Plaintiff Flying Heliball, LLC ("Flying Heliball" or Plaintiff), by and through its undersigned counsel, hereby complains against Shopify (USA), Inc., a Delaware Corporation ("Shopify"); TikTok, Inc. (TikTok); Doe Merchants 1-10 ("Doe Merchants"); and Doe Purchasers 1-10 ("Doe Purchasers") and respectfully alleges as follows:

NATURE OF THE ACTION

- 1. This is an action for patent infringement of Plaintiff's United States Patent No. 7,100,866 under the Patent Act, 35 U.S.C. § 271, based on Zero Zero Robotics, Inc., a Delaware Corporation ("ZZRI"), ZZRI's unauthorized commercial manufacture, use, importation, offer for sale, and sale of its HoverAir X1 drone and its V-Coptr Falcon (collectively "the Infringing Products") in the United States.
- 2. This is also an action for unfair competition under California's Unfair Competition Law, Cal. Bus. & Prof. Code § 17200 based on violations of Section 5(a) of the Federal Trade Commission Act, 15 U.S.C. § 45(a).

JURISDICTION AND VENUE

- 3. This Court has original jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331, 1332 and 1338(a).
- 4. Personal jurisdiction over each Defendant is proper in this District because of each Defendant's presence in this judicial district, and they have availed themselves of the rights and benefits of the laws of California.
- 5. Defendants Shopify, and TikTok have each derived substantial revenue from the sales of the Infringing Products in California, and it has systematic and continuous business contacts with California.
- 6. Upon information and belief, Defendants Shopify, and TikTok have each made filings with the California Secretary of State that indicate Defendants Shopify, and TikTok have regularly availed themselves to the protections of this jurisdiction during that time.
 - 7. Upon information and belief, non-party ZZRI presently maintains an

- 1 office at the personal residence of Christopher Loos which is in Tustin, California.
- 2 According to Mr. Loos' LinkedIn page, he is Defendant ZZRI's Director of Sales.
- In this position Mr. Loos' is likely to have information about that quantity of Defendant's products sold.

- 8. Upon information and belief, Defendant Shopify provides instructions directed to customers in California regarding how to start a business in California incorporating Shopify's e-commerce Products and Services in order to promote same. *See*, *e.g.*, https://www.shopify.com/blog/how-to-start-a-business-incalifornia; and https://losangeles.shopify.com/gettingstartedwithshopifyapr27.
- 9. Upon information and belief, in 2017 Shopify built a Kylie Cosmetics pop-up store in Los Angeles, California. *See*, *e.g.*, https://www.shopify.com/blog/212483913-kylie-jenner-pop-up.
- 10. Upon information and belief, in 2018 Shopify opened a brick and mortar store in Los Angeles, California to allow merchants to learn about Shopify ecommerce products and services. *See*, *e.g.*, https://www.shopify.com/news/shopifyopens-its-first-brick-and-mortar-entrepreneur-space.
- 11. Shopify works with an extensive number of merchants in California and upon information and belief, Shopify operates thousands of stores in California for these merchants. Notably, as of September 26, 2024, there are 29,988 Shopify stores in Los Angeles. *See e.g.*, https://storeleads.app/reports/shopify/US/region/California#cities.
- 12. Defendant Shopify indicated in its California Secretary of State filing that its primary business place is New York, New York.
- 13. Defendant TikTok indicated in its California Secretary of State filing that its primary business place is in Culver City, California.
 - 14. The Doe Merchants are merchants that work with Shopify to sell

- 15. The Doe Customers are individuals who purchase infringing goods from the Doe Merchants.
- 16. Venue is proper in this district under 28 U.S.C. §§ 1391(b) and 1400(b).

