**IN THE UNITED STATES DISTRICT COURT**
**FOR THE EASTERN DISTRICT OF TEXAS**
**MARSHALL DIVISION**

| | | |
|---|---|---|
| ADVANCED CODING TECHNOLOGIES LLC | § | Case No. |
| Plaintiff, | § | **JURY TRIAL DEMANDED** |
| v. | § | |
| BYTEDANCE LTD., | § | |
| Defendant. | § | |

## COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Advanced Coding Technologies LLC ("ACT" or "Plaintiff") files this Complaint against Defendant ByteDance Ltd. ("ByteDance" or "Defendant"), for patent infringement under 35 U.S.C. § 271 and alleges as follows:

## THE PARTIES

1. Plaintiff ACT is a limited liability company organized and existing under the laws of the State of Texas, with its principal place of business located at 104 E. Houston Street, Suite 140, Marshall, Texas 75670.

2. Upon information and belief, Defendant ByteDance is a Chinese corporation headquartered in Beijing, China and legally domiciled in the Cayman Islands. ByteDance has regular and established places of business at Room 503 5F, Building 2, No. 43, North Third Ring West Road, Beijing, 100086 China and Room 10A, Building 2, No. 48, Zhichun Road, Haidian District Beijing, Beijing, 100089 China. ByteDance has a legal address in the Cayman Islands located at Vistra (Cayman) Limited, P.O. Box 31119, Grand Pavilion, Hibiscus Way, 802 West Bay Road, Grand Cayman, George Town, KY1-1205, KY. ByteDance may be served with process

**Google**
**Exhibit 1064**
**Google v. Advanced Coding**
**IPR2025-01161**
Ex. 1064-001

in accordance with the Hague Convention.

## JURISDICTION

3. This is an action for patent infringement arising under the patent laws of the United States, 35 U.S.C. §§ 1, *et seq*. This Court has jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

4. This Court has personal jurisdiction over Defendant. Defendant conducts business and has committed acts of patent infringement and/or has induced acts of patent infringement by others in this Judicial District, the State of Texas, and elsewhere in the United States.

5. Defendant is subject to this Court's jurisdiction pursuant to due process and/or the Texas Long Arm Statute due at least to its substantial business in this State and District, including (a) at least part of its past infringing activities, (b) regularly doing or soliciting business in Texas, and/or (c) engaging in persistent conduct and/or deriving substantial revenue from goods and services provided to customers in Texas. Upon information and belief, Defendant, directly or indirectly, participate in the stream of commerce that results in products, including the accused products, being made, used, offered for sale, and/or sold in the State of Texas and/or imported into the United States to the State of Texas.

6. ByteDance is the owner of TikTok—a video-focused social networking service. On information and belief, ByteDance is in the business of providing TikTok video-sharing services in this District through the TikTok application, and offers products and/or services, including those accused herein of infringement, to customers and potential customers located in Texas and in this District. On information and belief, ByteDance distributes products directly to customers and through its partners and/or intermediaries, some of which are located in the State of Texas. On information and belief, ByteDance derives significant financial benefits through its

business in Texas and in this District.

7. On information and belief, ByteDance has committed acts within this District that give rise to this action and has established minimum contacts with this forum such that the exercise of jurisdiction over Defendant would not offend traditional notions of fair play and substantial justice. Defendant has committed and continues to commit acts of infringement in this District by, among other things, providing its products and/or services that infringe the asserted patents.

8. Venue is proper in this Judicial District pursuant to 28 U.S.C. §§ 1391(b) and 1391(c) because, among other things, Defendant is subject to personal jurisdiction in this Judicial District, Defendant has regularly conducted business in this Judicial District, certain of the acts complained of herein occurred in this Judicial District, and Defendant is not a resident in the United States and may be sued in any judicial district.

## PATENTS-IN-SUIT

9. On December 24, 2013, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,615,154 (the "'154 Patent") entitled "Video-Audio Processing Apparatus and Video-Audio Processing Method." A true and correct copy of the '154 Patent is available at: https://pdfpiw.uspto.gov/.piw?Docid=08615154.

10. On April 12, 2016, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 9,313,244 (the "'244 Patent") entitled "Content Reproduction Apparatus, Content Reproduction Method, and Computer-readable Recording Medium Having Content Reproduction Program Recorded Thereon." A true and correct copy of the '244 Patent is available at: https://pdfpiw.uspto.gov/.piw?Docid=09313244.

11. On September 13, 2016, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 9,445,041 (the "'041 Patent") entitled "Moving Image Data

Processing Apparatus and Moving Image Data Processing Method." A true and correct copy of the '041 Patent is available at: https://pdfpiw.uspto.gov/.piw?Docid=09445041.

12. ACT is the sole and exclusive owner of all right, title, and interest to and in the '154, '244, and '041 Patents (collectively, the "Patents-in-Suit"), and holds the exclusive right to take all actions necessary to enforce its rights to the Patents-in-Suit, including the filing of this patent infringement lawsuit. ACT also has the right to recover all damages for past infringement of the Patents-in-Suit as appropriate under the law.

13. ACT has at all times complied with the marking provisions of 35 U.S.C. § 287 with respect to the Patents-in-Suit.

## FACTUAL ALLEGATIONS

14. The Patents-in-Suit generally cover systems and methods for capturing and processing video and audio, and reproducing content, including video content.

15. The '154 Patent generally relates to a video-audio processing apparatus and method for encoding and decoding video and audio data and outputting the audio in synchronization with the video data. The inventions described in the '154 Patent were developed by Yoshiko Hozumi of JVC Kenwood Corporation.

16. The '244 Patent generally relates to a content reproduction method for determining advance acquisition amounts for acquiring data in advance of reproduction. The inventions described in the '244 Patent were developed by Toru Kaiwa of JVC Kenwood Corporation.

17. The '041 Patent generally relates to a video processing method for specifying and changing frame rates and playback speed, and outputting video data with changed frame rates. The inventions described in the '041 Patent were developed by Akiyoshi Jin of JVC

Kenwood Corporation.

18. For example, this technology is implemented in video capture and processing applications and video reproduction applications. Infringing products include mobile applications for capturing and viewing videos, including Defendant's TikTok application (the "Accused Product" or "TikTok App").

19. Defendant has infringed the Patents-in-Suit by making, using, selling, offering to sell, and/or importing the TikTok App that infringes the Patents-in-Suit.

**COUNT I**
**(Infringement of the '154 Patent)**

20. Paragraphs 1 through 19 are incorporated by reference as if fully set forth herein.

21. ACT has not licensed or otherwise authorized Defendant to make, use, offer for sale, sell, or import any products that embody the inventions of the '154 Patent.

22. Defendant has directly infringed the claims of the '154 Patent, either literally or under the doctrine of equivalents, without authority and in violation of 35 U.S.C. § 271, by making, using, offering to sell, selling, and/or importing into the United States products, such as the TikTok App, that satisfy each and every limitation of one or more claims of the '154 Patent.

