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Disclaimer

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Stint Analyzer

What is Stint Analyzer? I developed Stint Analyzer mostly as a tool to be used for practice sessions to compare different setups as well as compare other drivers lap times against our team. Our team likes to work more on long run setups vs. short run and wanted to compare against others in sessions. Stint Analyzer will show different buckets (averages) of lap times for a Stint. I consider a Stint the time from when you leave pit road until you either pit and leave pit road again or reset your car. This application developed around oval asphalt racing so it might not be suitable for other forms of racing although should function either way. Some of the screen shots were done with AI racing. So, for example you cannot add an AI driver as a friend but used for screen shot purposes only.

About Me

I'm not a Windows Software Developer so there are probably some bugs in the application. Although I try to make sure this software is bug free very hard to account for every situation this software will be used on every computer system that the software will be used on especially internationally.

Donations

First of all, not looking to make money off of this, but if you would like to support the effort you can make a Paypal Donation at <https://www.paypal.com/paypalme/ImRickyT>. Also, you can follow or subscribe to my Twitch channel at <http://twitch.tv/imrickyt>. I really do not want to make this a paid application because I'm not a professional windows programmer, it probably has bugs in the application like all programs do, and if you are paying for a product then you expect excellent service and this is not a full-time job for me. Even if you don't donate, a follow on Twitch would be appreciated. Also, I have a YouTube channel which will have some how-to videos. <https://www.youtube.com/playlist?list=PLLpAgIryinSo6AfwFo7t95zvPNx-0ZTw9>

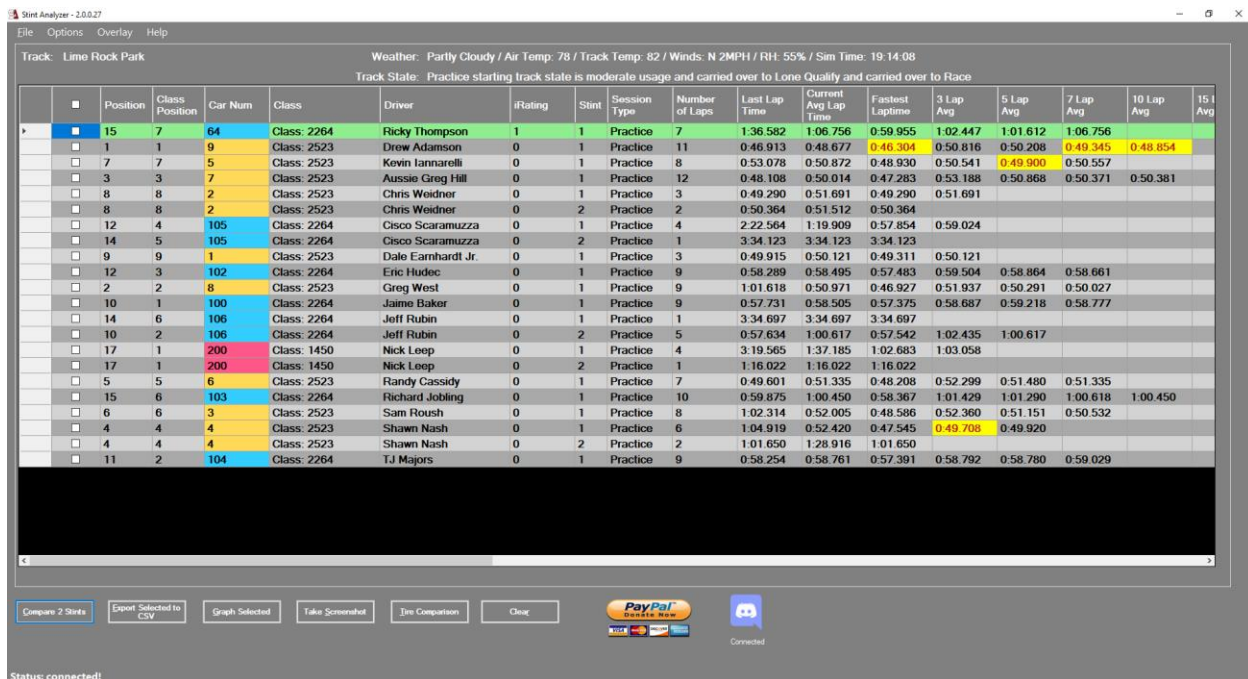
Special Thanks

Special thank you to all the guys over at Team Crixus for testing, making suggestions, and using this tool. Also had a few other testers as well thank you guys as well for the feedback and testing.



Stint Analyzer Main Screen

The main screen will show all the drivers in your run group and update as they are making laps. It will only show drivers that make laps while you are in the practice session and will start counting once you get into the session. It cannot go back and look at previous laps before you joined the session. If you double click on a row it will show a [summary screen](#) for that stint with some basic information. Your laps will show more information on the summary than others remote drivers. If this is a multiclass session the class position and car class will show and the car class color. You and your friends will be sorted to the top of the grid. Your current stint will be highlighted green to make it easier to see. Each bucket will be highlighted yellow to show you the fastest average.



The screenshot shows the Stint Analyzer Main Screen. At the top, it displays weather and track information: "Weather: Partly Cloudy / Air Temp: 78 / Track Temp: 82 / Winds: N 2MPH / RH: 55% / Sim Time: 19:14:08". Below this, it says "Track: Lime Rock Park" and "Track State: Practice starting track state is moderate usage and carried over to Lone Quality and carried over to Race". The main table lists drivers with columns for Position, Class Position, Car Num, Class, Driver, iRating, Stint, Session Type, Number of Laps, Last Lap Time, Current Avg Lap Time, Fastest Laptime, and various Lap Averages (3, 5, 7, 10, 15). The table is sorted by Current Avg Lap Time, with the fastest lap highlighted in yellow. At the bottom, there are buttons for "Compare 2 Stints", "Export Selected to CSV", "Graph Selected", "Take Screenshot", "Live Comparison", and "Clear". There is also a "PayPal" logo and a "Discord" icon.

	Position	Class Position	Car Num	Class	Driver	iRating	Stint	Session Type	Number of Laps	Last Lap Time	Current Avg Lap Time	Fastest Laptime	3 Lap Avg	5 Lap Avg	7 Lap Avg	10 Lap Avg	15 Lap Avg
1	15	7	64	Class: 2264	Ricky Thompson	1	1	Practice	7	1:36.582	1:06.756	0:59.955	1:02.447	1:01.612	1:06.756		
1	1	9		Class: 2523	Drew Adamson	0	1	Practice	11	0:46.913	0:48.677	0:46.304	0:50.816	0:50.208	0:49.345	0:48.854	
7	7	5		Class: 2523	Kevin Iannarelli	0	1	Practice	8	0:53.078	0:50.872	0:48.930	0:50.541	0:49.900	0:50.557		
3	3	7		Class: 2523	Aussie Greg Hill	0	1	Practice	12	0:48.108	0:50.014	0:47.283	0:53.188	0:50.868	0:50.371	0:50.381	
8	8	2		Class: 2523	Chris Weidner	0	1	Practice	3	0:49.290	0:51.691	0:49.290	0:51.691				
8	8	2		Class: 2523	Chris Weidner	0	2	Practice	2	0:50.364	0:51.512	0:50.364					
12	4	105		Class: 2264	Cisco Scaramuzza	0	1	Practice	4	2:22.564	1:19.909	0:57.854	0:59.024				
14	5	105		Class: 2264	Cisco Scaramuzza	0	2	Practice	1	3:34.123	3:34.123	3:34.123					
9	9	1		Class: 2523	Dale Earnhardt Jr.	0	1	Practice	3	0:49.915	0:50.121	0:49.311	0:50.121				
12	3	102		Class: 2264	Eric Hudic	0	1	Practice	9	0:58.289	0:58.495	0:57.483	0:59.504	0:58.864	0:58.661		
2	2	8		Class: 2523	Greg West	0	1	Practice	9	1:01.618	0:50.971	0:46.927	0:51.937	0:50.291	0:50.027		
10	1	100		Class: 2264	Jaime Baker	0	1	Practice	9	0:57.731	0:58.505	0:57.375	0:58.687	0:59.218	0:58.777		
14	6	106		Class: 2264	Jeff Rubin	0	1	Practice	1	3:34.697	3:34.697	3:34.697					
10	2	106		Class: 2264	Jeff Rubin	0	2	Practice	5	0:57.634	1:00.617	0:57.542	1:02.435	1:00.617			
17	1	200		Class: 1450	Nick Loop	0	1	Practice	4	3:19.565	1:37.185	1:02.683	1:03.058				
17	1	200		Class: 1450	Nick Loop	0	2	Practice	1	1:16.022	1:16.022	1:16.022					
5	5	6		Class: 2523	Randy Cassidy	0	1	Practice	7	0:49.601	0:51.335	0:48.208	0:52.299	0:51.480	0:51.335		
15	6	103		Class: 2264	Richard Jobling	0	1	Practice	10	0:59.875	1:00.450	0:58.367	1:01.429	1:01.290	1:00.618	1:00.450	
6	6	3		Class: 2523	Sam Roush	0	1	Practice	8	1:02.314	0:52.005	0:48.586	0:52.360	0:51.151	0:50.532		
4	4	4		Class: 2523	Shawn Nash	0	1	Practice	6	1:04.919	0:52.420	0:47.545	0:49.708	0:49.920			
4	4	4		Class: 2523	Shawn Nash	0	2	Practice	2	1:01.650	1:28.916	1:01.650					
11	2	104		Class: 2264	T.J. Majors	0	1	Practice	9	0:58.254	0:58.761	0:57.391	0:58.792	0:58.780	0:59.029		