THE PARTIES

- 17. Plaintiff Flying Heliball, LLC is a limited liability company formed under the laws of California having a principal place of business at 28777 Witherspoon Parkway, Valencia, California 91355 (hereinafter "Flying Heliball").
- 18. Upon information and belief, non-party Zero Zero Robotics, Inc. is a corporation that is incorporated in Delaware and has its regular and established place of business at in Tustin, California (hereinafter "ZZRI").
- 19. Upon information and belief, Defendant Shopify (USA), Inc., is a corporation that is incorporated in Delaware and has its regular and established place of business in New York, New York (hereinafter "Shopify") with extensive contacts with Los Angeles County and the State of California.
- 20. Upon information and belief, Defendant TikTok, Inc. is a corporation that is incorporated in Delaware and has its regular and established place of business in Culver City, California (hereinafter "TikTok").
- 21. Upon information and belief, Defendant Doe Merchants 1-10 have identities known to Shopify and will be named in a future amendment (hereinafter "Doe Merchants").
- 22. Upon information and belief, Defendant Doe Purchasers 1-10 ("Doe Purchasers") have identities known to Shopify and the Doe Merchants and will be named in a future amendment (hereinafter "Doe Purchasers").

FACTUAL BACKGROUND

23. Flying Heliball and its parent corporation, World Tech Toys, Inc., are international sellers and distributors of toys and are largely focused on radio-

controlled helicopters and other flying vehicles.

- 24. United States Patent Number 7,100,866 ("the '866 Patent"), entitled Control System for a Flying Vehicle, was duly and legally issued on September 5, 2006, and names Jeffrey Rehkemper, Nicholas Grisolia, Peter Greenley, and Bret Gould as the inventors. Attached as **Exhibit A** is a true and correct copy of the '866 Patent.
- 25. The '866 Patent claims, among other things, in Claim 1, "A vehicle having a means for propelling in a vertical direction, further comprising: a transmitter positioned on the bottom of said vehicle for transmitting a signal from the vehicle downwardly away from said vehicle; a receiver positioned on the bottom of said vehicle for receiving said signal as it is bounced off of a surface, defined as a bounced signal; and a control system that automatically sets a speed of the propelling means in response to the receiver, said control system having a first means to set the speed of the propelling means to a first speed when the receiver receives the bounced signal and the control system having a second means to set the speed of the propelling means to a second speed when the receiver does not receive the bounced signal, the first speed being predefined as a speed that causes the vehicle to gain altitude and the second speed being predefined as a speed that causes the vehicle to lose altitude."
- 26. The '866 Patent claims, among other things, in Claim 10, "A system to control a direction of movement of a flying vehicle, the control system comprising: a transmitter/receiver pair positioned on the vehicle, the transmitter transmitting a signal from the vehicle in a predetermined direction; a means to fly said vehicle in a direction opposite of said predetermined direction when said signal is bounced off of a surface and received back by the receiver; and a means to fly said vehicle in a direction similar to said predetermined direction when said receiver does not receive said signal."
 - 27. In 2022, the '866 Patent was assigned to Flying Heliball, which is the

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- owner of the entire right, title, and interest in the '866 Patent. The claims in the '866 Patent relate to a control system for a flying toy.
- 28. ZZRI sells numerous products that infringe the '866 Patent, including the HoverAir X1 drone and its V-Coptr Falcon. Collectively, these are referred to herein as the "Infringing Products."
- The Infringing Products are in a classification of toys called "gesture-29. controlled devices." Gesture-controlled devices are toys controlled by a user's motion instead of a remote control. Plaintiff and World Tech Toys, Inc. also sell gesture-controlled devices (collectively "Plaintiff's Products").
- 30. Upon information and belief, the Infringing Products compete for market share with Plaintiff's Products in the American online market for gesturecontrolled toys.
- Upon information and belief, there is cross-elasticity of demand 31. between the Infringing Products and the Plaintiff's Products – that is, removing the Infringing Products from the marketplace would result in higher sales for Plaintiff's Products.
- 32. Non-party Amazon operates an online marketplace: Amazon.com, which lists products for sale and allows users to purchase advertisements to sell their wares more effectively. Amazon enables users to load products into a database along with product photos and a product description. Amazon provides search engine optimization and advertising services for specific products. Amazon has a payment processing service and functionality to allow users to load products into a shopping cart and then purchase the products.
- 33. TikTok operates an online marketplace substantially identical to Amazon's online marketplace. TikTok operates an eponymous mobile application with an online marketplace called "TikTok Shop." TikTok Shop lists products for sale and allows users to purchase advertisements to sell their wares more effectively. TikTok Shop enables users to load products into a database along with

