

**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

JURY TRIAL DEMANDED

FILED UNDER SEAL

DEFENDANT TIKTOK INC.'S PRELIMINARY INVALIDITY CONTENTIONS

I. INTRODUCTION

Defendant TikTok Inc. (“TikTok”) provides these Invalidity Contentions to Plaintiff ShopSee, Inc. (“ShopSee”) for the following patent (“Asserted Patent”) and claims (collectively, “Asserted Claims”), which were identified as asserted in ShopSee’s Preliminary Infringement Contentions served on March 20, 2025 (“Infringement Contentions”): **1**, 2-16, **17**, **18**, 19 (all claims, independent claims bolded).

II. RESERVATIONS AND EXPLANATIONS

These Invalidity Contentions and accompanying document productions are subject to further revision. In accordance with the applicable Standing Order Governing Proceedings, TikTok provides these “preliminary” contentions, subject to amendments and supplementation based on material that may be identified after their service and with the “final” contentions still forthcoming. Nothing in these Invalidity Contentions constitutes an admission concerning the priority date, conception date, or date of reduction to practice of the Asserted Claims. TikTok reserves the right to modify or supplement these Invalidity Contentions, including in response to

any positions taken or information disclosed by ShopSee regarding the priority date, conception date, date of reduction to practice, or relevant to construction or interpretation of the Asserted Claims.

This disclosure is directed to invalidity issues only and does not address other defenses or grounds, including but not limited to: claim construction, non-infringement, patent misuse, inequitable conduct, estoppel, waiver, acquiescence, patent exhaustion, unfair competition, unclean hands, express or implied license, or non-statutory defenses of any sort. TikTok reserves all rights with respect to such issues, including but not limited to their position that the Asserted Claims are to be construed in a particular manner and are not infringed.

For prior art patents and prior art publications identified in these Invalidity Contentions, TikTok reserves the right to rely on the public use, offer for sale, sale, and/or actual products embodying the methods and systems described therein uncovered during discovery. TikTok also reserves the right to rely on any related patents and patent applications, foreign patent counterparts and foreign patent applications of U.S. patents identified in these Invalidity Contentions, and U.S. counterparts of foreign patents and foreign patent applications identified in these Invalidity Contentions.

TikTok also contends that the Asserted Patent is invalid in view of prior art public knowledge and uses and/or offers for sale or sales of products and services.

TikTok also reserves the right to rely on any system, public knowledge or use embodying or otherwise incorporating any of the prior art disclosed herein alone or in combination. TikTok further reserves the right to rely on any other documents or references describing any such system, knowledge, or use. TikTok also reserves the right to rely on physical exemplars of these prior art systems (and will make the same available for inspection).

TikTok's Invalidity Contentions are based in part on TikTok's present understanding of the Asserted Claims and ShopSee's apparent interpretation of these claims as reflected in its Infringement Contentions. By including prior art that anticipates or renders obvious claims based on ShopSee's apparent or explicit claim interpretations, TikTok is not agreeing that ShopSee's claim interpretations are correct. Any invalidity analysis depends on claim construction, which is a question of law reserved for the Court. TikTok reserves the right to amend, supplement, or materially modify its Invalidity Contentions in response to any claim construction positions that ShopSee may take in this case or any claim construction the Court may adopt in this case. TikTok also reserves the right to assert that a claim is indefinite, not enabled, or fails to meet the written description requirement, in response to any additional claim construction positions ShopSee may take in this case or any further claim construction the Court may adopt in this case.

TikTok contends that ShopSee appears to be pursuing overly broad constructions of the Asserted Claims in an effort to piece together an infringement claim where none exists and to accuse products that do not practice the claims as properly construed. At the same time, ShopSee's Infringement Contentions are in many respects too general and vague to discern exactly how ShopSee contends the accused instrumentalities practice each element of the Asserted Claims. These Invalidity Contentions are not intended to be, and are not, an admission that the Asserted Claims are infringed by any of TikTok's products or technology, that any particular feature or aspect of the accused instrumentalities practices any element of the Asserted Claims, or that any of ShopSee's proposed constructions are supportable or proper. To the extent that any of the prior art references disclose the same functionality or feature of any of the accused instrumentalities, TikTok reserves the right to argue that said feature or functionality does not practice the Asserted Claims, and to argue, in the alternative, that if said feature or

functionality is found to practice the Asserted Claims, then the prior art reference demonstrates that that feature or functionality is not novel, is obvious, or is not patentable.

The accompanying invalidity claim charts provide examples of prior art that discloses, either expressly or inherently, every limitation of certain claims and/or teachings, suggestions and motivations through which a POSITA at the time of the alleged invention would have considered the limitations obvious in view of the state of the art at the time, the differences between the claimed invention and the state of the art, and the foreseeability from a technical perspective and/or marketing and/or natural and expected evolution of the art. Where TikTok cites to a particular figure in a reference, the citation should be understood to encompass the caption and description of the figure and any text relating to the figure. Conversely, where TikTok cites a particular text referring to a figure, the citation should be understood to include the figure as well. As discovery progresses and the scope and focus of the liability issues become clearer, TikTok may rely on uncited portions of the prior art.

TikTok reserves the right to revise its contentions concerning the invalidity of the Asserted Claims, which may change depending on discovery taken in the case, the Court's construction of the Asserted Claims, any findings as to the priority date of the Asserted Claims, and/or positions that ShopSee or expert witness(es) may take concerning claim construction, infringement, and/or invalidity issues.

TikTok may rely on ShopSee's or any inventor's admissions concerning the scope of prior art relevant to the Asserted Patent; the patent prosecution histories for the Asserted Patent; any deposition testimony of the named inventors on the Asserted Patent; and the papers filed and any evidence submitted by ShopSee in connection with this litigation. For example, TikTok reserves the right to assert that the Asserted Claims are invalid in the event that TikTok obtains

evidence that the named inventors did not invent (either alone or in conjunction with others) the subject matter claimed in the Asserted Patent. Should TikTok obtain such evidence, it will provide the name(s) of the person(s) from whom and the circumstances under which the claimed invention or any part of it was derived.

Prior art not included in this disclosure, whether known or not known to TikTok, may become relevant. In particular, TikTok is currently unaware of the extent, if any, to which ShopSee will contend that limitations of the Asserted Patent are not disclosed in the prior art identified by TikTok. To the extent such an issue arises, TikTok reserves the right to identify other references that would render obvious the allegedly missing limitation(s) of the disclosed device or method. Further, because TikTok has not yet completed its search for or analysis of relevant prior art, TikTok reserves the right to revise, amend, and/or supplement the information provided herein, including identifying, charting, and relying on additional references, should TikTok's further search and analysis yield additional information or references, consistent with the Federal Rules of Civil Procedure. Plaintiff also has a duty to produce to Defendants all relevant documents from other proceedings involving the patents related to the asserted patent or their subject matter, including but not limited to all prior art invalidity contentions and expert reports on invalidity among other relevant items.

Additionally, because third-party discovery is not yet complete, TikTok reserves the right to present additional items of prior art under 35 U.S.C. § 102 and/or § 103, located during the course of such discovery or further investigation, and to assert invalidity to the extent that such discovery or investigation yields information forming the basis for such invalidity. For example, TikTok has issued or plans to issue subpoenas to (and has received or expects to receive, voluntarily or subject to subpoenas, information from) third parties believed to have knowledge,

documentation, and/or corroborating evidence concerning some of the prior art listed below and/or additional prior art. These third parties include, without limitation, the authors, inventors, vendors, or assignees of the references listed in these disclosures.

TikTok further reserves the right to modify or add additional contentions in the event that ShopSee provides amended infringement contentions and to the extent the Court orders or allows ShopSee to amend its infringement contentions.

Pursuant to the Scheduling Order, and in light of ShopSee's Infringement Contentions and accompanying claim chart, TikTok lists in these Invalidity Contentions the prior art now known to it that it contends anticipates or renders obvious the Asserted Claims. Although TikTok has identified at least one disclosure of a limitation for each prior art reference, each and every disclosure of the same limitation in the same reference is not necessarily identified. In an effort to focus the issues, TikTok's citations are only to representative portions of an identified reference, even where a reference may contain additional support for a particular claim limitation elsewhere. POSITAs generally read an item of prior art as a whole and in the context of other publications and literature. Thus, to understand and interpret any specific statement or disclosure within a prior art reference, such persons would rely on other information within the reference, along with other publications and their general scientific knowledge. TikTok may rely on uncited portions of the prior art references and on other publications and expert testimony to provide context, and as aids to understanding and interpreting the portions that are cited.

TikTok incorporates in these Invalidity Contentions, in full, all prior art references cited in the Asserted Patent and its prosecution histories.

Subject to TikTok's reservation of rights, TikTok identifies each item of prior art that anticipates and/or renders obvious the Asserted Claims. The patents/applications, publications,

and systems identified are also relevant to show the state of the art and reasons and motivations for making improvements, additions, and combinations.

III. PRIORITY DATE

ShopSee contends that claims 1-12, 14, and 16-19 are entitled to a priority date at least as early as the effective filing date of the '316 Patent's Provisional Application—i.e., December 28, 2016. ShopSee contends that claims 13 and 15 are entitled to a priority date at least as early as the effective filing date of the '316 Patent Application—i.e., December 27, 2017. (Infringement Contentions, p. 6).

It is ShopSee's burden to show entitlement to its asserted priority date, and TikTok asserts that ShopSee has failed to meet that burden. *See Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1327 (Fed. Cir. 2008); *see also, In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1376 (Fed. Cir. 2016) (“[A] patentee bears the burden of establishing that its claimed invention is entitled to an earlier priority date than an asserted prior art reference.”). For example, ShopSee has failed to show that one or more of the Asserted Claims are supported by provisional application (No. 62/439,520) filed December 28, 2016, including at least because there is no disclosure of “creat[ing] an application for providing information on items, services, or songs in a video media, the application comprising ...” in the provisional application.

While TikTok has focused on prior art that predates the claimed priority dates. TikTok reserves the right to amend these Invalidity Contentions with additional prior art and/or with additional charts of the art if ShopSee alleges earlier or later priority dates.