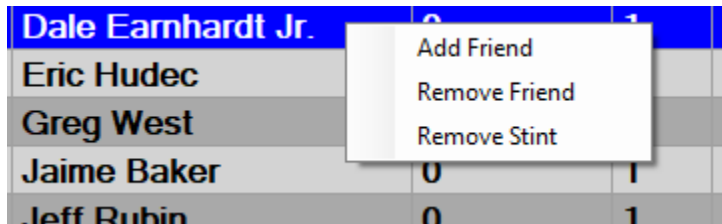
You can see the different lap average columns. These are a fixed number of averages and not customizable. You can sort on each of the column headings as well. The fastest laps in each column will be highlighted in yellow. As you scroll over to the right you will see for your stint the setup that was used during this run.

More information about Discord later but also from this screen you can click the Discord Icon to go into the Discord Setup Screen.

There are action buttons at the bottom that will be covered later in this document.

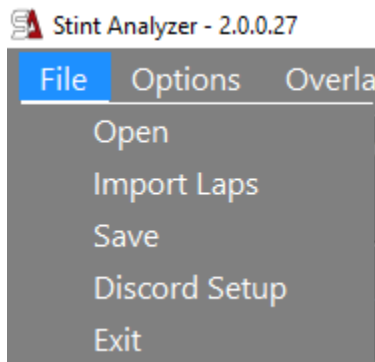
Add/Remove Friends/Remove Stint

If you right click on any line in the grid you can Add/Remove someone as a friend. This will sort your friends to the top of the grid.



If you would like to remove a stint from the list, you can right click on the stint and select remove stint. If you remove a stint by accident, you can go to options and click Restore All Stints.

File Menu



From the **File menu**, you can **Open/Save** a session so that you can re-open it later.

When you click **Save** it will show you a File Dialog box to let you choose where to save the file. The file will be saved in a JSON (text file) format. The default folder is your Documents folder \StintAnalyzer. If you change to a different folder this will become your new Default Folder as it remembers the last place you save files. The file name starts with the track name, car name, and either a small description of the file and/or timestamp from the session to help you track the files a little easier.

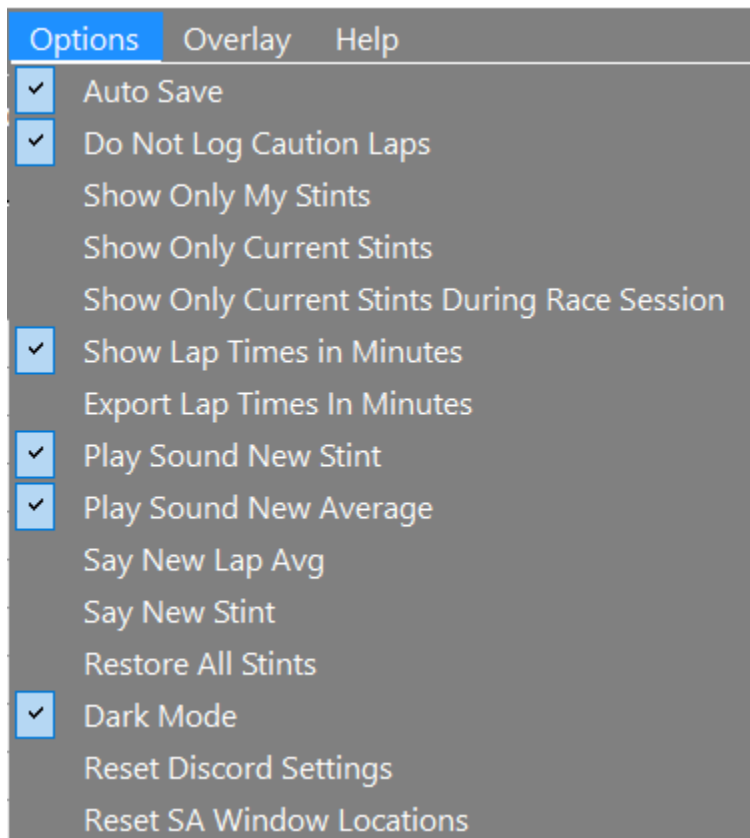
Import Laps allows you to open a previously saved json file, and import a stint to use to compare against. After you click Import Laps it will prompt you to open a SA session file, you select the JSON file and it will display a grid showing the stints in that session. You can then select multiple stints to import. There are two warning messages you could see when importing laps. One would be if the track that you are importing is different than the one currently open. The other is if you import a driver that is currently in this session and SA thinks

that driver is turning laps it will end the current stint for that driver. Here is a quick video showing how to import a lap. <https://youtu.be/UZbggzYb-Dg>

You can click **Discord Setup** to setup the Discord Integration. More on this later in this document.

Exit will close the program.

Options Menu



Autosave will automatically save the session to your Default Folder when the program closes or when a new session starts (ie going from practice/qualify/race). This file will be saved in your Documents Folder/StintAnalyzer by default.

Do Not Log Caution Laps will not log the lap times under caution. This will help not skew the lap averages while pacing. Although this tool is mostly meant for practice this will help not have large swings in lap times.

You have 3 different view filters you can set.

Show Only My Stints will just show the laps you are running. All other lap times for other drivers will still be recorded but only yours will be shown.

Show Only Current Stints will show just the last stint a driver is currently on. When a new stint is started that stint will be replaced with a new stint.

Show Only Current Stints During Race Session is same as Show Only Current Stints but will automatically be set on when the session turns to race. This is so during practice you might want to leave all stints showing but during the race maybe only show the current stint to make the screen less cluttered.

Show Lap Times in Minutes – displays the lap times in hh:mm:sss format instead of seconds.

Export Lap Times in Minutes – exports the lap times in hh:mm:sss format instead of seconds.

Play Sound New Stint – Plays an audible beep when a new stint is started.

Play Sound New Average – Play an audible beep when a new average is calculated.

Say New Stint – requested by a VR user to speak when a new stint is created.

Say New Average – requested by a VR user to speak what lap average was calculated.

Restore All Stints – will restore removed stints that you have removed by right clicking on a stint row.

Dark Mode – changes the color to a dark color theme.

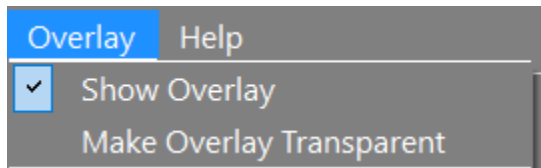
Reset Discord Settings - This is a fail-safe in case something gets messed up this will set everything back to default.

Reset SA Windows Locations - this might come in handy if you move the Windows off the screen. The program remembers where you place the windows and should set them back to the defaults

You will notice a Stint Analyzer Icon in your system tray while the application is running. You can right click on this icon to reset your windows locations as well, this might help if SA gets off the screen.

Overlay Menu

There are two options on the overlay menu.



