Strategy Class

TEAM 1902

2016-2017
4-H Exploding Bacon

Strategy Overview

» From rules to strategies
» Scoring analysis
» Considering designs while strategizing
» Choke holds
» Regional vs Championship strategies
» Design parameters
» Strategic design

From Rules to Strategies

- Three main things we need to take from the rules for forming strategies
- Scoring
- Fouls
- Ranking

Analyzing scoring

» Potential strategies
» Scoring tables
» Points per second

Scoring table

» Step 1: Come up with strategies
» Step 2: Make table
» Step 3: Fill in table

	Auto goals	Auto move	Telop goals	Telop other	Teleop other	End game	End game	Foul	Tech fouls
Strategy 1									
Strategy 2									
Strategy 3									
Strategy 4									
Strategy 5									
Strategy 6									

Table Adjustments

- Accuracy
  - To account for missing shots
  - Only do for things that you can miss on
  - 100%, 75%, 50%, 25%
- Difficulty
  - How hard would it be for YOUR TEAM to accomplish this task
  - Be brutally honest
  - Scale of .1 to .9 multiplier
- Ranking
  - Adjust for robots you can pick being ranked higher
  - 1.5 times the score for guaranteeing extra ranking point(s)
  - times 1.15,1.14,1.13... For each sorting order you focus on

Stronghold Table

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Chokeholds

- Determined mathematically
- Points you can guarantee > points they can possibly get
- Gimmicks are not Chokeholds
- Gimmicks
  - 1678 2016 cheesecake (never played)
  - 1114/148 cheesecake 2015 (never played)
  - 469 2010 robot
- Chokeholds
  - 71 in 2002
- Very rare but always worth looking for

Regional vs Championship Strategies

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- Prior to 2012 the best robot come Saturday at champs usually won
- Tiers of robots
  - 1st tier
    - ~top 10
  - 2nd tier
    - Functioning but not the best. Works consistently, typically unique designs
  - 3rd tier
    - Look similar to 1st tier but not consistent or as good
- The more complex the game is mechanically, the less likely a complex robot is to win
- Simple reliable regional juggernauts are becoming world championship caliber robots
- Drastic 1114 style strategies are becoming less effective
- The era of the underdog
- Two championships may have unforeseen effects on this

FIRST

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Design Parameters

» Now that you should have a strategy, what do you need to do to accomplish that?

» Go back to when you estimated the scores

» Do the math to see how fast you need to preform each action in order to successfully execute your chosen strategies

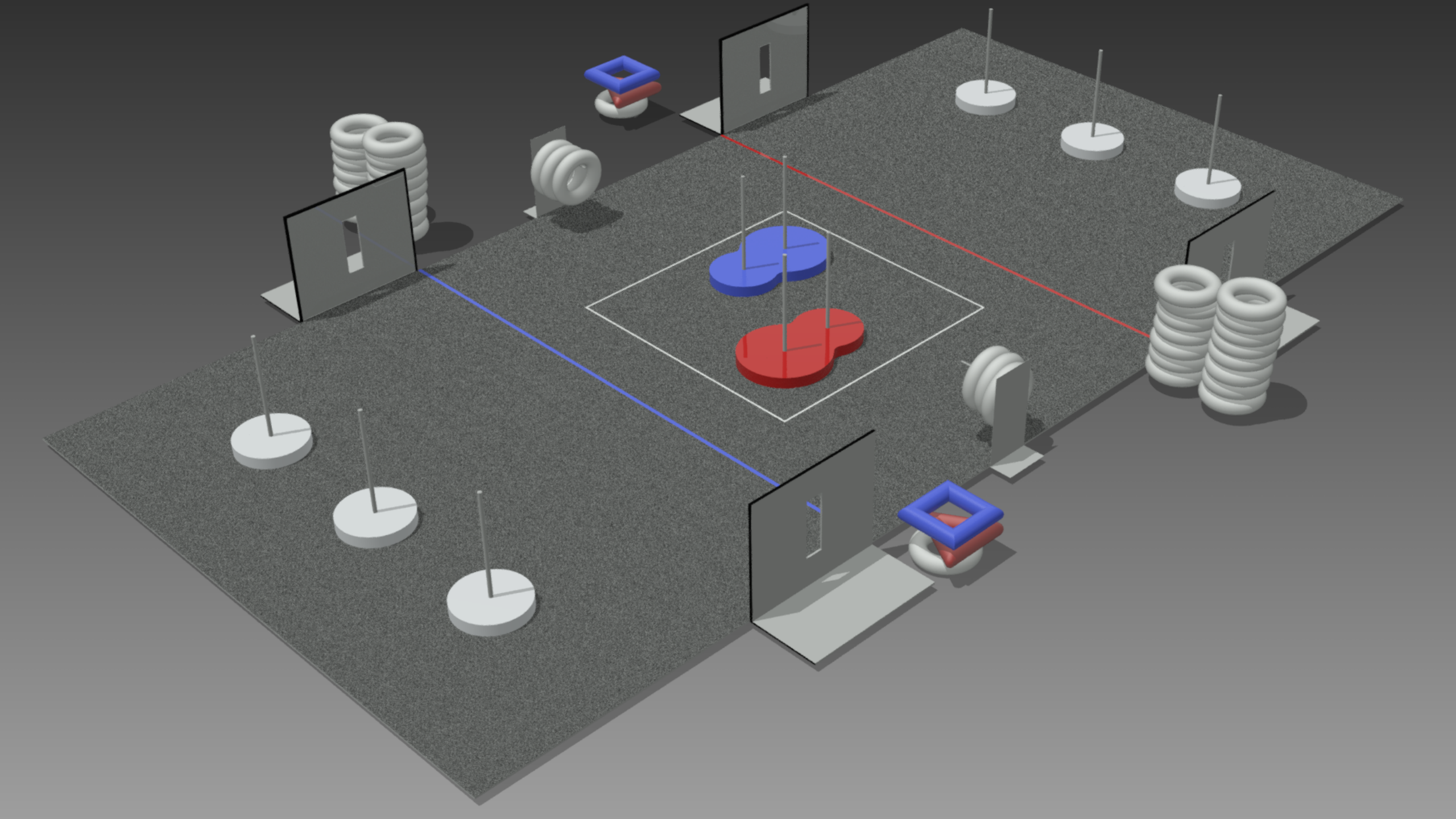
» These will lead you through the season

In review

» From rules to strategies
» Scoring analysis
» Considering designs while strategizing
» Choke holds
» Regional vs Championship strategies
» Design parameters
» Strategic design

Your turn!

» Analyze the scoring and strategies of space race
» Make a scoring table
» Run through the adjustments
» Decide on a strategy

Space Race table example

	Auto tubes	Auto move	Tubes	Rocket	Minibot	Fouls	Total	Accuracy	Difficulty	Final	
Descorer	6	2	32	0	15	-10	46	100%	0.8	36.8	🔥
Tube scorer	12	2	27	15	15	5	76	80%	0.6	36.48	🔥
Defense	0	2	9	5	30	-10	36	50%*	1.0	21	
Gantry	6	2	18	15	30	5	76	75%	0.7	39.9	🔥
Feeder	0	2	9	0	15	0	26	100%	0.95	24.7	
Universe	12	2	72	24	30	-10	130	65%	0.4	33.8