In addition, ShopSee has not identified a date of conception or reduction to practice for the Asserted Patent, other than producing the file histories for those patents and identifying them as “related to the conception and reduction to practice of each Asserted Patent” on page 7 of its Infringement Contentions. Nor does ShopSee claim that any exception under post-AIA Section

102(b) or 102(c) applies. TikTok therefore also reserves its right to amend its Invalidity Contentions if ShopSee is permitted to argue that one of those exceptions applies or if ShopSee does not meet its burden to prove the priority dates it asserts.

IV. PRIOR ART REFERENCES

TikTok identifies the following prior art now known to TikTok to anticipate or render obvious the Asserted Claims under at least 35 U.S.C. §§ 102(a) and/or (d), either expressly or inherently as understood by a POSITA, and/or render obvious under 35 U.S.C. § 103, either alone or in combination. At this time, TikTok contends that the prior art references described below or throughout these invalidity contentions and accompanying claim charts (including Section V and Exhibit 316-A01-A20 and 316-B) anticipate or render obvious, either alone or in combination, one or more of the Asserted Claims. These prior art references also provide a description of the level of skill in the art and provide background information showing the knowledge of a person of skill in the art. TikTok reserves the right to rely on these references for those purposes.

TikTok additionally incorporates by reference all prior art references cited on the face of the Asserted Patent. TikTok further incorporates by reference all prior art references identified in the file histories of the same. TikTok reserves the right to rely upon foreign counterparts of the U.S. Patents identified in these Invalidity Contentions; U.S. counterparts of foreign patents and foreign patent applications identified in these Invalidity Contentions; U.S. and foreign patents and patent applications corresponding to articles and publications identified in these Invalidity Contentions; and any systems, products, or prior inventions related to any references identified in these Invalidity Contentions.

ShopSee also has not produced the non-public file histories of child applications claiming priority to the '316 patent, including U.S. Pat. Application Nos. 19/092,852, 18/215,426,

17/712,772, 18/582,537, 17/410,851, 17/985,081. TikTok incorporates by reference all prior art cited by the Examiner and any Examiner arguments rejecting those applications to the extent the prior art and arguments are also applicable to the Asserted Claims of the '316 patent. TikTok reserves the right to amend or supplement these invalidity contentions once ShopSee produces those related file histories.

In these Invalidity Contentions, including the exhibits, any citation to a printed publication or other reference describing a prior art system should also be construed to include a reference to the prior art system itself.

The Asserted Patent has asserted claims with limitations that are substantially similar to limitations of other asserted claims of the Asserted Patent. TikTok reserves the right to rely on references and obviousness arguments charted for a limitation of one asserted claim when invalidating another asserted claim with a similar limitation.

Similarly, these Invalidity Contentions, including the exhibits, may contain citations to certain embodiments disclosed in a prior art reference but not to all embodiments disclosed in that reference. TikTok reserves the right to rely on variant embodiments in cited prior art references even if those variant embodiments are not otherwise specifically cited.

A. Prior Art Patents and Publications

Prior Art	Effective Filing Date	Publication / Issue Date
KR 20150072465A	12/18/2013	6/30/2015
EP 1425918B1	9/12/2002	6/9/2004
EP 2852155A1	9/24/2014	3/25/2015
CN 105719170A	1/19/2016	6/29/2016
WO 2015/128758	2/2/2015	9/3/2015
CN 105577519	12/21/2015	5/11/2016
CN 105430455	11/12/2015	3/23/2016
WO 2013/138370	3/12/2012	9/19/2013
TW I475504	9/13/2012	3/16/2014

WO 2016/073907	11/7/2014	5/12/2016
KR 101667603	5/6/2015	10/19/2016
KR 100418201	10/17/2000	4/25/2002
JP 5663779	9/29/2010	4/12/2012
JP 5796402	8/12/2011	10/21/2015
U.S. 7,036,083	12/14/1999	4/25/2006
U.S. 7,143,428	4/21/1999	11/28/2006
U.S. 7,756,758	12/8/2008	7/13/2010
U.S. 8,356,077	7/11/2012	1/15/2013
U.S. 8,615,474	4/18/2012	12/24/2013
U.S. 8,700,714	12/6/2007	4/15/2014
U.S. 8,769,053	8/29/2012	7/1/2014
U.S. 8,806,540	5/10/2011	8/12/2014
U.S. 8,863,185	1/4/2011	10/14/2014
U.S. 8,918,333	7/9/2012	12/23/2014
U.S. 9,311,678	12/15/2010	4/12/2016
U.S. 9,672,496	8/18/2011	6/6/2017
U.S. 9,754,355	1/9/2015	9/5/2017
U.S. 9,883,249	6/26/2015	1/30/2018
U.S. 9,973,819	6/26/2015	5/15/2018
U.S. 10,021,458	6/26/2015	7/10/2018
U.S. 10,104,025	5/23/2016	10/16/2018
U.S. 10,440,436	6/26/2015	10/8/2019
U.S. 10,546,352	3/14/2013	1/28/2020
U.S. 10,789,631	10/10/2014	9/29/2020
U.S. 10,944,707	8/28/2015	3/9/2021
U.S. 11,074,620	9/11/2014	7/27/2021
U.S. 11,432,046	6/13/2016	8/30/2022
U.S. 2003/0097301	2/27/2002	5/22/2003
U.S. 2004/0068758	10/2/2002	4/8/2004
U.S. 2005/0262542	8/12/2004	11/24/2005
U.S. 2008/0140523	12/6/2006	6/12/2008
U.S. 2009/0144772	11/30/2007	6/4/2009
U.S. 2009/0257623	4/15/2008	10/15/2009
U.S. 2010/0027961	6/30/2009	2/4/2010
U.S. 2010/0030578	3/23/2009	2/4/2010
U.S. 2010/0242074	3/23/2009	9/23/2010
U.S. 2011/0164163	1/5/2010	7/7/2011
U.S. 2011/0231260	3/17/2010	9/22/2011

U.S. 2012/0084812	10/4/2011	4/5/2012
U.S. 2012/0159327	12/16/2010	6/21/2012
U.S. 2012/0167145	12/28/2010	6/28/2012
U.S. 2012/0238254	3/17/2011	9/20/2012
U.S. 2012/0266197	6/22/2012	10/18/2012
U.S. 2012/027874.0	7/11/2012	11/1/2012
U.S. 2012/0291059	5/10/2011	11/15/2012
U.S. 2012/0296739	5/20/2011	11/22/2012
U.S. 2013/0066750	9/12/2012	3/14/2013
U.S. 2013/0104080	10/19/2011	4/25/2013
U.S. 2013/0205348	3/15/2013	8/8/2013
U.S. 2013/0238519	3/7/2013	9/12/2013
U.S. 2014/0006156	8/30/2012	1/2/2014
U.S. 2014/0067969	11/29/2012	3/6/2014
U.S. 2014/0089966	11/26/2013	3/27/2014
U.S. 2014/0195913	1/6/2014	7/10/2014
U.S. 2014/0215529	1/24/2014	7/31/2014
U.S. 2014/0258029	3/7/2013	9/11/2014
U.S. 2014/0279068	3/14/2013	9/18/2014
U.S. 2015/0039468	10/10/2014	2/5/2015
U.S. 2015/0073919	9/11/2014	3/12/2015
U.S. 2015/0117837	10/31/2013	4/30/2015
U.S. 2015/0128175	9/8/2014	5/7/2015
U.S. 2015/0296250	4/10/2014	10/15/2015
U.S. 2015/0317686	4/30/2014	11/5/2015
U.S. 2015/0356587	6/5/2014	12/10/2015
U.S. 2016/0012518	6/12/2015	1/14/2016
U.S. 2016/0027067	7/28/2015	1/28/2016
U.S. 2016/0029094	10/2/2015	1/28/2016
U.S. 2016/0094501	8/28/2015	3/31/2016
U.S. 2016/0119692	10/24/2015	4/28/2016
U.S. 2017/0257410	3/3/2016	9/7/2017
U.S. 2017/0280198	3/28/2016	9/28/2017
U.S. 7,036,083	12/14/1999	4/25/2006
U.S. 7,143,428	4/21/1999	11/28/2006
U.S. 7,756,758	12/8/2008	7/13/2010
U.S. 8,356,077	7/11/2012	1/15/2013
U.S. 8,615,474	4/18/2012	12/24/2013
U.S. 8,700,714	12/6/2007	4/15/2014

U.S. 8,769,053	8/29/2012	7/1/2014
U.S. 8,806,540	5/10/2011	8/12/2014
U.S. 8,863,185	1/4/2011	10/14/2014
U.S. 8,918,333	7/9/2012	12/23/2014
U.S. 9,311,678	12/15/2010	4/12/2016
U.S. 9,672,496	8/18/2011	6/6/2017
U.S. 9,754,355	1/9/2015	9/5/2017
U.S. 9,883,249	6/26/2015	1/30/2018
U.S. 9,973,819	6/26/2015	5/15/2018
U.S. 10,021,458	6/26/2015	7/10/2018
U.S. 10,104,025	5/23/2016	10/16/2018
U.S. 10,440,436	6/26/2015	10/8/2019
U.S. 10,546,352	3/14/2013	1/28/2020
U.S. 10,789,631	10/10/2014	9/29/2020
U.S. 10,944,707	8/28/2015	3/9/2021
U.S. 11,074,620	9/11/2014	7/27/2021
U.S. 11,432,046	6/13/2016	8/30/2022
U.S. 2003/0097301	2/27/2002	5/22/2003
U.S. 2004/0068758	10/2/2002	4/8/2004
U.S. 2005/0262542	8/12/2004	11/24/2005
U.S. 2008/0140523	12/6/2006	6/12/2008
U.S. 2009/0144772	11/30/2007	6/4/2009
U.S. 2009/0257623	4/15/2008	10/15/2009
U.S. 2010/0027961	6/30/2009	2/4/2010
U.S. 2010/0030578	3/23/2009	2/4/2010
U.S. 2010/0242074	3/23/2009	9/23/2010
U.S. 2011/0164163	1/5/2010	7/7/2011
U.S. 2011/0231260	3/17/2010	9/22/2011
U.S. 2012/0084812	10/4/2011	4/5/2012
U.S. 2012/0159327	12/16/2010	6/21/2012
U.S. 2012/0167145	12/28/2010	6/28/2012
U.S. 2012/0238254	3/17/2011	9/20/2012
U.S. 2012/0266197	6/22/2012	10/18/2012
U.S. 2012/027874.0	7/11/2012	11/1/2012
U.S. 2012/0291059	5/10/2011	11/15/2012
U.S. 2012/0296739	5/20/2011	11/22/2012
U.S. 2013/0066750	9/12/2012	3/14/2013
U.S. 2013/0104080	10/19/2011	4/25/2013
U.S. 2013/0205348	3/15/2013	8/8/2013