Show Overlay – will display the overlay while in the car. The overlay only works in iRacing Windowed Mode like most overlays on iRacing. The overlay shows some basic information about the current stint. The lap number you are on, the laps remaining, last lap you pitted on, laps you have turned this stint and the current running average, the best lap this stint and lap time, and amount of fuel remaining.

Make Overlay Transparent – this might not mean what you think it means. While the Overlay is transparent you can not move it around on the screen. To move it around you need Make Overlay Transparent set to off (unchecked). Once you get it set, then click Make Overlay Transparent. When you reopen the overlay it will remember the location you placed it.

The overlay looks like the one below. Also make sure iRacing has focus by clicking somewhere on the iRacing screen.



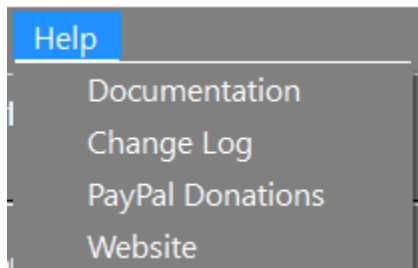
Help Menu

Documentation – will open this current document

Change Log – will open a list of all changes/bug fixes/enhancements

PayPal Donations – will take you to PayPal to make a donation

Website – will take you to <http://stintanalyzer.com>



Stint Summary

Double clicking on a line in the grid will bring up a Stint Summary. This stint summary shows more information for the players car than it does others. For example, Tire Wear/Temps/Water Temps/Oil Temps/Fuel are not shown for other drivers. RPM is provided by iRacing. Speed for other drivers is calculated based on time/distance traveled so it might be a little different than what you might see on the replay screen but should be fairly close. The players car speed is provided by iRacing. Also a grid showing the individual laps and information for that stint. Remember your car provides more information line Water Temp, Oil Temp, Fuel Used, Tire Temps. iRacing does not provide certain information for other players cars.

You also have the ability to enter the hot PSI, and this will show you the PSI build in the tires. Unfortunately, the SDK doesn't have hot PSI so it has to be entered manually.

Stint Analyzer - 2.0.0.27

Driver: Ricky Thompson
Track: Imrook 2019 gp
Car: BMW M4 GT4
Setup: baseline slo

Min/Max RPM: -1 / 7477.7
Min/Max Speed: 2.43 / 138.46
Min/Max Oil Temp: 170.6 / 225.1
Min/Max Water Temp: 169.64 / 179.68
Fuel Used: 2.33
Fuel Left: 31.22

Left Front
Cold Pressure: 20.00002
Hot Pressure: 24.4
Pressure Build: 4.399981
Temps: 183.78 182.05 190.39
Wear: 99.26 99.16 99.14

Right Front
Cold Pressure: 20.00002
Hot Pressure: 23.1
Pressure Build: 3.099981
Temps: 162.27 154.02 151.13
Wear: 99.3 99.36 99.56

Cross Temp Avg
LF/RF Avg Temp: 180.16
RR/RL Avg Temp: 171.79
Difference: -8.37

Cross PSI Build
LF/RR PSI Build: 3.749981
RF/RL PSI Build: 3.549981
Difference: -0.19999882751465
Front To Rear PSI Build: 0.3999996

Left Rear
Cold Pressure: 20.00002
Hot Pressure: 24
Pressure Build: 3.999981
Temps: 181.31 186.09 194.87
Wear: 99.66 99.54 99.53

Right Rear
Cold Pressure: 20.00002
Hot Pressure: 23.1
Pressure Build: 3.099981
Temps: 176.54 165.35 156.3
Wear: 99.62 99.67 99.86

No of Laps: 7
Fastest Laptime: 0:59.955
Avg Laptime: 1:06.756
Total Time: 7:47.293
Weather: Partly Cloudy / Air Temp: 78 / Track Temp: 82 / Winds: N 2MPH / RH: 55% / Sim Time: 19:17:48
Track State: Practice starting track state is moderate usage and carried over to Lone Qualify and carried over to Race

Stint Lap	Lap	Lap Time	Avg Lap Time	Skies	Air Temp	Track Temp	Wind Direction	Wind Speed	Relative Humidity	Fuel Left	Fuel Used	Max Fuel Level	Min Water Temp	Max Water Temp	Min Oil Temp	Max Oil Temp	Min RPM
1	2	1:04.611	1:04.611	Partly Cloudy	77.96424	81.00002	N	2	55.06977	32.94438	0.6054611	33.54984	169.6434	177.5758	170.6	191.9163	-1
2	3	1:01.735	1:03.173	Partly Cloudy	77.953	81.99998	N	2	55.0917	32.66099	0.28339	33.54984	171.465	177.6241	191.9445	203.0246	3852
3	4	1:00.996	1:02.447	Partly Cloudy	77.94193	81.99998	N	2	55.1133	32.36709	0.2938995	33.54984	172.3814	178.5732	203.0433	209.0185	4206
4	5	0:59.955	1:01.824	Partly Cloudy	77.93105	81.99998	N	2	55.13453	32.07206	0.2950325	33.54984	174.0233	179.6165	208.8958	215.0663	4512
5	6	1:00.761	1:01.612	Partly Cloudy	77.92017	81.99998	N	2	55.15575	31.79346	0.278595	33.54984	174.3183	179.6827	214.9147	218.7695	4406
6	7	1:02.653	1:01.785	Partly Cloudy	77.90877	81.99998	N	2	55.17801	31.54362	0.2498398	33.54984	172.7257	179.5372	218.5234	222.9371	3976
7	8	1:36.582	1:06.756	Partly Cloudy	77.89124	81.99998	N	2	55.2122	31.21683	0.3267937	33.54984	172.3185	179.333	221.5727	225.0963	792

Notice: Some information on this screen is estimated and may not be accurate as iRacing does not supply all the data

Take Screenshot Cancel

Compare 2 Stints

Stint Analyzer - 2.0.0.27

Track: Lime Rock Park

Driver 1: Greg West

Driver 2: Dale Earnhardt Jr.

	Driver 1 Stint	Driver 1 Stint Lap	Driver 1 Lap	Driver 1 Lap Time	Driver 1 Avg Lap Time	Driver 1 Total Time	Driver 2 Stint	Driver 2 Stint Lap	Driver 2 Lap	Driver 2 Lap Time	Driver 2 Avg Lap Time	Driver 2 Total Time	Difference	Total Difference
	1	1	2	0:50.325	0:50.325	0:50.325	1	1	3	0:49.311	0:49.311	0:49.311	0:01.014	0:01.014
	1	2	3	0:52.124	0:51.224	1:42.449	1	2	4	0:51.138	0:50.225	1:40.449	0:00.985	0:01.999
	1	3	4	0:53.362	0:51.937	2:35.810	1	3	5	0:49.915	0:50.121	2:30.364	0:03.447	0:05.446
	1	4	5	0:48.510	0:51.080	3:24.321	1	4	6	0:51.759	0:50.531	3:22.123	-0:03.248	0:02.198
	1	5	6	0:47.132	0:50.291	4:11.453	1	5	7	0:48.704	0:50.165	4:10.826	-0:01.572	0:00.626
	1	6	7	0:51.446	0:50.483	5:02.899	1	6	8	0:50.491	0:50.220	5:01.317	0:00.955	0:01.582
	1	7	8	0:47.293	0:50.027	5:50.191	1	7	9	0:49.161	0:50.068	5:50.478	-0:01.868	-0:00.287
	1	8	9	0:46.927	0:49.640	6:37.118	1	8	10	0:51.236	0:50.214	6:41.714	-0:04.309	-0:04.596
	1	9	10	1:01.618	0:50.971	7:38.736	1	9	11	0:47.598	0:49.924	7:29.312	0:14.020	0:09.424
						7:38.736	1	10	12	0:48.452	0:49.776	8:17.764		-0:39.028

From the main screen you can select 2 stint by placing a check mark in the check box and clicking Compare 2 Stints. It will just choose the first 2 stints it comes to. If you select more than 2 it will just use the first 2 it comes to. It will show you the difference between the first stint to the second stint with a lap time difference.