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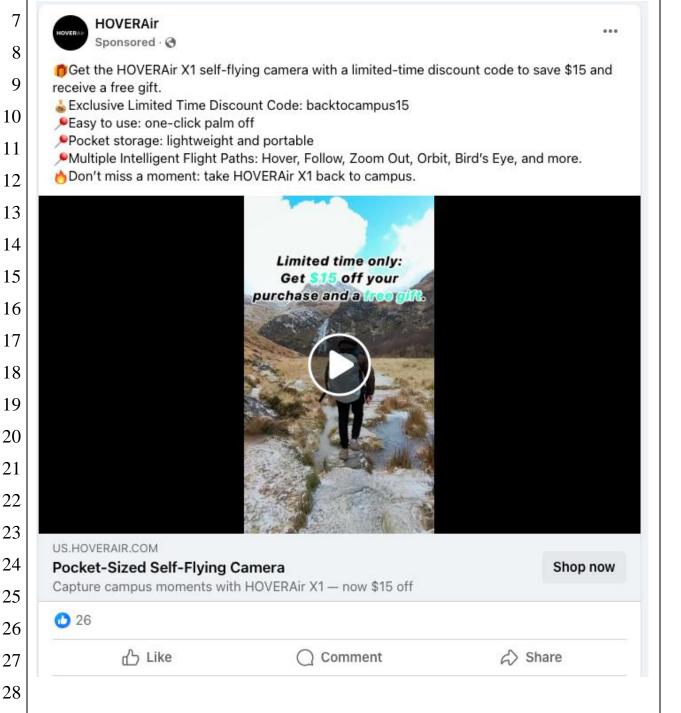
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- product photos and a product description. TikTok Shop internal advertising services for specific products on the TikTok mobile application. TikTok Shop has a payment processing service and functionality to allow users to load products into a shopping cart and then purchase the products.
- Shopify operates an online marketplace that is nominally different from Amazon. Shopify offers website domain registration, hosting, and websitebuilding tools for merchants. The websites built with these tools list products for sale that can be loaded into a shopping cart and customers can make purchases processed with Shopify Payments.
- 35. While a merchant has some discretion as to how the website looks, the merchant has almost no discretion as to how Shopify creates advertisements for the merchant when the merchant hires Shopify to do so. Shopify's advertisement

2. Ads

- 1. Content. Most of the content of the Ads will be generated by Shopify and will not be customizable by the Developer. Ad names and all other content provided by Developer must comply with Shopify's Acceptable Use Policy. You hereby grant Shopify a non-exclusive, royalty-free, worldwide, fully paid license to store, use, reproduce and display any Ad names or other content provided by Developer for purposes of delivering the Ads and managing the service herein. Except as expressly set forth herein, nothing in this Agreement will be deemed to be a transfer, license or assignment of any intellectual property rights.
- Keywords. While the Developer may request certain triggering keywords for the Ads and negative triggering keywords as well, Shopify may prohibit and block the use of any keywords in its discretion. If broad keywords are selected by Developer, the actual triggering keywords implemented will be determined by Shopify in its sole discretion.
- guidelines are shown below as taken from: https://www.shopify.com/partners/terms
- As shown above, Shopify exerts almost total discretion in creating 36. advertisements for merchants or "Developers" and exercises creative control over the minimal amount of discretion that merchants do have. Shopify makes recursive advertisements for merchants. Recursive Advertising is where a similar ad is shown

to a customer over and over across multiple platforms. On the following page is a recursive advertisement that Shopify designed for ZZRI to be shown on Facebook. The advertisement encourages a customer to make a purchase. This induces the Doe Purchasers to purchase Infringing Devices. The advertisement also induces the Doe Purchasers to use the Infringing Devices causing the Doe Purchasers to infringe the '866 Patent as well.



