1		The Honorable Tana Lin
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8 9		DISTRICT COURT T OF WASHINGTON
10	BUNGIE, INC.,	
11	Plaintiff,	Case No. 2:21-cv-01112-TL
12	V.	DECLARATION OF STEVEN GURIS IN SUPPORT OF MOTION FOR
13	ELITE BOSS TECH INCORPORATED, 11020781 CANADA INC., DANIEL	DEFAULT
14	FAGERBERG LARSEN, ROBERT JAMES DUTHIE NELSON, SEBASTIAAN JUAN	
15	THEODOOR CRUDEN A/K/A "LUZYPHER," JOHN DOE NO. 4 A/K/A "GOODMAN," YUNXUAN DENG A/K/A	
16	"YIMOSECAI," ANTHONY ROBINSON A/K/A "RULEZZGAME," EDDIE TRAN	
17	A/K/A "SENTIENT", CHENZHIJIE CHEN A/K/A "CHENZHIJIE402, DSOFT, CVR	
18	37454303, MARTA MAGALHAES A/K/A MINDBENDER A/K/A BLUEGIRL, AND	
19	JOHN DOES NO. 9-20,	
20	Defendants.	
21		I
22	1. My name is Steven Guris. I am th	ne Director of Threat Investigations at Unit 221B,
23	-	The Director of Timeat investigations at Oint 221D,
24	a private cybersecurity contracting firm.	
25	2. Due to my experience at Unit 22.	1B working with cheats in the video game
26		alysis, and malware analysis, and particularly for
	DECLARATION OF STEVEN GURIS- 1	
	(Case No. 2:21-cv-01112-TL)	MILLER NASH LLP ATTORNEYS AT LAW T: 206.624.8300   F: 206.340.9599

Bungie's *Destiny 2*, I am an expert in the field of video game cheats. Attached hereto as Exhibit
 1 is my resume.

3. At the direction of Unit 221B, Bungie, and Kamerman, Uncyk, Soniker & Klein
("KUSK"), I have investigated the *Destiny 2* cheat developed by Daniel Larsen and previously
sold by Wallhax. I am also an active *Destiny 2* player, and have logged over 2,200 hours playing
the game itself.

- 8 4. The cheat created and maintained by Daniel Larsen in particular demanded
   9 substantial investments of time and resources to investigate, and review. For example, my team
   10 spent roughly 21 hours analyzing the Wallhax cheat to determine how it operated.
- 11

# 12 Cheat Software and Protection Against It

5. Video game developers and publishers devote significant time and resources to
 preventing cheating in their games, including technical measures known as "anti-cheat." These
 technical measures are designed to detect the system processes of cheat software and take
 automated actions against offending players.

Obfuscation and circumvention mechanisms designed to allow a cheater to remain
 undetected by anti-cheat and other security measures are a core component of modern cheats.
 Larsen's cheat as sold by Wallhax necessarily required Larsen to invest significant time and
 effort in evading those security measures.

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7. In a modern massively multiplayer online game such as Bungie's *Destiny 2*, the

instance of the game running on a player's device, in this case a personal computer with a
Microsoft Windows operating system, is referred to as that player's game client. A game client

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may be thought of as an extension of the game servers provided, owned, and maintained by the
 game company, and allows the customer to play the game on their device.

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8. In order to effectively render the environment of the game world and communicate nearly instantaneously with remote game servers, the player's game client must store key variables on the user's device. These variables may include data on the player's own character, the positions, health, and headings of other player's characters, or data related to objects within the game environment. These variables are contained in a device's memory while the user's game client is running (*i.e.* while the game software is actively running).

9. As with all executing programs in a computer's memory, the memory spaces used
by *Destiny 2* are considered privileged spaces: only *Destiny 2* should be able to access these
spaces while in use, including to read data, and Windows' normal operation is intended to
categorically prevent other applications from interfering with the protective measures Bungie
puts in place to prevent exposure and manipulation of *Destiny 2*'s game data.

16 10. Thus, in order to deliver the promised functionality of their cheat, cheat
 17 developers must breach these privileged memory spaces and read this data from the *Destiny 2* 18 process. The same is true of a cheat for any of the many games in Wallhax's large catalog of
 available cheats.