Tire Comparison

You can also compare tire wear/temps at the end of a stint. To do this select the stints and click the Tire Comparison button

Stint Analyzer - 2.0.0.28

Track: Las Vegas Motor Speedway

Car: Ford Mustang Class A

	Stint	No of Laps	Avg Lap Time	LF Temp Left	LF Temp Middle	LF Temp Right	LF Wear Left	LF Wear Middle	LF Wear Right	LR Temp Left	LR Temp Middle	LR Temp Right	LR Wear Left	LR Wear Middle	LR Wear Right	RF Temp Left	RF Temp Middle	RF Temp Right
	3	38	31.58949	193	198	188	93	94	100	202	190	206	92	92	99	236	245	256
	4	41	31.67754	197	198	189	91	93	100	208	197	208	92	91	99	244	239	258

Take Screenshot Cancel

Export Selected to CSV

Export Selected to CSV will write out a CSV file for all the stints that have a check mark beside them or all stints. This will include lap times by each lap. This also shows more detail than the stint Summary.

I attempt to show tire temps at the end of each stint and also show max/min speed/water temp/oil temp/rpm/brake/throttle/steering angles information for each lap. Some of this is experimental so take it with a grain of salt if you see something wrong (i.e. 5000 mph or steering angle that is upside down).

This can be used to open in Excel or Google Sheets and do your own graphing or calculations on. Once you click the Export Selected a File Dialog box will open asking you to save the CSV File. The following columns will be exported to the CSV file.

Driver
Stint
Stint Lap
Lap
Lap Time
Avg Lap Time
Skies
Air Temp
Track Temp
Session Type
Tire Wear
Tire Temp
Fuel Left
Fuel Used
Max Fuel Level
Min Water Temp
Max Water Temp
Min Oil Temp
Max Oil Temp
Min Rpm
Max Rpm
Min Speed
Max Speed
Min Throttle
Max Throttle
Min Brake
Max Brake
Min Steering

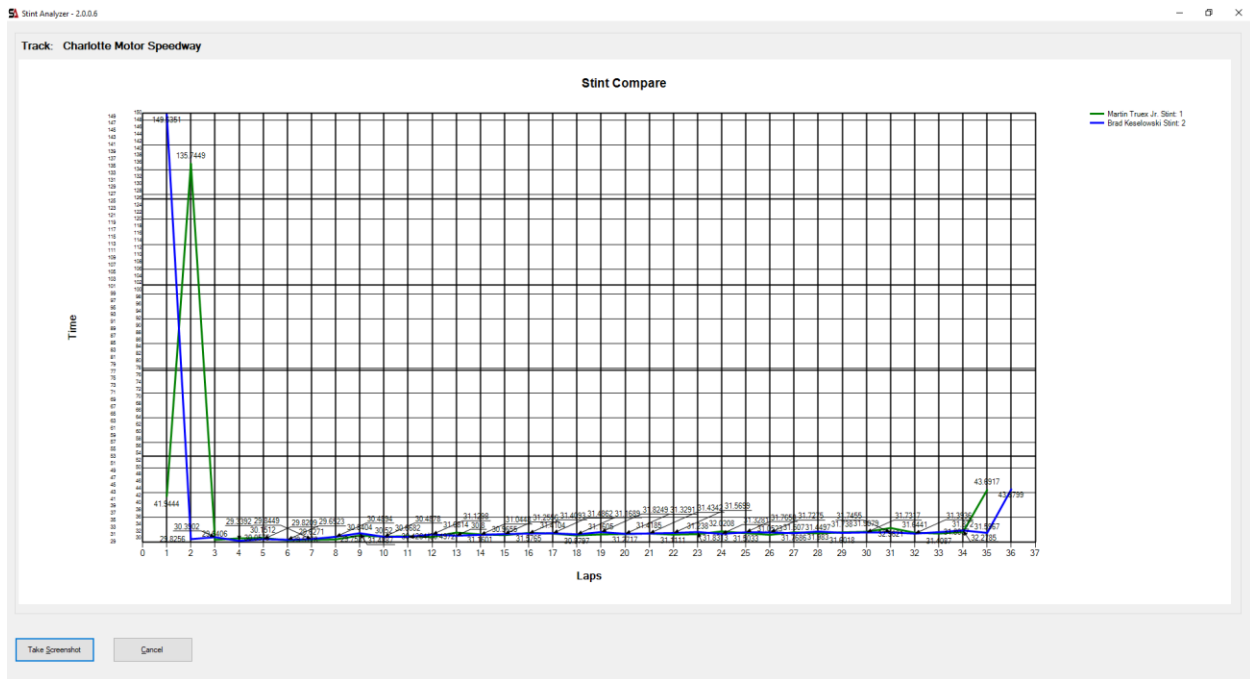
Max Steering

Setup Name

Clear

Clear will clear all the data to let you start collecting data again.

Graph Selected



Graph Selected will graph the laps you place a check mark by. And display in a nice tidy graph. Excel might have some better graphing options but this will allow you to visually see if a stint was faster than another. You can select several laps on the graph by placing your mouse on a lap and left clicking and dragging to the right like you would a selection. Also you can use your mouse wheel to zoom in and out on sections of the graph.

Take Screenshot

You will notice the Take Screenshot button on most of the screens. This will allow you to create a PNG file of the current screen. This will open a file dialog box and allow you to save to any folder or the default folder /Documents/StintAnalyzer. If you enable Discord Integration it can automatically upload to Discord.



The screenshot shows the irDiscord BOT interface. At the top, it says "irDiscord BOT" and "Today at 3:28 PM". Below that, it says "File uploaded by: Ricky Thompson". The main part of the image is a table titled "Driver Statistics Summary" which lists various drivers and their statistics. The table has columns for Driver, Team, Position, Points, Wins, Poles, Laps Led, and various other metrics. The table is sorted by Points in descending order.