23. Defendant has and continues to indirectly infringe one or more claims of the '154 Patent by knowingly and intentionally inducing others to directly infringe, either literally or under the doctrine of equivalents, by making, using, offering to sell, selling, and/or importing into the United States the infringing products, including the TikTok App. For example, Defendant, with knowledge that the TikTok App infringes the '154 Patent, at least as of the date of this Complaint, knowingly and intentionally induced, and continues to knowingly and intentionally induce direct infringement of the '154 Patent by providing the TikTok App to end users for use, sale, and importation into the United States. Defendant provides TikTok App user

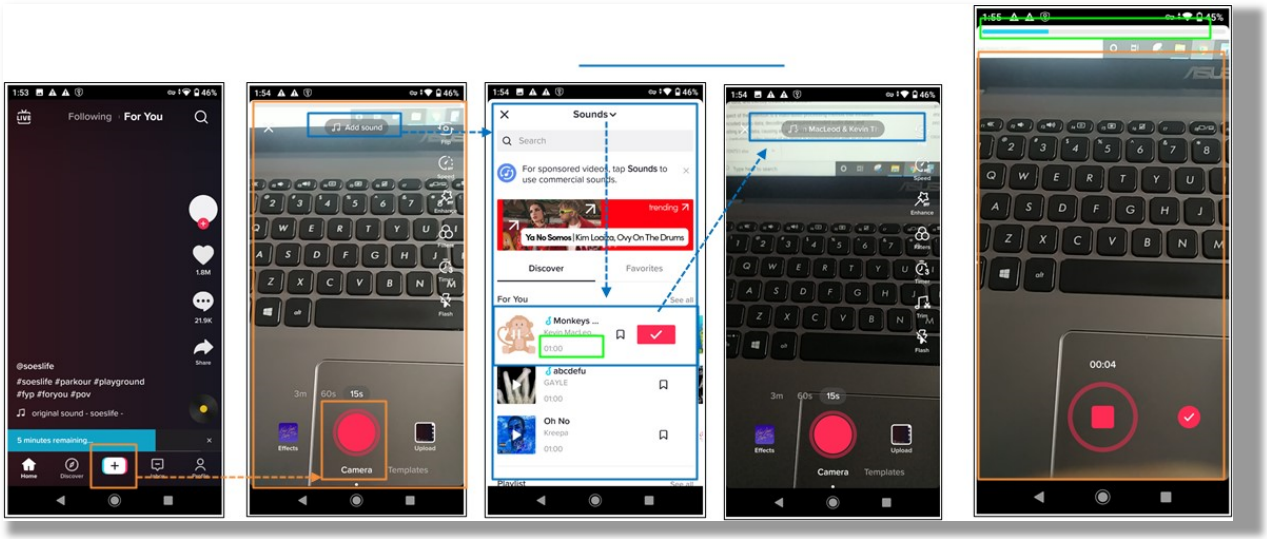
guides, documentation and instructional videos on their website that instruct end users how to use the Accused Product.[1]

24. Infringing products include the TikTok App, which practices a method for video-audio processing comprising the steps of: outputting sound based on audio data with a time stamp, when a video-image capture unit starts to capture a video image to create video data; encoding the video data and including a time stamp that is different from the time stamp of the audio data; and outputting sound in synchronization of the time stamp when a video image based on the video data decoded from the encoded video data is displayed.

25. The TikTok App practices the method of at least claim 4 of the '154 Patent.

26. The TikTok App outputs sound based on audio data with a time stamp, when a video-image capture unit starts to capture a video image to create video data. For example, After user clicks on "+" sign, a "video recording" screen opens. Through "Sounds" option on the top of the screen, user can select a sound of interest foot-stamped with duration of sound (here: 1:00). Upon selecting sound, user selects the time duration of video to be captured (3m|60s|15s). On activating the camera button in the center of screen, audio starts playing while camera starts recording, with audio timestamp on the top of screen and video timestamp on the bottom of screen.

