

FROM RULES TO REALITY

Python's Role in Shaping Roundnet



Larissa Haas

ABOUT ME



LARISSA



- Automation Team Lead and Senior Data Scientist @ sovanta AG
- studied Political Science and Data Science
- very into AI and the application of AI



@larissaha



ABOUT ME



LARISSA

- Playing Roundnet for 4 years @ Mosquitos Mannheim
- Pro player since 2024 😎
- RGX = 1550 (#22 in Germany)



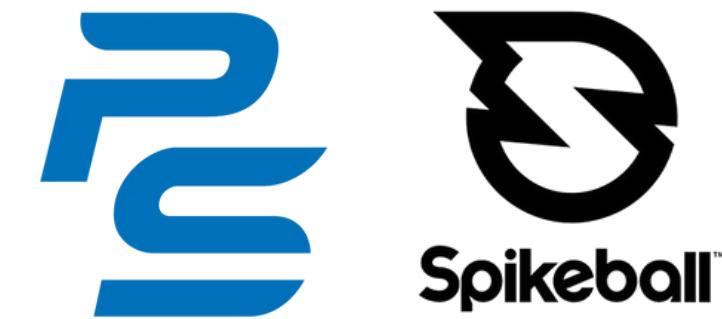
Larissa "the backhand"
Haas 🇩🇪
Mosquitos Mannheim
RGX 1550





WHAT IS ROUNDNET?

DO NOT CALL IT SPIKEBALL !!



- 1 net & 1 ball
- 2 teams
- 3 touches
- play on grass, sand, indoors, ...

FROM RULES TO REALITY

- 1 What is Roundnet?
- 2 What is the current problem?
- 3 What are our goals?
- 4 What is our approach?
- 5 What are the first results?

ONE PART OF THE PROBLEM

- too big focus on serve game
- attackers always in favour, defence has a hard time



ANOTHER PART OF THE PROBLEM

- Sideouts too strong, difficult to defend
- not many rallies, even if this is the fun part of roundnet



ANOTHER PART OF THE PROBLEM

- too many double faults
- not enjoyable to watch



WHAT ARE OUR GOALS?

Roundnet Rules Revolution 2025
RRR25
BY THE IRF



WHAT ARE OUR GOALS?

- higher difficulty for attackers = easier for defence
 - foster more rallies
 - take focus from serve game (make aces more difficult or less valuable)
- Change rules
- Decide with data which rules will go into the right direction



