.g., ad scheduler) for advertisements to be displayed. *Supra* §V.A.3[1c]; Ex-1004, Abstract, ¶42, ¶¶46-49, Fig. 2. For example, Eldering-I teaches that the ad scheduler notifies the advertisement insertion module of an ad insertion schedule or information about the next advertisement, based on which the advertisement insertion module requests an advertisement from the advertisement storage unit and inserts the received advertisement for presentation. Ex-1004, ¶46 (“[T]he advertisement insertion module 304, according to the ad insertion schedule provided by the ad scheduler 312, requests a particular advertisement from the advertisement storage unit 314[.]”), ¶47 (“The advertisement insertion module 304 inserts or splices the received advertisement into the avail of the programming stream channel.”), ¶49, Fig. 2; *supra* §V.A.3[1c]. By notifying the advertisement insertion module of the ad insertion schedule, the ad scheduler requests from the advertisement insertion

module digital advertising content to be played. *Supra* §V.A.3[1c]; Ex-1004, ¶¶46-47, ¶49, Fig. 2. Moreover, the combination teaches that the advertisement is scheduled to be played at the adapted advertisement insertion point. *Supra* §V.A.3[1e]; Ex-1003, ¶110.

Therefore, Eldering-I teaches that the intersplicer (e.g., ad scheduler) **requests, from the advertisement rotator** (e.g., advertisement insertion module) **digital advertising content to be played at the adapted advertisement insertion point.** Ex-1003, ¶111.

4. Dependent Claim 2

2. The digital media system of claim 1, wherein the digital advertising content is different from a predetermined advertisement selected to be played at the predetermined advertisement insertion point.

The combination teaches the digital media system of claim 1 and the additional limitations of claim 2. *Supra* §V.A.3; Ex-1003, ¶¶112-118.

As explained with respect to limitation [1e], Eldering-I teaches scheduling an advertisement to be inserted at a predetermined advertisement insertion point in digital media content. *Supra* §V.A.3[1e]; Ex-1004, ¶11, ¶15, ¶17, ¶¶28-29, ¶¶33-35, ¶44, ¶¶46-50, ¶63, ¶66, ¶82, Figs. 3-4. This teaches **a predetermined advertisement selected to be played at the predetermined advertisement insertion point.** Ex-1003, ¶113.

Eldering-I teaches rescheduling the advertisement to the adapted advertisement insertion point. *Supra* §V.A.3[1e]; Ex-1004, ¶16, ¶30, ¶32, ¶¶51-61, ¶¶63-64, ¶75, Fig.4. The requested digital advertising content corresponds to the advertisement for the adapted advertisement insertion point. *Supra* §§V.A.3[1e], [1h]; Ex-1004, ¶16, ¶30, ¶32, ¶42, ¶¶46-61, ¶¶63-64, ¶75, Fig.4; Ex-1003, ¶114.

Eldering-II teaches, when a user fast forwards through or skips advertisements, replacing the skipped advertisement with an alternative advertisement. *E.g.*, Ex-1005, ¶58 (“[W]hen the subscriber attempts to skip or fast forward the ad they are presented with an alternative ad in place of or in conjunction the targeted ad.”), ¶110, Abstract. Eldering-II teaches the alternative advertisement being a shorter version created from the original advertisement. Ex-1005, ¶165 (“[T]he subscriber may be presented with a short alternative ad when the subscriber attempts to fast forward or skip the advertisement... The alternative ad may be a section of the original ad, may be created from the original ad in some manner, or may be a separate ad altogether.”), ¶110, ¶¶166-179, Fig. 9:

ORIGINAL PLAYLIST

INDEX	DURATION	URL
001	000030	\\MEDIA\ADS\FOCUS.MPG
002	000030	\\MEDIA\ADS\CORN.MPG
...		

REPLACE AD IN PLAYLIST
WITH SHORT VERSION

NEW PLAYLIST

INDEX	DURATION	URL
001	000030	\\MEDIA\ADS\FOCUS_ADHANCE.MPG
002	000030	\\MEDIA\ADS\CORN.MPG
...		

FIG. 9

Ex-1003, ¶115.

A POSITA would have found it obvious and been motivated to apply the teachings of Eldering-II to Eldering-I such that the advertisement is replaced with a shorter alternative advertisement to be inserted at the adapted advertisement insertion point. In this case, **the digital advertising content is different from a predetermined advertisement** because the digital advertising content corresponds to a modified version of the predetermined advertisement. Eldering-II explains that displaying a shorter advertisement provides a way to balance the interests of the advertiser and the viewer, such that “the advertiser maintains same value for their advertising dollar and the subscriber does not get offended by the lose [sic] of control.” Ex-1005, ¶165. As explained above, user input of skipping or fast

forwarding may be used to skip an advertisement. *Supra* §V.A.3[1e]; Ex-1005, ¶58, ¶110, ¶112, ¶124. This input from the user may indicate a willingness at the moment not to watch an advertisement. In this case, displaying a shorter alternative advertisement may provide the viewer a sense of control, thereby improving the viewer's experience, while providing the advertiser the purchased advertisement exposure. Ex-1003, ¶116.

A POSITA would have been motivated to replace an original advertisement with a shorter alternative advertisement further because doing so would have improved the flexibility of inserting advertisements in avails. Eldering-I teaches that each avail is associated with a length. Ex-1004, ¶35, ¶¶49-51. Eldering-I thus contemplates the scenario where the user's input of skipping or fast forwarding changes the play position such that one or more upcoming avails are shorter than one or more previous avails. If an advertisement is determined appropriate based on viewing parameters and linked sponsorship parameters, except that its length is longer than that of an upcoming avail, replacing the advertisement with a shorter alternative advertisement would have allowed fitting the content of the advertisement in the upcoming avail. This provides the benefit of improving the flexibility of scheduling appropriate advertisements for a viewer. Ex-1003, ¶117.