[1] *See*, e.g., https://www.tiktok.com/safety/en-gb/new-user-guide/

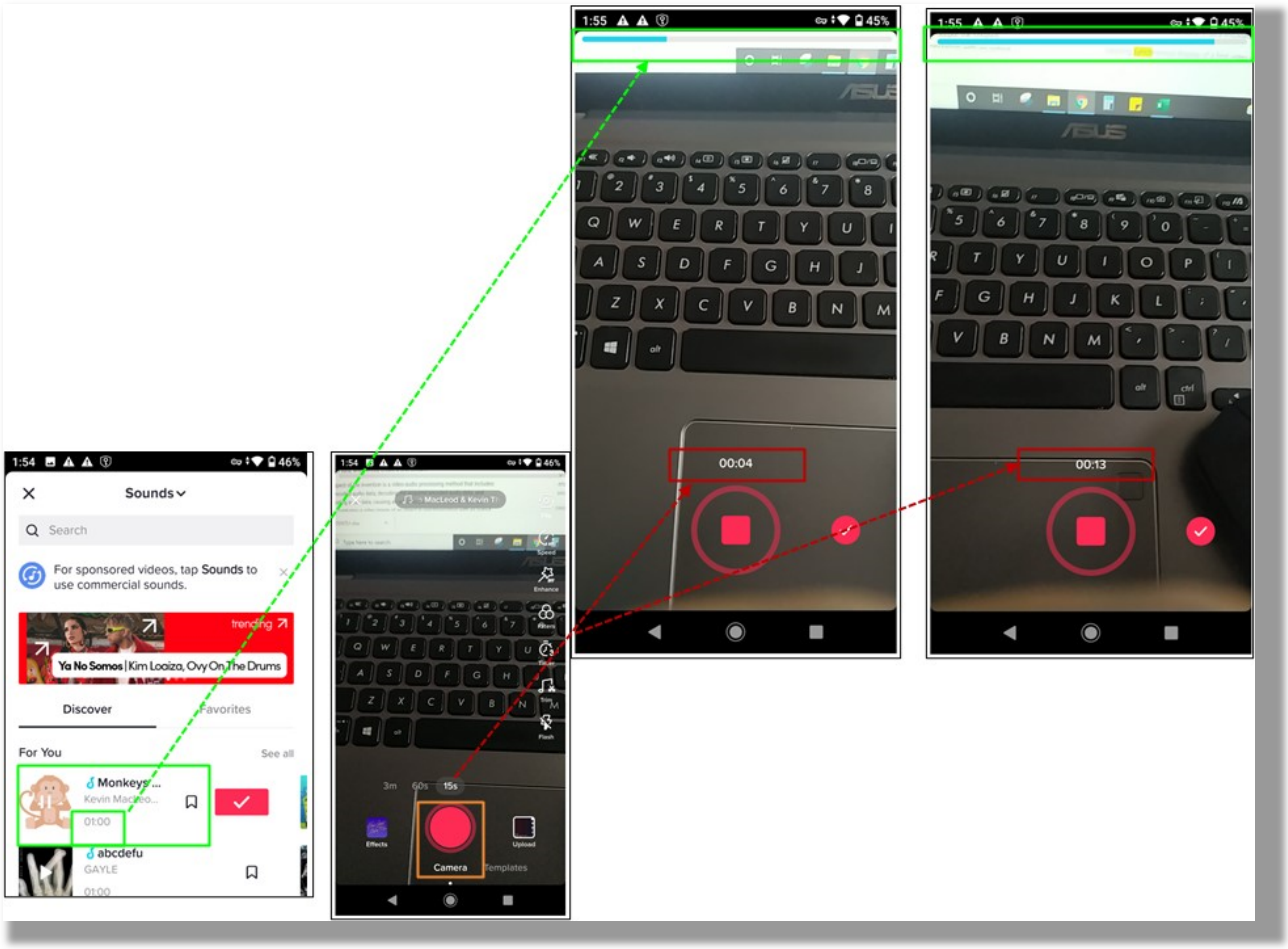



27. The TikTok App encodes the video data to create encoded video data:

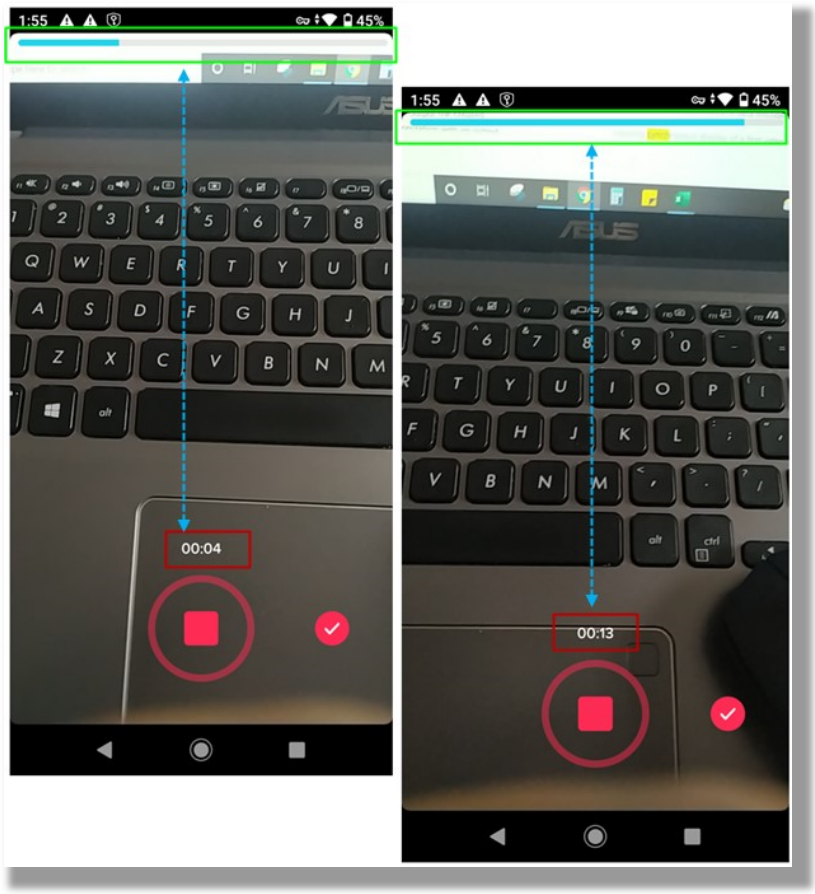
> For the recorded videos on TikTok, they consist of multiple images, which is a continuous set of images. Capture chip inside the phone act as a server for internet video. It receives analog signal form TikTok and turns the signal into digital information at a rate of 30 frames a second (White, 2007). Then, the capture device sends the information through some compression standard. When displaying the videos on TikTok, the compression algorithm divides the videos into frames. The compression algorithm transfers those different parts between frames to transmit less data and make videos play smoothly. Videos on TikTok use the H.264 compression standard. The H.264 standard represents coding efficiency enhancement and flexibility for effective use over a wide variety of network types and application domains. It differs from previous technology in enhanced motion prediction capability, use of a small block-size exact-match transform, adaptive in-loop deblocking filter, and enhanced entropy coding methods (Wiegand, Sullivan, Bjontegaard, & Luthra, 2003).

https://blogs.commons.georgetown.edu/cctp-820-fall2019/2019/12/17/what-makes-tiktok-possible-the-technologies-and-design-principles-behind-it/

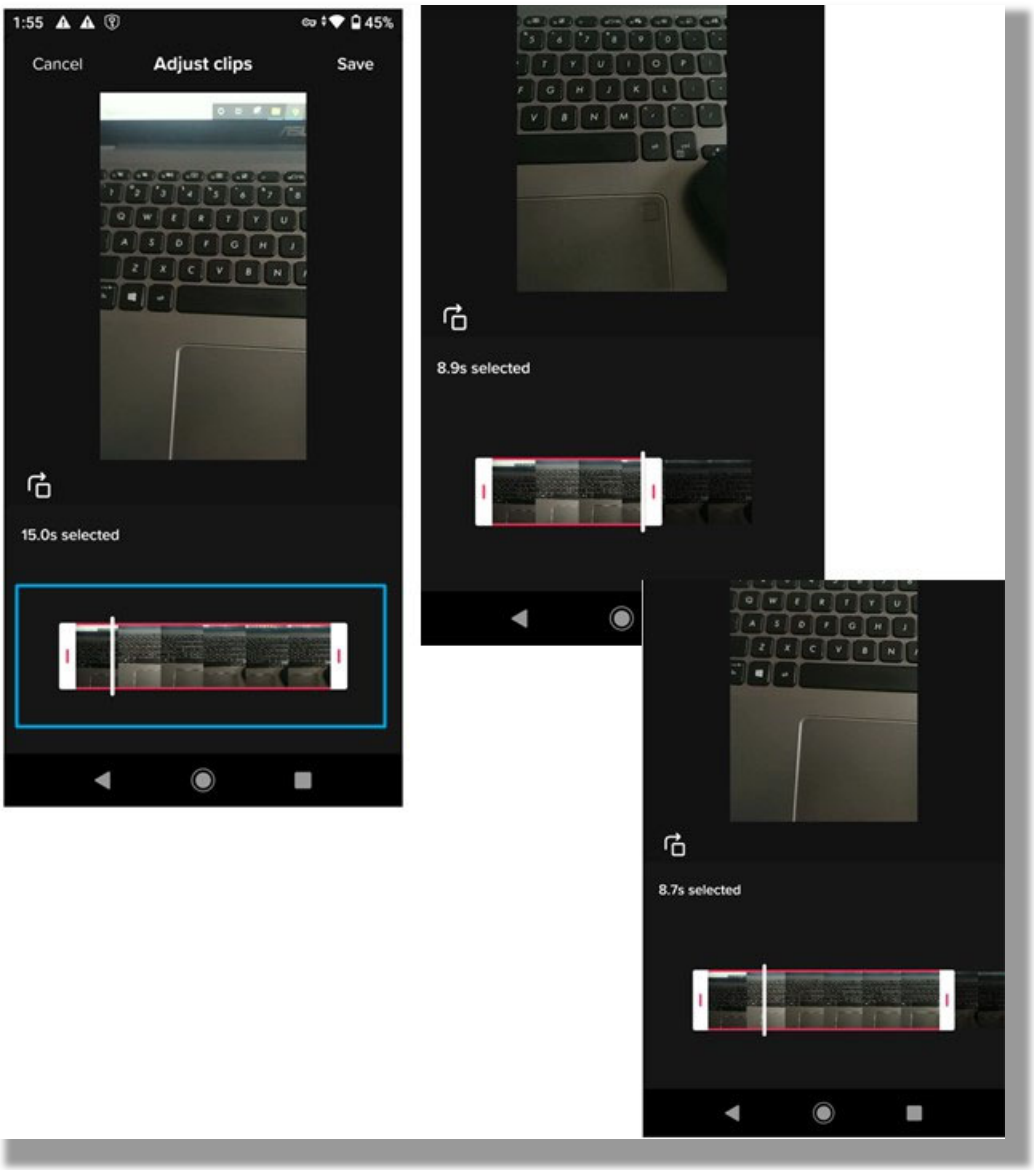
28. The TikTok App includes a time stamp that is different from the time stamp of the audio data into the encoded video data. The video timestamp data is at the bottom of the screen, and the audio timestamp data is at the top of the screen. The duration of the audio selected is 1 minute, whereas the duration of the video being captured is 15 seconds:




29. The TikTok App outputs sound in synchronization of the time stamp of the audio data with the time stamp of the encoded video data, when a video image based on the video data decoded from the encoded video data is displayed. For example, the 15s of time-stamped video data is synchronized with the timestamped audio data:




30. The red bar shows the by-default synchronized time-stamped audio-data with timestamped video-data. Further, user can manually adjust/trim the synchronized data by moving the bar. By default, the 15s of time-stamped audio data is synchronized with 15s of timestamped video data. If user selects that he wants only 8.9s or 8.7s of audio-video, he can select using bar and that will result in 8.9 or 8.7s of time-stamped audio data synchronized with 8.9 or 8.7s of time-stamped video data:




31. Therefore, Defendant and/or its users directly infringe at least claim 4 of the ’154 patent. Upon information and belief, Defendant directly infringes through at least testing and use of the TikTok App in the United States.

32. Defendant induced infringement by others, including end users, with the intent to cause infringing acts by others or, in the alternative, with the belief that there was a high probability that others, including end users, infringe the ’154 Patent, but while remaining willfully blind to the infringement.

33. Because of Defendant's direct and indirect infringement of the '154 Patent, ACT has suffered damages in an amount to be proved at trial.

**COUNT II**
**(Infringement of the '244 Patent)**

34. Paragraphs 1 through 19 are incorporated by reference as if fully set forth herein.

35. ACT has not licensed or otherwise authorized Defendant to make, use, offer for sale, sell, or import any products that embody the inventions of the '244 Patent.

36. Defendant has directly infringed the '244 Patent, either literally or under the doctrine of equivalents, without authority and in violation of 35 U.S.C. § 271, by making, using, offering to sell, selling, and/or importing into the United States products, such as the TikTok App, that satisfy each and every limitation of one or more claims of the '244 Patent.

37. Defendant has and continues to indirectly infringe one or more claims of the '244 Patent by knowingly and intentionally inducing others to directly infringe, either literally or under the doctrine of equivalents, by making, using, offering to sell, selling, and/or importing into the United States the infringing products, including the TikTok App. For example, Defendant, with knowledge that the TikTok App infringes the '244 Patent, at least as of the date of this Complaint, knowingly and intentionally induced, and continues to knowingly and intentionally induce direct infringement of the '244 Patent by providing the TikTok App to end users for use, sale, and importation into the United States. Defendant provides TikTok App user guides, documentation and instructional videos on their website that instruct end users how to use the Accused Systems.[2]

38. Infringing products include the TikTok App, which practices a method for

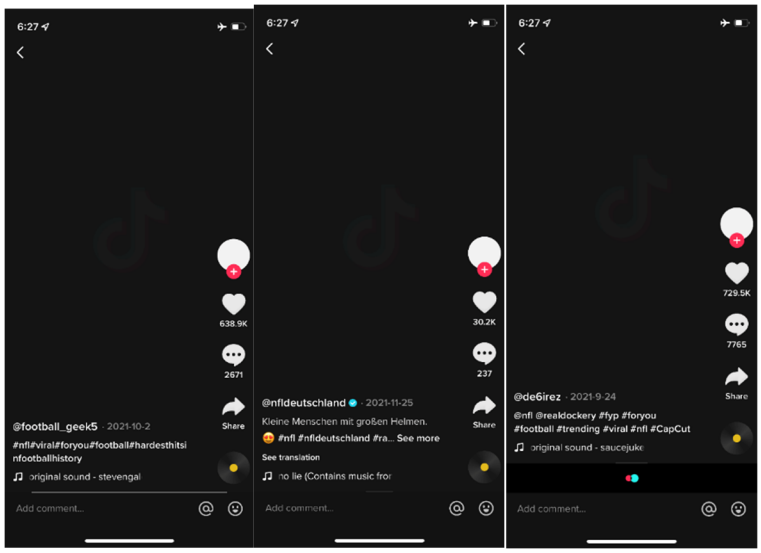
[2] *See*, e.g., https://www.tiktok.com/safety/en-gb/new-user-guide/

reproducing content comprising the steps of: receiving a content; acquiring data, which has not been received, of a content being reproduced; determining advance acquisition amounts in a plurality of contents according to a reproduction order; acquiring a part of the plurality of contents in advance based on the determined advance acquisition amounts; redetermining advance acquisition amounts; sequentially acquiring another part of the plurality of contents in advance based on the redetermined advance acquisition amounts; and reproducing the acquired contents.

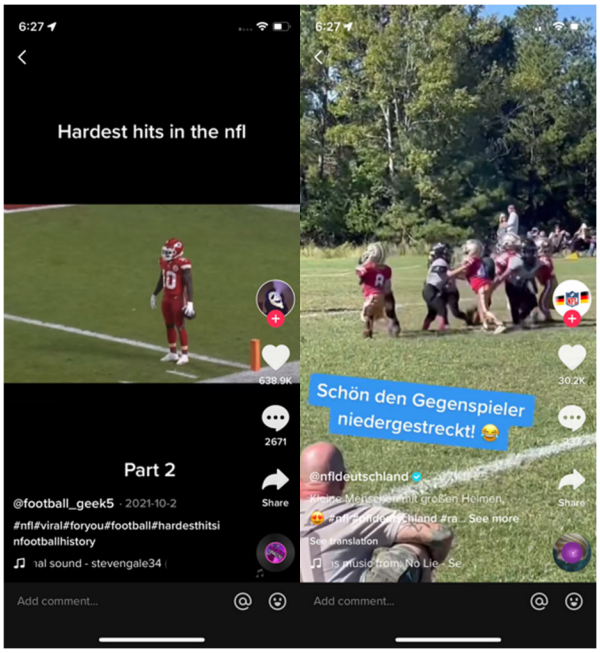
39. The TikTok App practices the method of at least claim 6 of the ’244 Patent.

40. For example, the TikTok App performs a content reproduction method that receives content, such as videos, distributed in a streaming system through a telecommunications line, such as a Wi-Fi network.