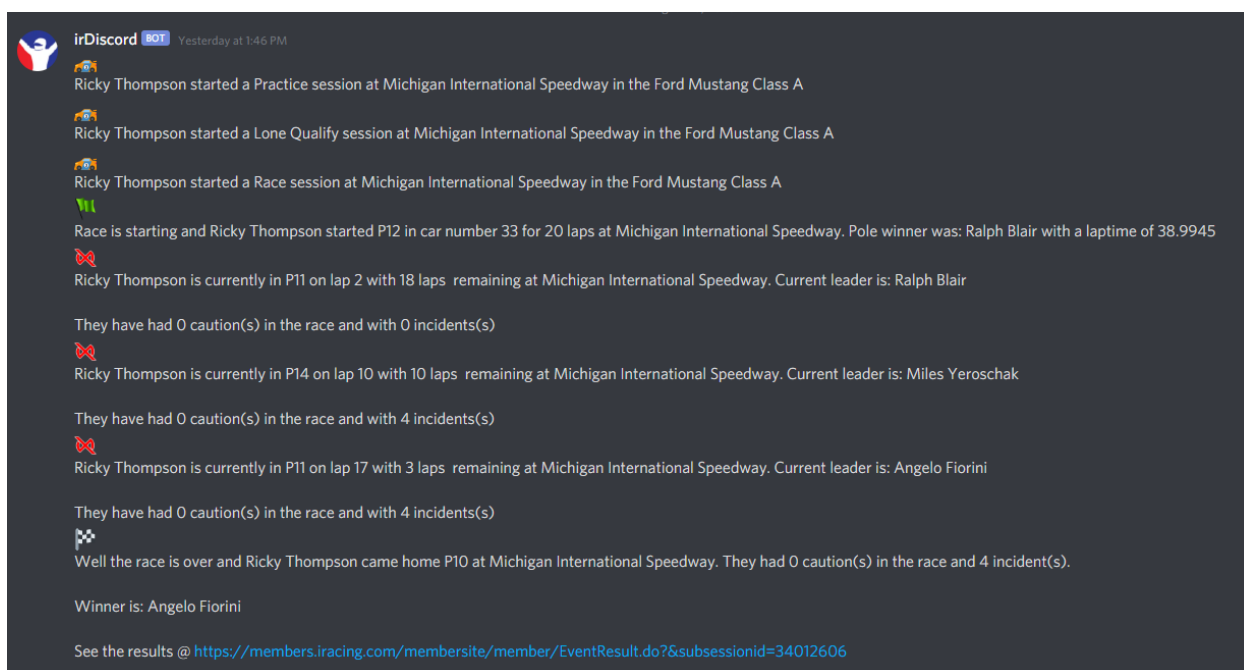
Driver	Team	Position	Points	Wins	Poles	Laps Led	Other Metrics
1	42	Ralph Lorenz	1	1	1	1	...
2	4	Ralph Lorenz	2	1	1	1	...
3	26	William Byron	3	1	1	1	...
4	14	Ralph Lorenz	4	1	1	1	...
5	1	Ralph Lorenz	5	1	1	1	...
6	1	Ralph Lorenz	6	1	1	1	...
7	1	Ralph Lorenz	7	1	1	1	...
8	1	Ralph Lorenz	8	1	1	1	...
9	1	Ralph Lorenz	9	1	1	1	...
10	1	Ralph Lorenz	10	1	1	1	...
11	1	Ralph Lorenz	11	1	1	1	...
12	1	Ralph Lorenz	12	1	1	1	...
13	1	Ralph Lorenz	13	1	1	1	...
14	1	Ralph Lorenz	14	1	1	1	...
15	1	Ralph Lorenz	15	1	1	1	...
16	1	Ralph Lorenz	16	1	1	1	...
17	1	Ralph Lorenz	17	1	1	1	...
18	1	Ralph Lorenz	18	1	1	1	...
19	1	Ralph Lorenz	19	1	1	1	...
20	1	Ralph Lorenz	20	1	1	1	...
21	1	Ralph Lorenz	21	1	1	1	...
22	1	Ralph Lorenz	22	1	1	1	...
23	1	Ralph Lorenz	23	1	1	1	...
24	1	Ralph Lorenz	24	1	1	1	...
25	1	Ralph Lorenz	25	1	1	1	...
26	1	Ralph Lorenz	26	1	1	1	...
27	1	Ralph Lorenz	27	1	1	1	...
28	1	Ralph Lorenz	28	1	1	1	...
29	1	Ralph Lorenz	29	1	1	1	...
30	1	Ralph Lorenz	30	1	1	1	...
31	1	Ralph Lorenz	31	1	1	1	...
32	1	Ralph Lorenz	32	1	1	1	...
33	1	Ralph Lorenz	33	1	1	1	...
34	1	Ralph Lorenz	34	1	1	1	...
35	1	Ralph Lorenz	35	1	1	1	...
36	1	Ralph Lorenz	36	1	1	1	...
37	1	Ralph Lorenz	37	1	1	1	...
38	1	Ralph Lorenz	38	1	1	1	...
39	1	Ralph Lorenz	39	1	1	1	...
40	1	Ralph Lorenz	40	1	1	1	...
41	1	Ralph Lorenz	41	1	1	1	...
42	1	Ralph Lorenz	42	1	1	1	...
43	1	Ralph Lorenz	43	1	1	1	...
44	1	Ralph Lorenz	44	1	1	1	...
45	1	Ralph Lorenz	45	1	1	1	...
46	1	Ralph Lorenz	46	1	1	1	...
47	1	Ralph Lorenz	47	1	1	1	...
48	1	Ralph Lorenz	48	1	1	1	...
49	1	Ralph Lorenz	49	1	1	1	...
50	1	Ralph Lorenz	50	1	1	1	...

Discord Integration

Before continuing, if you do not want to integrate Stint Analyzer with Discord then you do not need to do anything on the Discord Setup screen.

Discord Integration allows the user to setup a Discord Bot on a Server they own to upload attachments and race updates.

Race updates are sent periodically while you are in a session. For example, at the start of a session a message goes out and each time that session changes. You can set up an interval in minutes to give in race updates to your progress. Messages like below might be sent to your Discord Status Update Channel.



The way our team uses the data attachment is after we run practice sessions, we upload the CSV files to our Discord Server and analyze the data. They can use Excel or Google Sheets to open the CSV and manipulate the data however they need to.

When you first go into the Discord Setup everything will be disabled but Discord Integration Enabled, Discord Bot Id and Discord Bot Token. The documentation below will show you how to obtain the Discord Bot Id and Discord Bot Token. Remember to only share this information with people you trust. If for example a team member leaves you can always regenerate the Bot Token and then you will need to hand out this Token to the team again.

If you are going to use Discord Integration you must first create your Bot.

Continue to the [Creating Discord Bot](#) Section to create your Bot and fill in the required fields and return to the section to finish the Discord Integration Setup.

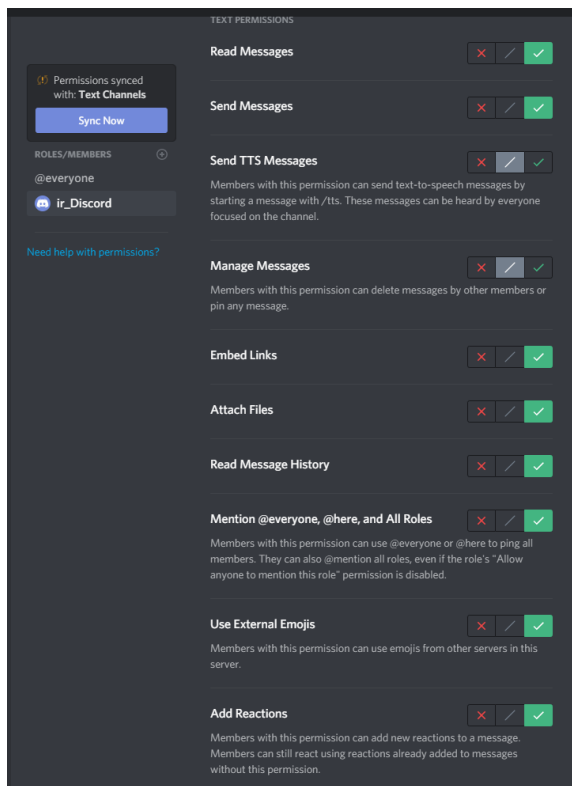
The screenshot shows the 'Discord Integration Setup' window in Stint Analyzer version 2.0.0.27. The window has a dark gray background and a light gray title bar. The setup options are as follows:

- Discord Integration Enabled:** ☒
- Allow Discord to Send Attachments:** ☒ (send csv and chart images)
- Prompt Before Sending Attachments:** ☒ (if selected will you get a prompt before sending files to Discord)
- Send Race Updates:** ☐
- Discord Client Id:** [Redacted text box]
- Discord Bot Token:** [Redacted text box]
- Discord Status Update Channel Id:** [Redacted text box] | **sa-discord-notifications** (dropdown menu)
- Discord Attachment Channel Id:** [Redacted text box] | **Category: Setups: Cup (A cars)** (dropdown menu)
- Double Click on Message to Edit:** [Instructional text]
- Discord Messages:** A list of messages to be sent, including:
 - Join Race Discord Message
 - Race Start Discord Message
 - Race Update Discord Message
 - Results Discord Message
 - Multiclass Race Start Discord Message
 - Multiclass Race Update Discord Message
 - Multiclass Results Discord Message
 - Friend Heading
 - Friend Race Start Discord Message
 - Friend Race Update Discord Message
 - Friend Results Discord Message
- Interval to Send Race Updates:** **5** (minutes must be between 5 and 2000)

At the bottom, there are three buttons: **Save**, **Reset Messages to Default**, and **Cancel**. On the right side, there are two buttons: **Send Test Message** and **Send Test Attachment**.

After getting the required fields press Save. Then open back up the Discord Setup Page again.

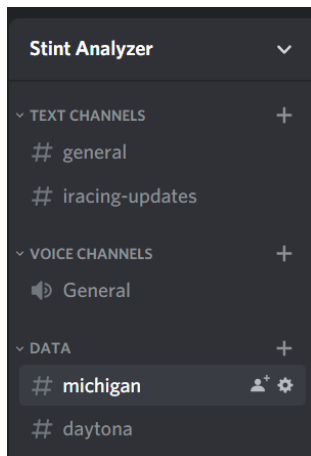
A couple of items to cover about Discord. Discord Users are setup with permissions. I am not going into this a lot because there is documentation about the User Permissions on the internet. Whatever permissions you setup on each Channel for the Bot User is the permissions this application will use. So, if you only want the Bot to have access to certain channels give the Bot permissions to those channels. If a Bot does not have permission to a channel it will not be able to send messages or attachments. The bot will need at least the Read Messages/Send Message/Embed Links/Attach Files Permissions. The following is how I have ours setup because I do use some emojis. The below screen shot is the only ones I allow the bot to use for myself.



