IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
MIDLAND/ODESSA DIVISION

SHOPSEE, INC., Plaintiff, v. TIKTOK INC. Defendant.	CASE NO. 7:24-cv-00333-DC-DTG

DEFENDANT TIKTOK INC.'S OPENING CLAIM CONSTRUCTION BRIEF

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I. Introduction

U.S. Patent No. 11,134,316 ("the '316 patent") is a results-oriented patent that lacks underlying technical innovation. Its claims and specification gloss over any technical challenges to achieving those results and evidence a failure to appreciate any complexity in the underlying technology. These shortcomings resulted in independent claims 1 and 18 that are nonsensical, self-contradictory, recite nonce terms without adequate underlying structure, and thus are indefinite multiple times over. And even where independent claims 1, 17, and 18, according to their plain meaning, include concrete limitations—such as logically requiring an order of steps and a specific "processor" or "application" that implements all claim limitations—Plaintiff ShopSee, Inc. ("ShopSee") seeks to erase those concrete limitations via claim construction.

Accordingly, Defendant TikTok Inc. ("TikTok") respectfully requests that the Court adopt its proposed constructions, including finding claims 1 and 18 (and their dependent claims 2–16 and 19) indefinite[1] and confirming the plain meaning requirements of all independent claims.

II. Background

The '316 patent "relates generally to video processing technology" and more specifically discloses "a method and apparatus for providing one or more interactive video layers with video media." '316 patent at 1:12-15. It describes adding multiple interactive layers to a streaming video, which are presented concurrently with the video content so that the viewer can engage with them without disrupting the underlying "long-form entertainment." *Id.* at 2:8-50.

The '316 patent's disclosure emphasizes the system's outcomes for the user rather than implementation details. For example, when a viewer activates the shopping layer to purchase an item from the video, "the user never leaves the video media and is able to purchase the item of

[1] TikTok does not challenge claim 17 as indefinite.

interest while watching their television show or movie." *Id.* at 3:34-37. Similarly, the social-media "personal living room" layer allows users to interact with others in real time, "thereby eliminating the need for a second screen (such as a smart phone, tablet, or other personal device) for such an interaction while watching" the long-form entertainment. *Id.* at 3:40-43. This integrated approach "allows users to control their shopping experience without permanent interruption such as windows or prompts that other technology uses." *Id.* at 2:37-39. The interactive layers are described as a "a plug-in, non-invasive feature that can be added to any media site," requiring "no additional or very few architecture requirements" on the host platform. *Id.* at 4:21-25. In short, the specification repeatedly touts that the invention enables new shopping and social features without interrupting the viewing experience, but provides only a conceptual overview of these features.

Notably, the specification contains little technical detail beyond the functional steps and objectives. It often merely restates the intended functions using the same broad language as the claims. The patent enumerates dozens of embodiments (Embodiment 1, Embodiment 2, etc.), but they largely mirror the claim language verbatim, each corresponding to an additional claimed feature or variation, with minimal elaboration beyond the claim wording. For example, Embodiments 14 and 15 mirror claims 13 and 14, by simply repeating that object identification may be done manually or automatically. *Id.* at 5:35-43. Late-numbered embodiments continue to reiterate earlier steps in the same high-level terms. The language is often repetitive; the specification even uses the phrase "without interruption of the entertainment" twice in a single sentence. *Id.* at 2:13-18. And the specification repeatedly characterizes the invention in broad strokes as a "unique method" that can integrate multiple interactive layers into online video. *Id.* at 2:8, 10-11, 22, 27-28. In sum, the '316 patent's disclosure remains at a conceptual level, reciting

the desired features and results (shoppable and social video layers) without providing concrete technical implementation details beyond what is stated in the claims.

III. Legal Standard

Claims are generally given their "ordinary and customary meaning." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (citation omitted). "[C]laims 'must be read in view of the specification, of which they are a part.'" *Id.* at 1314 (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)).

"[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). Under 35 U.S.C. § 112(f), a claim limitation may be construed as a means-plus-function limitation if it is "expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof." *Id.* Where "the function is performed by a general-purpose computer or microprocessor," the specification must also "disclose the algorithm that the computer performs to accomplish that function." *Rain Computing, Inc. v. Samsung Elecs. Am., Inc.*, 989 F.3d 1002, 1007 (Fed. Cir. 2021).