U.S. 2013/0238519	3/7/2013	9/12/2013
U.S. 2014/0006156	8/30/2012	1/2/2014
U.S. 2014/0067969	11/29/2012	3/6/2014
U.S. 2014/0089966	11/26/2013	3/27/2014
U.S. 2014/0195913	1/6/2014	7/10/2014
U.S. 2014/0215529	1/24/2014	7/31/2014
U.S. 2014/0258029	3/7/2013	9/11/2014
U.S. 2014/0279068	3/14/2013	9/18/2014
U.S. 2015/0039468	10/10/2014	2/5/2015
U.S. 2015/0073919	9/11/2014	3/12/2015
U.S. 2015/0117837	10/31/2013	4/30/2015
U.S. 2015/0128175	9/8/2014	5/7/2015
U.S. 2015/0296250	4/10/2014	10/15/2015
U.S. 2015/0317686	4/30/2014	11/5/2015
U.S. 2015/0356587	6/5/2014	12/10/2015
U.S. 2016/0012518	6/12/2015	1/14/2016
U.S. 2016/0027067	7/28/2015	1/28/2016
U.S. 2016/0029094	10/2/2015	1/28/2016
U.S. 2016/0094.501	8/28/2015	3/31/2016
U.S. 2016/0119692	10/24/2015	4/28/2016
U.S. 2017/0257410	3/3/2016	9/7/2017
U.S. 2017/0280198	3/28/2016	9/28/2017

Prior Art	Author	Pub. Date
“16 Observations on Livestreaming in China”	Chan, <i>Andreessen Horowitz</i>	9/27/2016
“Adobe Photoshop adds Content-Aware Crop and font suggestions”	Steele, <i>Engadget</i>	6/21/2016
“Adobe Photoshop and Premiere Elements 14 review: Inexpensive, top-notch photo and video editing”	Cardinal, <i>Extremetech</i>	9/25/2015
“Amazon debuts talk show 'Style Code Live' to boost fashion cred”	Howland, <i>Retail Dive</i>	3/9/2016
“Amazon launches first daily live show: 'Style Code Live' debuts today”	Bishop, <i>GeekWire</i>	3/8/2016
“Bring Your Messenger Conversations to Life With Instant Video”	<i>Meta</i>	9/1/2016
“CEO Of XSN, The Home Shopping Network For Millennials, On Why It’s QVC For Fanboys And Fangirls”	Thompson, <i>Forbes</i>	3/3/2016

“Cutting the Cord: Rabbit TV brings free streaming video to Facebook”	Snider, <i>USA Today</i>	8/20/2015
“Diminished Reality: Impressive Video Manipulation In Real-Time”	Toto, <i>TechCrunch</i>	10/21/2010
“Facebook Messenger adds live video to augment your messages”	Newton, <i>The Verge</i>	9/1/2016
“Facebook Messenger Rolls Out Group Calling To Every User”	Chowdhry, <i>Forbes</i>	4/21/2016
“Facebook 'Replies' Brings Threaded Comments To Page Posts”	McGee, <i>Martech</i>	3/25/2013
“Facebook Rolls Out Replies And Threaded Comments On Page Posts And Popular Profiles”	Lunden, <i>TechCrunch</i>	3/25/2013
“Facebook Threaded Comments: This Week in Social Media”	King, <i>Social Media Examiner</i>	3/30/2013
“Facebook Will Force Advertising on Ad-Blocking Users”	Marshall, <i>Wall Street Journal</i>	8/9/2016
“Going Native”	Maytom, <i>Mobile Marketing Magazine</i>	3/8/2016
“How to use the Hype app and win all the sparkles”	CNET (Youtube)	11/4/2016
“Inpainting Software Removes People and Objects from HD Video”	Cade, <i>PetaPixel</i>	3/16/2013
“Introducing Group Video Chat in Messenger”	Taine, <i>Meta</i>	12/19/2016
“Is native advertising the answer to ad blocking?”	Simpson, <i>Econsultancy</i>	10/12/2015
Kristina doing Amazon Style Code Live!	Rader33, <i>YouTube</i>	3/24/2016
Live Commenting: Behind the Scenes	Deeter, <i>Engineering at Meta</i>	2/7/2011
“Photoshop Updated with Face-Aware Liquify, Content-Aware Crop, and More”	Cade, <i>PetaPixel</i>	6/21/2016
“Pinterest Acquires Image Recognition And Visual Search Startup VisualGraph”	Constine, <i>TechCrunch</i>	1/6/2014
“Social Media Commerce Management Video - Integrated Solutions with Cinsay”	CinsayInc, <i>YouTube</i>	3/28/2012
“The Facial Recognition Feature In Lightroom CC”	Dayley, <i>SLR Lounge</i>	9/9/2015

“The Rise of the Anti-Ad Blockers”	Marshall, <i>The Wall Street Journal</i>	6/13/2016
“Under the hood: Building accessibility tools for the visually impaired on Facebook”	Garcia, et al., <i>Engineering at Meta</i>	4/4/2016
“Understanding Hype, a live-streaming app packed with weird”	Carey, <i>CNET</i>	11/4/2016
“XSN Live Streaming Shopping”	TheOneRing, <i>Youtube</i>	8/16/2016
“Yahoo Commerce Central & CINSAY Smart Store”	CinsayInc, <i>YouTube</i>	5/16/2014

TikTok additionally identifies and relies on patent or publication references that describe or are otherwise related to the prior art systems identified below, including any patents or publications cited in the claim charts for these systems or elsewhere in these Invalidity Contentions, including Sections IV.B and V, below. TikTok’s investigation into prior art patent and publication references is ongoing, and TikTok reserves the right to identify and rely on additional patent or publication references that are identified through further investigation or discovery. TikTok reserves the right to supplement as further prior art is identified through investigation or discovery.

B. Prior Art Systems and Products

Prior Art	Date of Public Use, Sale, Offer, or Availability	Offering Entity
Instagram	October 6, 2010	Meta Platforms, Inc., Facebook, Inc., Instagram, Inc.
Facebook	February 4, 2004	Meta Platforms, Inc., Facebook, Inc.
Veepio	June 12, 2015	Veepio Holdings, Inc.
Meerkat	February 2015	Life On Air, Inc.
YouTube	December 15, 2005	Google, Inc.
Amazon.com; Style Code Live	March 8, 2016	Amazon.com, Inc.
Snapchat	September 2011	Snap, Inc.
Youku	December 2006	Youku Tudou Inc.
Taobao	May 2003	Alibaba Group Holding Limited

Mogujie	2011	MOGU Inc.
RelayTV	October 2, 2015	LiveRelay Inc.

TikTok has begun to take discovery of third parties, but the process of identifying and engaging with entities that may have prior art from eight or more years ago is ongoing. TikTok reserves the right to conduct such discovery and supplement these Invalidity Contentions to include any prior art systems and products that render the asserted claims invalid, if necessary. TikTok may use documentation and publications, physical samples, executable software, or source code as evidence of the relevant functionality of these prior art products or services. TikTok will make available for inspection any physical samples of products, systems, or software listed above, and/or any source code, that it has in its possession or that becomes available during discovery.

V. INVALIDITY UNDER 35 U.S.C. §102 AND §103

A. Anticipation

TikTok contends that the Asserted Claims are invalid as anticipated under 35 U.S.C. § 102 in view of each of the prior art references charted in Exhibits 316-A01-A20:

Exhibit No.	Prior Art
-A01	Instagram
-A02	Facebook
-A03	Snapchat
-A04	Veepio
-A05	Taobao
-A06	Youku
-A07	Mogujie
-A08	Meerkat
-A09	YouTube
-A10	Yankovich
-A11	Cheung (on information and belief, also shows implementation of RelayTV system)
-A12	Lee
-A13	Ohlinger
-A14	Roberts
-A15	Robinson

-A16	Spitz
-A17	Systrom
-A18	Taylor
-A19	Chang
-A20	Amazon

To the extent any item of prior art cited above is deemed not to disclose, explicitly or inherently, any limitation of an Asserted Claim, TikTok reserves the right to argue that any difference between that prior art and the corresponding patent claim would have been either inherent to the art or obvious to a person of ordinary skill in the art.

Additional prior art has not been charted, but is still relevant to the anticipation of the Asserted Patent, including without limitation as evidence of the state of the art at the alleged time of invention, defining the relevant POSITA, and demonstrating how a POSITA would understand the charted prior art. This includes, for example, prior art identified in Sections IV and V of these cover pleadings and in the accompanying exhibits, as well as their references to other prior art references and technologies (*see* Exhibit 316-B).

In addition, where TikTok charted a prior art patent or publication, TikTok reserves the right to rely on other versions of that prior art patent or publication containing the same or overlapping disclosure. TikTok also reserves the right to present prior art charted as a patent or publication instead as a system described in that patent or publication (to extent there was such a system). For any prior art charted as a system, TikTok reserves the right to instead present any one of the patents or publications cited in that chart or a combination of multiple such patents or publications as itself invalidating prior art.

TikTok reserves the right to amend these Invalidity Contentions to assert any of these references depending on the infringement positions ShopSee may take and/or as TikTok's ongoing investigation continues.