Hamburg

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OUR APPROACH



Create baseline



Test different rules in
certain tournaments



Compare results



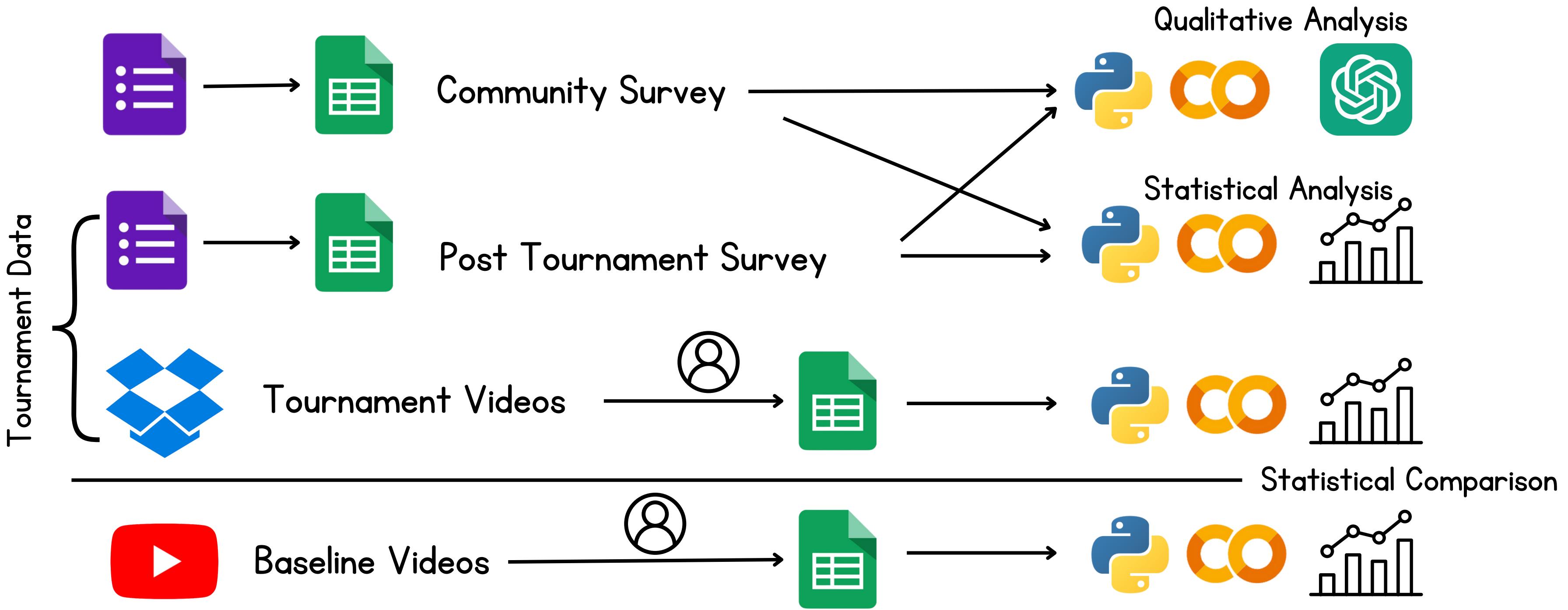
Decide for new rules
and roll out 2026

PROJECT PHASES



DATA SOURCES AND PIPELINES

From tournament experiences to statistical differences



Tracking (manual)						
	#P	COP	LPT	DF Check (automaticall y)	REDO	notes
7	1	0	0	0	no	
8	2	1	1	0	no	
9	3	0	0	0	no	
10	4	0	0	1	no	
11	5	1	2	0	no	setting error
12	6	0	0	0	no	
13	7	0	0	1	no	
14	8	0	0	0	no	
15	9	0	0	1	no	
16	10	2	0	0	no	
17	11	0	0	0	no	
18	12	0	0	1	no	
19	13	0	0	0	no	
20	14	0	0	1	no	
21	15	0	0	0	no	
22	16	2	0	0	no	
23	17	2	0	0	no	
24	18	0	0	0	no	
25	19	2	3	0	no	setting error
26	20	0	0	0	no	
27	21	0	0	1	no	
28	22	0	0	0	no	
29	23	0	0	1	no	
30	24	0	0	0	no	
31	25	0	0	1	no	
32	26	0	0	0	no	

VIDEO ANNOTATIONS

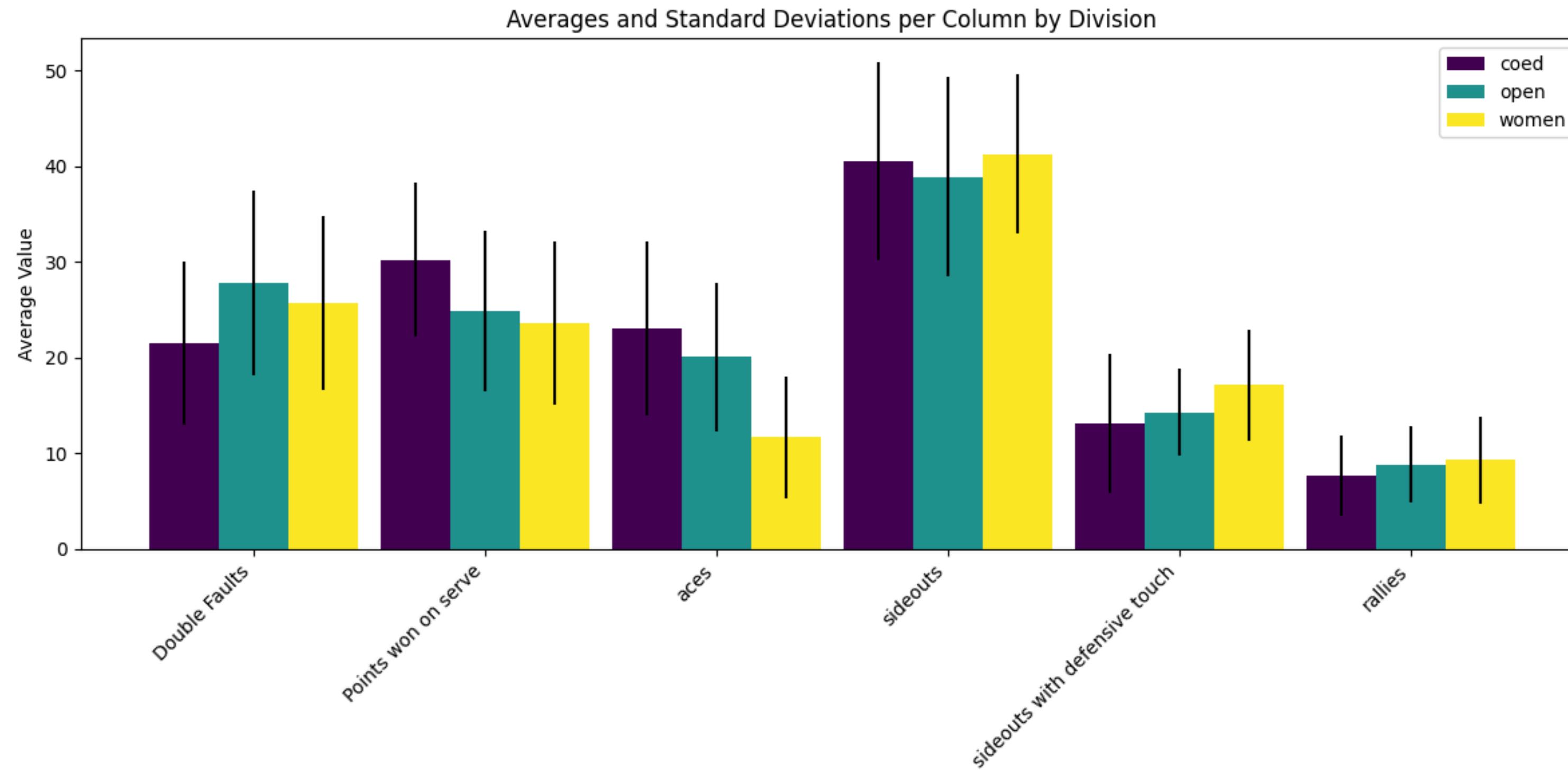
- Change of Possessions = how often does the ball pass the net
- Last Possession Touches = how many touches did the team had?
- Double Faults = two serve errors
- Redo = teams could not align on an error call, so the point is repeated