Eldering-II includes explicit teachings about how to create the alternative advertisement. For example, Eldering-II teaches multiple methods for modifying

an original advertisement to create an alternative advertisement, including creating the alternative advertisement based on I-frames of the original advertisement in MPEG format, based on segments of video from the original advertisement, or a combination of I-frames and segments. Ex-1005, ¶¶167-172, Figs. 11A-11C. Implementing these teachings of Eldering-II would have been well within the skills of a POSITA. *Supra* §III. Applying Eldering-II's teachings to Eldering-I would have been simply using a known technique (e.g., replacing an original advertisement with a shorter alternative advertisement) to improve similar devices (e.g., Eldering-I's digital media system) in the same way. A POSITA would have had a reasonable expectation of success in applying the teachings of Eldering-II to Eldering-I because it simply involves creating the alternative advertisement in the manner disclosed by Eldering-II and scheduling the alternative advertisement in the manner disclosed by Eldering-I. Doing so does not change the principle of operation of either reference. Ex-1003, ¶118.

5. Dependent Claim 3

3. **The digital media system of claim 1, wherein the intersplicer is further configured to change the predetermined advertisement insertion point to the adapted advertisement insertion point by adaptively modifying a presentation position of a predetermined advertisement from the predetermined advertisement insertion point to the adapted advertisement insertion point in the digital media content, the adapted advertisement insertion point being different than the predetermined advertisement insertion point.**

The combination teaches the digital media system of claim 1 and the additional limitations of claim 3. *Supra* §V.A.3; Ex-1003, ¶¶119-121.

As explained above with respect to limitation [1d] and [1e], the combination of Eldering-I and Eldering-II teaches **an intersplicer configured to change the predetermined advertisement insertion point to the adapted advertisement insertion point**. *Supra* §§V.A.3[1d]-[1e]; Ex-1003, ¶120.

Eldering-I teaches rescheduling an advertisement from the predetermined advertisement insertion point to the adapted advertisement insertion point. *Supra* §V.A.3[1e]; Ex-1004, Abstract, ¶16, ¶30, ¶32, ¶¶51-54, ¶¶56-61, ¶¶63-64, ¶75.

Because the advertisement was originally scheduled for insertion at the predetermined advertisement insertion point, it is a predetermined advertisement.

Eldering-I teaches changing advertisement insertion points by adaptively and extemporaneously rescheduling advertisements based on changes to viewing parameters. *Supra* §V.A.3[1e]; Ex-1004, ¶32, ¶52, ¶55, ¶58, ¶63, ¶75. Thus, the combination of Eldering-I and Eldering-II teaches **adaptively modifying a**

presentation position of a predetermined advertisement from the predetermined advertisement insertion point to the adapted advertisement insertion point in the digital media content, the adapted advertisement insertion point being different than the predetermined advertisement insertion point. Ex-1003, ¶121.

6. Dependent Claim 5

5. The digital media system of claim 1, wherein the adaptive preference rule is based on at least one of a number of tracks played since a previous digital advertisement, a length of time associated with playing the digital media content, and a number of digital media data blocks played since the previous digital advertisement.

The combination teaches the digital media system of claim 1 and the additional limitations of claim 5. *Supra* §V.A.3; Ex-1003, ¶¶122-128. Claim 5 recites three alternatives and is satisfied by any one of the three alternatives.

As explained with respect to limitation [1f], Elderling-I teaches that the adapted advertisement insertion point is determined by an adaptive preference rule (e.g., rules of the hybrid orthogonal-linked sponsorship model), which selects advertisements for insertion into avails based on linked sponsorship parameters and viewing parameters. *Supra* §V.A.3[1f]; Ex-1004, ¶¶76-82, Fig. 6. The linked sponsorship parameters include time dependence, which indicates a particular time in the media content (e.g., a particular point in the media content associated with a channel). Ex-1004, ¶77 (“In hybrid orthogonal-linked sponsorship models, the

orthogonal sponsorship based queue can be provided with one or more linked sponsorship parameters. Some of these parameters may identify, e.g., time dependence (signifying a specific time) ...”), ¶5 (“In essence, each advertisement is ‘linked’ to a particular point within a particular channel.”); *supra* §V.A.3[1f]; Ex-1003, ¶123.

The satisfaction of this parameter depends on the timing of an upcoming avail—if the timing of the next avail matches the specific time in the media content for presenting an advertisement, the advertisement is selected for display. Ex-1004, ¶51 (“[T]he relative appropriateness of the prepared ad schedule may change as circumstances change. Such circumstances may include... *timing/duration of the upcoming avail.*”), ¶50; *supra* §V.A.3[1f]. Therefore, Eldering-I teaches that the adaptive preference rule (e.g., hybrid orthogonal-linked sponsorship model) is based on a linked sponsorship parameter regarding time dependence and a viewing parameter regarding the timing of an avail. The time dependence parameter signifies a specific time in the digital media content. Ex-1004, ¶77, ¶5. The signified time corresponds to **a length of time associated with playing the digital media content**. Ex-1003, ¶124.

Eldering-I teaches that digital media content includes avails with predetermined time or location in the media content. Ex-1004, ¶50 (“The head end system 10 may transmit the avail information (e.g., timing/duration of upcoming

avails, etc.) to the subscriber system 20 for storage in the avail storage unit 318.”), ¶13, ¶27, ¶29, ¶44, ¶46; Ex-1003, ¶125.