21 The Wallhax Cheat

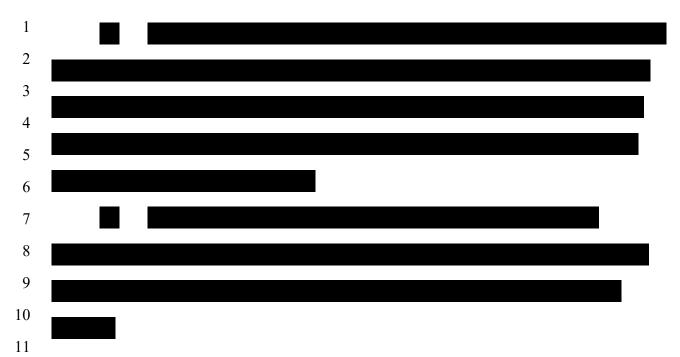
11. Our investigation of the Wallhax cheat involved both review and use of the cheat
 as a user and, when and to the extent it was made available to us, review of the cheat's source
 code. We were ultimately provided with much but not all of that source code.

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14. The core functionalities of cheats made available to users are likely to be 12 incredibly similar within a genre of games. For example, Bungie's Destiny 2 is considered a 13 "first person shooter." The action of the game primarily takes place through the eyes of the 14 15 player's character with an emphasis on simulated combat using various guns or other ranged 16 weapons. As a result, the core features of a cheat for *Destiny 2* commonly include the aimbot as 17 well as ESP or "wallhack" features, terms explained in more detail below. The Wallhax Destiny 18 2 cheat created by Daniel Larsen offers each of those features. Wallhax also offered these same 19 features as cheats available for use in other first person shooters, which suggests that they result 20 from common code. 21

15. As gameplay in first person shooters primarily involves combat using guns and
 other ranged weapons, a player's ability to reliably aim their weapon is considered a crucial skill.
 Aimbot features provide players with automated aim, enabling perfect accuracy on every shot.

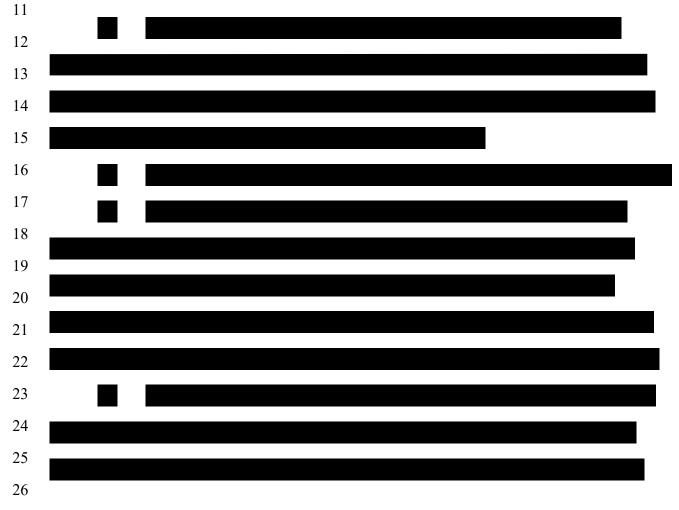
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Players using an aimbot are nearly guaranteed to win any competitive match against other
 players.

16. As competitive gameplay in a first person shooter typically takes place within a varied and detailed map, awareness of your opponents and your surroundings is also a valued skill in such games, including in *Destiny 2*. ESP (extra-sensory perception) features - also referred to as a "wallhack" - allow players to see the locations of enemies, including other players, through walls, obstacles, or any other sight obscuring terrain. This functionality is commonly provided by creating graphical elements overlaid on a player's game, normally colored boxes, indicating the location of otherwise hidden enemies.