B. Obviousness

Each anticipatory prior art reference disclosed in the preceding section as invalidating an Asserted Claim also renders that claim obvious, either alone or in combination with other prior art, as demonstrated in the claim charts appended as Exhibits 316-A01-A20. To the extent any limitation is deemed not to be exactly met by an item of prior art listed above and in the appended Exhibits, then any purported differences are such that the claimed subject matter as a whole would have been obvious to one skilled in the art at the time of the alleged invention, in view of the state of the art and knowledge of those skilled in the art. The item of prior art would, therefore, render the relevant claims invalid for obviousness under 35 U.S.C. § 103.

In addition, the references identified above render one or more asserted claims of the Asserted Claims obvious when the references are read in combination with each other, and/or when read in view of the state of the art and knowledge of those skilled in the art. To the extent any of the references in Exhibits 316-A01-A20 is deemed to lack a particular claim limitation, that reference can be combined with the disclosure identified for that limitation in Exhibit 316-B to render that limitation and ShopSee's claims as a whole obvious. TikTok may also show that such an allegedly lacking limitation is rendered obvious by the disclosure of any of the other references identified for that limitation in Exhibits 316-A01-A20.

Additional prior art, including material referenced herein or produced in conjunction with these Invalidity Contentions, that has not been charted is nonetheless relevant to the obviousness of the Asserted Patent, including without limitation as evidence of the state of the art at the alleged time of invention, defining the relevant POSITA, and demonstrating how a POSITA would understand the charted prior art. This includes prior art identified in Sections IV and V of these cover pleadings and in the accompanying exhibits.

TikTok also reserves the right to amend or supplement these contentions regarding anticipation or the obviousness of the Asserted Claims in view of further information from ShopSee, or information discovered during discovery. ShopSee has not identified what elements or combinations it alleges were not known to one of ordinary skill in the art at the time. Therefore, for any claim limitation that ShopSee alleges is not disclosed in a particular prior art reference, TikTok reserves the right to assert that any such limitation is either inherent in the disclosed reference or obvious to one of ordinary skill in the art at the time in light of the same, or that the limitation is disclosed in another of the references disclosed above and in combination would have rendered the asserted claim obvious.

C. Motivation to Combine

TikTok intends to present expert evidence demonstrating the motivation to combine of one of ordinary skill in the art. Such facts and evidence is expert testimony and will be presented in the experts' reports according to the schedule of the Court. TikTok incorporates by reference its forthcoming expert reports and any testimony of its experts presented according to the Court's schedule. The motivation to combine or modify the above items of prior art are present, for example, in the references themselves, the Asserted Patent, references cited on the face of the Asserted Patent, the knowledge, skill, or creativity of one of ordinary skill in the art, the prior art as a whole, and/or the nature of the problems allegedly addressed by the Asserted Patent. The law requires no showing of a specific motivation to combine or modify prior art references disclosed herein and in the Invalidity Charts, as each combination or modification of art would have no unexpected results and at most would simply represent a known alternative to one of skill in the art. *See KSR Int'l Co. v. Teleflex, Inc.*, 127 S.Ct. 1727, 1739-40 (2007) (rejecting the Federal Circuit's "rigid" application of the teaching, suggestion, or motivation to combine test, instead espousing an "expansive and flexible" approach). Indeed, the Supreme Court held that a

person of ordinary skill in the art is “a person of ordinary creativity, not an automaton” and “in many cases, a person of ordinary skill in the art will be able to fit the teachings of multiple patents together like pieces of a puzzle.” *Id.* at 1742. Thus, to a person of ordinary skill in the art, the Asserted Claims represent solutions that would have been obvious to try, with predictable results.

Nevertheless, should additional evidence of motivation to combine or modify be required to render the Asserted Claims obvious, TikTok contends that there was a motivation to combine the references identified above. That motivation was provided in the nature of the problem allegedly solved by the Asserted Patent, the teachings of the cited prior art itself, and/or the knowledge of a person of ordinary skill in the art. For example, the combinations identified above would have been combined or modified using: known methods to yield predictable results; common sense; known techniques in the same way; a simple substitution of one known, equivalent element for another to obtain predictable results; and/or a teaching, suggestion, or motivation in the prior art generally. In addition, it would have been obvious to try combining or modifying the prior art references identified above because there were only a finite number of predictable solutions and/or because known work in one field of endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. In addition, the combination of the prior art references would have been obvious because the combination represents known potential options with a reasonable expectation of success.

Additional evidence that there would have been a motivation to combine or modify the prior art references above includes the interrelated teachings of multiple prior art references; the effects of demands known to the design community or present in the marketplace; the existence of a known problem for which there was an obvious solution encompassed by the Asserted

Claims; the existence of a known need or problem in the field of the endeavor at the time of the alleged invention(s); and the background knowledge, skill, or creativity that would have been possessed by a person having ordinary skill in the art. TikTok may rely on uncited portions of the prior art references cited and produced, other publications and testimony, and the testimony of experts to establish that a person of ordinary skill in the art would have been motivated to modify or combine certain of the cited references so as to render the claims obvious.

For example, where multiple publications describe the same system, describe devices that are intended to be used together, or are from the same author, publisher, or manufacturer, one of ordinary skill would be motivated and find it obvious to read those publications together and combine their disclosure. As another example, where a product was available in another country, the availability of such a product would motivate a person of ordinary skill to arrive at the same or similar product in the United States. As yet another example, where the prior art identifies the desirability of or plans for future enhancements of a system, a person of ordinary skill would be motivated to incorporate such enhancements even if the original developer or author was unable to complete those enhancements.

Moreover, the Asserted Claim combines disparate features that would have been obvious to combine, since each feature can be added for the benefits it confers without detracting from other features. Nor is there any unanticipated advantage to the specific combination of features recited in the Asserted Claims. For example, a POSITA looking to augment video playback would be motivated to add links to products, services and music to provide relevant, supplemental information to users or boost sales and to add social media capabilities to boost engagement and human connectivity. There is no reason a POSITA would not be able to add both of those features for independent reasons, nor is there any particular synergy in adding both

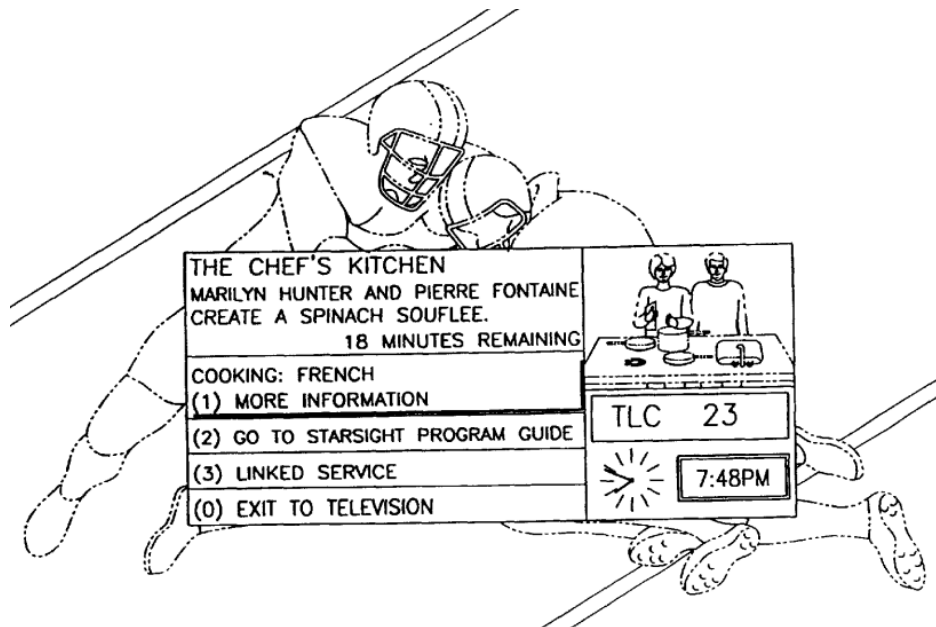
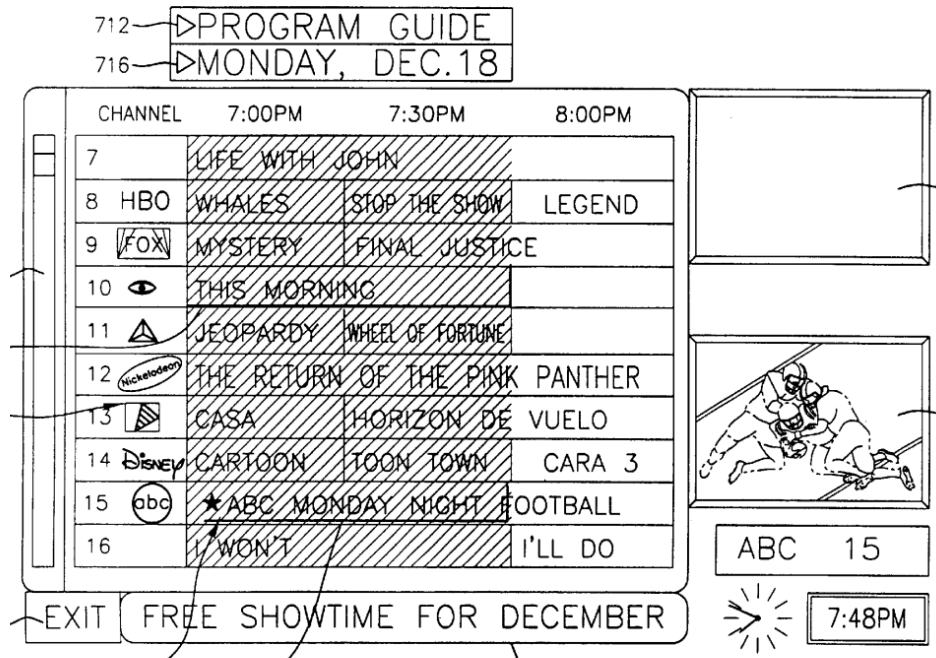
above and beyond the feature-specific motivations applicable to each. Some such feature-specific motivations to combine are set forth below.