Because the timing or location of the avails are predetermined, there is a predetermined portion of digital media content between two consecutive avails. Ex-1004, ¶13, ¶27, ¶29, ¶35, ¶44, ¶46, ¶50; Ex-1021, ¶33 (“The ad/avail information[] may identify ... time durations between adjacent avails in a presentation stream, ad insertion window times, etc.”), ¶38, ¶40, Figs.5-6. A POSITA would have found it obvious to quantify this portion of the media content using commonly used units such as macroblocks, frames, groups of pictures, segments, or tracks. *See, e.g.*, Ex-1020, 5:54-65 (“The data streams[] are shown comprising a number of data blocks []. Each block[] generally represents a section of the recorded audio/video signal. The blocks[] may be bits, bytes, or other appropriate block sizes.”); Ex-1004, ¶26 (“The media signals communicated between the head end system and the subscriber systems can be *digital (e.g., MPEG) or analog, and may be communicated in any well known form (e.g., packet data, video streams, etc.)*.”); Ex-1005, ¶161, ¶¶168-172, Figs. 11A-11C, ¶82, ¶182, Fig. 7:

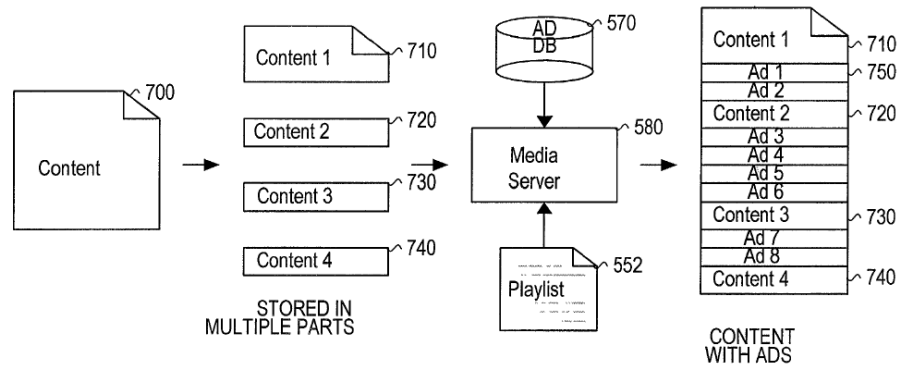


FIG. 7

Ex-1003, ¶126.

When it is determined that a time signified by the time dependence parameter matches the timing of an avail, this time is separated from the preceding avail by the portion of the media content. The advertisement inserted at this time is played right after **a number of tracks played since a previous digital advertisement, a length of time associated with playing the digital media content, or a number of digital media data blocks played since the previous digital advertisement.** Ex-1003, ¶127.

Eldering-I thus teaches that the adaptive preference rule (e.g., rules of the hybrid orthogonal-linked sponsorship model) is based on at least one of a number of tracks played since a previous digital advertisement (e.g., a number of tracks played between an avail matching the time dependence parameter and its preceding avail), a length of time associated with playing the digital media content (e.g., time

signified by the time dependence parameter), and a number of digital media data blocks played since the previous digital advertisement (e.g., a number of digital media data blocks played between an avail matching the time dependence parameter and its preceding avail). Ex-1003, ¶128.

7. Dependent Claim 6

6. **The digital media system of claim 1, wherein the intersplicer is configured to generate a control signal configured to interrupt a course of presentation of the digital media content with a presentation of the digital advertising content at the adapted advertisement insertion point.**

The combination teaches the digital media system of claim 1 and the additional limitations of claim 6. *Supra* §V.A.4; Ex-1003, ¶¶129-133.

As explained above, Eldering-I teaches the intersplicer (e.g., ad scheduler) generates an ad insertion schedule or information about an individual advertisement, which is sent to an advertisement rotator (e.g., advertisement insertion module) to cause the retrieval and insertion of the advertisement in a media stream. *Supra* §V.A.3[1c]. Here, the ad insertion schedule or individual advertisement information **is generated by the intersplicer as a control signal** that causes the presentation of the advertisement. It would at least have been obvious to use control signals to communicate the identifications and schedule of advertisements between the intersplicer and the advertisement rotator. Ex-1003, ¶130. The ad insertion schedule or advertisement information communicated

between the ad scheduler and the advertisement insertion module satisfies “control signal” as the term is used in the ’768 patent, which uses this term only in the abstract to mean a signal that “caus[es] the media player to present the ad files with the selected media files.” Ex-1001, Abstract; Ex-1003, ¶131.

Furthermore, Eldering-I teaches that the intersplicer (e.g., ad scheduler) is configured to change a predetermined advertisement insertion point in the digital media content to an adapted advertisement insertion point, where the digital advertising content is presented. *Supra* §§V.A.3[1e]-[1h]. Eldering-I teaches the adapted advertisement insertion point as an avail in which the digital advertising content is inserted. *Supra* §V.A.3[1e]. Avails correspond to commercial breaks that interrupt the course of presentation of the digital media content (e.g., TV program content). *See, e.g.*, Ex-1004, ¶13, ¶27, ¶29, ¶44, ¶46, ¶50. Eldering-I teaches inserting digital advertising content in between digital media content or using digital advertising content to replace original advertisement in a data stream. Ex-1004, ¶28 (“That is, the normal stream of information in the channel includes intervals with default ads (avails) which can be substituted with other advertisements. Alternatively there may be blank intervals so that an advertisement from a source separate from the channel data itself can be inserted into that interval.”), ¶13. Either way, the digital advertising content interrupts a course of presentation of the digital media content. Thus, the combination teaches that the

intersplicer is configured to generate a control signal configured to **interrupt a course of presentation of the digital media content with a presentation of the digital advertising content at the adapted advertisement insertion point.** Ex-1003, ¶132.

The teachings of the combination falls within the scope of “interrupt,” as the term is used in the ’768 patent. The ’768 patent explains that insertion of an advertisement between portions of digital media content interrupts the course of presentation of the digital media content. Ex-1001, 23:31-45, 32:1-15. This is consistent with Eldering-I’s teachings. Ex-1003, ¶133.

8. Dependent Claim 7

7. The digital media system of claim 1, wherein the advertisement rotator selects the digital advertising content based on the advertisement requirement that applies to the digital media system.

The combination teaches the digital media system of claim 1 and the additional limitations of claim 7. *Supra* §V.A.3; Ex-1003, ¶¶134-136.

As explained above with respect to limitation [1f], Eldering-I teaches determining the adapted insertion point based on an advertisement requirement that applies to the digital media system, where the advertisement requirement is taught by Eldering-I’s requirement that a linked sponsorship parameter is satisfied. *Supra* §V.A.3[1f]. Satisfaction of linked sponsorship parameters causes an advertisement to be selected for insertion into the digital media stream. *Supra* §V.A.3[1f]; Ex-

1004, ¶¶80-81, Fig. 6. For example, information of the advertisement (e.g., ARL) is moved to the top of an ad insertion schedule. *Supra* §§V.A.3[1e]-[1f]; Ex-1004, ¶32, ¶¶52-54, ¶56, ¶63, ¶77; Ex-1003, ¶135.