FROM RULES TO REALITY

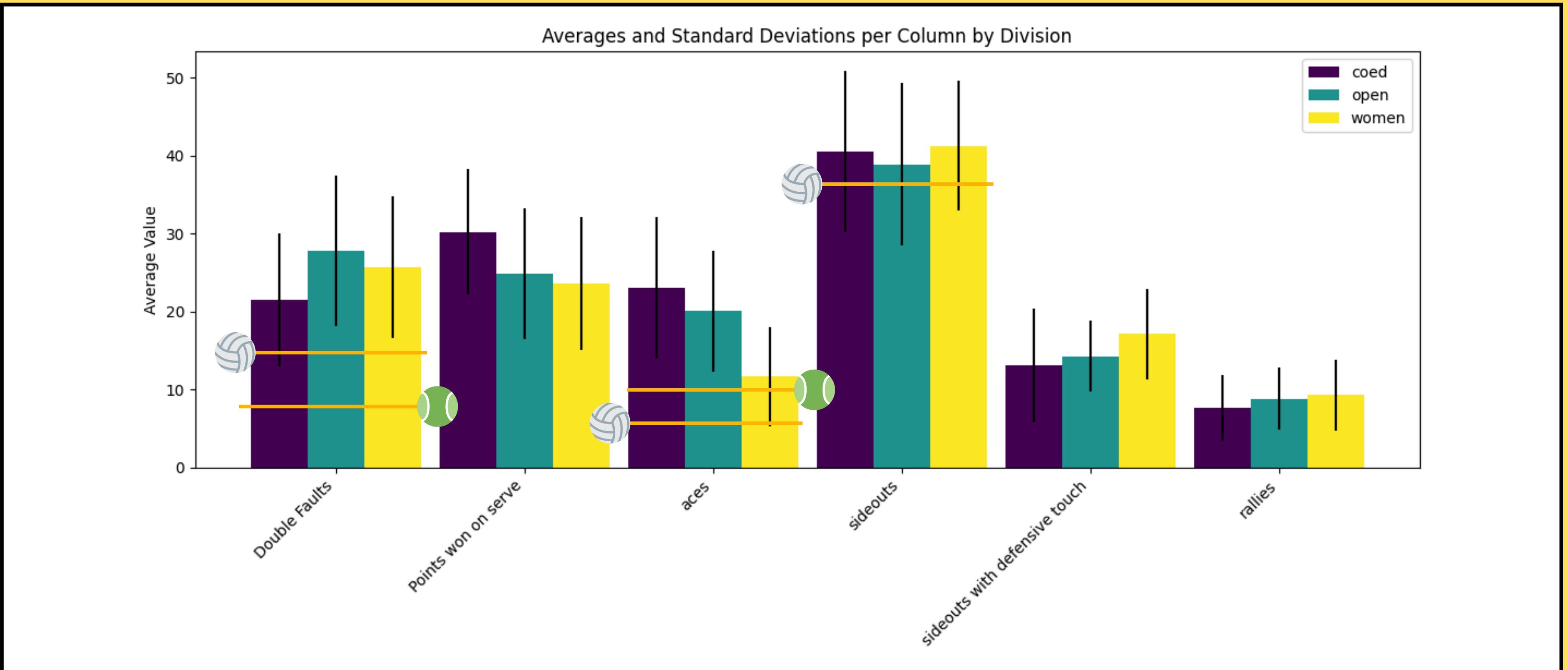
- 1 What is Roundnet?
- 2 What is the current problem?
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SOME FIRST RESULTS