1. Interactive Layers With Linked Products and Services

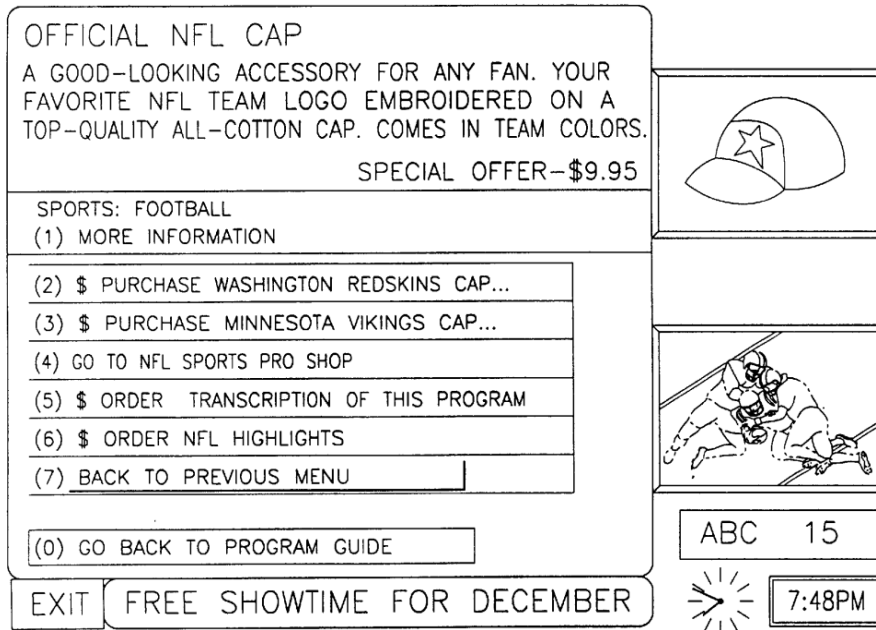
Superimposing interactive layers on top of a video has been known for decades. Interactive program guides have existed since the 1980s, and by the 1990s it was well known to superimpose such interactive guides as a layer over a television program. *See* <http://blog.fyitelevision.com/2014/02/the-on-screen-epg-industry-past-present.html#sthash.4hTSpjWm.dpbs>:



Guides in the 1990s not only presented the schedules as overlays, but allowed integration of the video in the guide itself. For example, U.S. Pat. No. 6,388,714, filed April 11, 1997 and issued May 14, 2002, describes both embedding broadcast television into a program area 726, as well as displaying parts of the guide over the video. *See, e.g.*, U.S. Pat. No. 6,388,714 at FIG. 12A, 13C.



Interactivity provided by such program guides was not limited to just showing program schedule information and further allowed for the linking of services and products associated with the underlying video, such as ordering a hat or a subscription service associated with an NFL game the user is watching. *See, e.g., U.S. Pat. No. 6,388,714 at FIG. 17C.*



Additional disclosure demonstrating the well-known nature of incorporating interactive layers and linking to products and items is identified in Exhibits 316-A01-A20 and 316-B.

A POSITA would be motivated to incorporate such interactive layers to improve the user experience and derive additional revenue. From a user experience perspective, individual users may have questions or desire additional information that are not addressed by the video itself, which may have been recorded before the user watches the same (i.e., not all videos are live). In that case, the video can leave the user with unanswered questions and curious for more information. By incorporating an interactive layer, a POSITA can answer those questions and address the curiosity without needing to modify the video or impact the viewing experience of other users who may not share the same questions/curiosity. Instead, the specific user can obtain additional information regarding, e.g., a product or other item in a video by interacting with just the interactive layer.

Moreover, by linking products and other items to the video, the POSITA can capture additional revenue. If a user sees something in a video and desires to purchase the same, the user

can normally go out and acquire it from another source. For example, while watching a movie on the TV and noticing a desirable piece of clothing, the user can in parallel use his or her phone to search for that or similar clothing online and purchase the same from a third party vendor. Under these circumstances, video provider is cut out of the transaction and does not make any profit. But if the system links the video directly to purchasing opportunities, as for example disclosed in U.S. Pat. No. 6,388,714 or Exhibits 316-A01-A20, B, the video provider can charge the product seller a percentage of sale price (or similar fee or profit sharing arrangement) as compensation for directing the user to the seller via the linked product or other item.

2. Tracking Objects in Video

Tracking objects in a video has also been around for decades. In its simplest implementation, this involves calculating a 2D cross-correlation (related to the concept of convolution but without inversion) of an underlying video frame and an image or representation of an object. The mathematical framework for this has been known since the 18th century. More advanced processes include Kernel-based tracking, contour tracking, Kalman filtering, and Particle filtering. Even those have been around since the 1960s.

As one example, the Condensation Algorithm for “[t]racking objects through highly cluttered scenes” was released in 1998, and source code for implementing that algorithm is readily available to the public for download. https://homepages.inf.ed.ac.uk/rbf/CVonline/LOCAL_COPIES/ISARD1/condensation.html. As shown by the video available on the website where the algorithm is published, the Condensation Algorithm is powerful enough to track a single leaf rustling in the wind:



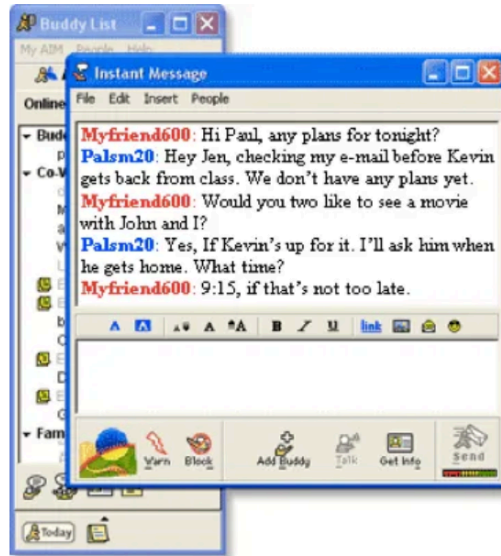
As demonstrated by the prior art charted in Exhibits 316-A01-A20 and 316-B, it was further well known to use such tracking algorithms to track products and other objects in videos, and then link those objects to additional information and purchasing opportunities.

Moreover, a POSITA would be motivated to implement tracking in this manner to improve the user experience and boost user engagement. Individual objects in a video may be of interest to users, and a user may thus manually watch them as the video progresses (thereby visually tracking them). A user may be curious about such objects, want more information on them, or just want to own them. For example, a piece of clothing on a movie character may be appealing to consumers. In everyday life, the way a user would identify such an object would be to point to it. In the video setting, the same would be true: a user would want to be able to point to an object in a video to identify additional information or purchase the same. But to do that, the system would need to know where in the video each object is located. That in turn would be one of the reasons a POSITA would be motivated to integrate tracking functionality into prior art systems.

3. Social Media, Chat, and Comments, Including Toggling Between Conversations and Threaded Comments

The development of modern computer chat systems evolved through distinct technological phases, each building upon previous innovations. In the 1970s and early 1980s, bulletin board systems (BBS) and early email protocols established the foundation for digital communication. *See e.g.* “Social Media’s Dial-Up Ancestor: The Bulletin Board System,” Kevin Driscoll, IEEE Spectrum (Oct. 24, 2016) (<https://spectrum.ieee.org/social-medias-dialup-ancestor-the-bulletin-board-system>). These systems operated asynchronously, allowing users to post messages and receive responses hours or days later. ARPANET's email system and USENET newsgroups exemplified this paradigm, creating threaded discussions that persisted over time. *See e.g.*, “The History of Email,” Zack Bloom, Cloudflare Blog (Sept. 23, 2017) (<https://blog.cloudflare.com/the-history-of-email/>).

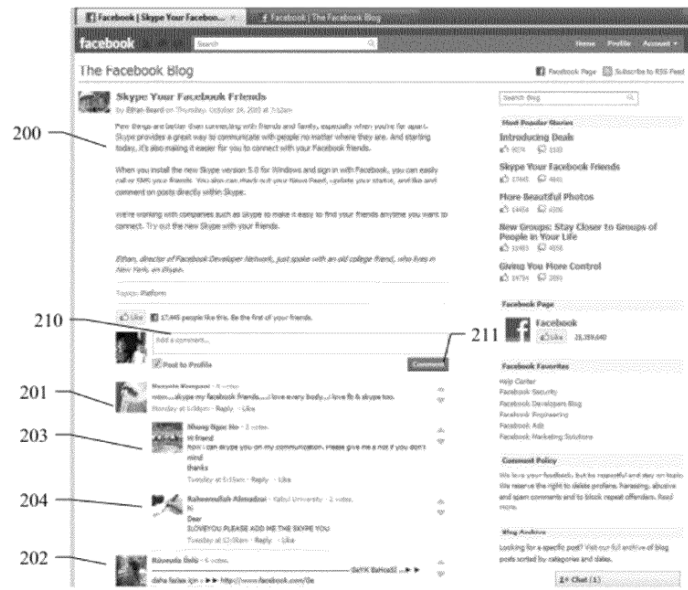
The late 1980s and 1990s witnessed the emergence of real-time communication protocols. Internet Relay Chat (IRC), launched in 1988, introduced multi-room synchronous chat capabilities, allowing users to join channels dedicated to specific topics. For example, America Online's instant messaging service brought one-to-one instant messaging to mainstream users. “You’ve Got Mail! The History and Impact of AOL Instant Messenger,” Kelly Schikowski, Medium (Jan. 13, 2024) (<https://medium.com/@kellyschikowski/youve-got-mail-the-history-and-impact-of-aol-instant-messenger-cff35469f560>). These systems fundamentally changed user expectations from asynchronous to synchronous communication. “The Evolution of Internet Relay Chat (IRC),” Andre Machado (Dec. 20, 2024) (<https://machaddr.substack.com/p/the-evolution-of-internet-relay-chat>).