As explained above with respect to limitation [1c], Eldering-I teaches an advertisement rotator (e.g., advertisement insertion module) that retrieves and inserts advertisements based on the ad insertion schedule or information about the next advertisement from the intersplicer (e.g., ad scheduler). *Supra* §V.A.3[1c]; *see, e.g.*, Ex-1004, ¶¶46-49. Here, the advertisement rotator selects an advertisement to retrieve from local storage according to information of the advertisement in the ad insertion schedule, which in turn is determined based on advertisement requirements. Thus, Eldering-I teaches that **the advertisement rotator** (e.g., advertisement insertion module) **selects the digital advertising content based on the advertisement requirement** (e.g., a requirement that a linked sponsorship parameter is satisfied) **that applies to the digital media system**. Ex-1003, ¶136.

9. Dependent Claim 8

8. The digital media system of claim 1, wherein the intersplicer eliminates the advertisement requirement, in response to presenting the digital advertising content at the adapted insertion point of digital advertising content.

The combination teaches the digital media system of claim 1 and the additional limitations of claim 8. *Supra* §V.A.3; Ex-1003, ¶¶137-141.

Eldering-I's display device displays the digital media content with advertisements inserted according to the most current ad insertion schedule, which as explained above may include an advertisement for insertion at the adapted advertisement insertion point. *Supra* §V.A.3[1e]; Ex-1004, ¶47 (“The advertisement insertion module 304 inserts or splices the received advertisement into the avail of the programming stream channel. The resulting program stream channel 305 with the inserted advertisement is decoded by the decoder 306 and sent to the display device 24 for display to the viewer of the display device 24.”), ¶¶32-33, ¶82. Eldering-I thus teaches **presenting the digital advertisement content at the adapted insertion point of digital advertising content**. Ex-1003, ¶138.

Eldering-I teaches an advertisement requirement that applies to the digital media system through its disclosure of a requirement that a linked sponsorship parameter is satisfied. *Supra* §V.A.3[1f]. Eldering-I teaches time dependence as a linked sponsorship parameter, which signifies a specific time in the digital media content when an advertisement should be presented. Ex-1004, ¶77, ¶5. When an upcoming avail matches the signified time, this requirement suggests inserting the advertisement in the avail as its adapted advertisement insertion point. Ex-1004, ¶¶50-51. After the advertisement has been presented, the requirement for satisfying this time dependence parameter is eliminated because the signified time in the

digital media content has elapsed. Since the requirement that the advertisement be presented at the signified time has been satisfied and cannot be satisfied again, this requirement is no longer considered by the intersplicer (e.g., ad scheduler) in scheduling advertisements for subsequent avails. Ex-1003, ¶139.

As another example, Eldering-I teaches viewer dependence as a linked sponsorship parameter, which signifies that an advertisement should be presented when a specific viewer is watching the program. Ex-1004, ¶77, ¶81, Fig. 6. For example, as illustrated in Fig.6, the Macy's advertisement will be moved to the top of the queue and be played at the next available avail when A becomes the viewer. Ex-1004, ¶81, Fig. 6. After the viewer A has watched the Macy's advertisement, showing the same advertisement to viewer A would have significantly diminished benefit for the advertiser and would have damaged the viewer experience by showing repeated information. It would have been obvious to remove the requirement for viewer A to watch the Macy's advertisement once the advertisement has been shown to viewer A. Ex-1003, ¶140.

To the extent Patent Owner argues that this claim requires deleting data associated with the linked sponsorship parameter, it would have been obvious to remove such data about a moot requirement from Eldering-I's subscriber system, and a POSITA would have been motivated to do so for reasons such as saving local storage space. Therefore, Eldering-I teaches or suggests the intersplicer

eliminating the advertisement requirement in response to presenting an advertisement. Ex-1003, ¶141.

10. Dependent Claim 9

9. The digital media system of claim 2, wherein the predetermined advertisement is scheduled to play at the predetermined advertisement insertion point, and wherein the advertisement rotator is configured to manage one or more requests to replace the predetermined advertisement.

The combination teaches the digital media system of claim 2 and the additional limitations of claim 9. *Supra* §§V.A.3-4; Ex-1003, ¶¶142-144.

As explained above with respect to limitation [1e] and claim 2, the combination of Eldering-I and Eldering-II teaches that advertisements are scheduled to be inserted at predetermined points in digital media content. *Supra* §§V.A.3[1e], V.A.4; Ex-1004, ¶11, ¶15, ¶17, ¶¶28-29, ¶¶33-35, ¶44, ¶¶46-50, ¶63, ¶66, ¶82, Figs. 3-4. This teaches that **the predetermined advertisement is scheduled to play at the predetermined advertisement insertion point.** Ex-1003, ¶143.

Furthermore, the combination of Eldering-I and Eldering-II teaches the advertisement scheduled at the adapted advertisement insertion point (e.g., a shorter alternative advertisement) being different from the predetermined advertisement scheduled at the adapted advertisement insertion point. *Supra* §§V.A.3[1e], V.A.4; Ex-1005, Abstract, ¶58, ¶110, ¶¶165-179, Fig. 9. In this

scenario, the predetermined advertisement is replaced with a newly scheduled advertisement. The combination further teaches the advertisement rotator manages requests from the intersplicer by retrieving and inserting requested advertisements. *Supra* §V.A.3[1c]; Ex-1004, ¶¶46-49. When the newly scheduled advertisement is different from the predetermined advertisement, the advertisement rotator **manages one or more requests to replace the predetermined advertisement.** Ex-1003, ¶144.

11. Independent Claims 10, 19, and 27

[10a]. A digital media advertisement presentation control system comprising: at least one processor; a non-transitory computer-readable storage medium storing instructions that, when executed by the processor, cause the processor to perform operations comprising:

Ground 1 teaches the preamble and any additional limitations of element [10a]. Ex-1003, ¶¶145-148.