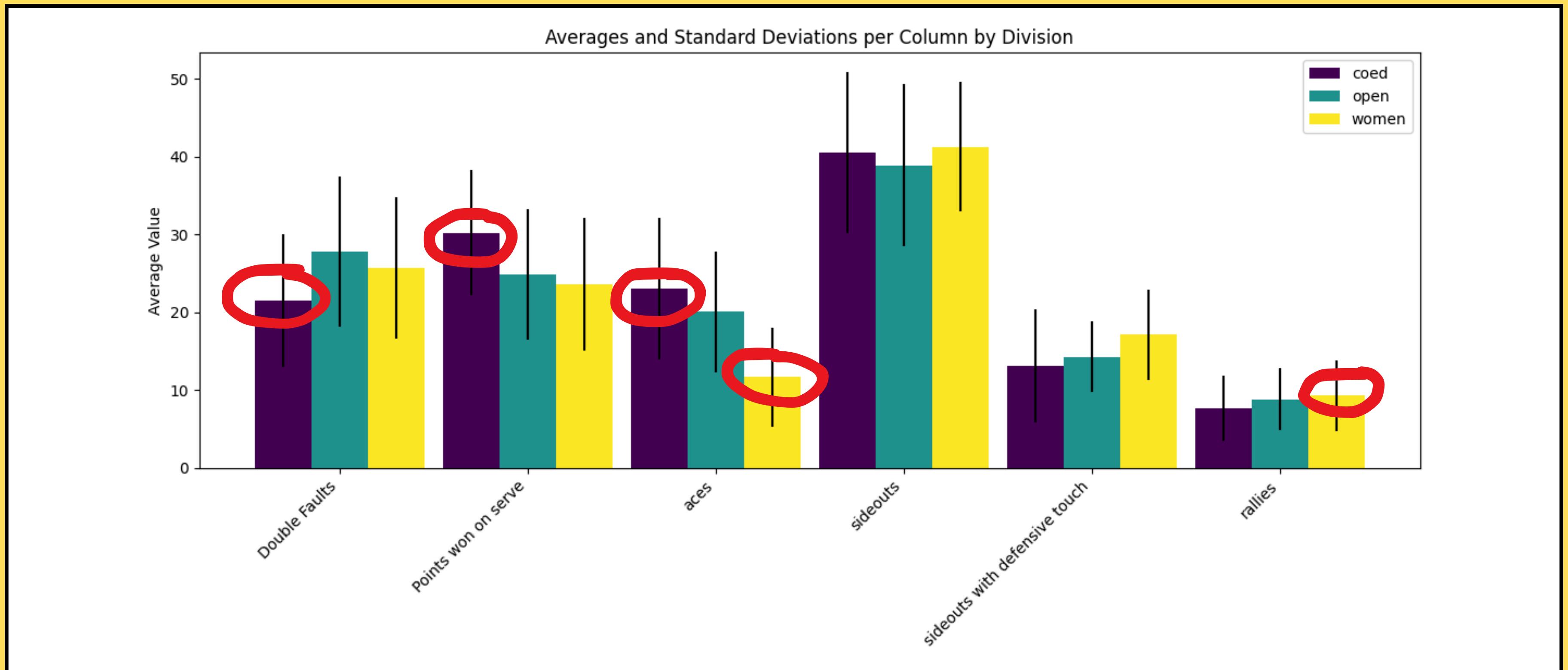
- analyzed 73 games in total
- contained in over 17 hours of gameplay
- in 2593 collected points