IV. Argument

A. Nonsensically Requiring "Audio Objects in … Frames of the Video Media"

Term	ShopSee's Proposal	TikTok's Proposal
"a plurality of … audio objects in one or more frames of the video media" (claim 1)	Plain and ordinary meaning	Indefinite

This term is indefinite because, "as properly construed," it is "nonsensical." *Horizon Pharma, Inc. v. Dr. Reddy's Lab'ys Inc.*, 839 F. App'x 500, 505 (Fed. Cir. 2021); *see also Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357 (Fed. Cir. 1999) ("[W]here . . . claims

are susceptible to only one reasonable interpretation and that interpretation results in a nonsensical construction of the claim as a whole, the claim must be invalidated . . . ."). "Audio objects" is itself a vague and uncertain term, but at minimum it is clear that "***audio*** objects" relate to the ***audio*** portion of multimedia content. Schonfeld Decl. ¶ 21. In contrast, "frames" are used to convey the visual portion of multimedia content. *Id.* ¶ 22. Accordingly, it makes no sense to require "***audio*** objects ***in*** one or more ***frames*** of the video media," rendering this claim limitation nonsensical, of uncertain scope, and thus indefinite.

Starting with the claim language, this claim term appears only in claim 1. And even within claim 1, there are no other limitations that address the meaning of "audio objects in … frames." At best, claim 1 further recites "tracking the one or more items, services, or songs of interest through the one or more frames of the video media" as a high level assertion without providing any further guidance on what it means for "audio objects" to appear in "frames."

The specification also offers no clarity on what this claim term requires. To begin with, the term "audio objects" lacks a universally recognized meaning, which alone renders claim scope uncertain and the phrase indefinite. Schonfeld Decl. ¶ 21. What is clear, however, is that "audio objects" must relate to "audio," as confirmed in the specification: "the audio and temporal data of ***an audio object is provided*** by the administrator ***in terms of the audio signal that persists through a contiguous window of time throughout the video media***." '316 patent at 12:15-18 (emphasis added). But this description fails to address what it means for "***audio*** objects" to be "***in*** one or more ***frames*** of the video media." Indeed, the '316 patent expressly distinguishes "***visual*** objects," which have specific "Cartesian coordinates ***in each frame*** of the video image," from the claimed "audio objects," which are described without any reference to frames. *Id.* at 12:11-18; Schonfeld Decl. ¶ 21–24.

Far from shedding light on the scope of the claimed "audio objects in one or more frames," the extrinsic evidence only further confirms that the term is nonsensical. Relevant dictionary definitions consistently describe frames as "displays" or "images." Schonfeld Decl. ¶ 25; *see also* Ex. B ("A frame is a complete video ***image***."); Ex. C ("A single snapshot of video information that when combined with a series of other frames is traced onto a television as video programming or onto a computer as a video ***display***."); Ex. D ("an entire ***screen***'s worth of information. This may be formed of two interlaced fields as in video" or "an ***image*** in a sequence of inter-related images such as an animation or in a cinematographic film") (all emphases added). Multimedia encoding standards relevant to the '316 patent also use "frames" to encode only the visual portion of multimedia content and address audio objects/signals in entirely separate portions of those standards. Schonfeld Decl. ¶¶ 26–27 (addressing MPEG-4 and MPEG-H standards). The '316 patent specification also refers to .vtt files, which are governed by the WebVTT standard. '316 Patent at 23:20-23; 23:42-48. The WebVTT standard relates to synchronizing text and video but does not address "audio objects" or how such "audio objects" could possibly be "in one or more frames." Schonfeld Decl. ¶ 28. These definitions and standards thus confirm that it makes no sense to refer to "***audio*** objects ***in*** one or more ***frames***."

Sitrick v. Dreamworks, LLC is instructive.[2] There, the claims required "a plurality of background images" and further specified that these "background images" can include "an audio presentation." *Sitrick v. Dreamworks, LLC*, 2006 WL 6116641, at *11, *14 (C.D. Cal. July 20, 2006). At the same time, the patent distinguished the "plurality of background images" from the underlying movie itself, and the special master thus construed the "background images" as a

[2] The case was affirmed on a related "enablement" ground but without expressly addressing indefiniteness. *Sitrick v. Dreamworks, LLC*, 516 F.3d 993 (Fed. Cir. 2008).