As explained above with respect to limitation [1a], Eldering-I teaches a subscriber system. *Supra* §V.A.3[1a]; Ex-1004, ¶¶25-26, ¶¶29-30, ¶¶33-34, ¶¶36-37, Fig.1. Eldering-I's subscriber system is **a digital media advertisement control system** because it controls the presentation of digital media and advertisements. *Supra* §V.A.3[1b] (explaining that Eldering-I's system controls a course of presentation of digital media content) (citing Ex-1004, ¶32, ¶36, ¶38, ¶59, ¶61, Fig.1); §V.A.3[1e] (explaining that Eldering-I's system controls the presentation of

advertisements, such as their insertion into the digital media content) (citing Ex-1004, ¶15, ¶29, ¶¶46-47, ¶63, Fig. 4); Ex-1003, ¶146.

Eldering-I teaches that its system comprises **at least one processor and a non-transitory computer-readable storage media storing instructions** and that **the processor executes the instructions to perform operations** of the system.

Ex-1004, ¶¶42-43 (“The APU 22 can be realized as a combination of both hardware and software and includes components which are typically used as part of a television set-top including *a microprocessor, Random Access Memory (RAM)*, and in the case of a Personal Video Recorder, a *hard drive*. ... Many of the elements and modules of the APU 22 can be realized as *software* running directly on the operating system of the set-top box or on middleware running on the operating system.”), ¶62. Eldering-I teaches implementing its memory units using, for example, “RAM” and “hard drive,” which are forms of non-transitory computer readable storage medium, as opposed to transitory signals. Ex-1004, ¶43, ¶70; Ex-1003, ¶147.

The combination of Eldering-I and Eldering-II teaches performing operations explained below for [10b]-[10e]. *Infra* §§V.A.11[10b]-[10e]; Ex-1003, ¶148.

[19a] A method embedded in a machine-readable medium in form of executable instructions to cause at least one programmable processor to perform operations comprising:

Ground 1 teaches the preamble. Ex-1003, ¶¶149-151.

Eldering-I teaches using instructions stored on a computer-readable medium (i.e., machine-readable medium) and executable by a processor to cause the processor to perform operations of Eldering-I's system. *Supra* §V.A.11[10a].

Eldering-I teaches the processor being a “programmed general purpose processor[.]” Ex-1004, ¶62, ¶¶42-43. Eldering-I further teaches a **method** comprising the operations performed by its system. Ex-1004, ¶¶9-12. Therefore, Eldering-I teaches a method embedded in the machine-readable medium in form of the executable instructions stored thereon. Ex-1003, ¶150.

The combination of Eldering-I and Eldering-II teaches performing operations explained below for [19b]-[19e]. *Infra* §§V.A.11[19b]-[19e]; Ex-1003, ¶151.

[27a] A computer program product comprising a non-transitory machine-readable medium storing instructions that, when executed by at least one programmable processor, cause the at least one programmable processor to perform operations comprising:

Ground 1 teaches the preamble. Ex-1003, ¶¶152-154.

As explained above, Eldering-I teaches a non-transitory machine-readable medium storing instructions that, when executed by at least one programmable

processor, cause the at least one programmable processor to perform operations of Elderling-I's system. *Supra* §§V.A.11[10a], [19a]. Elderling-I teaches embedding operations of its system in executable software program stored on a non-transitory medium. Ex-1004, ¶¶42-43. Elderling-I therefore applies its teachings to a computer-program product. A POSITA would have found it obvious to have a computer program product that includes a storage medium storing the software program, since computer program products have almost universally stored their software program code in non-transitory mediums (e.g., memory, ROM) for decades. Ex-1004, ¶43; Ex-1005, ¶183. For example, software program code instructions saved on a CD-ROM had been a very common form of computer program product since the 1990s. Ex-1003, ¶153.

The combination of Elderling-I and Elderling-II teaches performing operations explained below for [27b]-[27e]. *Infra* §§V.A.11[27b]-[27e]; Ex-1003, ¶154.

[10b]/[19b]/[27b] replacing a predetermined advertisement insertion point in digital media content with an adapted insertion point for digital advertising content, in response to receiving a request to update a current play position in the digital media content to a new play position in the digital media content,
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The combination of Elderling-I and Elderling-II teaches limitations [10b]/[19b]/[27b]. As explained above, the combination of Elderling-I and Elderling-II teaches changing a predetermined advertisement insertion point to an

adapted advertisement insertion point, in response to receiving a user input to update a current play position to a new play position. *Supra* §V.A.3[1e]; Ex-1003, ¶155.

Eldering-II teaches the user input to update a current play position via its disclosure of a user's request to skip over or fast forward through digital media content. *Supra* §§V.A.3[1b], [1e]; Ex-1005, ¶¶109-110, ¶165, ¶112, ¶124.

Eldering-II thus teaches receiving **a request** to update a current play position. Ex-1003, ¶156.

Changing a predetermined advertisement insertion point to an adapted advertisement insertion point **replaces** the predetermined advertisement insertion point **with** an adapted insertion point **for digital advertising content** (e.g., advertisement). *Supra* §V.A.3 [1e]; Ex-1004, ¶16, ¶30, ¶32, ¶¶51-52, ¶¶56-61, ¶¶63-64, ¶75, ¶77; Ex-1005, ¶58, ¶¶109-112, ¶124, ¶165; Ex-1003, ¶¶157-158.

[10c]/[19c]/[27c] the adapted insertion point determined by an adaptive preference rule based on one or more advertisement requirements;
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As explained above with respect to claim 1, the combination of Eldering-I and Eldering-II teaches that the adapted advertisement insertion point is determined by an adaptive preference rule (e.g., rules of the hybrid orthogonal-linked sponsorship model) based on an advertisement requirement (e.g., a

requirement that a linked sponsorship parameter is satisfied) that applies to the digital media system. *Supra* §V.A.3[1f]; Ex-1003, ¶159.