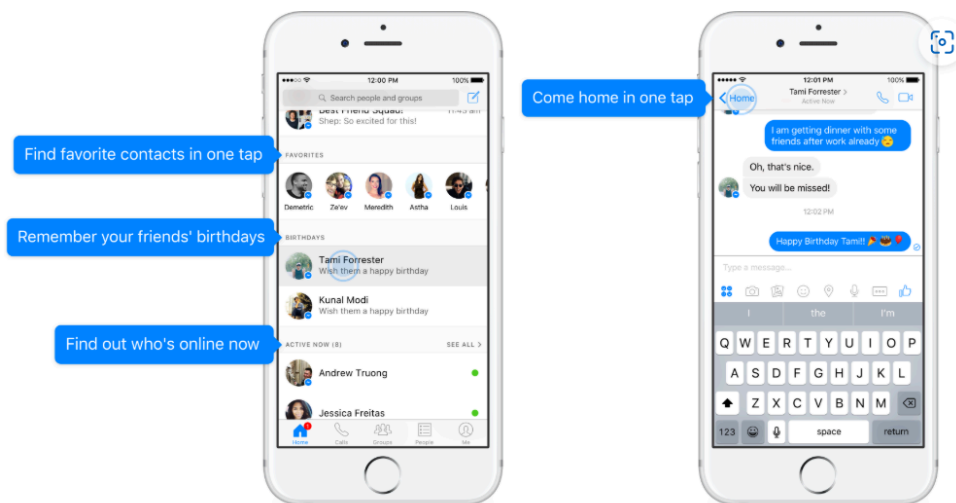
ICQ notably introduced multiple conversation tabs that allowed users to maintain multiple simultaneous chats while toggling between those chats. These systems established the precedent for managing multiple conversation streams. “ICQ: 20 Years Is No Limit!,” Dimitry O. Photo, Medium (Nov. 15, 2016) (<https://medium.com/@Dimitryphoto/icq-20-years-is-no-limit-8734e1eea8ea>), “A brief overview of communication platforms development – from 1988 till now,” inmost (June 8, 2022) (<https://inmost.pro/blog/a-brief-overview-of-communication-platforms-development-from-1988-till-now/>).



In parallel, social networking first gained traction in the 1990s. The website SixDegrees, launched in 1997, is often regarded as the first social media site. Friendster was launched in 2002, Myspace in 2003, YouTube in 2005, and Facebook in 2006. These platforms allowed all users to be both the developers and consumers of content. Moreover, from the start, social media incorporated chat and commenting functionality. Facebook's commenting system, launched in 2006, became a ubiquitous model across the web through its social plugins. "The History of Facebook: Timeline of the Network," Metricool (Oct. 17, 2023) (<https://metricool.com/history-of-facebook/>), "Comment plug-in for third party system," U.S. Patent No. 9,311,678.



Combined with Facebook Messenger's direct messaging between contacts, early Facebook functionality allowed for carrying on text-based conversations with the public, with large groups of friends, or with a single individual. "Facebook rolls out a new look for Messenger," Sarah Perez, TechCrunch (June 16, 2016) (<https://techcrunch.com/2016/06/16/facebook-rolls-out-a-new-look-for-messenger/>).



YouTube implemented its commenting system in 2005, creating a new paradigm where discussions occurred alongside video content rather than in separate forums. "Design History of

YouTube.com,

”

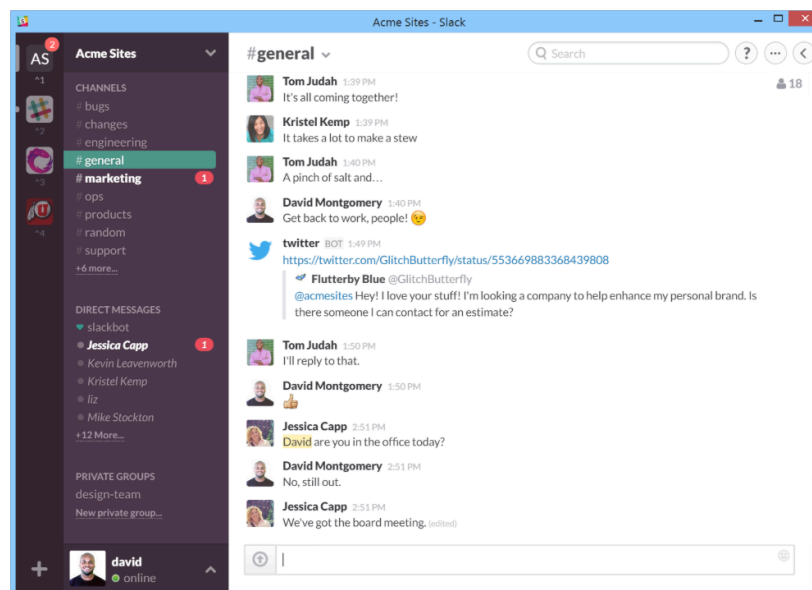
Version

Museum

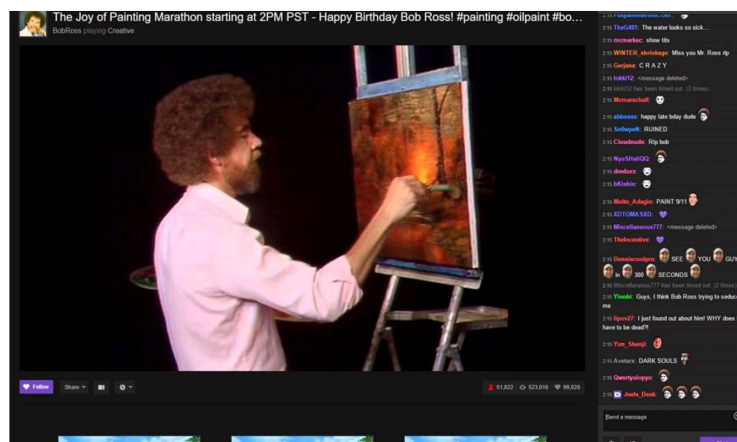
(<https://www.versionmuseum.com/history-of/youtube-website>) (last visited May 22, 2025).

These platforms demonstrated that comments could enhance content engagement and create communities around shared media experiences such as online videos.

Professional communication platforms emerged in the 2010s, combining features from consumer chat systems with enterprise requirements. Slack, launched in 2013, revolutionized workplace communication by integrating channels, direct messages, file sharing, and third-party applications. These platforms synthesized decades of chat evolution into comprehensive communication ecosystems that allow users to toggle between simultaneous direct messages, group messages, and multi-channel conversations. “The History of Slack & Its Impact On Business Communication,” Arjun Ruparelia, Mio Blog (<https://www.m.io/blog/history-of-slack>) (last visited May 22, 2025), “Slack Gets A Standalone Windows App,” Greg Kumparak, TechCrunch (Mar. 18, 2015) (<https://techcrunch.com/2015/03/18/slack-gets-a-standalone-windows-app/>).

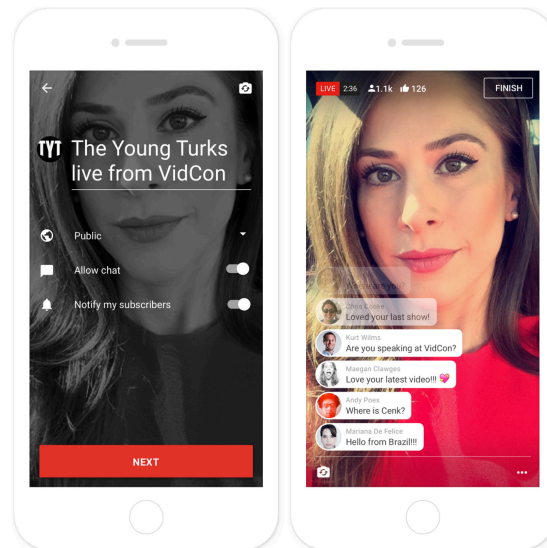


Mobile-first applications transformed chat systems between 2010 and 2016, emphasizing ephemeral content and multimedia communication. Snapchat (2011) introduced disappearing messages and stories. “History of Snapchat: Timeline and Facts,” Brian O’Connell, TheStreet (Feb. 28, 2020) (<https://www.thestreet.com/technology/history-of-snapchat>). Instagram launched in 2010 with an initial focus on photo sharing before adding commenting and direct messaging features. “Instagram: What It Is, Its History, and How the Popular App Works,” Dara-Abasi Ita, Investopedia (May 5, 2025) (<https://www.investopedia.com/articles/investing/102615/story-instagram-rise-1-photo0sharing-a pp.asp>). Video streaming platforms emerged with integrated chat capabilities: Meerkat (2015) and Periscope (2015) pioneered mobile live streaming with real-time comments. “Facebook Live vs YouTube, Periscope and Meerkat,” Mellisa Tolentino, Silicon Angle (Feb. 1, 2016) (<https://siliconangle.com/2016/02/01/facebook-live-vs-youtube-periscope-and-meerkat/>). Twitch (2011) built its platform around live chat accompanying gaming streams. “How Chat Became Twitch’s Native Language — And Its Competitive Edge,” Sam Gutelle, Tubefilter (Apr. 21, 2016) (<https://www.tubefilter.com/2016/04/21/twitch-chat-native-language-competitive-edge/>).