"sequential series of more than one screen shots." *Id.* at *13. But this juxtaposition of requirements rendered the claims nonsensical and indefinite because "[a] 'screen shot' is meaningless for an audio presentation." *Id.* at *15; *see also id.* at *14 ("Even leaving aside the common usage of 'screen shot,' which certainly refers to visual images and not to sounds, it is difficult to come up with a functional equivalent in the aural realm for 'screen shot.'").

Here, the "audio objects in one or more frames of the video media" term in claim 1 suffers from the same fatal flaw. Claim 1 of the '316 patent distinguishes "frames" from the larger "video media," and plain meaning and extrinsic evidence confirms that those frames "refer[] to visual images and not to sound." *Id.* at *14. Yet, the claim term nonsensically also requires including "audio objects" in those same "frames." Nor is there any basis for the Court to rewrite the claims to remove the words "one or more frames." *WSOU Inv. LLC v. Google LLC*, 2023 WL 6210607, at *8 (Fed. Cir. 2023) (affirming W.D. Tex. decision finding claims nonsensical and indefinite because "even a nonsensical result does not require the court to redraft the claims" and instead, "when claims are susceptible to only one reasonable interpretation and that interpretation results in a nonsensical construction of the claim as a whole, the claim must be invalidated") (cleaned up).

Accordingly, the claim term "***audio*** objects ***in*** one or more ***frames***" is nonsensical, rendering claim 1 indefinite.

B. Contradictory Requirements on "One or More Items, Services, or Songs"

Term	ShopSee's Proposal	TikTok's Proposal
"correspondingly form[ing] one or more items, services, or songs of interest" and "the one or more items, services, or songs in the video media" (claim 1)	Plain and ordinary meaning	Indefinite
"items, services, or songs presented in a video media" and "said first interactive layer	Plain and ordinary meaning	Indefinite

contains the items, services, or songs of interest" (claim 18)		

Claims 1 and 18 require the same "items, services, or songs of interest" to meet a series of overlapping and irreconcilable requirements. These contradictory requirements fail to inform those skilled in the art about the scope of the invention with reasonable certainty. *See Multilayer Stretch Cling Film Holdings, Inc. v. Berry Plastics Corp.*, 831 F.3d 1350, 1362 (Fed. Cir. 2016) (holding a dependent claim invalid as indefinite when it "contradicts, rather than narrows, the claim from which it depends"); *Trs. of Columbia Univ. v. Symantec Corp.*, 811 F.3d 1359, 1366–67 (Fed. Cir. 2016) (holding that claims that were internally contradictory were invalid as indefinite); *Allen Eng'g Corp. v. Bartell Indus.*, 299 F.3d 1336, 1349 (Fed. Cir. 2002) (holding that claims that contradicted the specification were invalid as indefinite).

Claim 1 includes two contradictory requirements. ***First***, claim 1 requires in step (a) "receiving the video media." The claim also uses the definite article to describe "the one or more items, services, or songs ***in the*** video media," signifying that the same "video media" received in step (a) already contains "one or more items, services, or songs." *See Wi-Lan, Inc. v. Apple, Inc.*, 811 F.3d 455, 462 (Fed. Cir. 2016) ("Subsequent use of the definite articles 'the' or 'said' in a claim refers back to the same term recited earlier in the claim."). ***Second***, claim 1 also requires in step (b) "processing the video media to generate a first interactive video layer, wherein the processing includes … associating product information to one or more of the plurality of visual or audio objects to ***correspondingly form*** one or more items, services, or songs of interest." The term "form" indicates that "items, services, or songs of interest" do not exist until they are "form[ed]" during processing. Here, use of the definite article means that the same "items, services, or songs" are ***both*** "in the video media" received in step (a) ***and*** thereafter "form[ed]" in step (b). But those

requirements are contradictory: the same "one or more items, services, or songs" created during processing cannot retroactively exist "in" the received video media. These contradictory requirements render claim 1 indefinite. *See Multilayer*, 831 F.3d at 1362.

Claim 18 is also self-contradictory because it requires the same "items, services, or songs of interest" to exist in multiple, incompatible locations: the original "video media" and the subsequently generated first interactive video layer. Specifically, claim 18 requires (a) "receiving a request for the generation of information regarding ***items, services, or songs*** presented ***in a video media***"; (b) "said first interactive layer ***contains*** the items, services, or songs of interest." Antecedent basis in claim 18 dictates that the same "items, services, or songs of interest" be found in ***both*** the "video media" ***and*** "the first interactive video layer." But the claims make clear that the "first interactive layer" is displayed "with" and thus not part of the "video media." Since the same "items, services, or songs of interest" cannot be in both the "video media" and the "first interactive layer," claim 18 is thus self-contradictory and indefinite.