[10d]/[19d]/[27d] requesting digital advertising content to be played at the adapted insertion point of digital advertising content; and

As explained above with respect to claim 1, the combination of Eldering-I and Eldering-II teaches requesting digital advertising content (e.g., advertisement(s)) to be played at the adapted advertisement insertion point, which is an adapted insertion point of digital advertising content. *Supra* §V.A.3[1h]; Ex-1004, ¶¶46-49, Fig. 2; Ex-1003, ¶160.

[10e]/[19e]/[27e] presenting the digital advertising content at the adapted insertion point of digital advertising content.

As explained above with respect to claim 1, the combination teaches that advertisements are scheduled to be played at the adapted advertisement insertion point. *Supra* §§V.A.3[1e], [1h]. Eldering-I teaches that the intersplicer (e.g., ad scheduler) requests digital advertising content (e.g., advertisement(s)) to be played at the adapted advertisement insertion point, which is the adapted insertion point of digital advertising content. *Supra* §V.A.3[1h]; Ex-1004, ¶¶46-49, Fig.2. Next, the digital advertising content is presented (e.g., displayed) at this adapted insertion point. Ex-1004, ¶32, ¶54, ¶60. Eldering-II similarly teaches presenting an advertisement. Ex-1005, ¶97, ¶127. ¶162, ¶166. The combination therefore teaches limitations [10e]/[19e]/[27e]. Ex-1003, ¶161.

12. Dependent Claims 11, 20, and 28

- 11. The system of claim 10,**
20. The method of claim 19,
28. The computer program product of claim 27,
wherein the digital advertising content is different from a predetermined advertisement selected to be played at the predetermined advertisement insertion point.

The combination teaches the system of claim 10, the method of claim 19, and the computer program product of claim 27. *Supra* §V.A.11. As explained with respect to claim 2, the combination further teaches the additional limitations of claims 11, 20, and 28. *Supra* §V.A.4; Ex-1003, ¶162.

13. Dependent Claims 12, 21, and 29

- 12. The system of claim 10,**
21. The method of claim 19,
29. The computer program product of claim 27,
wherein the replacing the predetermined advertisement insertion point with the adapted insertion point includes adaptively modifying a presentation position of the predetermined advertisement from the predetermined advertisement insertion point to the adapted insertion point in the digital media content.

The combination teaches the system of claim 10, the method of claim 19, and the computer program product of claim 27 and the additional limitations of claims 12, 21, and 29. *Supra* §V.A.11; Ex-1003, ¶¶163-165.

As explained above with respect to limitations [10b], [19b], and [27b], the combination of Eldering-I and Eldering-II teaches **replacing the predetermined advertisement insertion point with the adapted insertion point.** *Supra* §V.A.11[10b]/[19b]/[27b]; Ex-1003, ¶164.

As explained with respect to claim 3, the combination further teaches that this includes **adaptively modifying a presentation position of the predetermined advertisement from the predetermined advertisement insertion point to the adapted insertion point in the digital media content.** *Supra* §V.A.5; Ex-1003, ¶165.

14. Dependent Claims 14, 23, and 31

- 14. The system of claim 10,**
- 23. The method of claim 19,**
- 31. The computer program product of claim 27,**
- wherein the adaptive preference rule is based on at least one of: a number of tracks played since a previous digital advertisement, a length of time associated with playing the digital media content, and a number of digital media data blocks played since the previous digital advertisement.**

The combination teaches the system of claim 10, the method of claim 19, and the computer program product of claim 27. *Supra* §V.A.11. As explained with respect to claim 5, the combination further teaches the additional limitations of claims 14, 23, and 31. *Supra* §V.A.6; Ex-1003, ¶166.

15. Dependent Claims 15, 24, and 32

- | | |
|-----|--|
| 15. | The system of claim 10, |
| 24. | The method of claim 19, |
| 32. | The computer program product of claim 27, |
| | wherein the course of presentation of the digital media content is interrupted with a presentation of the digital advertising content at the adapted insertion point. |

The combination teaches the digital media advertisement presentation control system according to claim 10, the method according to claim 19, and the computer program product according to claim 27 and the additional limitations of claims 14, 23, and 31. *Supra* §V.A.11; Ex-1003, ¶¶167-168.

As explained with respect to claim 6, the combination teaches that **the course of presentation of the digital media content is interrupted with a presentation of the digital advertising content at the adapted insertion point.** *Supra* §V.A.7; Ex-1003, ¶168.

16. Dependent Claim 16

- | | |
|-----|---|
| 16. | The system of claim 10, wherein the digital advertising content is selected based on one or more advertisement requirements that apply to a user device. |
|-----|---|

The combination teaches the system of claim 10 and the additional limitations of claim 16. *Supra* §V.A.11; Ex-1003, ¶¶169-170.

As explained with respect to claim 7, the combination of Eldering-I and Eldering-II teaches selecting the digital advertising content based on the advertisement requirement that applies to the digital media system. *Supra* §V.A.8. Eldering-I teaches that its digital media system (e.g., subscriber system) is a user device. Ex-1004, ¶13, ¶25. Therefore, the combination teaches that **the digital advertising content is selected based on one or more advertisement requirements that apply to a user device.** Ex-1003, ¶170.

17. Dependent Claims 17, 25, and 33

17. The system of claim 11,
25. The method of claim 20,
33. The computer program product of claim 28,
wherein the predetermined advertisement is scheduled to play at the predetermined advertisement insertion point.

The combination teaches the system of claim 11, the method of claim 20, and the computer program product of claim 28. *Supra* §V.A.12. As explained with respect to claim 9, the combination further teaches the additional limitations of claims 17, 25, and 33. *Supra* §V.A.10; Ex-1003, ¶171.

18. Dependent Claim 18

18. The system of claim 16, wherein the advertisement one or more requirements are eliminated in response to presenting the digital advertising content to the user device at the adapted insertion point of digital advertising content.

The combination teaches the system of claim 16 and the additional limitations of claim 18.⁵ *Supra* §V.A.16; Ex-1003, ¶¶172-173.