The only channels that you can send updates of attachments to are Text Channels.

Discord has a folder structure called Categories. You can create a category and have currently up to 50 Text Channels under that Category.

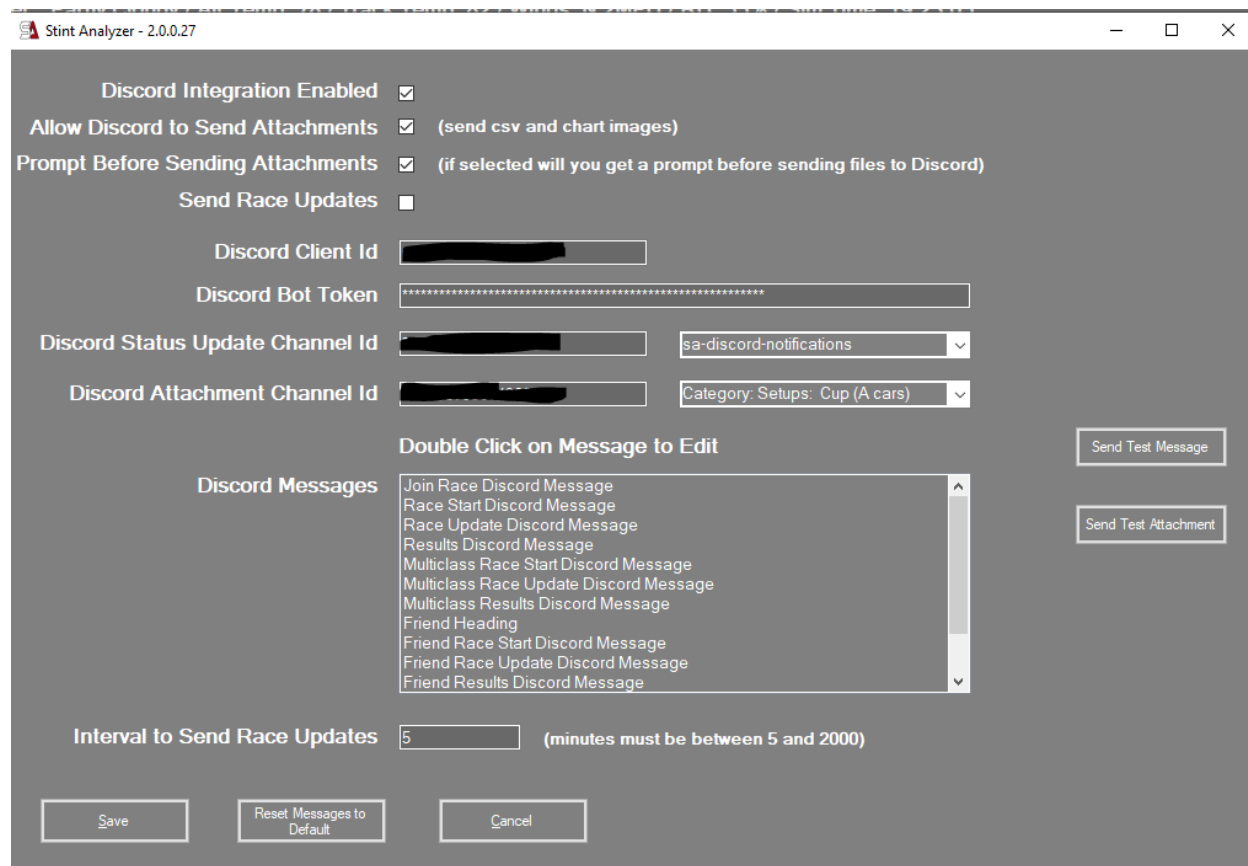
Notice I have a category setup as Data with all the tracks we go to underneath it. In the Stint Analyzer Discord Setup this allows me to set Discord Attachment Channel to a Category (Data). Then only the Channels under that Category are shown in a drop-down box when uploading data. You can also set it to *ALL and show all text channels the bot has access to.



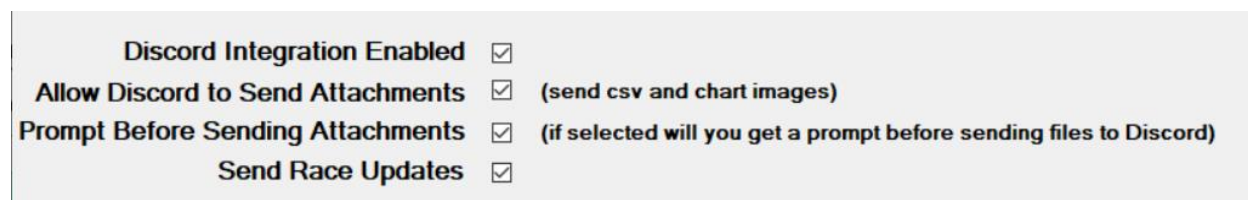
After opening up the Discord Setup screen again, if everything is entered correctly, you should now see drop down boxes for Discord Status Update Channel Id and Discord Attachment Channel Id filled with specific channels the bot has access to.

Now try the test buttons. Send Test Message and Sent Test Attachment and make sure you server is setup correctly. If not, you should get an error message at the bottom of the screen.

On the Setup Screen Discord Status Update Channel Id is locked to be only 1 text channel because you will never be prompted for these during a race session.

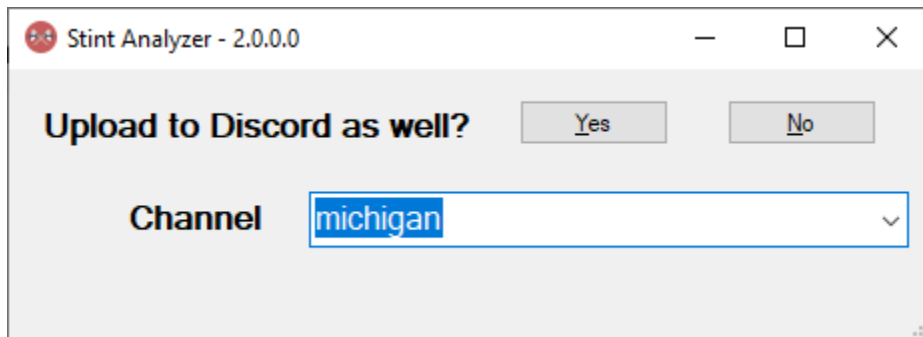


On the attachment channel remember if you select a category it will only show the text channels underneath that Category.

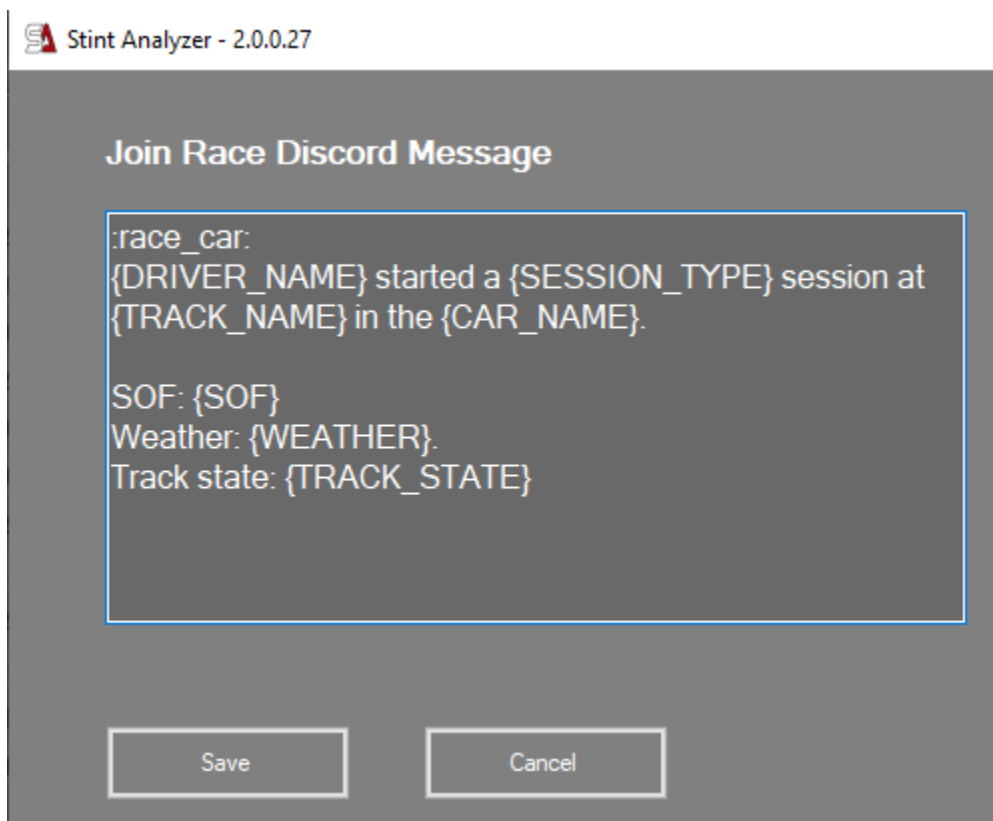


If you have Allow Discord to Send Attachments each time you go to save a CSV file or Take a screenshot the file will attempt to be sent to Discord. If you have a text channel selected and