The specification does nothing to cure the contradictory nature of claims 1 and 18. The specification only further confirms that the "video media" is received before and separate from generating the "first interactive video layer." '316 patent at Fig. 2 (showing separate and sequential "receiving a video media" and "generat[ing] a first interactive video layer" steps 200 and 202). It also confirms that the video media and the first interactive video layer are distinct elements. *Id.* at 16:16-19 ("The video data 402 includes a video media 404 ***and*** a first interactive video layer 406 that is turned on in the illustrated embodiment." (emphasis added)). Indeed, the first interactive video layer can be "turned on . . . or off" independently of the video media. *Id.*

Claims 1 and 18 thus include contradictory requirements regarding the claimed "one or more items, services, or songs of interest," rendering those claims indefinite and thus invalid.

C. Order of Steps Required by Plain Language and Logic

Terms	ShopSee's Proposal	TikTok's Proposal
Limitations of independent claims 1, 17, and 18	Plain and ordinary meaning	The portion of the claim in the "After" column should be understood as occurring after the portion of the claim in the "Before" column.

"[A] claim 'requires an ordering of steps when the claim language, as a matter of logic or grammar, requires that the steps be performed in the order written, or the specification directly or implicitly requires' an order of steps." *Mformation Techs., Inc. v. Rsch. in Motion Ltd.*, 764 F.3d 1392, 1398–99 (Fed. Cir. 2014). This is equally true for computer-readable medium and system claims that recite interdependent steps. *See Innovation Scis., LLC v. Amazon.com, Inc.*, 778 Fed. App'x. 859, 869–70 (Fed. Cir. 2019).

In the case of the '316 patent independent claims, logic dictates that the majority of steps have to be performed in the recited order. During the parties' meet-and-confer, ShopSee did not dispute this basic premise but refused to take positions as to what extent, if any, it disagreed with TikTok's identified order. Thus, TikTok below addresses all ordering required by the asserted independent claims, even though the majority of these ought to be non-controversial. For each of the pairs of claim limitations set forth below, each "Before" limitation must logically be performed before the "After" limitation.

Before	After	Argument
a) receiving the video media having a plurality of visual or audio objects in one or more frames of the video media (Claim 1)	b) processing the video media to generate a first interactive video layer (Claim 1)	The "After" limitation requires processing of the video media, which logically cannot occur before the video media has been received in the "Before" limitation.

a) receiving the video media having a plurality of visual or audio objects in one or more frames of the video media (Claim 1)	i. identifying one or more of the plurality of visual or audio objects within the video media (Claim 1)	The "After" limitation requires identifying visual or audio objects within the video media, which logically cannot occur before the video media has been received in the "Before" limitation.
i. identifying one or more of the plurality of visual or audio objects within the video media (Claims 1, 17)	ii. associating product information to the one or more of the plurality of visual or audio objects to correspondingly form one or more items, services, or songs of interest (Claims 1, 17)	The "After" limitation requires associating product information to the visual or audio objects, which logically cannot occur before the visual or audio objects have been identified in the "Before" limitation.
ii. associating product information to the one or more of the plurality of visual or audio objects to correspondingly form one or more items, services, or songs of interest (Claims 1, 17)	iii. tracking the one or more items, services, or songs of interest through the one or more frames of the video media (Claims 1, 17)	The "After" limitation requires tracking the items, services, or songs of interest, which logically cannot occur before the items, services, or songs of interest have been formed in the "Before" limitation.
ii. associating product information to the one or more of the plurality of visual or audio objects to correspondingly form one or more items, services, or songs of interest (Claims 1, 17)	iv. assigning a selectable visual indicator for each of the one or more items, services, or songs of interest, wherein the first interactive video layer is configured to display the selectable visual indicator (Claims 1, 17)	The "After" limitation requires assigning a selectable visual indication for each of the items, services, or songs of interest, which logically cannot occur before the items, services, or songs of interest have been formed in the "Before" limitation.