As explained with respect to claim 8, the combination of Eldering-I and Eldering-II teaches that the intersplicer eliminates the advertisement requirement, in response to presenting the digital advertising content at the adapted insertion point of digital advertising content. *Supra* §V.A.9. As explained with respect to limitation [10e] and claim 16, the combination further teaches that the digital advertising content is presented to the digital media system that is a user device. *Supra* §§V.A.11[10e], V.A.16. Thus, the combination teaches that **the one or more advertisement requirements are eliminated in response to presenting the digital advertising content to the user device at the adapted insertion point of digital advertising content.** Ex-1003, ¶173.

⁵ The phrase “the advertisement one or more requirements” in claim 18 appears to be erroneous. The Petition assumes that this phrase is intended to read as “the one or more advertisement requirements.”

VI. DISCRETIONARY ANALYSIS FOR REVIEW

Fintiv. Discretionary denial is not warranted. This Petition’s merits are compelling, which “alone demonstrates that the PTAB should not discretionarily deny institution under *Fintiv*.” See June 21, 2022 Director’s Memo, 3-5. The Ground presents compelling obviousness theories that, “if unrebutted in trial, would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence.” *Id.*, 4.

Even if the Board were to address *Fintiv*, the factors favor institution. The parallel case in district court is in its early stages. Fact discovery is not complete; expert discovery has not begun; nor has a trial date been set. Judge Staton, who is presiding over the district court case, routinely grants stays pending post-grant proceedings. *E.g.*, *Rembrandt Wireless Techs., LP v. Qualcomm Inc.*, No. 8:19-CV-00705-JLS-JDE, 2020 WL 5044195, at *2 (C.D. Cal. Apr. 9, 2020); *Evolusion Concepts, Inc. d/b/a AR Maglock v. Juggernaut Tactical, Inc. et al.*, No. 8:18-cv-01378-JLS-DFM, Dkt. 218 (C.D. Cal. Jul. 11, 2023). Furthermore, Petitioner filed this Petition promptly, about one and a half months after service of Patent Owner’s Infringement Contentions. To the extent facts change, Petitioner will seek a Reply to the POPR to address any new facts.

Advanced Bionics. Denial under §325(d) is likewise unwarranted because neither Eldering-I nor Eldering-II was relied upon during the ’768 patent’s

prosecution. Nor were they cited on the face of the '768 patent or during prosecution. Ex-1003, ¶31, ¶37.

VII. STANDING

Petitioner certifies that Petitioner is not barred or estopped from requesting this *inter partes* review and the '768 patent is IPR-eligible.

VIII. MANDATORY NOTICES AND FEES

1. **Real Party In Interest:** The real parties-in-interest here are Hulu, LLC and The Walt Disney Company. No other parties directed, controlled, or funded this *Inter Partes* Review proceeding (IPR).

2. **Related Matters:**

Piranha Media Distribution LLC v. Hulu LLC, 2-24-cv-00498 (C.D. Cal.)

3. **Lead and Backup Counsel:** Pursuant to 37 C.F.R. §42.8(b)(3) and 42.10(a), Petitioner designates Harper Batts (Reg. No. 56,160) as lead counsel and Chris Ponder (Reg. No. 77,167), Jeffrey Liang (Reg. No. 69,043), and Fangzhou Qiu (Reg. No. 82,810) as back-up counsel, each of Sheppard, Mullin, Richter & Hampton LLP.

4. **Service Information:** Petitioner consents to service by electronic mail addressed to:

HBatts@sheppardmullin.com;
CPonder@sheppardmullin.com; and
JLiang@sheppardmullin.com
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5. Petitioner's counsel may also be served by mail or hand delivery at Sheppard, Mullin, Richter & Hampton LLP, 1540 El Camino Real Suite 120, Menlo Park, CA 94025. Petitioner's counsel may be reached by telephone at (650) 815-2600 and by facsimile at (650) 815-2601.

6. **Fees:** The Office is authorized to charge fees for this Petition to Deposit Account 50-4561, Ref. 16VF-388878.

Respectfully submitted,

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CLAIM APPENDIX

[1a] A digital media system comprising:

[1b] a user interface for receiving user input for controlling a course of presentation of digital media content;

[1c] an advertisement rotator for managing one or more requests for advertising content to be presented during the course of presentation of the digital media content either visually or audibly; and

[1d] an intersplicer in communication with the advertisement rotator, the intersplicer configured to:

[1e] change a predetermined advertisement insertion point in the digital media content to an adapted advertisement insertion point in the digital media content, in response to receiving a user input to update a current play position in the digital media content to a new play position in the digital media content,

[1f] the adapted advertisement insertion point determined by an adaptive preference rule based on an advertisement requirement that applies to the digital media system;

[1g] modify the adapted insertion point of digital advertising content based on the advertisement requirement; and

[1h] request, from the advertisement rotator, digital advertising content to be played at the adapted advertisement insertion point.

2. The digital media system of claim 1, wherein the digital advertising content is different from a predetermined advertisement selected to be played at the predetermined advertisement insertion point.

3. The digital media system of claim 1, wherein the intersplicer is further configured to change the predetermined advertisement insertion point to the adapted advertisement insertion point by adaptively modifying a presentation position of a predetermined advertisement from the predetermined advertisement insertion point to the adapted advertisement insertion point in the digital media content, the adapted advertisement insertion point being different than the predetermined advertisement insertion point.

5. The digital media system of claim 1, wherein the adaptive preference rule is based on at least one of a number of tracks played since a previous digital advertisement, a length of time associated with playing the digital media content, and a number of digital media data blocks played since the previous digital advertisement.

6. The digital media system of claim 1, wherein the intersplicer is configured to generate a control signal configured to interrupt a course of presentation of the digital media content with a presentation of the digital advertising content at the adapted advertisement insertion point.

7. The digital media system of claim 1, wherein the advertisement rotator selects the digital advertising content based on the advertisement requirement that applies to the digital media system.

8. The digital media system of claim 1, wherein the intersplicer eliminates the advertisement requirement, in response to presenting the digital advertising content at the adapted insertion point of digital advertising content.