you have Prompt Before Sending Attachment Clicked, you will get a warning message Asking do you want to send to Discord Yes/No. If you have a category selected no matter how you have Prompt Before Sending Attachments you will get a prompt so that we can figure out what channel to send it to. If you turn off Allow Discord to Send Attachment you will never see this screen.



You can customize the Discord Message by double clicking on the one you wish to change. When you double click you will see a screen like the one below. You can put discord place holders in the messages and SA will replace these place holders with values. The available [Variable Placeholders](#) can be found here.



You can also select whether or not to send Race Updates. These race updates are sent at the beginning of a session or each time a session changes, during the session an update is sent on

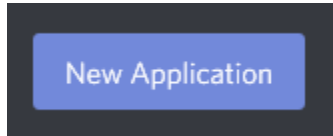
the interval that you enter. The interval is in minutes. I purposely set the minimum to 5 mins as you don't want to spam your Discord server every couple of minutes. Be kind to the other users and set it to something reasonable. 20 minutes goes by faster than you think.

There are several place holder variables that can be replaced in the text to help make the discord messages unique and personalized to you. You could add a Twitch/YouTube link as well to the messages if you are a streamer. See a list below under the [Variable Placeholders](#) section.

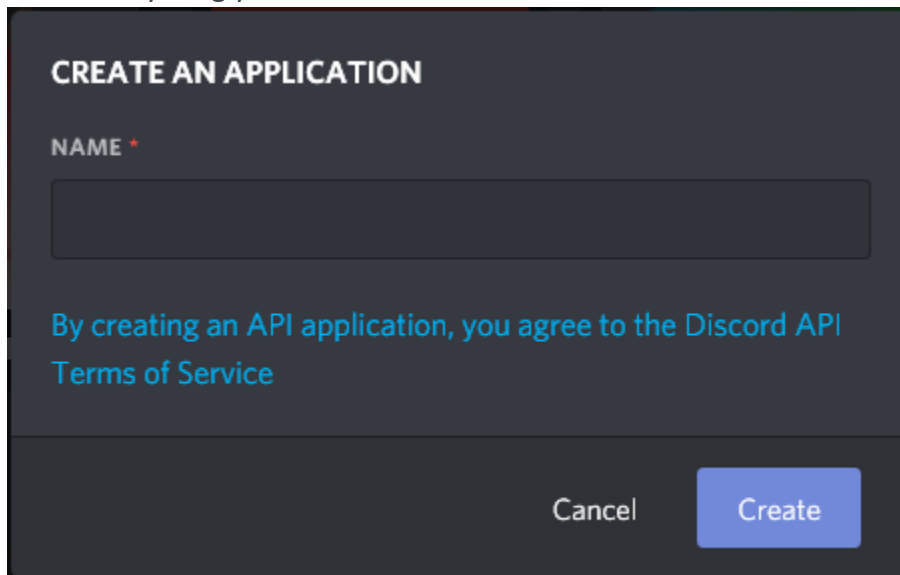
Creating Discord Bot

This will describe creating a bot for a Discord Server you own. Only the owner of a Discord Server can set this up.

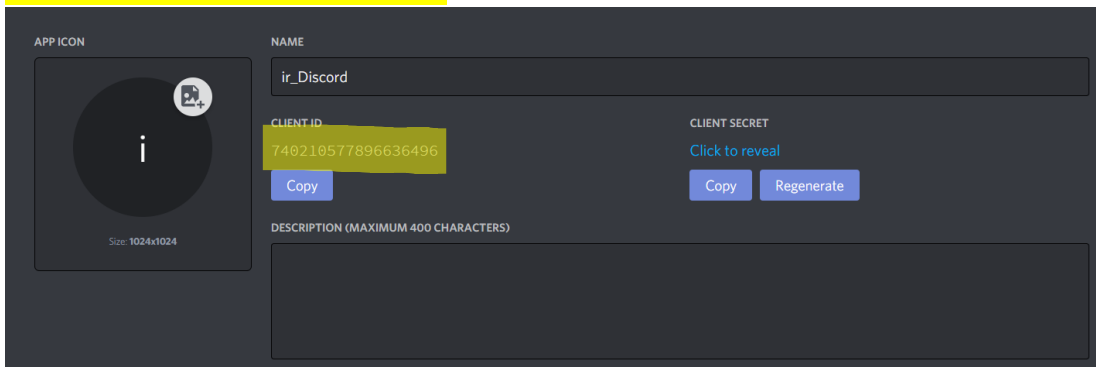
1. Navigate to <https://discord.com/developers/applications>. You may be asked to sign into using your Discord Username/Password to setup the bot.
2. You will see a button at the top right for New Application



3. Give the application a name and click "Create". I called mine StintAnalyzer but you can name it anything you like.

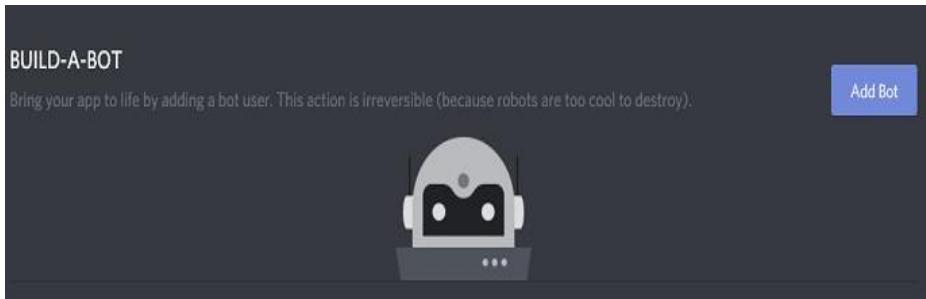
A screenshot of the "CREATE AN APPLICATION" form on the Discord developer portal. The form has a dark grey background. At the top, it says "CREATE AN APPLICATION" in white. Below that is a label "NAME *" in white. Under the label is a text input field. Below the input field is a line of text in blue: "By creating an API application, you agree to the Discord API Terms of Service". At the bottom right, there are two buttons: a "Cancel" button in white text on a dark grey background, and a "Create" button in white text on a blue background.

4. After you click create you will be at the General Information Tab. You will need the Client ID for the Discord Setup in Stint Analyzer. You can click the Copy button and put the Client ID in the Discord Bot Id.