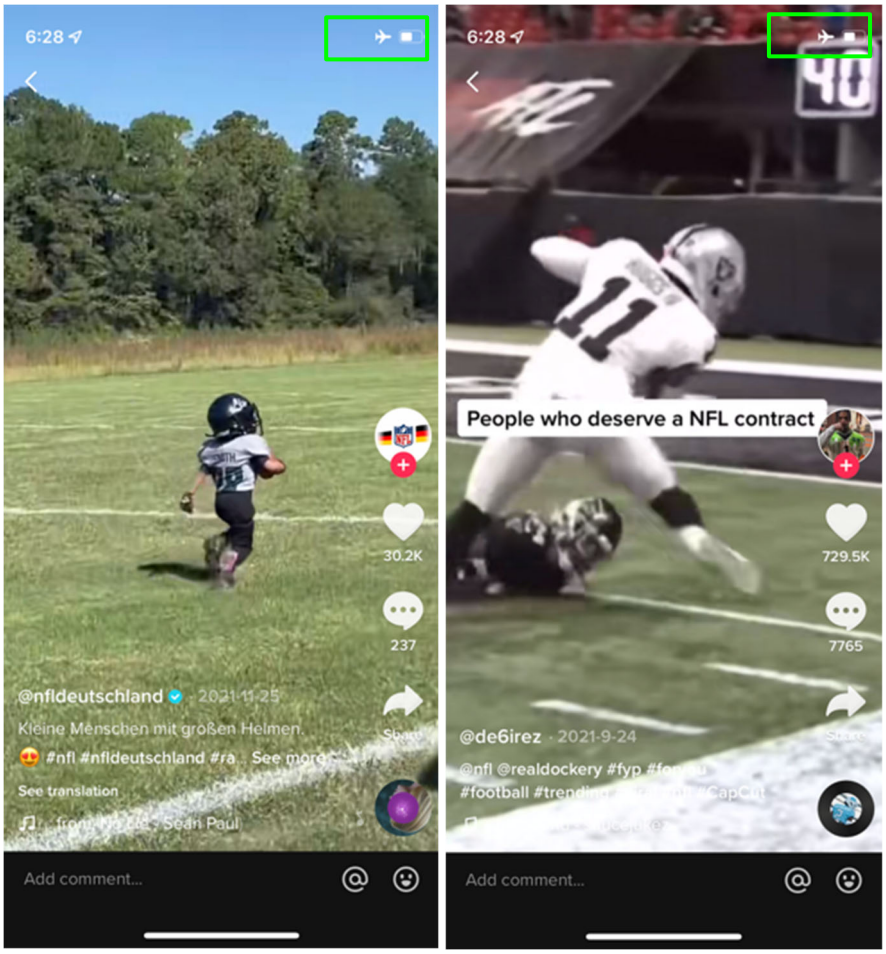
41. The TikTok App acquires data, which has not been received, of a content being reproduced. Prior to turning on the internet connection, videos are not loaded and will not play:



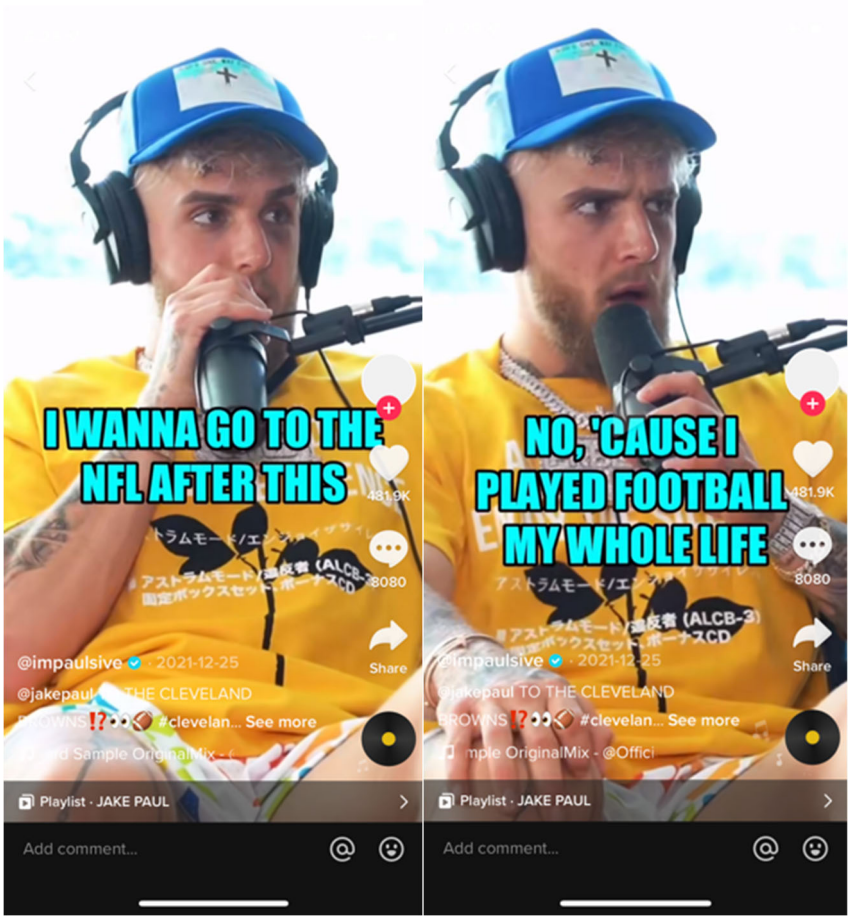

After enabling the internet connection, videos begin to load and will play:




42. The TikTok App determines advance acquisition amounts in a plurality of contents to be reproduced after the content being reproduced according to a reproduction order. For example, the TikTok App acuires data of videos to be played after the current video to be played by pre-loading data for the next videos while the first video is being played. When turning off the internet during the play back of the first video, the second and third videos still play in their entirety:

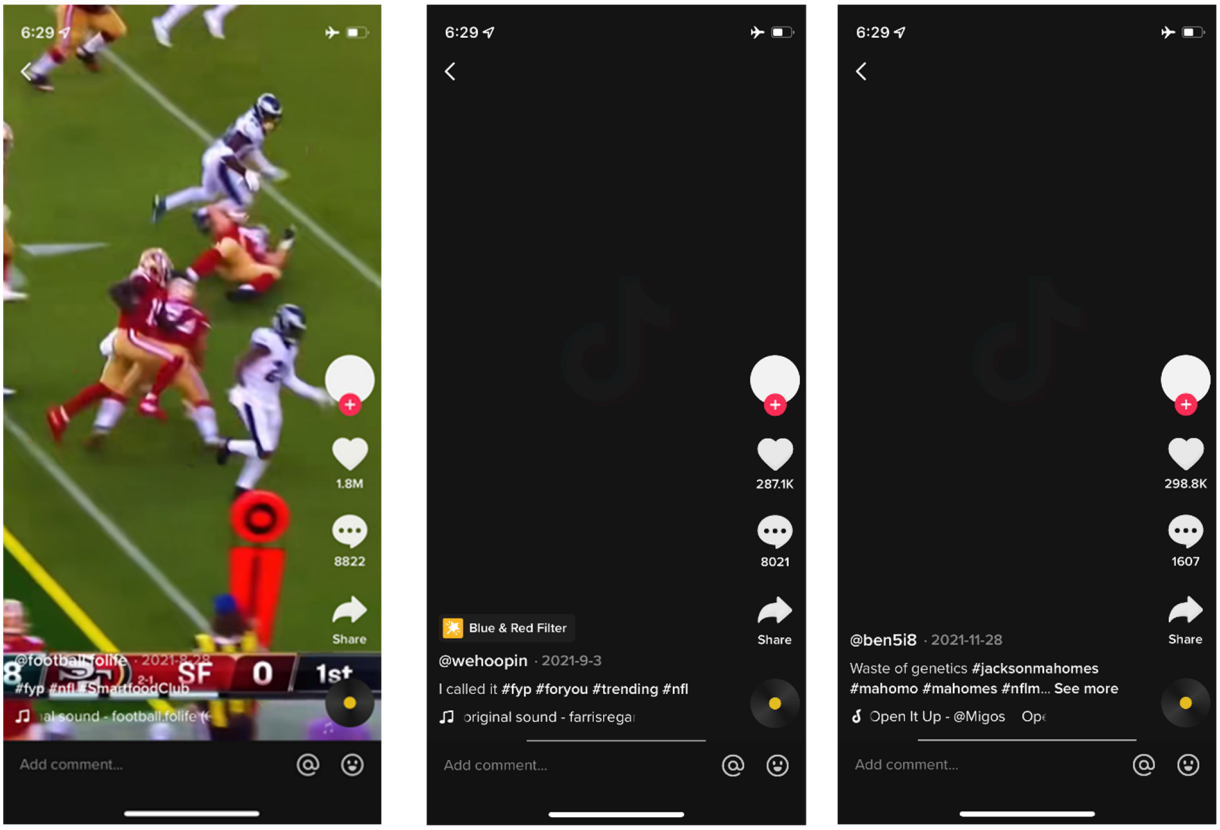



43. The TikTok App acquires part of the plurality of contents in advance based on the determined acquisition amounts. Using the above example, while the second and third videos played in their entirety with the internet connection disabled because they were pre-loaded, the fourth video in the sequence only plays approximately half of the video:

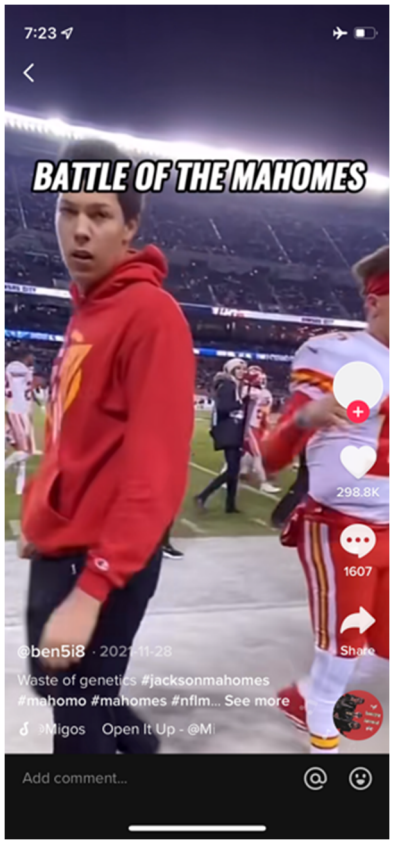


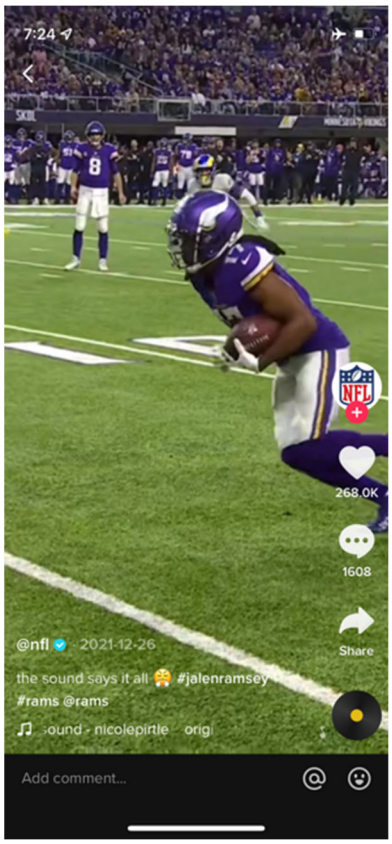

*Beginning of video* *Video stopped half-way through*

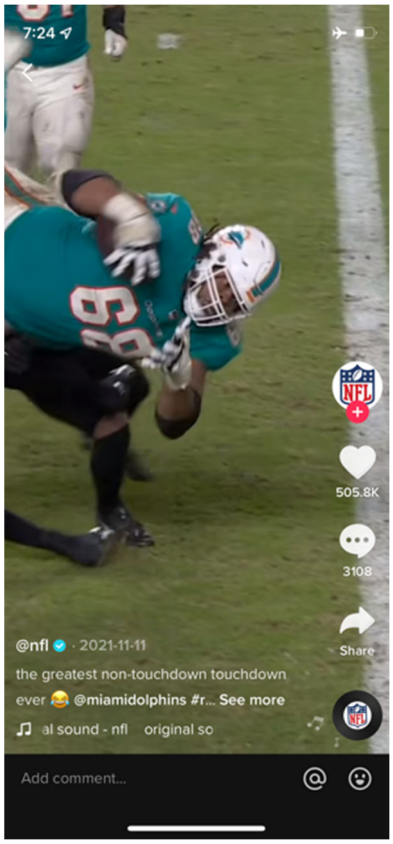
44. Additionally, Video 5 was fully preloaded, and Video 6 and 7 (and all later videos) did not load at all, showing acquisition of part of a plurality of content:




45. The TikTok App redetermines advance acquisition amounts in the plurality of contents so as to increase the advance acquisition amounts in the plurality of contents after acquiring the part of the plutality of contents in advance based on the determined advance acquisition amounts. For example, the accused product was given approximately 20 seconds to redetermine advance acuisition amounts before the internet was turned off again. Prior to scrolling to Video 7, the internet was turned off. Video 7 was then selected, and it played partially; Video 8 was selected and it played in full; Video 9 was selected and it played partially:




46. Videos 10, 11, 12, and 13 had only the first frame of the video preloaded, and no videos were preloaded thereafter:

47. Therefore, Defendant and/or its users directly infringe at least claim 6 of the ’244 patent. Upon information and belief, Defendant directly infringes through at least testing and use of the TikTok App in the United States.

48. Defendant induced infringement by others, including end users, with the intent to cause infringing acts by others or, in the alternative, with the belief that there was a high probability that others, including end users, infringe the ’244 Patent, but while remaining willfully blind to the infringement.

49. Because of Defendant’s direct and indirect infringement of the ’244 Patent, ACT has suffered damages in an amount to be proved at trial.

## COUNT III
## (Infringement of the ’041 Patent)

50. Paragraphs 1 through 19 are incorporated by reference as if fully set forth herein.

51. ACT has not licensed or otherwise authorized Defendant to make, use, offer for sale, sell, or import any products that embody the inventions of the ’041 Patent.

52. Defendant has directly infringed the ’041 Patent, either literally or under the doctrine of equivalents, without authority and in violation of 35 U.S.C. § 271, by making, using, offering to sell, selling, and/or importing into the United States products, including the TikTok App, that satisfy each and every limitation of one or more claims of the ’041 Patent.

53. Defendant has and continues to indirectly infringe one or more claims of the ’041 Patent by knowingly and intentionally inducing others to directly infringe, either literally or under the doctrine of equivalents, by making, using, offering to sell, selling, and/or importing into the United States the infringing products, including the TikTok App. For example, Defendant, with knowledge that the TikTok App infringes the ’041 Patent, at least as of the date of this Complaint, knowingly and intentionally induced, and continues to knowingly and intentionally induce direct infringement of the ’041 Patent by providing the TikTok App to end users for use, sale, and importation into the United States. Defendant provides TikTok App user guides, documentation and instructional videos on their website that instruct end users how to use the Accused Systems.[3]

54. Infringing products include the TikTok App, which practices a method for video processing comprising the steps of: inputting first moving image data generated at a first frame rate and second image data generated at a second frame rate that is different from the first frame

