Scouting Palooza 2022 Manual

Fall 2022

Hosted by PWNAGE 2451

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The Basics

The bare minimum you need to know:

- Register to compete here: http://tiny.cc/SP2022-Register
- Submit entries here: http://tiny.cc/SP2022-Submissions
- You don't have to submit to all four awards
- Submissions open Oct 15, and close on Nov 30
- Our website is https://pwnagerobotics.org/scoutingpalooza2022
- Contact scoutingpalooza@gmail.com with any questions
- Have fun!

Why Participate?

Our first Scouting Palooza in the winter of 2021 was originally created to fill the void that COVID and canceled competitions caused. Due to the positive feedback and success of our previous paloozas, PWNAGE decided to make it an annual event, but moved it to the preseason, for greater flexibility.

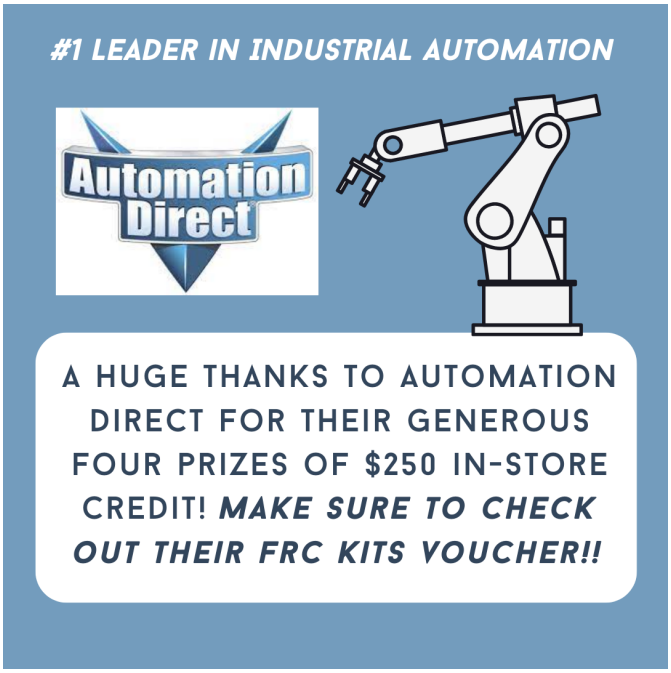
At PWNAGE, we believe that scouting is a fundamental part of FRC that should be celebrated! The Scouting Palooza is a way for teams to practice their scouting skills and engage in friendly competition. It's also an avenue for newer teams to gain exposure to the subject—not to mention that the four winning teams will each receive $250 of AutomationDirect store credit!

Have fun and good luck!

Sponsors

We wanted to thank our sponsors, **AutomationDirect** and **Kettering University**!

Don't forget to check out AutomationDirect's $50 voucher link for all FRC teams here!



Rules

We only have a few rules:

- Live by Coopertition
- Teams may enter as many awards as they would like, but a team can only win one of the 4 awards
- Only one entry per team per award
- Teams must register for the competition first before they are considered for any award
- All submission files must be in PDF format
- Judges' decisions are final

Timeline

Submissions open on Oct 15

Submissions close on Nov 30

Judges' decisions will be announced in December. The exact date is dependent on the number of submissions, but it will be posted on our social media soon after submissions close.

How to Enter

STEP 1: Registration

Register here: http://tiny.cc/SP2022-Register

In order to make sure we have enough judges, we need an idea of how many teams will be competing, so pre-registration is required. You are not eligible to win unless you pre-register!

Registration will remain open until the competition closes on Nov 30. However, please register as soon as you know your team will compete, so we can properly allocate and prepare our judges.

STEP 2: Prepare submission

Create your submission. You should have a separate PDF file for each award entered.

Note: For awards with several parts, include answers to all parts in one PDF.

Each submission should clearly have the following information in the PDF:

- Team Number
- Contact Name
- Contact Email
- Which award this entry is being submitted to

After writing your submission or creating your visualization, convert/export it to a PDF file.

Please name it using this format:

<teamNumber>_<Award Name>_2022.pdf

Example: 2451_Applied_Scouting_2022.pdf

STEP 3: Submit Entry

Submit your entry here: http://tiny.cc/SP2022-Submissions

Fill out the form completely and upload your PDF entries for each award you'd like to enter. Please wait until all your entries are completed and then submit them all at once.

Any questions can be addressed to scoutingpalooza@gmail.com

The Applied Scouting Award

The Applied Scouting award has 3 challenges: Strategic Analysis, Prediction and Pick List. The total score will be the sum of the scores from all 3 challenges.