ii. associating product information to the one or more of the plurality of visual or audio objects to correspondingly form one or more items, services, or songs of interest (Claim 1)	d) distributing information associated with the one or more items, services, or songs in the video media to the user (Claim 1)	The "After" limitation requires distributing information associated with the items, services, or songs of interest, which logically cannot occur before the items, services, or songs of interest have been formed in the "Before" limitation.
b) processing [the] video media to generate a first interactive video layer (Claim 1, 17)	c) generating a video data comprising the video media, the first interactive video layer, and a second interactive video layer (Claim 1, 17)	The "After" limitation requires generating a video data comprising, among other things, the first interactive video layer, which logically cannot occur before the first interactive video layer itself has been generated in the "Before" limitation.
b) a software module for linking the items, services, or songs with marketing and/or purchasing information (Claim 18)	c) a software module for the generation of a first interactive layer to display with the video media, wherein said first interactive layer contains the items, services, or songs of interest linked to the marketing and/or purchasing information (Claim 18)	The "After" limitation describes that the first interactive layer contains the already-linked items, services, or songs with the marketing and/or purchasing information, which logically cannot occur before the items, services, or songs are linked with marketing and/or purchasing information in the "Before" limitation.
c) a software module for the generation of a first interactive layer to display with the video media, wherein said first interactive layer contains	d) a software module for the generation of a second interactive layer to display with the video media and optionally the first	The "After" limitation describes that there is an option to display the first interactive layer, which logically cannot occur before

the items, services, or songs of interest linked to the marketing and/or purchasing information (Claim 18)	interactive layer (Claim 18)	the first interactive layer is generated in the "Before" limitation.
c) a software module for the generation of a first interactive layer to display with the video media, wherein said first interactive layer contains the items, services, or songs of interest linked to the marketing and/or purchasing information (Claim 18)	e) a software module for transmitting the first and second interactive layers to the first processing device of the user (Claim 18)	The "After" limitation describes transmitting the first interactive layer, which logically cannot occur before the first interactive layer is generated in the "Before" limitation.
d) a software module for the generation of a second interactive layer to display with the video media and optionally the first interactive layer (Claim 18)	e) a software module for transmitting the first and second interactive layers to the first processing device of the user (Claim 18)	The "After" limitation describes transmitting the second interactive layer, which logically cannot occur before the second interactive layer is generated in the "Before" limitation.

D. At Least One "Processor" / "Application"

Term	ShopSee's Proposal	TikTok's Proposal
"processor" (claim 17)	Plain and ordinary meaning	at least one processor performs all claimed steps
"application" (claim 18)	Plain and ordinary meaning	at least one application contains all claimed software modules

Claim 17 requires "at least one" " processor" that performs all claimed steps, and claim 18 similarly requires "at least one" "application" that contains all claimed "software module[s]." This reading follows directly from the claim language. Indeed, multiple Federal Circuit cases confirm that, although the claims allow for more than one processor or application, "***at least one***" of those

processors or applications must perform all claimed steps or contain all claimed software modules, as recited in TikTok's proposed constructions. *See*, *e.g.*, *In re Varma*, 816 F.3d 1352 (Fed. Cir. 2016) ("For a dog owner to have 'a dog that rolls over and fetches sticks,' it does not suffice that he have two dogs, each able to perform just one of the tasks.").

Claim 17 recites "a processor" and "instructions" that "cause ***the processor*** to carry out at least the following steps." There is no claim language allowing multiple processors collectively to perform the claimed steps. The Federal Circuit's decision in *Salazar v. AT&T Mobility LLC*, 64 F.4th 1311 (Fed. Cir. 2023) is on point. There, the court interpreted similar claim language—"a microprocessor for generating …, said microprocessor creating …, . . . said microprocessor generating …"—to mean "one or more microprocessors, at least one of which is configured to perform the generating, creating, retrieving, and generating functions." *Id.* at 1317. The court explained that "while the claim term 'a microprocessor' does not require there be only one microprocessor, the subsequent limitations referring back to 'said microprocessor' require that at least one microprocessor be capable of performing each of the claimed functions." *Id.* Just as in *Salazar*, claim 17's reference to "the processor," followed by a list of steps to be performed by that processor, requires the same processor to perform all the recited functions. As the *Salazar* court emphasized, "it does not suffice to have multiple microprocessors, each able to perform just one of the recited functions; the claim language requires at least one microprocessor capable of performing each of the recited functions." *Id.* at 1318. The same principle applies here: the claimed system can have multiple processors, but "at least one" of those processors must perform all steps recited in claim 17.