[3] *See*, e.g., https://www.tiktok.com/safety/en-gb/new-user-guide/

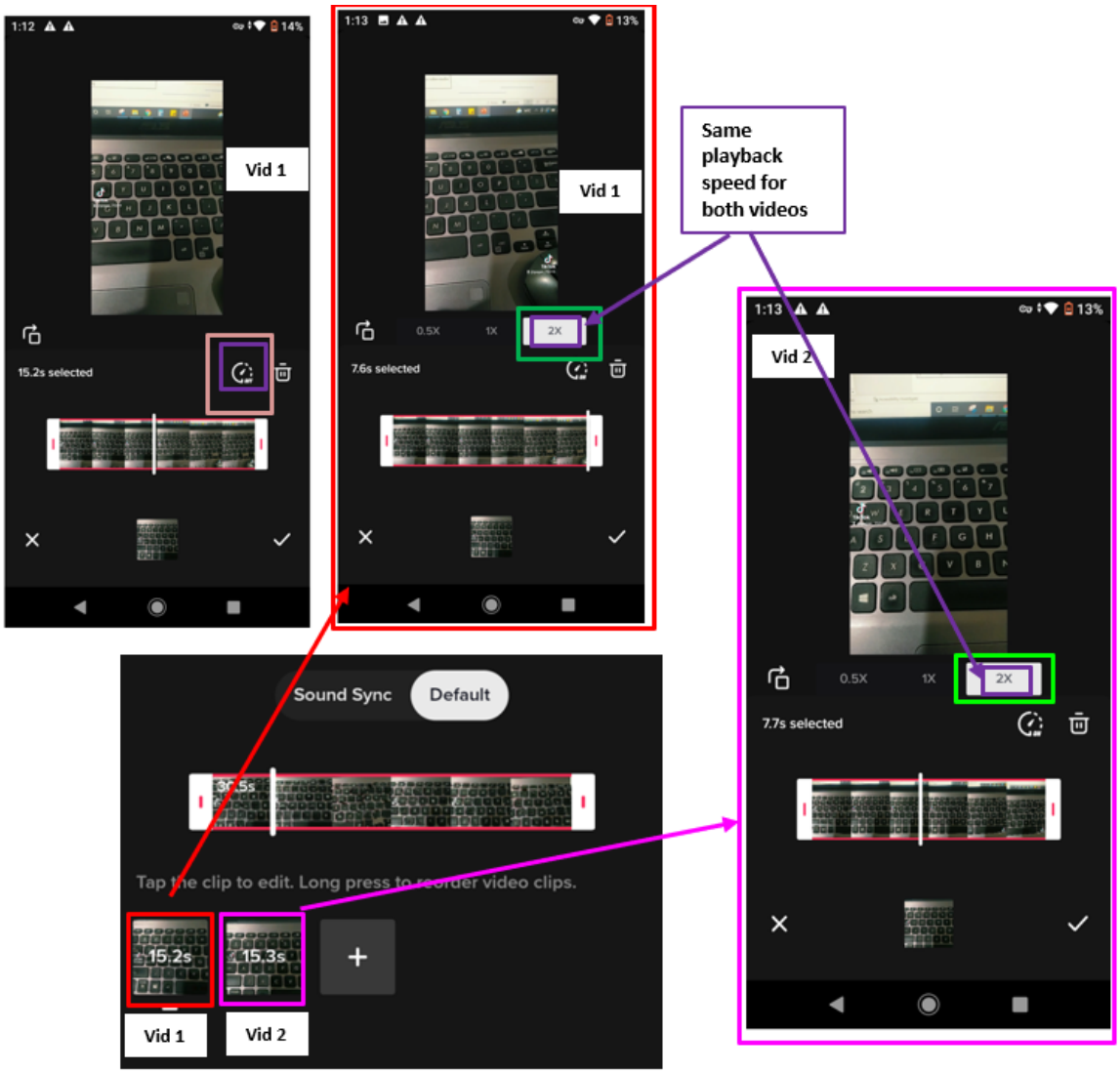
rate; specifying the first frame rate of the first moving image data and the second frame rate of the second moving image data, the first and second moving image data having been input; specifying output frame rate of the first moving image data and output frame rate of the second moving image data that have been input specifying a same playback speed for the first moving image data and the second moving image data; changing a frame rate of the first moving image data based on the first frame rate, the output frame rate, and the playback speed, and changing the frame rate of the second moving image data based on the second frame rate, the output frame rate, and the playback speed; and outputting the first and second moving image data whose frame rates have been changed.

55. The TikTok App practices the method of at least claim 6of the ’041 Patent.

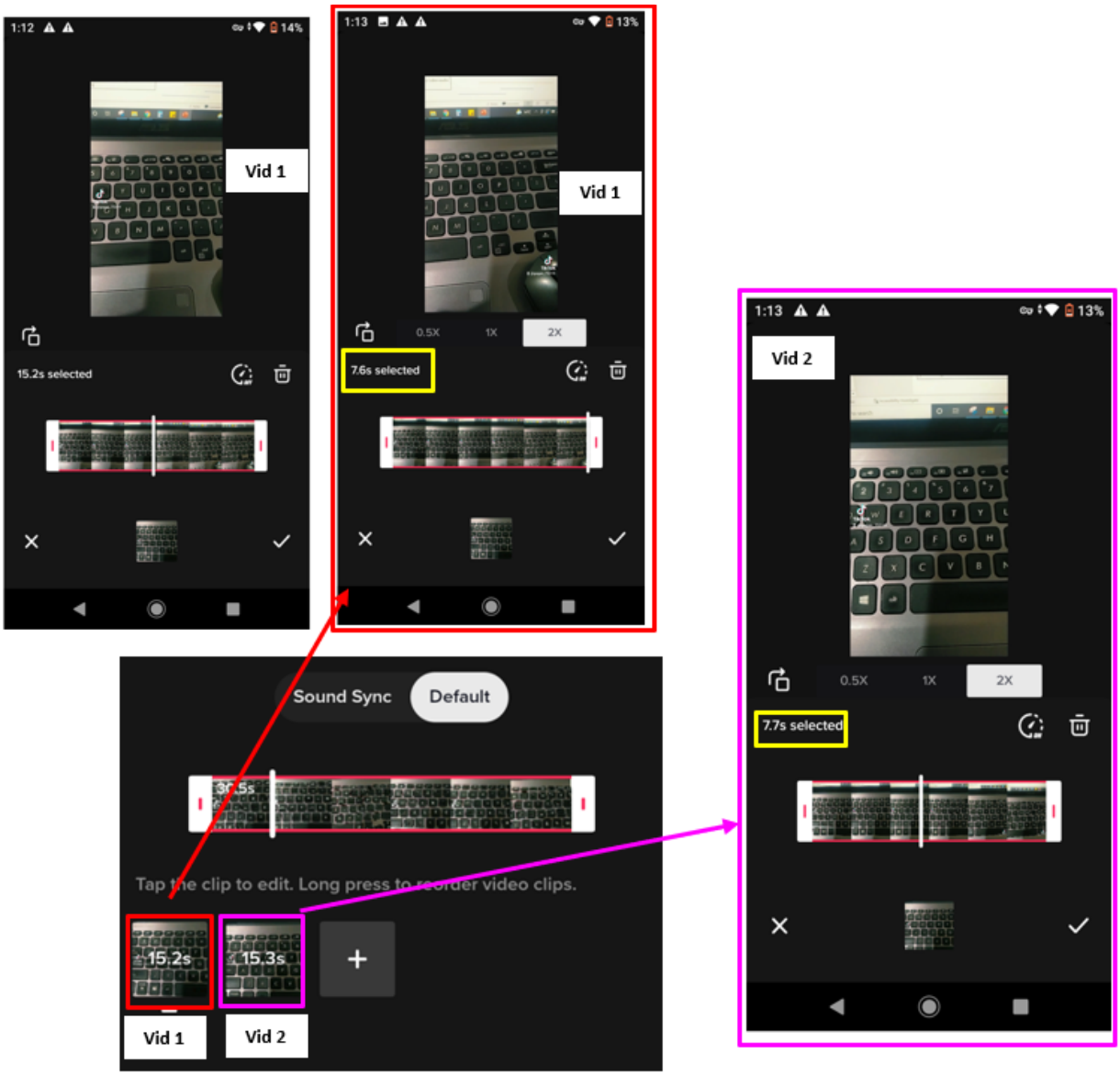
56. The TikTok App inputs a first moving image data generated at a first frame rate and a second image data generated at a second frame rate that is different from the first frame rate. For example, using the TikTok App, a user can select two videos of different frame rates and combine them into one video with changed frame rates by changing the playback speed. Video 1 (first moving image data), below, has been recorded in 0.3x speed and Video 2 (second moving image data), below, has been recorded in 0.5x speed.