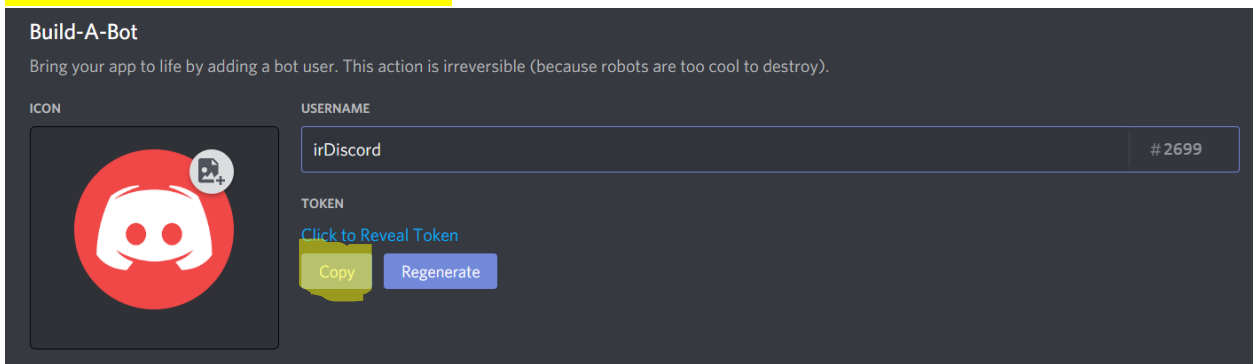
This screenshot shows the 'General Information' tab for a Discord bot. On the left, there is a section for the 'APP ICON' with a placeholder image of a lowercase 'i' and a note 'Size: 1024x1024'. To the right, the 'NAME' field is filled with 'ir_Discord'. Below the name, the 'CLIENT ID' is displayed as '740210577896636496' and is highlighted with a yellow box; a 'Copy' button is located directly beneath it. To the right of the Client ID, the 'CLIENT SECRET' is shown as 'Click to reveal', with 'Copy' and 'Regenerate' buttons below it. At the bottom, there is a large text area for the 'DESCRIPTION (MAXIMUM 400 CHARACTERS)'.

5. Create a Bot User by navigating to the “Bot” tab and clicking “Add Bot”.
- Click “Yes, do it!” to continue.



This screenshot shows the 'BUILD-A-BOT' screen. At the top left, the title 'BUILD-A-BOT' is followed by the instruction 'Bring your app to life by adding a bot user. This action is irreversible (because robots are too cool to destroy)'. On the right side, there is a blue 'Add Bot' button. In the center of the screen is a stylized robot head icon.

6. Copy the token using the “Copy” button. You will need to save this Token to enter the Stint Analyzer Discord Setup screen under Discord Bot Token. The token is a long string with random letters and numbers.



This screenshot shows the 'Build-A-Bot' screen with the 'TOKEN' field visible. On the left, there is an 'ICON' section with a placeholder image of the Discord logo. To the right, the 'USERNAME' field is filled with 'irDiscord' and has a '# 2699' suffix. Below the username, the 'TOKEN' field is shown as 'Click to Reveal Token', with a yellow 'Copy' button and a blue 'Regenerate' button located directly beneath it.

7. Now we need to invite your new bot to your Discord Server. Go to the OAuth2 Tab.
8. Tick the “bot” checkbox under “scopes”.

SCOPES

☐ identify

☐ email

☐ connections

☐ guilds

☐ guilds.join

☐ gdm.join

☐ rpc

☐ rpc.api

☐ rpc.notifications.read

☒ bot

☐ webhook.incoming

☐ messages.read

☐ applications.builds.upload

☐ applications.builds.read

☐ applications.store.update

☐ applications.entitlements

https://discordapp.com/api/oauth2/authorize?client_id=0000000000000000&permissions=0&scope=bot

Copy

9. We need to give your bot certain permissions. Currently the only permissions needed are View Channels, Send Messages, Embed Links, Attach Files (optionally you can include Mention Everyone, Use External Emojis, Add Reactions, Read Message History)

BOT PERMISSIONS

GENERAL PERMISSIONS	TEXT PERMISSIONS	VOICE PERMISSIONS
<input type="checkbox"/> Administrator	<input checked="" type="checkbox"/> Send Messages	<input type="checkbox"/> Connect
<input type="checkbox"/> View Audit Log	<input type="checkbox"/> Send TTS Messages	<input type="checkbox"/> Speak
<input type="checkbox"/> View Server Insights	<input type="checkbox"/> Manage Messages	<input type="checkbox"/> Video
<input type="checkbox"/> Manage Server	<input checked="" type="checkbox"/> Embed Links	<input type="checkbox"/> Mute Members
<input type="checkbox"/> Manage Roles	<input checked="" type="checkbox"/> Attach Files	<input type="checkbox"/> Deafen Members
<input type="checkbox"/> Manage Channels	<input type="checkbox"/> Read Message History	<input type="checkbox"/> Move Members
<input type="checkbox"/> Kick Members	<input checked="" type="checkbox"/> Mention Everyone	<input type="checkbox"/> Use Voice Activity
<input type="checkbox"/> Ban Members	<input type="checkbox"/> Use External Emojis	<input type="checkbox"/> Priority Speaker
<input type="checkbox"/> Create Instant Invite	<input type="checkbox"/> Add Reactions	
<input type="checkbox"/> Change Nickname		
<input type="checkbox"/> Manage Nicknames		
<input type="checkbox"/> Manage Emojis		
<input type="checkbox"/> Manage Webhooks		
<input checked="" type="checkbox"/> View Channels		

10. After setting the permissions you will need to copy the URL link above in the scopes section and paste it into your web browser

`https://discordapp.com/api/oauth2/authorize?client_id=0000000000000000&permissions=0&scope=bot` Copy

11. You will now add the Bot to the Discord Server. The setup should be complete at this point and you can return to the [Discord Integration Setup](#).

ADD BOT TO:

Stint Analyzer ▼

This requires you to have **Manage Server** permission in this server.

Cancel Continue

Variable Placeholders

Variable place holders are so that you can make the race updates a little more customized to your liking. These are case sensitive and must be spelled correctly and surrounded by {}.

{AIR_TEMP}	= Air Temperature
{CAR_NAME}	= Name iRacing supplies for the car name
{CAR_NUMBER}	= Your car number
{CAUTIONS}	= Number of Cautions during the race
{CURRENT_LAP}	= Current Lap the leader is on
{FINISH_POSITION}	= Race Finish Position
{DRIVER_NAME}	= Your iRacing Name
{INCIDENTS}	= The number of incidents you have gotten so far if team event it will show both the team and driver
{LINK}	= Race result link to the iRacing Website
{LEADER}	= Current leader
{POLE_WINNER}	= Pole Winner from Qualifying Session
{POLE_WINNER_LAP_TIME}	= Pole Winners Lap Time from Qualifying Session if they qualify. If not, it will be -1
{POSITION}	= Your current position
{QUALIFY_TIME}	= Your Lap Time form Qualifying Session if you qualify. If not, it will be -1
{RACE_LENGTH}	= Total Laps or time
{RACE_REMAINING}	= Laps or time remaining
{RACE_WINNER}	= Race Winner
{RELATIVE_HUMIDITY}	= Relative Humidity
{SESSION_TYPE}	= Session Type (practice, offline test, warmup qualifying, race)
{SIM_TIME}	= Track Time of Day
{SKIES}	= Partly Cloud, Mostly Cloudy, Clear, Overcast
{SOF}	= Strength of Field for the session
{START_POSITION}	= Start position from Qualifying
{TRACK_NAME}	= Name of the Track
{TRACK_STATE}	= Track State Usage
{TRACK_TEMP}	= Track Temperature
{WIND_DIRECTION}	= The wind direction N, NE, E, SE, S, SW, W, NW
{WIND_SPEED}	= Wind Speed

MultiClass	
{CLASS}	= Class name
{CLASS_FINISH_POSITION}	= Class Finish Position
{CLASS_LEADER}	= Current Class Leader
{CLASS_POLE_WINNER}	= Class Pole Winner
{CLASS_POLE_WINNER_LAP_TIME}	= Class Pole Winner Laptime
{CLASS_POSITION}	= Class Current Position

{CLASS_RACE_WINNER} = Class Race Winner
{CLASS_START_POSITION} = Class Start Position

Friend
{FRIEND_START_POSITION} = Friend Start Position
{FRIEND_QUALIFY_TIME} = Friend Qualifying Time
{FRIEND_CLASS_START_POSITION} = Friend Class Start Position
{FRIEND_CURRENT_POSITION} = Friend Current Position
{FRIEND_CLASS_CURRENT_POSITION} = Friend Class Current Position
{FRIEND_FINISH_POSITION} = Friend Finish Position
{FRIEND_CLASS_FINISH_POSITION} = Friend Class Finish Position
{FRIEND_NAME} = Friends Name
{FRIEND_CLASS} = Friends Class Name
{FRIEND_CAR_NAME} = Friends Car Name