9. The digital media system of claim 2, wherein the predetermined advertisement is scheduled to play at the predetermined advertisement insertion point, and wherein the advertisement rotator is configured to manage one or more requests to replace the predetermined advertisement.

[10a] A digital media advertisement presentation control system comprising:

at least one processor;

a non-transitory computer-readable storage medium storing instructions that, when executed by the processor, cause the processor to perform operations comprising:

[10b] replacing a predetermined advertisement insertion point in digital media content with an adapted insertion point for digital advertising content, in response to receiving a request to update a current play position in the digital media content to a new play position in the digital media content,

[10c] the adapted insertion point determined by an adaptive preference rule based on one or more advertisement requirements;

[10d] requesting digital advertising content to be played at the adapted insertion point of digital advertising content; and

[10e] presenting the digital advertising content at the adapted insertion point of digital advertising content.

11. The system of claim 10, wherein the digital advertising content is different from a predetermined advertisement selected to be played at the predetermined advertisement insertion point.

12. The system of claim 10, wherein the replacing the predetermined advertisement insertion point with the adapted insertion point includes

adaptively modifying a presentation position of the predetermined advertisement from the predetermined advertisement insertion point to the adapted insertion point in the digital media content.

14. The system of claim 10, wherein the adaptive preference rule is based on at least one of a number of tracks played since a previous digital advertisement, a length of time associated with playing the digital media content, and a number of digital media data blocks played since the previous digital advertisement.

15. The system of claim 10, wherein the course of presentation of the digital media content is interrupted with a presentation of the digital advertising content at the adapted insertion point.

16. The system of claim 10, wherein the digital advertising content is selected based on one or more advertisement requirements that apply to a user device.

17. The system of claim 11, wherein the predetermined advertisement is scheduled to play at the predetermined advertisement insertion point.

18. The system of claim 16, wherein the advertisement one or more requirements are eliminated in response to presenting the digital advertising

content to the user device at the adapted insertion point of digital advertising content.

[19a] A method embedded in a machine-readable medium in form of executable instructions to cause at least one programmable processor to perform operations comprising:

[19b] replacing a predetermined advertisement insertion point in digital media content with an adapted insertion point for digital advertising content, in response to receiving a request to update a current play position in the digital media content to a new play position in the digital media content,

[19c] the adapted insertion point determined by an adaptive preference rule based on one or more advertisement requirements;

[19d] requesting digital advertising content to be played at the adapted insertion point of digital advertising content; and

[19e] presenting the digital advertising content at the adapted insertion point of digital advertising content.

20. The method of claim 19, wherein the digital advertising content is different from a predetermined advertisement selected to be played at the predetermined advertisement insertion point.

21. The method of claim 19, wherein the replacing the predetermined advertisement insertion point with the adapted insertion point includes adaptively modifying a presentation position of the predetermined advertisement from the predetermined advertisement insertion point to the adapted insertion point in the digital media content.

23. The method of claim 19, wherein the adaptive preference rule is based on at least one of: a number of tracks played since a previous digital advertisement, a length of time associated with playing the digital media content, and a number of digital media data blocks played since the previous digital advertisement.

24. The method of claim 19, wherein the course of presentation of the digital media content is interrupted with a presentation of the digital advertising content at the adapted insertion point.

25. The method of claim 20, wherein the predetermined advertisement is scheduled to play at the predetermined advertisement insertion point.

[27a] A computer program product comprising a non-transitory machine-readable medium storing instructions that, when executed by at

least one programmable processor, cause the at least one programmable processor to perform operations comprising:

[27b] replacing a predetermined advertisement insertion point in digital media content with an adapted insertion point for digital advertising content, in response to receiving a request to update a current play position in the digital media content to a new play position in the digital media content,

[27c] the adapted insertion point determined by an adaptive preference rule based on one or more advertisement requirements;

[27d] requesting digital advertising content to be played at the adapted insertion point of digital advertising content; and

[27e] presenting the digital advertising content at the adapted insertion point of digital advertising content.

28. The computer program product of claim 27, wherein the digital advertising content is different from a predetermined advertisement selected to be played at the predetermined advertisement insertion point.

29. The computer program product of claim 27, wherein the replacing the predetermined advertisement insertion point with the adapted insertion point includes adaptively modifying a presentation position of the

predetermined advertisement from the predetermined advertisement insertion point to the adapted insertion point in the digital media content.

31. The computer program product of claim 27, wherein the adaptive preference rule is based on at least one of: a number of tracks played since a previous digital advertisement, a length of time associated with playing the digital media content, and a number of digital media data blocks played since the previous digital advertisement.

32. The computer program product of claim 27, wherein the course of presentation of the digital media content is interrupted with a presentation of the digital advertising content at the adapted insertion point.

33. The computer program product of claim 28, wherein the predetermined advertisement is scheduled to play at the predetermined advertisement insertion point.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on August 22, 2024, true and correct copies of the foregoing Petition for *Inter Partes* Review of U.S. Patent No. 11,463,768 and Exhibits 1001-1022 were served in entirety on the Patent Owner at the following addresses of record as listed on Patent Center, via Priority Mail Express®:

Mintz Levin/San Diego Office
One Financial Center
Boston, MA 02111
Official Correspondence Address

The undersigned certifies that true and correct copies of the foregoing Petition for *Inter Partes* Review of U.S. Patent No. 11,463,768 and Exhibits 1001-1022 were also sent via electronic mail to the attorneys of record for Plaintiff in the concurrent litigation matter(s):

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**CERTIFICATE OF COMPLIANCE WITH
TYPE-VOLUME LIMITATION, TYPEFACE REQUIREMENTS,
AND TYPE STYLE REQUIREMENTS**

1. This Petition complies with the type-volume limitation of 14,000 words, comprising 13,235 words, as counted using the Microsoft Word software that was used to prepare this paper, excluding the parts exempted by 37 C.F.R. § 42.24(a).

2. This Petition complies with the general format requirements of 37 C.F.R. § 42.6(a) and has been prepared using Microsoft® Word in 14-point Times New Roman.

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