The same analysis applies to claim 18, which requires creating "an application" that comprises software modules (a) through (e). Here, the Federal Circuit's recent decision in *Sonos,*

Inc. v. ITC, 2024 WL 1507605 (Fed. Cir. Apr. 8, 2024) is instructive. In *Sonos*, the claims required "***at least a second message*** containing network configuration parameters, wherein the network configuration parameters ***comprise an identifier*** of the secure WLAN . . . ***and security key*** for the secure WLAN." *Id.* at *2 (emphasis added). The Federal Circuit "agree[d] with the CALJ that this language makes clear that at least a second message has the network configuration parameters and that the network configuration parameters include both the identifier and the security key." *Id.* at *3 (cleaned up). The reasoning equally applies to claim 17 of the '316 patent, which requires an "application comprising" "software modules" (a)–(e). Just like the "second message" in *Sonos* had to comprise "both the identifier and the security key," here too the "application" must comprise the claimed "software modules" (a)–(e).

The '316 patent specification also supports TikTok's construction. Specifically relevant to claim 17, the '316 patent discloses "embodiments" where "a computer program is provided from one location" (and thus by one processor, *see* '316 patent at 15:25-32) as well as separate, "other embodiments" where "a computer program is provided from a plurality of locations" (and thus by multiple processors). *Id.* at 18:16-20. Similarly, relevant to claim 18, the '316 patent discloses that "[i]n some embodiments, software modules are in one . . . application" while "[i]n other embodiments, software modules are in more than one . . . application." Thus, the named inventors recognized that processing and software modules can be concentrated in "one" processor or application or distributed across "more than one" processor or application, yet chose to only claim the former, as reflected in the plain language of claims 1 and 18. The Court should not now re-write claims 17 and 18 to encompass the "other embodiments" discussed in the specification but not covered by the claims. *See Simo Holdings Inc. v. Hong Kong uCloudlink Network Tech.*

Ltd., 983 F.3d 1367, 1379 (Fed. Cir. 2021) (relying on "grammatical reasons" to conclude "claim 8 does not cover specification embodiments").

E. Indefinite Means-Plus-Function Terms[3]

Term	ShopSee's Proposal	TikTok's Proposal
"a software module for linking the items, services, or songs with marketing and/or purchasing information" (claim 18)	Plain and ordinary meaning	Function: linking the items, services, or songs with marketing and/or purchasing information Structure: Indefinite
"a software module for the generation of a second interactive layer to display with the video media and optionally the first interactive layer, … … and wherein the user is capable of maintaining and toggling between a plurality of different conversations displayable in the social media portion in the second interactive video layer as an overlay to the video media displayed by the first processing device" (claim 18)	Plain and ordinary meaning	Function: generat[ing] … a second interactive layer to display with the video media and optionally the first interactive layer, … … and wherein the user is capable of maintaining and toggling between a plurality of different conversations displayable in the social media portion in the second interactive video layer as an overlay to the video media displayed by the first processing device[4] Structure: Indefinite

[3] Claim 18 contains five "software module" limitations. TikTok's position is that all five "software module" limitations are means-plus-function terms lacking sufficient structure and thus indefinite. However, to streamline briefing and abide by the OGP's eight-term limit, TikTok briefs herein only two representative terms: "a software module for linking …" and "a software module for the generation of a second interactive layer … ." If the Court adopts ShopSee's construction of "plain and ordinary meaning" for those two terms, then TikTok agrees the other "software module" limitations should also have their "plain and ordinary meaning." If the Court adopts TikTok's position that either of those two terms is indefinite, then claim 18 as a whole is indefinite, and the indefiniteness of the other "software module" limitations becomes moot.

[4] This means-plus-function term recites additional functions that further define functionality characterizing the claimed "generation of a second interactive layer." However, to streamline briefing, TikTok focuses on these recited functions, which are sufficient to address the indefiniteness of this claim term.

The "software modules" of claim 18 are quintessential nonce terms, rendering those limitations "means-plus-function" limitations under 35 U.S.C. § 112(f). Yet the specification fails to disclose sufficient structure or algorithm for implementing the functions attributed to those "software modules," rendering claim 18 indefinite. *See Rain Computing*, 989 F.3d at 1007 (requiring disclosure of the algorithm where "the function is performed by a general-purpose computer or microprocessor").