YouTube expanded its live streaming capabilities with chat capabilities to create a model where thousands of users could communicate simultaneously during broadcasts. “You can now

livestream right from the YouTube app,” Ron Amadeo, Ars Technica (Jun. 24, 2016) (<https://arstechnica.com/gadgets/2016/06/you-can-now-live-stream-right-from-the-youtube-app/>)



The integration of these robust commenting and chat systems that developed throughout the 1990s through the early 2010s into video platforms emerged from industry recognition that users sought active, social viewing experiences rather than passive consumption. “16 Observations on Livestreaming in China,” Connie Chan, (Sept. 27, 2016) (<https://a16z.com/16-observations-on-livestreaming-in-china/>); “Some Key Social Media Trends To Look For In 2012,” TechCrunch (Jan. 15, 2012) (<https://techcrunch.com/2012/01/15/some-key-social-media-trends-to-look-for-in-2012/>). The popularity of YouTube’s comments and social features led to similar features in live streaming applications such as Twitch, Instagram Live, Periscope, Meerkat, Facebook’s Mentions, and Facebook Live. “Periscope vs Meerkat: which is the better live streaming app?,” Matt Swider, (Mar. 26, 2015) (<https://www.techradar.com/news/phone-and-communications/mobile-phones/periscope-vs-meer>

[kat-which-is-the-better-live-streaming-app-1289532](#)). For example, Facebook Mentions led in this space by providing an interactive video experience for celebrities and their followers. “Facebook launches livestreaming for its celebrity-only Mentions app,” Eric David, Silicon Angle, (Aug. 5, 2015) (<https://siliconangle.com/2015/08/05/facebook-launches-livestreaming-for-its-celebrity-only-mentions-app/>). This pattern reflected broader social media trends where users expected interactive experiences across all digital platforms. “5 Social Media Tips for Finding and Engaging Your Target Audience: New Research,” Phil Mershon, SocialMedia Examiner (<https://www.socialmediaexaminer.com/5-social-media-tips-for-finding-and-engaging-your-target-audience-new-research/>). The ability to toggle between public discussion spaces and private messaging created layered social experiences that mimicked real-world viewing behaviors, where audiences could participate in general discussions while maintaining side conversations with specific individuals. “We hear you: Better commenting coming to YouTube,” Nundu Janakiram, YouTube Official Blog (Sept. 24, 2013) (<https://blog.youtube/news-and-events/youtube-new-comments/>). Platform operators discovered that robust chat systems generated network effects, as active discussions attracted more participants, creating self-reinforcing communities around content creators and topics. “16 More Startup Metrics,” Anu Hariharan et al., Andreessen Horowitz (<https://a16z.com/16-more-startup-metrics/>), “Money as Message,” Connie Chan, Andreessen Horowitz (<https://a16z.com/money-as-message/>). Therefore, the combination of comprehensive chat systems with video media was both well-known as beneficial and well-developed across the industry.

D. Simultaneous “Invention” By Others

As evidenced by the material presented in the Background section and the invalidity charts, the subject matter of the Asserted Patent was being (indeed, had been) actively explored by others at the time of alleged invention.

The breadth of this activity is itself indicative of obviousness, as TikTok will more fully explain at the appropriate time and in accordance with the schedule set by the Court.

E. No Secondary or Objective Indications of Non-Obviousness

Objective indications of non-obviousness include: (1) commercial success, (2) copying, (3) industry praise, (4) skepticism, (5) long-felt but unsolved need, and (6) failure of others. *See, e.g., Transocean Offshore Deepwater Drilling, Inc. v. Maersk Drilling U.S., Inc.*, 699 F.3d 1340, 1349–56 (Fed. Cir. 2012). TikTok is not aware of any evidence that would tend to establish any secondary indications of non-obviousness. This lack of evidence further renders the Asserted Claims obvious. Proving any such secondary considerations is ShopSee’s burden. *See, e.g., ZUP, LLC v. Nach Mfg., Inc.*, 896 F.3d 1365, 1373 (Fed. Cir. 2018) (“[A] patentee bears the burden of production with respect to evidence of secondary considerations of nonobviousness.”). Accordingly, TikTok reserves all rights regarding its full contention in this respect until after ShopSee completes its final and binding disclosure of any such evidence and contentions. In the meantime, TikTok notes the complete lack of any such evidence in the record.

ShopSee has disclosed no evidence of, and TikTok knows of no viable evidence to suggest:

The alleged invention’s commercial success. No products are known to practice the Asserted Claims. To the extent ShopSee asserts that TikTok’s products practice the Asserted Patent, TikTok denies that assertion and incorporates its responses to date and any future contentions, expert reports, and testimony. Further, TikTok knows of no nexus between any

commercial success and the Asserted Claims. *See, e.g., Windsurfing Int'l Inc. v. AMF*, 782 F.2d 995 (Fed. Cir. 1986) (considerations such as intervening, non-covered technological innovations, popularity of accessories, and advertising expenses are all relevant to the nexus determination). If any commercial success is due to any of the concepts discussed in the Asserted Patent, those concepts are also present in the prior art, as described above, and thus do not support any commercial success that is relevant to the question of obviousness. *See Tokai Corp. v. Easton Enters, Inc.*, 632 F.3d 1358, 1369–70 (Fed. Cir. 2011) (“If commercial success is due to an element in the prior art, no nexus exists.”); *In re Huai-Hung Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011) (“Where the offered secondary consideration actually results from something other than what is both claimed and novel in the claim, there is no nexus to the merits of the claimed invention.”); *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1312 (Fed. Cir. 2006) (“[I]f the feature that creates the commercial success was known in the prior art, the success is not pertinent.”).

Nor has ShopSee presented evidence of commercial success via a licensing program.

Long felt but unresolved needs. ShopSee has presented no evidence of any long felt and unresolved need. To the contrary, multiple solutions to the alleged problems pre-dated the Asserted Claims.

Industry praise. There is also no evidence of industry praise for the alleged invention of the Asserted Claims. To the extent any praise is related to any functionality that allegedly practices the Asserted Claims, that praise is not due to any novel features of the Asserted Patent, but instead only to features present in the prior art, which is not a sufficient nexus to be relevant to the question of industry praise for purposes of obviousness. *See Muniauction, Inc. v. Thomson*

Corp., 532 F.3d 1318, 1328 (Fed. Cir. 2008). Praise of TikTok’s applications is not praise of the Asserted Patent.

Unexpected results. No evidence of any such unexpected results is known. As discussed above, the concepts contained in the Asserted Claims were already combined in the same manner as in those claims. These prior art systems, as described in the above-referenced exhibits, disclosed the same combination of elements, and the same result of that combination, that is recited in the claims. Thus, there were no unexpected results that arose from combining the well-known elements in the Asserted Claims.

The failure of others. No evidence of any such failure is known, and no such failure is associated with a problem that was first solved by the Asserted Claims.

Skepticism by experts. No experts or person of skill expressed skepticism about implementing the alleged inventions.

Teaching away by others. No evidence of any such teaching is known.

Recognition of a problem. As discussed above, the industry recognized the problem and had already discussed multiple approaches that implemented the Asserted Claims to solve that problem.

Copying of the alleged invention by competitors. No evidence of any such copying is known. *See Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1366 (Fed. Cir. 2001) (allegedly copied feature must be an embodiment of the patented claims).

VI. INVALIDITY UNDER 35 U.S.C. § 112

Pursuant to the Order Governing Proceedings, TikTok identifies below grounds of invalidity under 35 U.S.C. § 112.

A. Legal Background Regarding The Indefiniteness, Enablement, And Written Description Requirements

Section 112, 2 includes a definiteness requirement: “[T]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” 35 U.S.C. § 112, 2. “[A] patent is invalid for indefiniteness if its claims, read in light of the patent’s specification and 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.*, 134 S. Ct. 2120, 2124 (2014).

The definiteness requirement requires that the claim set forth what the applicant regards as the invention, and do so with sufficient particularity and definiteness. *Allen Eng’g Corp. v. Bartell Indus.*, 299 F.3d 1336, 1348 (Fed. Cir. 2002). Where it would be apparent to one of skill in the art, based on the patent specification, that the “invention” set forth in a claim is not what the patent applicant regarded as the invention, the claim is invalid. *Id.*

35 U.S.C. § 112 further includes an enablement requirement: “The specification shall contain a written description . . . of the manner and process of making and using [the invention] in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same.” 35 U.S.C. § 112, ¶ 1. To satisfy the enablement requirement, the disclosure “must teach those skilled in the art how to make and use the full scope of the claimed invention without ‘undue experimentation.’” *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1366 (Fed. Cir. 1997); *MagSil Corp. v. Hitachi Glob. Storage Techs., Inc.*, 687 F.3d 1377, 1381 (Fed. Cir. 2012); *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008). If a specification teaches away from a substantial portion of the claim or does not enable the full scope of the claim, there is no enablement. *AK*

Steel Corp. v. Sollac, 344 F.3d 1234 (Fed. Cir. 2003); *see also MagSil Corp.*, 687 F.3d at 1383-84 (Fed. Cir. 2012).

35 U.S.C. § 112 further includes a written description requirement: “The specification shall contain a written description of the invention” 35 U.S.C. § 112, ¶ 1. “To satisfy the written description requirement, a patent applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention.” *ICU Medical Inc. v. Alaris Medical Systems, Inc.*, 558 F.3d 1368, 1377 (Fed. Cir. 2009) (internal quotation marks and citations omitted); *see also Synthes USA, LLC v. Spinal Kinetics, Inc.*, 734 F.3d 1332, 1340 (Fed. Cir. 2013). “The test [for written description support] requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art. Based on that inquiry, the specification must describe an invention understandable to that skilled artisan and show that the inventor actually invented the invention claimed.” *Ariad Pharmaceuticals, Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc).

The specification must describe the claimed invention in sufficient detail so that a POSITA can recognize what is claimed. “The appearance of mere indistinct words in a specification or a claim, even an original claim, does not necessarily satisfy that requirement.” *University of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 923 (Fed. Cir. 2004) (internal quotation marks and citations omitted).

B. Invalidity Grounds Under 35 U.S.C. § 112

Based on ShopSee’s Infringement Contentions, and subject to the reservations set out above, TikTok identifies grounds upon which it contends that the Asserted Claims are invalid for failure to meet the requirements of 35 U.S.C. § 112(a) and/or (b). Although its investigation continues, TikTok believes that the Asserted Claims identified below are invalid for failure to comply with 35 U.S.C. § 112 for at least the following reasons: (1) the specification lacks a

written description of the alleged inventions of the Asserted Claims in full, clear, concise, and exact terms as required by 35 U.S.C. § 112(a); and/or (2) the specification of the Asserted Patent does not enable the Asserted Claims as required by 35 U.S.C. § 112(a); and (3) one or more of the Asserted Claims fail to specify the scope of the claimed inventions with reasonable particularity as required under 35 U.S.C. § 112(b). TikTok specifically reserves the right to amend and/or supplement these Invalidity Contentions based on a failure to comply with the requirements of 35 U.S.C. § 112, including, for example, based on supplementation or amendments to ShopSee's deficient Infringement Contentions.