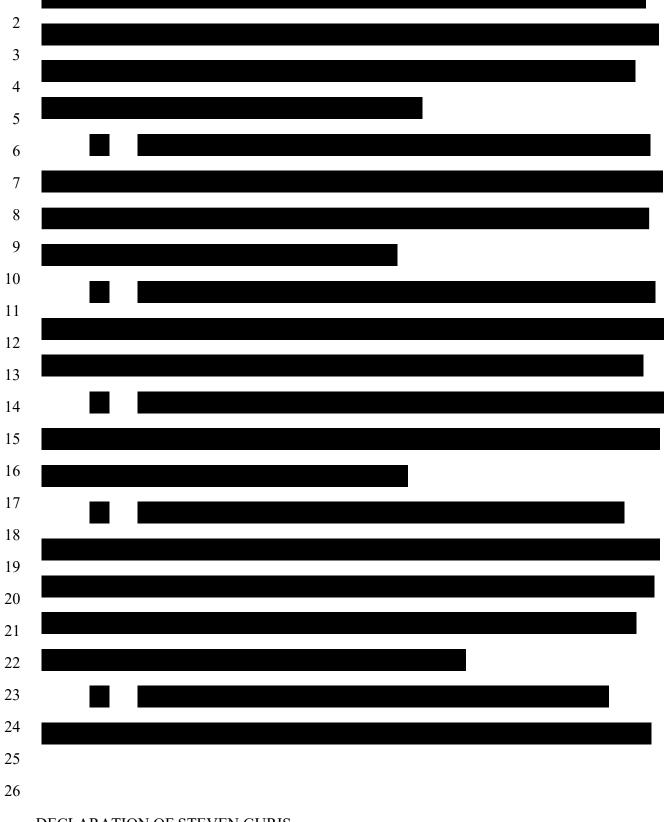


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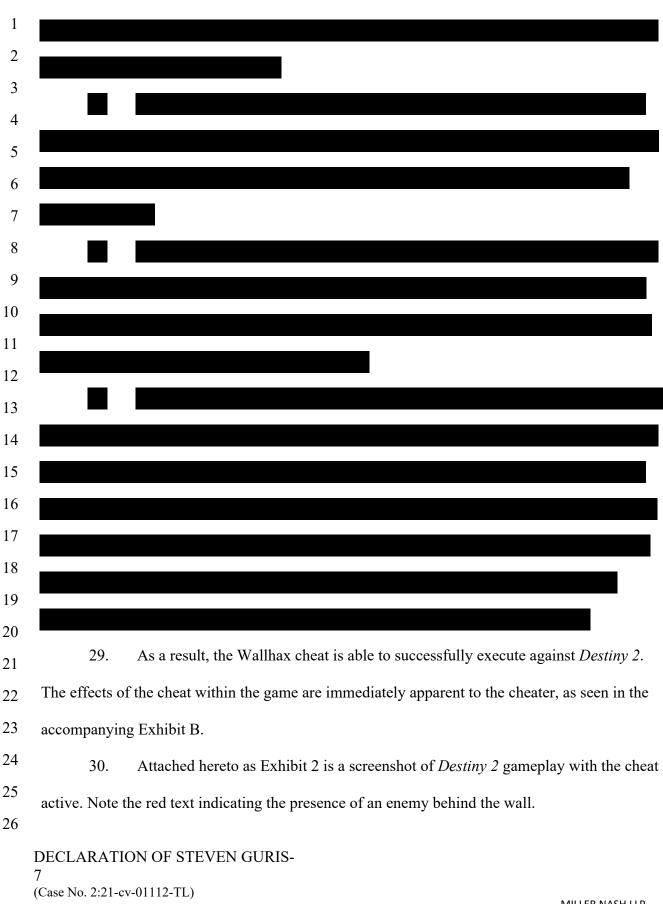
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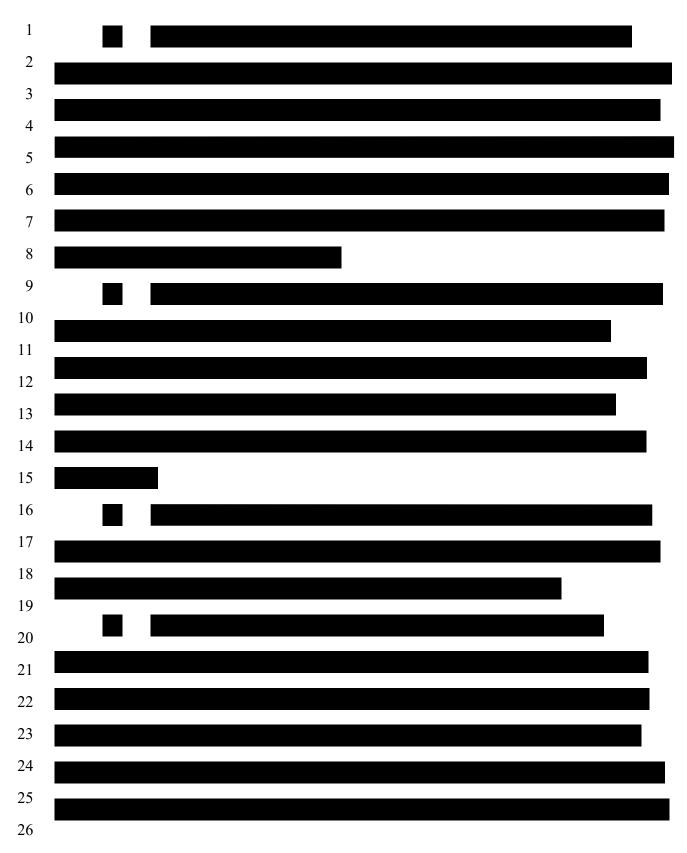
DECLARATION OF STEVEN GURIS-(Case No. 2:21-cv-01112-TL)