Under *Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015), "'[m]odule' is a well-known nonce word that can operate as a substitute for 'means' in the context of [§ 112(f)]. . . . ''[M]odule' is simply a generic description for software or hardware that performs a specified function.'" *Id.* at 1350 (citation omitted). The addition of the word "software" in front of "module" does nothing to alter that analysis, since all that does is specify a "module" implemented using generic software rather than generic hardware. Courts have repeatedly held that § 112(f) applies to such software nonce terms. *See, e.g.*, *Digital Retail Apps, Inc. v. H-E-B, LP*, 2020 WL 376664, at *4 (W.D. Tex. Jan. 23, 2020) (finding "first communication module" indefinite under § 112(f) where "the patents use 'module' to connote portions of software that perform certain functions"); *Cypress Lake Software, Inc. v. Samsung Elecs. Am., Inc.*, 382 F. Supp. 3d 586, 617 (E.D. Tex. 2019) (holding that "code for detecting" that subject to § 112(f)). Indeed, the *Williamson* decision found a much more detailed description of the claimed "module" still insufficient to avoid application of § 112(f):

> The prefix "distributed learning control" does not impart structure into the term "module." These words do not describe a sufficiently definite structure. Although the "distributed learning control module" is described in a certain level of detail in the written description, the written description fails to impart any structural significance to the term. At bottom, we find nothing in the specification or prosecution history that might lead us to construe that expression as the name of a sufficiently definite structure as to take the overall claim limitation out of the ambit of [§ 112(f)].

792 F.3d at 1351. Here, the '316 patent lacks even that. Software modules are only described at the highest level of generality: "software modules are created by techniques known to those of skill in the art using machines, software, and languages known to the art. The software modules disclosed herein are implemented in a multitude of ways. In various embodiments, a software module comprises a file, a section of code, a programming object, a programming structure, or combinations thereof." '316 patent at 29:62-30:2.

Once the claimed "software modules" are properly construed as means-plus-function terms under § 112(f), there is no dispute that the '316 patent specification lacks sufficient structure for implementing the claimed functions, as ShopSee has not provided any alternative constructions if the terms are governed by § 112(f) or otherwise identified any corresponding structure. That alone should end the inquiry. *Alfred E. Mann Found. v. Cochlear Corp.*, 841 F.3d 1334, 1341–42 (Fed. Cir. 2016) ("To satisfy the definiteness requirement, a means-plus-function claim requires sufficient disclosure of the underlying structure. ***That task lies with the patentee***." (emphasis added)). Moreover, the specification lacks sufficient algorithms or other structure for implementing multiple aspects of the claimed functions.

"***Linking the items, services, or songs with marketing and/or purchasing information.***" The word "link" or "linking" appears 19 times in the '316 patent specification. Most of those just repeat the claim language or are slight variations thereof without disclosing any implementation detail or other underlying algorithm**.** *See, e.g.,* '316 patent at 7:14-40. 23:38-41, 25:64-26:4, 34:45-48; *see also Robert Bosch, LLC v. Snap-On Inc.*, 769 F.3d 1094, 1101 (Fed. Cir. 2014) ("Labeling the devices as 'electronic' and repeating their function does not identify structure."). Others address what type of information can be "link[ed]" without describing how that "linking" is implemented. *See, e.g.,* '316 patent at 5:26-29, 6:57-61, 8:11-14, 19:26-28, 31:36-39, 32:42-45,

35:33-35. Finally, the remaining references to "linking" are unrelated to the specific function at issue. *See, e.g.*, *id.* at 14:8-10, 21:13-18, 23:29-31, 24:33-36, 32:67-33:3. None, however, discloses a sufficient algorithm—regardless of whether expressed as a "mathematical formula, in prose, or as a flow chart"—for performing the actual "linking" required by the claims. *See Williamson*, 792 F.3d at 1352.