Strategic Analysis Challenge

You are a member of the Red Alliance. Given the profiles for your alliance and the competing alliance, what strategies will you use? Convince us (your alliance partners) that this is the right strategy. Give objective and subjective reasoning for each robot's actions.

Note: Use the 2022 Rapid React Game rules.

Data: http://tiny.cc/SP2022-MatchData

Format: Essay

Scoring Rubric

15 Pt. Scale	Insight (__/15)	Justification (__/15)
10-15	A clear, unique, and viable strategy is presented which outlines a plan considering all six robots on the field. Strategy contains plans for Auto, Teleop and End Game.	Detailed reasoning behind strategic choices. Team shows ability to rigorously analyze and apply given data. Arguments are well thought out and persuasive.
5-9	Strategy is clear and viable, but does not consider certain key elements of the FIRST Infinite Recharge Game. Strategy does not consider all 6 robots.	Reasoning behind strategic choices is laid out and data is taken into account. Arguments are not very convincing or the team failed to include arguments.
0-4	Strategy seems random or illogical.	A confusing reasoning is given or no reasoning is given.

Prediction Challenge

Given these alliances and data about past matches, who do you expect to win, what would the score be, and why? *There is no inherently correct answer*.

Note: Use the 2022 Rapid React Game rules.

Data: http://tiny.cc/SP2022-MatchData

Format: Essay with optional supplemental material (i.e. graphs)

Scoring Rubric

10 Pt. Scale	Insight (__/10) "Who would win, what would the score be"		Description (__/15) "And why?"	15 Pt. Scale
			Detailed evidence given to support the team's choice and calculation of score. Team shows ability to rigorously analyze and apply given data.	10-15
5-10	Team's conclusion is reasonable and shows an understanding of the FIRST Rapid React game.		Some evidence given to support the team's decision. Team gives only basic analysis of data.	5-9
0-4	Random or illogical decision; team's answer may fail to include one of the required answer components.		Seemingly random decision, little or no description or analysis provided.	0-4

Pick List Generation Challenge

Given this event data set, make a pick list for eliminations. You are the 4th ranked robot, Team #111 - Wild Stang. Share your picklist and choose 3 teams from your pick list and explain in detail why you chose them and how they would contribute to a balanced alliance.

Note: Use the 2022 Rapid React Game rules.

Data: http://tiny.cc/SP2022-EventData *

Format: Essay with optional supplemental material (i.e. graphs)

Scoring Rubric

10 Pt. Scale	Preparedness (__/10)	Insight (__/15)	Description (__/15)	15 Pt. Scale
		Pick list shows an understanding of the FIRST Rapid React game and alliance selection. This list will result in a balanced alliance.	Detailed evidence for each of the three chosen picks and their positions on the list. Choices backed up by the data. Team shows the ability to rigorously analyze and apply given data and describe the strategies..	10-15
5-10	Understanding of contingency picks is demonstrated to account for top choices not being available.	Pick list is reasonable and shows adequate preparation for alliance selection.	Some evidence given to support the team's three picks. Team gives only basic analysis of data.	5-9
0-4	Pick list is too short or not detailed enough and might result in the playing of the Jeopardy theme song.	Pick list seems unreasonable or leads to an unbalanced alliance	Picklist is seemingly random or lacking thought behind choices. Very little or no details given for their picks. Team failed to detail three picks.	0-4

* Event data, while based on 2022 Midwest Regional, is not meant to be 100% accurate. Missing data and scouting mistakes and intentional changes for this challenge means that a teams' actual performance may not be represented.

The Innovation Award

Format: Long Answer (~500-700 words)

You only have to respond to one of the prompts below.

Prompts:

#1: What is the biggest innovation that your team has made over the past two years that has brought your team to the next level of scouting?

#2: If you are new to scouting, what is one innovation your team plans to implement this season? Explain benefits and future implementation strategy.

#3: Describe the evolution and advancement of scouting technology/methods used by your team over the past 4 years. Explain the reasoning and tradeoffs for the decisions made.

Scoring Rubric for The Innovation Award

15 Pt. Scale	Innovation and Creativity (__/15)	Usefulness (__/10)	Implementation (__/10)	10 Pt. Scale
10-15	The scouting solution is innovative and novel. Solution takes a unique approach to effectively tackling one of the team's problems.			
5-9	The scouting solution is somewhat innovative. While the solution is a good idea, it is common or doesn't solve a problem.	Innovation presents significant benefits to the team. Benefits are clearly detailed.	Innovation was implemented and used during a competition season.	**5-10**
0-4	Solution is not innovative or doesn't relate to scouting.	Innovation had no benefit to the team. Benefits are not clear.	Innovation was conceptual only or only partially implemented.	**0-4**

The Data Visualization Award

Share a data visualization that your team has created for the 2022 Rapid React season and explain how this visualization advanced your team's scouting endeavors.