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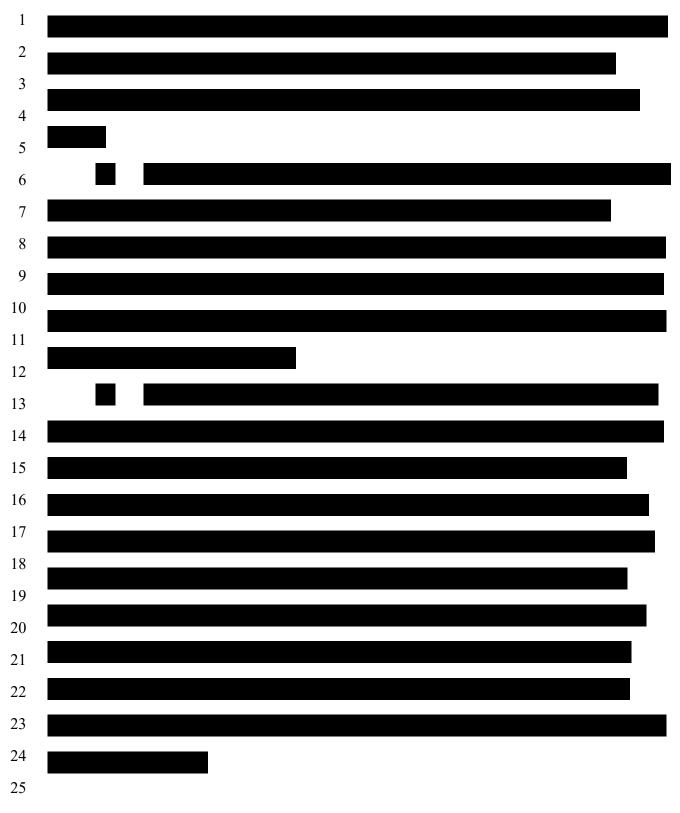
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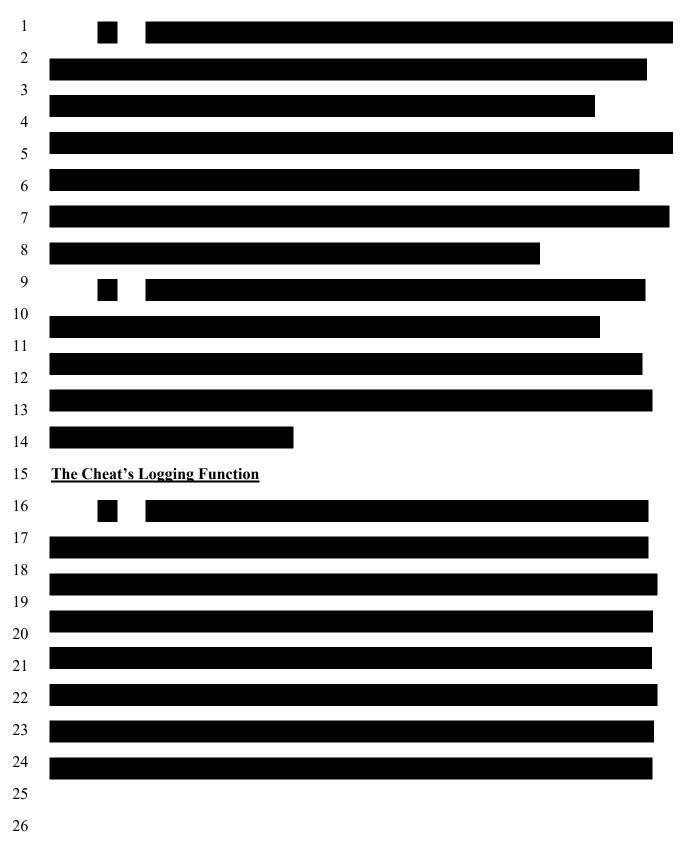