The point of the custom-made advertising that Shopify creates with

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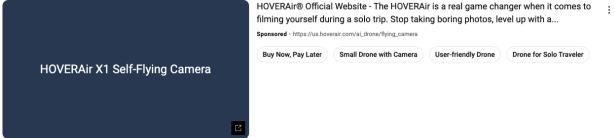
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again on different platforms. Shown on the following page is a recursive advertisement of the same product shown on the following page that is located on YouTube:

HOVERAir® Official Website - The HOVERAir is a real game changer when it comes to filming yourself during a solo trip. Stop taking boring photos, level up with a...

Sponsored · https://us.hoverair.com/ai_drone/flying_camera

minimal input from the merchant is to show a similar advertisement over and over



- 38. Shopify also operates a website called Shop.app and a similarly named mobile application that directly sells the infringing goods to customers. One example is here: https://shop.app/products/7700122075172.
 - 39. The Doe Merchants sold or offered the Infringing Products for sale.
 - 40. The Doe Defendants used the Infringing Products.

Defendants' Infringing Activities and Products

- 41. Upon information and belief, ZZRI, Amazon, Shopify, TikTok, and the Doe Merchants have and continue to infringe the '866 Patent by making, using, selling, and offering for sale the Infringing Products in the United States. The Infringing Products embody or use the inventions claimed in the '866 Patent.
- 42. Briefly, the HoverAir X1 drone has a processor that is electrically connected to a battery, four propellors, a front camera attached to a gimble, a light detection and ranging (LiDAR) sensor, and a downward facing camera that is fixed. The processor is programmed with either software or firmware that contains computer vision technology.
- 43. Computer vision generally works in three steps: (1) a camera captures a visual input; (2) a processor processes the visual input; and (3) the processor does

- 44. However, as the '441 Patent demonstrates, computer vision is inadequate to determine if an object is dangerously close to a surface with any reliability. To do that, the Infringing Products must emit a signal that is received by a receiver, when a signal is received in a short time, the Infringing Products enter an avoidance mode to avoid crashing into whatever is causing the bounced signal exactly as is claimed in the '866 Patent. The Infringing Products accomplish this with LiDAR, which is one species of infrared.
- 45. LiDAR operates by using a transmitter/receiver to transmit a signal reflected off a surface. The signal is bounced off the surface and returned to the transmitter/receiver. A component measures the time between transmission of the signal and receipt of the bounced signal. If the signal is received in a predetermined time interval, then the processor engages the propellors to fly away from the surface.
- 46. In the language of the '441 Patent, there is an "emitter" that transmits a signal that can be an infrared signal. A "receiver" receives "signals of the type emitted by the emitter." The Infringing Products use this system to determine if there is a surface or object in close proximity. When there is a surface or object in close proximity, the Infringing Products "automatically override instructions to fly according to the flight path [and use] automatically-generated flight instructions..."
- 47. Internet users describe those "automatically generated flight instructions" as "jumping" over an obstacle. *See*, *e.g.*, Willow Walks, HOVERAir X1 Lessons Learned and Ideas for Updates...New Modes/Features?, available at

- 1 https://www.youtube.com/watch?v=8G-hbI7e7PA (beginning at 1:21) ("the Walks
- 2 | Video"). In the Walks Video, a user is operating the HOVERAir X1 in manual
- 3 mode and is flying through the back seat of a car with both windows partially open.
- 4 The LiDAR sensor detects a partially open window. One of the microcontrollers
- 5 receives this input from the LiDAR sensor and engages the propellors to fly upward
- 6 to increase the clearance between the HoverAir X1 and the window. When the
- 7 window is no longer detected, one of the microcontrollers receives this input from
- 8 the LiDAR sensor and engages the propellors to fly downward.
- 9 48. In another internet video, YouTube user Doron Bond puts the
- 10 HoverAir X1 into a different mode. See Doron Bond, HOVER Air X1 Drone
- 11 Obstacle Avoidance, available at:
- 12 https://www.youtube.com/watch?v=RSNBOC8q3Ms. Mr. Bond notes that as the
- 13 | HoverAir X1 approaches the Cleveland Sign, the HOVER Air X1 backs away from
- 14 the sign, changes course, and evades the Cleveland Sign.
- 15 49. Similarly, the V-Coptr Falcon has a processor that is electrically
- 16 connected to a battery, two propellors, a front camera, a front stereo camera, an
- 17 inertial measurement unit, a LiDAR Sensor, and a downward facing camera that is
- 18 fixed. The processor is programmed with either software or firmware that contains
- 19 Visual Inertial Odometry, and LiDAR that works in a similar manner as the
- 20 HoverAir X1.