Format: Graph(s) with short explanation.

Scoring Rubric for The Data Visualization Award:

15 Pt. Scale	Visual Appeal (__/15)	Data Insight (__/15)	Readability (__/15)
10-15	Graph is clean, professional, and takes a unique approach to visualizing data.	Graph presents a unique data insight, one which holds clear benefits for the team.	Graph clearly expresses its information and follows graphing conventions (i.e. axes labeled, legend presents). Data's conclusions are apparent. All data is labeled clearly.
5-9	Graph may be visually confusing or cluttered.	Graph presents some benefit to the team, but not an insight unique to this medium.	Graph's information is mostly clear. Conclusions can be drawn, but with a required effort.
0-4	The graph is unintelligible.	Graph holds no practical value to the team.	Graph is misleading or does not succinctly represent data.

The General Scouting Award

Answer the following questions about your team's scouting efforts. Teams are required to answer all 8 questions.

Format: Questionnaire / Short Answer (approx. less than 100 words each)

General Questions:

1. How do you make scouting fun and unique?
2. How do you train people to scout so that your data is reliable?
3. What are some unconventional/unique areas that your team collects data on (ex: a certain type of defense, tippiness, etc)? Why?
4. What skills does scouting teach your students that can be used beyond FIRST and in future careers?
5. How do you objectively consider your own team's performance when creating strategies or making a pick list?
6. How do you incorporate scouting/strategy in your team structure? Do you have leadership or subteams, and how do they run?
7. How do you create flexible strategies so that you can change them easily when something doesn't go as planned? Do you have back-up strategies?
8. How does your team incorporate/improve strategy and scouting into the off-season?

Scoring Rubric for The General Scouting Award

6 Pt. Scale (per question)	**Answer (__/6)**
5-6	Team demonstrates excellence in scouting through concrete examples. Answer is well thought out and shows the team's passion for and commitment to scouting.
3-4	The team's passion and commitment are clear in the answer, but lack depth or concrete examples.
1-2	The answer is brief or confusing and doesn't demonstrate the team's approach to scouting.

Appendix A - Field Definitions

Robot and Event Data Fields

eventCode	Alphanumeric code for event used by FIRST Inspires API and The Blue Alliance (ilch - Chicago, IL)
matchLevel	Also known as tournamentLevel, determines what type of match it is. (i.e. qm - Quals; qf - Quarter final; f - finals match)
matchNumber	The number of the match for that event
match_key	A combination of year, eventCode, matchLevel and matchNumber that provides a unique key for that match across all events and years.
robot	The alliance and number assigned to that robot (i.e. R1 - Red 1)
teamNumber	Team Number
autoStartingLocation	A location value showing where the robot was located at the start of a match. See field key in Appendix B
taxi	Did the robot exit the hangar before the end of autonomous? Yes/No
autoUpper	Number of Cargo scored in the upper hub in autonomous
autoLower	Number of Cargo scored in the lower hub in autonomous
autoPickedUpCargo	Did the robot pick up extra Cargo in autonomous? Yes/No
upper	Number of Cargo scored in the upper hub in teleop
lower	Number of Cargo scored in the lower hub in teleop
wasDefended	Was the robot defended at any time during the match
wallbot	Can the robot only shoot when up against the hub wall
pickupLoc	Where was cargo picked up? x - Did not pick up cargo; g - ground; t - terminal; b - both ground and terminal

shootingLocations	An array of location values showing the locations where this robot shot from during this match. The data is an array [x,y] of values indicating the shooting locations. See field key in Appendix B
climb	Did the robot successfully climb? x - Did not attempt; a - attempted but failed; 1 - Low; 2 - Mid; 3 - High; 4 - Traversal
climbBeforeEndGame	Did the robot go climb before End Game (30 seconds left) - Yes/No
defenseRating	How well did this robot defend? x - Not observed; e - excellent; g - good; a - average; b - below average
heldCargo	Did the robot hold cargo while defending? Yes/No
speedRating	How fast was the robot? Slow 1 - 5 Fast
diedOrTipped	Did the robot die or tip over during the match? Yes / No
comment	Comments on the robots performance
<rest of the fields>	Calculated fields based on previous fields

Appendix B - Shooting Location Key