The Asserted Claims fail to meet the written description requirement because the alleged inventions claimed therein are not sufficiently described in the specification of the Asserted Patent. Specifically, the Asserted Claims fail to meet the written description requirement for at least the terms identified below because, based on those terms, the specification of the Asserted Patent does not adequately convey to those skilled in the art that the inventors had possession of the claimed subject matter as of the filing date. The Asserted Claims additionally fail to meet the enablement requirement because the specification of the Asserted Patent does not describe the manner and process of making and using the alleged inventions in the Asserted Claims to enable a person of skill in the art to make and use the full scope of the alleged invention without undue experimentation. Specifically, the Asserted Claims fail to meet the enablement requirement for at least the terms identified below because the specification of the Asserted Patent does not describe the manner and process of making and using the alleged invention in the Asserted Claims. In addition, based on TikTok's present understanding of the Asserted Claims and ShopSee's apparent interpretation of these claims as reflected in its Infringement Contentions, the Asserted Claims may fail to satisfy the requirements of § 112(b) because the precise scope of

at least the phrases listed below (or terms contained therein) cannot be determined with reasonable certainty by a POSITA when reading the claims in light of the specification and prosecution history. This is especially true for terms that may be subject to construction under § 112(f) as means-plus-function terms, but where the specification fails to disclose sufficient structure for performing the claimed functions.

The Asserted Claims fail the requirements of 35 U.S.C. § 112 in view of at least the following claim terms and phrases:

Asserted Claims	Claim Term	Invalidity Basis
1, 8, 13-14, 17	“visual or audio objects”	Indefinite
1-3, 9, 11, 17-18	“interactive video layer” / “interactive layer”	Indefinite; lack of written description; lack of enablement
1, 13, 17-18	“[to correspondingly form one or more / contains the] items, services, or songs of interest”	Indefinite; lack of written description; lack of enablement
1, 17	“tracking the one or more items, services, or songs of interest through the one or more frames of the video media”	Lack of written description; lack of enablement
1, 17	“assigning a selectable visual indicator for each of the one or more items, services, or songs of interest”	Indefinite
1, 17, 18	“generating a video data comprising the video media, the first interactive video layer, and a second interactive video layer, wherein the video data is configured to be provided to a user via a first media playback device and to at least one guest via a second media playback device”	Indefinite; lack of written description; lack of enablement
1, 17, 18	“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	Lack of written description; lack of enablement

Asserted Claims	Claim Term	Invalidity Basis
	the video media displayed by the first [media playback / processing] device”	
2	“enabling the user to present the video data with or without the first interactive video layer being turned on or off based on selection by the user to view or not view the first interactive video layer, respectively; and enabling the user to present the video data with or without the second interactive video layer being turned on or off based on selection by the user to view or not view the second interactive video layer, respectively”	Indefinite; lack of written description; lack of enablement
6	“copying a timed portion of the video data to a clip list based on a selection of an item, service, or song of interest by the user”	Indefinite; lack of written description; lack of enablement
8	“removing the product information from the one or more of the plurality of visual or audio objects; and associating different product information with the one or more of the plurality of visual or audio objects”	Indefinite; lack of written description; lack of enablement
15	“the first and second interactive layers”	Indefinite
18	“a computer program including instructions executable by the digital processing device to create an application for providing information on items, services, or songs in a video media, the application comprising ...”	Indefinite; lack of written description; lack of enablement
18	“a software module for receiving a request for the generation of information regarding items, services, or songs presented in a video media from a first processing device of a user”	Indefinite (means-plus-function term under § 112(f), where the specification lacks sufficient corresponding structure)
18	“a software module for linking the items, services, or songs with	Indefinite (means-plus-function term under § 112(f), where the

Asserted Claims	Claim Term	Invalidity Basis
	marketing and/or purchasing information”	specification lacks sufficient corresponding structure)
18	“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”	Indefinite (means-plus-function term under § 112(f), where the specification lacks sufficient corresponding structure)
18	“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”	Indefinite; lack of written description; lack of enablement
18	“a software module for the generation of a second interactive layer to display with the video media and optionally the first interactive layer, wherein the video media, the first interactive layer, and the second interactive layer are configured to be provided to user via the first processing device and to at least one guest via a second processing device, wherein the second interactive layer contains a social media portion controllable by the user via the first processing device, so as to interact with the at least one guest that is also a viewer of the video media through an interface displayed in the second interactive video layer via the second processing device, wherein an interaction between the user and the at least one guest, and past interaction activity between a plurality of users in the social media portion, are displayed in the interface in the second interactive video 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	Indefinite (means-plus-function term under § 112(f), where the specification lacks sufficient corresponding structure)

Asserted Claims	Claim Term	Invalidity Basis
	interactive video layer as an overlay to the video media displayed by the first processing device, wherein the plurality of users either includes the user or does not include the user”	
18	“optionally”	Indefinite
18	“generation of a second interactive layer to display with the video media and optionally the first interactive layer, wherein the video media, the first interactive layer, and the second interactive layer are configured to be provided to user via the first processing device and to at least one guest via a second processing device”	Indefinite; lack of written description; lack of enablement
18	“a software module for transmitting the first and second interactive layers to the first processing device of the user”	Indefinite (means-plus-function term under § 112(f), where the specification lacks sufficient corresponding structure)

TikTok reserves the right to modify, amend, or supplement its contentions relating to 35 U.S.C. § 112 as the case progresses, including in view of any claim construction orders entered by the Court in this matter.

VII. INVALIDITY UNDER 35 U.S.C. § 101

To be patentable subject matter under § 101, a claim must be directed to one of four eligible subject matter categories: “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. “Claims that fall within one of the four subject matter categories may nevertheless be ineligible if they encompass laws of nature, physical phenomena, or abstract ideas.” *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980). The Supreme Court established a two-step test for deciding the subject matter eligibility of claims under § 101. *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2355 (2014). First, the claims must be

analyzed to determine whether they are drawn to one of the statutory exceptions. *Id.* Claims that invoke generic computer components instead of reciting specific improvements in computer capabilities are abstract under this first step. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335-36 (Fed. Cir. 2016). Second, the elements of the claims must be viewed both individually and as an ordered combination to see if there is an “inventive concept.” *Id.* The mere fact that a claim recites or implies that an abstract idea is implemented using a general-purpose computer does not supply an inventive concept necessary to satisfy § 101. *See Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1355 (Fed. Cir. 2016); *Alice*, 134 S. Ct. at 2357-59. Here, all of the Asserted Claims are directed to ineligible subject matter under 35 U.S.C. § 101 and applicable case law authority.¹

Under Alice Step One, the Asserted Claims are directed to abstract ideas related to gathering and displaying information to a user. The Asserted Claims are also directed to abstract ideas related to identifying products, services, and music in a video and providing social media functionality (including chatting and commenting), each of which has been found invalid under

¹ *See, e.g., Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347 (2014); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289 (2012); *Trading Techs. Int’l, Inc. v. IBG, LLC*, 921 F.3d 1084 (Fed. Cir. 2019); *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759 (Fed. Cir. 2019); *SAP America, Inc. v. InvestPic, LLC*, 898 F.3d 1161 (Fed. Cir. 2018); *Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335 (Fed. Cir. 2018); *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121 (Fed. Cir. 2018); *Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC*, 874 F.3d 1329 (Fed. Cir. 2017), *cert. denied*, 139 S. Ct. 378 (2018); *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332 (Fed. Cir. 2017); *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229 (Fed. Cir. 2016); *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253 (Fed. Cir. 2016); *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016); *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369 (Fed. Cir. 2016); *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363 (Fed. Cir. 2015); *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343 (Fed. Cir. 2015); *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359 (Fed. Cir. 2015); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343 (Fed. Cir. 2014); *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350 (Fed. Cir. 2014); *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344 (Fed. Cir. 2014); *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (Fed. Cir. 2011).

Alice by the Federal Circuit before. Moreover, the Asserted Claims are further invalid under *Alice* for merely automating prior human activity, including a group of people watching a movie together, where they point out products, services and music to each other and can participate in different conversations with different people in the room.

Under *Alice* Step Two, the Asserted Claims lack any technical improvement over the prior art or other inventive concept. Both individually and as an ordered combination, the limitations of the Asserted Claims consist solely of well-known, conventional, routine activity and generic hardware and software, including as evidenced by the prior art cited and described in Sections IV and V and Exhibits 316-A01-A20 and 316-B. Claim limitations that use terminology that, in other contexts, may be considered remotely technical, such as generating “layer[s],” “overlay,” and “video data” or “identifying” and “tracking” “objects,” are described and claimed at such a high level of generality such as to constitute generic computer implementation, where a computer is just used to automate and provide information regarding steps previously performed by humans. For example, there is no disclosure in the specification and no limitations in the claims explaining or claiming **how** a computer generates “layer[s],” “overlay,” and “video data” or “identif[ies]” and “track[s]” “objects.” Rather, the results-oriented and purely functional language in the Asserted Claims only further supports a finding of invalidity under *Alice*.

TikTok reserves the right to modify, amend, or supplement its contentions relating to 35 U.S.C. § 101 as the case progresses, including in view of any changes to ShopSee’s infringement theories, any claim construction orders entered by the Court, or any new case law on Section 101.

VIII. DOCUMENT PRODUCTION ACCOMPANYING INVALIDITY CONTENTIONS

With these Preliminary Invalidity Contentions, TikTok produces the documents required under the Scheduling Order of the case.

Dated: May 22, 2025

Respectfully submitted,

By: /s/ Ognjen Zivojnovic

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CERTIFICATE OF SERVICE

I hereby certify that, on May 22, 2025, all counsel of record who have appeared in this case are being served with a copy of the foregoing via email.

Dated: May 22, 2025

/s/ Ognjen Zivojnovic
Ognjen Zivojnovic