- 21 50. In another internet video, YouTube user Ken Heron uses his hand as a
- 22 surface and engages a sensor on the V-Coptr Falcon to enter an object avoidance
- 23 mode and "jump" away from his hand by increasing altitude. See Ken Heron, We
- 24 tried to CRASH a V-COPTR but it's too AWESOME!, Available at:
- 25 https://www.youtube.com/watch?v=SEmUmecV8r8
 - 51. More detailed claim charts for claim 1 and claim 10 are attached to this
- 27 complaint in **Exhibit B**.
 - 52. Upon information and belief, ZZRI has been and is inducing

- 53. Specifically, ZZRI has induced Amazon, Shopify, TikTok, and the Doe Merchants (the "Third-Party Sellers") to sell the Infringing Products knowing the Infringing Products infringed the '866 Patent. ZZRI actively encouraged infringement by reaching out to buyers at the Third-Party Sellers and encouraging those buyers to purchase goods that infringed the '866 Patent.
- 54. Upon information and belief, ZZRI has known of the existence of the '866 Patent, and these acts of infringement have been willful and in disregard of the '866 Patent, without any reasonable basis for believing that it had a right to engage in the infringing conduct. Specifically, Plaintiff has provided ZZRI with a copy of the '866 Patent and infringement allegations as shown in **Exhibit C**.
- 55. Upon information and belief, TikTok has known of the existence of the '866 Patent, and these acts of infringement have been willful and in disregard of the '866 Patent, without any reasonable basis for believing that it had a right to engage in the infringing conduct. Specifically, Plaintiff has provided TikTok with a copy of the '866 Patent and infringement allegations as shown in **Exhibit D**.
- 56. Upon information and belief, Shopify has known of the existence of the '866 Patent, and these acts of infringement have been willful and in disregard of the '866 Patent, without any reasonable basis for believing that it had a right to engage in the infringing conduct. Specifically, Plaintiff has provided Shopify with a copy of the '866 Patent and infringement allegations as shown in **Exhibit E**.
- 57. Remarkably, Shopify declined to remove its infringing listings in an email attached as **Exhibit F**.
- 58. The HoverAir X1 drone is, and continues to be, sold by the Third-Party Sellers of ZZRI and infringes the '866 Patent through various websites such as:
 - a. By Amazon.com formerly at:

1	https://www.amazon.com/t/dp/B0CDCFGF1V/.						
2	b. By Shopify at: https://shop.app/products/7700122075172 .						
3	c. By TikTok at:						
4	https://www.tiktok.com/view/product/1729407809016206042.						
5	59. The V-Coptr Falcon drone is, and continues to be, sold by the Third-						
6	Party Sellers of Defendant's and infringes the '866 Patent through various website						
7	such as:						
8	a. By Amazon.com at:						
9	https://www.amazon.com/dp/B09JN91FY9.						
10	b. By Shopify at:						

- 65. Upon information and belief, ZZRI, Shopify, TikTok, and Doe Merchants have been and are inducing infringement of the '866 Patent by actively and knowingly inducing others to make, use, sell, offer for sale, and/or import flying toys that embody or use the invention claimed in the '866 Patent, including those sold under the name HoverAir X1 and V-Coptr Falcon, in violation of 35 U.S.C. § 271(b).
- 66. ZZRI, Shopify, TikTok, and Doe Merchants' infringement has been, and continues to be knowing, intentional, and willful.
- 67. Defendant's acts of infringement of the '866 Patent have caused and will continue to cause Plaintiff damages for which Plaintiff is entitled to compensation pursuant to 35 U.S.C. § 284.
- 68. Defendants' acts of infringement of the '866 Patent have caused and will continue to cause Plaintiff immediate and irreparable harm unless such infringing activities are enjoined by this Court pursuant to 35 U.S.C. § 283. Plaintiff has no adequate remedy at law.
- 69. This case is exceptional and, therefore, Plaintiff is entitled to an award of attorney fees pursuant to 35 U.S.C. § 285.