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### DECLARATION OF STEVEN GURIS-9

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DECLARATION OF STEVEN GURIS-10 (Case No. 2:21-cv-01112-TL)

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3	40. Some of the logged processes are not stand-alone applications, but are found on		
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5	browser tabs that the user had open on their machine. In order to identify these tabs, the cheat		
6	must look at the name of every browser tab the user has opened every time the user launches the		
7	cheat.		
8	41. In order to identify these applications, the Wallhax cheat must have scanned the		
9	user's computer memory to identify all of their running applications and logged only those which		
10	matched one of the strings it was searching for.		
11	42. Although this log file only contains 20,868 entries, the cheat software most likely		
12			
13	performed this scan each and every time it ran on a user's computer.		
14	43. The log entry with the ID 1054262 identifies a browser tab called "[child's last		
15	name], [child's first name]: Algebra I, Grade 9 Period 8/ MHS - Google Chrome."		
16	44. The log entry with the ID 1057613 identifies a browser tab called "[child's last		
17	name], [child's first name]: World History, Grade 9, Period 4, MHS Period 4."		
18	45. I believe these log entries represent the cheat software's logging of the browser		
19	windows containing ninth grade students' remote-schooling sessions.		
20			
21	46. The log entry with the ID 947668 identifies a browser tab called		
22	"patientportal.mhsgenesis.health.mil login."		
23	47. The log entry with the ID 1842909 identifies a browser tab called "MHS		
24	GENESIS Patient Portal - COVID-19 Results."		
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	DECLARATION OF STEVEN GURIS-		
	11 (Case No. 2:21-cv-01112-TL)		
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1	48. "MHS Genesis" is the patient portal for the United States Department of Defense.
2	Attached hereto as Exhibit 3 is a true and correct copy of the Military Health System's page on
3	MHS Genesis, found online at https://www.health.mil/Military-Health-
4 5	Topics/Technology/MHS-GENESIS.
5	49. I believe these log entries represent the cheat software's logging of the browser
7	windows containing MHS Genesis Patient Portal sessions, including health care information.
8	Based on this information, it appears that the Wallhax cheat software was scanning the
9 10	computers of, and logging data from, active duty military or Department of Defense personnel.
11	<u>Our Fees</u>
12	50. Bungie has paid Unit 221B \$65,520 in connection with our work on the Wallhax
13	cheat software, billed at our usual rates and pursuant to our agreement with Bungie.
14	
15	<u>Conclusion</u>
16	51. In sum, the Wallhax cheat was fundamentally designed to breach private data
17	spaces, evade security measures, and attempt to ensure that cheat users could continue to access
18	Destiny 2 and achieve success against other Destiny 2 players based not on their own skill, but or
19	the cheat software's technology. And the Wallhax cheat has features that have no purpose other
20	than evading Bungie's anticheat technology, including the technologies Bungie uses to control
21 22	that access to Destiny 2.
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	DECLARATION OF STEVEN GURIS- 12 (Case No. 2:21-cv-01112-TL)

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1	I declare under penalty of perjury under the laws of the United States that the foregoing is
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4	DATED this 16th day of January at Marietta, GA.
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8	Steven Guris
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