"***Generat[ing] … a second interactive layer to display with the video media and optionally the first interactive layer***." The '316 patent purports to improve upon the prior art using "[u]nique methods of creating one or more interactive video layers that are integrated into a form of entertainment and delivered to users as an online streaming and advertising service." '316 patent at 2:10-13. Absent from the specification, however, is a sufficient algorithm for generating any such "layer[s]," including the claimed "second interactive layer" to be "display[ed] with the video media and optionally the first interactive layer." The specification includes a step 208 in Figure 2 for "providing the first interactive layer and a second interactive layer having a social media portion for a user to interact with at least one guest to a server for distribution with the video media to a viewer at operation 208," but this step is just a black box without disclosing a sufficient algorithm for actually performing that step. '316 patent at 15:10-15; *see also ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 518 (Fed. Cir. 2012) (finding claims indefinite for failing to disclose structure where included a flow chart with "step 114" directed to the claimed function that "is just a black box that represents the purchase-order-generation *function* without any mention of a corresponding structure"). And regarding the "second interactive layer" being displayed "optionally" with the "first interactive layer," the '316 patent similarly states that "[t]he method may include enabling the user to present the video data with or without the first interactive video layer being turned on or off based on the selection by the user at operation 304" but again fails to

disclose sufficient algorithm for implementing that part of the function. '316 patent at 15:39-43. At best, the '316 patent states that "[a]ny of a plurality of different programming languages may be used to create the second interactive video layer having active sessions or conversations between users in a public or private setting," but such a generic assertion that a user would know how to implement the claimed function is no replacement for the required disclosure of a sufficient algorithm. *Id.* at 13:46-52; *see also Biomedino, LLC v. Waters Techs. Corp.*, 490 F.3d 946, 953 (Fed. Cir. 2007) ("[A] bare statement that known techniques or methods can be used does not disclose structure.")

"***Wherein the user is capable of maintaining and toggling between a plurality of different conversations displayable in the social media portion in the second interactive video layer as an overlay to the video media***. This language is part of the claimed function because it defines the nature of the "second video layer" and is part of the substance of the claim limitation and not just a non-substantive result. *See Lockheed Martin Corp. v. Space Sys./Loral, Inc.*, 324 F.3d 1308, 1319 (Fed. Cir. 2003) (extending function to include language after "in accordance with" but excluding part of the limitation that "adds nothing to the substance of the claim"); *E-Numerate Solutions, Inc. v. United States*, 170 Fed. Cl. 147, 183 (Fed. Cl. 2024) (including "wherein" clause as part of the claimed function because it further describes the claimed "identifying"). Indeed, ShopSee relied on this claim language to distinguish the prior art during prosecution and obtain allowance of the '316 patent. Ex. M ('316 patent file history) at 202–04 (arguing prior art does not disclose a "second interactive layer" that allows for "maintaining and toggling between a plurality of different conversations" and is displayed "as an overlay to the video media").

But even though this was the limitation ShopSee relied on to distinguish the prior art, the specification lacks a sufficient algorithm addressing how the claimed "second interactive layer"

"maintain[s] and toggl[es] between a plurality of different conversations" or how it is displayed "as an overlay to the video media." Thus, the '316 patent specification merely asserts that "overlay[s]" are possible, but does not disclose sufficient algorithms for implementing either. '316 patent at 25:19-55 (only references to "overlay[s]," describing how they are "manage[d]" "by an administrator" without addressing how they are generated). As for the claimed "toggling," TikTok disputes that this limitation is disclosed anywhere in the specification, not to mention alongside any algorithm for performing the same. Indeed, when adding these limitations, ShopSee told the patent office that support for its claim amendment is found in paragraphs 80, 112, and 113 and Figures 1 and 8 of the originally-filed specification. Ex. M at 202. None of those paragraphs or figures contain sufficient algorithms for performing the claimed functions: paragraph 80 and Figure 1 merely describe the high level system architecture and paragraphs 112–113 and Figure 8 describe what a user sees in the user interface. *See id.* at 13–14, 26–27, 52, 59. None discloses a sufficient underlying algorithm, however, for generating a "second interactive layer" that "maintain[s] and toggl[es] between a plurality of different conversations" or is displayed "as an overlay to the video media."

Accordingly, claim 18 includes multiple "software module" means-plus-function terms, but the specification fails to disclose sufficient algorithms or other structure for performing the claimed functions. Thus, claim 18 is indefinite.

V. Conclusion

Accordingly, the Court should find claims 1 and 18, and dependent claims 2–16 and 19 that depend on the same, indefinite and adopt TikTok's proposed construction on the order of steps and "processor" / "application" claim terms.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that all counsel of record who have appeared in this case are being served with a copy of the foregoing via email on July 9, 2025.

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