COUNT Two (Violation of Cal. Bus. & Prof. Code § 17200) Against Shopify

- 70. Plaintiff repeats and realleges paragraphs 1 through 69 above as if fully set forth herein.
- 71. Shopify provided business tools to the Doe Merchants, which enabled the Doe Merchants to sell the Infringing Products to the Doe Purchasers. The Doe Merchants further encouraged the Doe Purchasers to use the Infringing Products making the Doe Purchasers infringers.
 - 72. The Doe Purchasers are consumers who have infringed the '866 Patent

- 73. The Doe Purchasers have no competitive interest in purchasing goods that infringe unlicensed patents from the Doe Merchants.
- 74. The Doe Purchasers are not sufficiently sophisticated that to know whether they are infringing the '866 Patent without being so told.
- 75. Shopify knew that the Doe Merchants were selling infringing goods, when Plaintiff sent Shopify a copy of the Complaint in the present action.
- 76. Shopify had the ability to terminate the product listings of the Doe Purchasers and ZZRI, but affirmatively chose not to do that.
- 77. Shopify had an affirmative duty under Section 5 of the Federal Trade Commission Act to prevent ZZRI and the Doe Merchants from harming the Doe Purchasers.
- 78. Plaintiff suffered a competitive injury because the Doe Purchasers purchased the Infringing Products from the Doe Merchants and ZZRI instead of goods that use Plaintiff's toy design and licensing services causing a direct monetary injury to Plaintiff.

WHEREFORE, Plaintiff requests judgment against Defendants as follows:

- 1. Adjudging that each Defendant has infringed the '866 Patent, in violation of 35 U.S.C. § 271(a);
- 2. Adjudging that Defendants ZZRI, Shopify, TikTok, and the Doe Merchants have induced infringement the '866 Patent in violation of 35 U.S.C. § 271(b);
- 3. Granting an injunction temporarily, preliminarily, permanently enjoining each Defendant, its employees, agents, officers, directors, attorneys, successors, affiliates, subsidiaries, and assigns, and all of those in active concert and participation with any of the foregoing persons or entities from infringing, contributing to the infringement of, or inducing infringement of the '866 Patent;
 - 4. Ordering each Defendant to account and pay damages adequate to

compensate Plaintiff for each Defendant's infringement of the '866 Patent, including for any infringing acts not presented at trial, pre-judgment and post-judgment interest and costs, pursuant to 35 U.S.C. § 284;

- 5. Ordering an accounting for any infringing sales not presented at trial and an award by the court of additional damages for any such infringing sales;
- 6. Ordering that the damages award be increased up to three times the actual amount assessed, pursuant to 35 U.S.C. § 284;
- 7. Declaring this case exceptional and awarding Plaintiff its reasonable attorney fees, pursuant to 35 U.S.C. § 285; and
- 8. With regard to Shopify, under Section 17200, entering an injunction against Shopify prohibiting listing any products that infringe the '866 Patent.
- 9. Awarding such other and further relief as this Court deems just and proper.

Date: October 8, 2024 McKOWN BAILEY

By: Michael O'Brien

Aaron M. McKown Michael O'Brien Attorneys for Plaintiff FLYING HELIBALL, LLC

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DEMAND FOR JURY TRIAL A jury trial is demanded pursuant to Fed. R. Civ. P. 38. Date: October 8, 2024 McKOWN BAILEY By: Michael O'Brien Aaron M. McKown Michael O'Brien Attorneys for Plaintiff FLYING HELIBALL, LLC