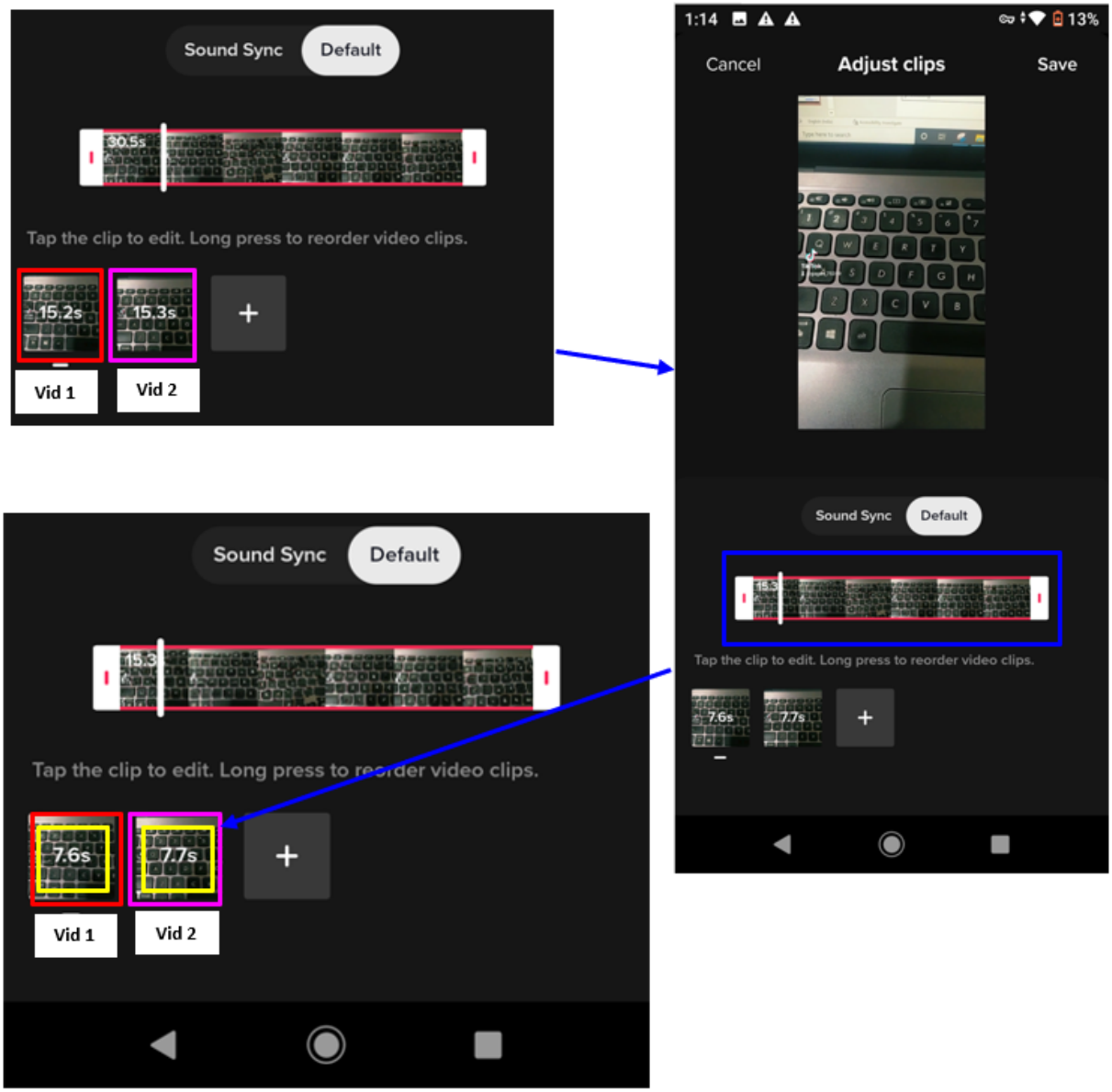
57. Using the TikTok App, the user specifies the first frame rate of the first moving image data (0.3x) and the second frame rate of the second moving image data (0.5x).

58. The user, using the Tiktok App, further specifies output frame rates of the first and second videos, and the same playback speed for both videos (2x):




59. The Tiktok App changes the output frame rates of the first moving image data and second moving image data based on the original frame rates, the output frame rate, and the playback speed. For example, in order to play the 15.2s clip of Video 1 and the 15.3s clip of Video 2 at a 2x playback speed, the TikTok App changes the output frame rates of both videos.


1:12
14%
Vid 1
15.2s selected
1:13
13%
Vid 1
0.5X
1X
2X
7.6s selected
Sound Sync
Default
Tap the clip to edit. Long press to reorder video clips.
15.2s
15.3s
Vid 1
Vid 2
1:13
13%
Vid 2
0.5X
1X
2X
7.7s selected




60. Therefore, Defendant and/or its users directly infringe at least claim 6 of the ’041 patent. Upon information and belief, Defendant directly infringes through at least testing and use of the TikTok App in the United States.

61. Defendant has induced infringement by others, including end users, with the intent to cause infringing acts by others or, in the alternative, with the belief that there was a high probability that others, including end users, infringe the ’041 Patent, but while remaining willfully blind to the infringement.

62. Because of Defendant's direct and indirect infringement of the '041 Patent, ACT has suffered damages in an amount to be proved at trial.

## DEMAND FOR JURY TRIAL

Plaintiff hereby demands a jury for all issues so triable.

## PRAYER FOR RELIEF

WHEREFORE, ACT prays for relief against Defendant as follows:

a. Entry of judgment declaring that Defendant infringes one or more claims of each of the Patents-in-Suit;

b. An order awarding damages sufficient to compensate ACT for Defendant's infringement of the Patents-in-Suit, but in no event less than a reasonably royalty, together with pre-judgment and post-judgment interest and costs;

c. Enhanced damages pursuant to 35 U.S.C. § 284;

d. An accounting for acts of infringement;

e. Such other equitable relief which may be requested and to which Plaintiff is entitled; and

f. Such other and further relief as the Court deems just and proper.

Dated: April 29, 2022

Respectfully submitted,

*/s/ Alfred R. Fabricant*

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***ATTORNEYS FOR PLAINTIFF ADVANCED CODING TECHNOLOGIES LLC***