

EloLogAnalyzer Readme TB000069 REV. B

## EloLogAnalyzer v1.0.6

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User Instructions June 25, 2018

(1) Introduction

This utility is used to view/analyze Elo driver's multi-touch logging information. Download utility here:

https://elotouch.sharepoint.com/:u:/s/KnoxvilleTechnicalServices/EavIW\_vXraNPqIrSdH80IJQBNt8Hap\_ tGpSTH8THeGJyRA?e=goMxUc

Starting with Elo muli-touch 6.9.17, the logging of kernel level multi-touch information is supported on system with single Elo touch monitor only; log entries in Windows Event Log will be messed up with touches from multi-monitors.

The app retrieves Elo USB driver's logging entries from Windows Event Log (under Windows Logs - System) and display log entries in a table. It also mark entries in red if it considers them as suspicious (entries without unique matching touch-down or touch-up).

The utility does basic analyzing of log and show count of suspicious entries (highlighted in red) and touch-down that lasted more than a second. The basic analyzing is done by eliminating all valid pairs of touch-down and touch-ups and whatever left over is considered as "suspicious".

Clicking any entry inside the table, will get the corresponding touch event (pairing touch event) highlighted (in green).

(2) Table description

Index: This is the index into the whole table.

Down/Up: Indicating if this event is a touch-down or touch-up. Touch-down events are highlighted.

Touch ID: It's the touch id corresponding to the current touch event.

Pair Inx: Each touch-down and corresponding touch-up a is marked by a unique 2-byte number. This way the user can identify which touch-up belongs to which touch-down. In normal condition, there should be one-to-one relation between a touch-down and it's matching touch-up.



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Raw Point: The controller reported touch coordinates before going through kernel driver's calibration process. For pCap touch monitors installed as digitizer, the coordinate should remain the same after going through driver's calibration process.

Cal. Point: The calibrated coordinates. It is the result of driver's calibration process. For pCap monitors in digitizer mode, it should be the same as "Raw Point".

Touch Ct: Total number of simultaneously touch contacts at the time of this touch event.

Timestamp: This is the timestamp for the touch event to milliseconds.

Holding Time: Indicate touch-down time in milliseconds. 1st entry after driver has been reloaded is marked as "Driver reloaded".

(3) Button description

[Read from Current OS System Log]

Retrieve Elo Log entries writing with last logging format from OS's System Log and provide basic analyzing result. If there is suspicious entries found, it will show count of such entries in red and all suspicious entries will be highlighted in red in the table.

[Read from Saved Event Log (.evtx)]

Read Elo log entries from a locally saved log with extension ".evtx". This can be used to analyze a Windows Event Log collected from another Windows system. Steps below must be followed to save a copy of current system log (where Elo touch events logged):

- 1. Start Windows Event Viewer
- 2. Right-click "Windows Logs" -> "System" and then choose "Save All Events As...".
- 3. Save the file with .evtx extension for analyzing and debugging.

Display this user instruction.

(4) The "Summary" panel

Event Count: total number of Elo touch logging retrieved from Windows Event Log. Touch-downs: total touch down event count.

Touch-ups: total touch-up event count.

Suspicious entries: total count of events that do not belong to any unique touchdown/touch-up pair.

Down more than a sec: total touch-down that lasted more than a second.



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## Sample Screenshot showing all analyzing options:

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Index	Down/Up	TouchID	Pairldx	Raw Point	Cal. Point	Touch Ct	Timestamp	Holding Time (ms)	^	Summary		_
2593	$\downarrow$	00	0056	0042,0002	0000,0000	01	07/02 15:36:05.461			=vent count	365	7
2594	$\uparrow$	00	0056	0198,0414	0157,0403	01	07/02 15:36:05.812	351		_vent count	5051	<u> </u>
2595	$\downarrow$	00	0057	0000,0002	0000,0000	01	07/02 15:36:05.995			Touch-down:	5 172 <sup>-</sup>	1
2596	^	00	0057	0230,0336	0221,0247	01	07/02 15:36:06.283	288		<b>T</b>		
2597	$\downarrow$	00	0058	1968,2808	1968,2808	01	07/02 15:36:06.787			Touch-ups	1936	6
2598	^	00	0058	1968,2808	1968,2808	01	07/02 15:36:06.874	87		Suspicious		
2599	$\downarrow$	00	0059	0000,0006	0000,0000	01	07/02 15:36:07.574			entries	325	
2600	$\uparrow$	00	0059	0214,0282	0189,0139	01	07/02 15:36:07.864	290				
2601	$\uparrow$	00	0059	0302,0462	0302,0462	01	07/02 15:36:08.384	810		Holding tir	ne (sec)	)—
2602	$\downarrow$	00	005A	1704,2400	1704,2400	01	07/02 15:36:08.804			<b>1</b>	219	
2603	$\uparrow$	00	005A	1702,2402	1702,2402	01	07/02 15:36:08.914	110			210	
2604	$\downarrow$	00	005B	1482,2384	1482,2384	01	07/02 15:36:09.097			>5	7	
2605	1	00	005B	1470,2388	1470,2388	01	07/02 15:36:09.174	77			_	
2606	$\downarrow$	00	005C	0000,0054	0000,0000	01	07/02 15:36:09.717			>10	0	
2607	1	00	005C	0308,0404	0308,0383	01	07/02 15:36:09.995	278		>30	0	
2608	$\downarrow$	00	005D	0002,0002	0000,0000	01	07/02 15:36:10.224					
2609	^	00	005D	0490,0684	0490,0684	01	07/02 15:36:10.494	270				
2610	$\downarrow$	00	0000	0470,0618	0470,0618	01	07/02 16:02:28.082	Driver reloaded				
2611	1	00	0000	0468,0630	0468,0630	01	07/02 16:02:28.240	158		Read from	Current	t
2612	$\downarrow$	00	0001	0440,0530	0440,0530	01	07/02 16:03:46.649			OS Syst	em Log	
2613	1	00	0001	0438,0530	0438,0530	01	07/02 16:03:46.849	200				
2614	$\downarrow$	00	0002	3476,3496	3476,3496	01	07/02 16:04:00.715			Read from	n Saved	
2615	$\uparrow$	00	0002	3478,3534	3478,3534	01	07/02 16:04:01.175	460	_	Event Log	g (.evtx)	
2616	$\downarrow$	00	0003	3510,0598	3510,0598	01	07/02 16:04:09.868					
2617	^	00	0003	3510,0596	3510,0596	01	07/02 16:04:10.017	149	_   [			
2618	$\downarrow$	00	0004	3284,3646	3386,3697	01	07/02 16:04:14.050			Read	me	
2619	1	00	0004	3274,3658	3376,3709	01	07/02 16:04:14.310	260				
2620	$\downarrow$	00	0005	3132,3412	3232,3457	01	07/02 16:04:14.930					
2621	1	00	0005	3132,3412	3232,3457	01	07/02 16:04:15.000	70	_	Clos	se	
2622	$\downarrow$	00	0006	3132,3412	3232,3457	01	07/02 16:04:15.439					
0.000	<b>^</b>		0000	2122 2412	2222 2457	01	07/00 45-04-45 400	60				