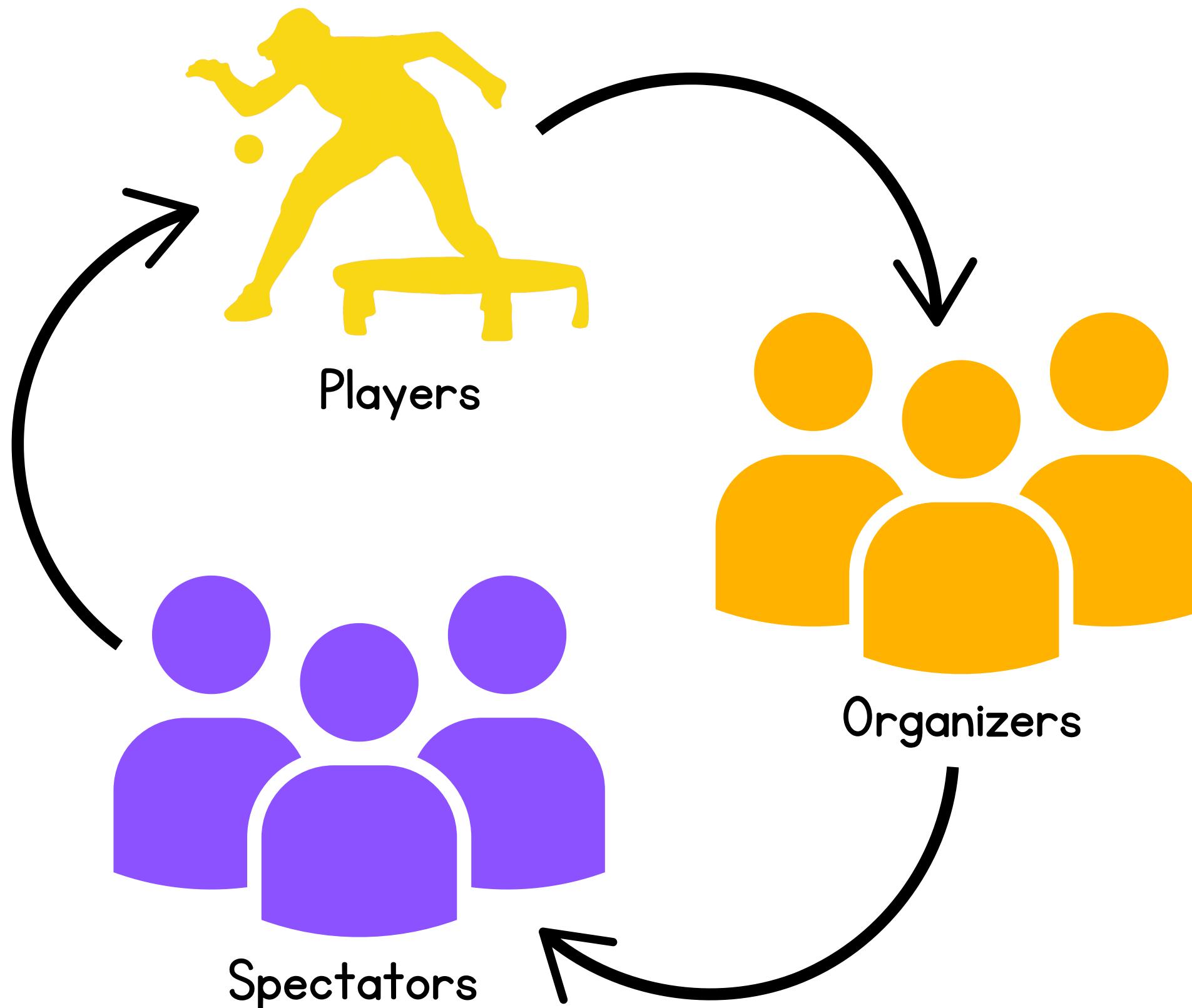
SOME FIRST RESULTS



SOME FIRST RESULTS



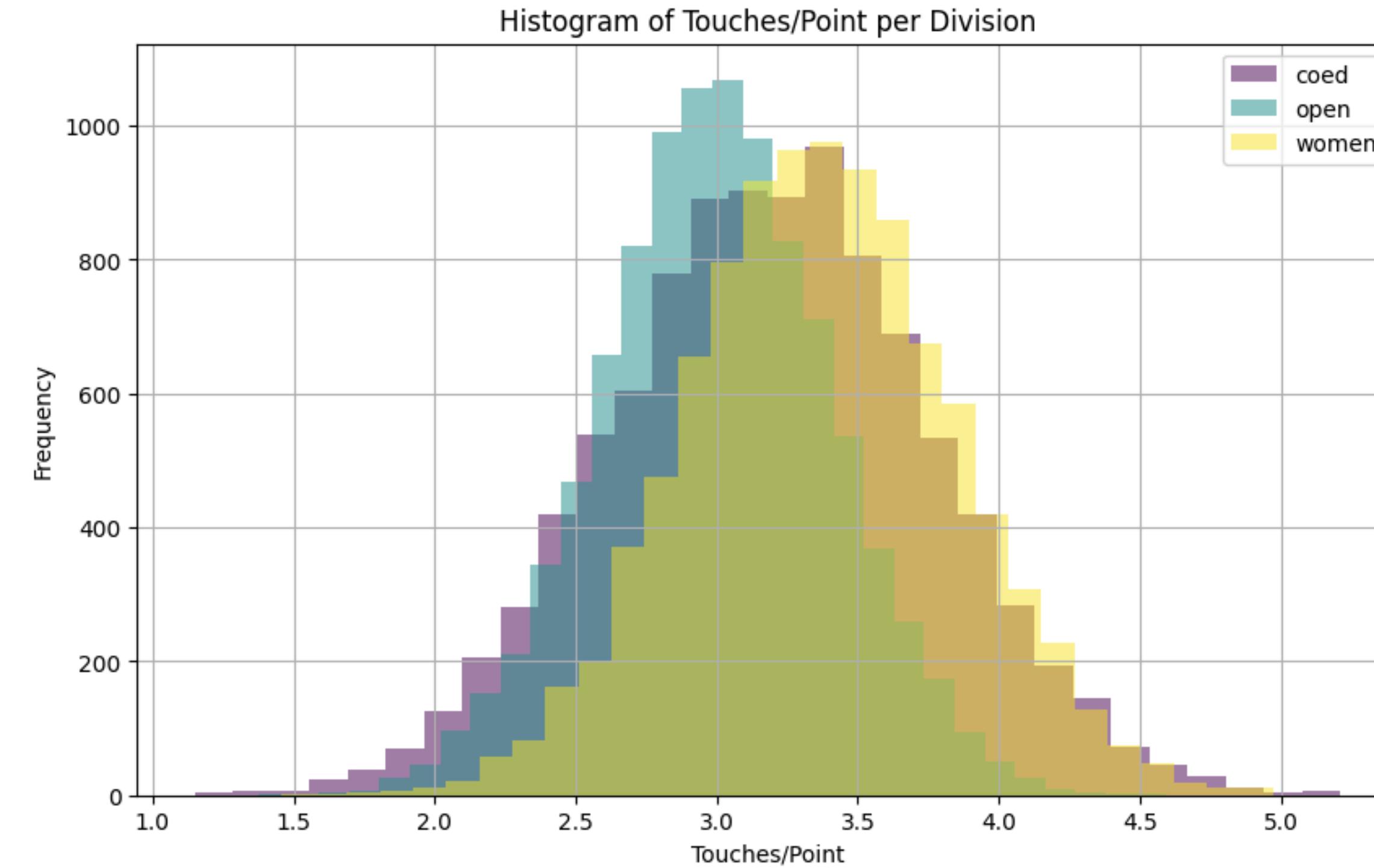
MEASUREMENTS



How do we want to evaluate & compare
the different packages?

- Watchability Score: How much fun is a game to watch?
- Player Satisfaction: Do players like to play with the rule change, is it too hard to realize?
- Organizational Difficulty: How difficult is it to set up and to maintain during a tournament?

FROM RULES TO REALITY



Commands + Code + Text

RAM Disk

Files

0s 1 baseline.describe()

	Double Faults	Points won on serve	aces	sideouts	sideouts with defensive touch	rallies	Touches	Touches/Point	T/P Ratio	defensive touch ratio	rally ratio
count	72.000000	72.000000	72.000000	72.000000	72.000000	72.000000	72.000000	72.000000	72.000000	72.000000	72.000000
mean	24.780972	26.492083	18.482917	40.278611	14.750139	8.568333	115.013889	3.189541	0.678441	0.364770	0.230487
std	9.343460	8.698186	9.168706	9.653820	6.216120	4.261498	26.364452	0.508750	0.052258	0.125728	0.149989
min	2.940000	7.500000	0.000000	16.000000	0.000000	0.000000	55.000000	2.171429	0.539474	0.000000	0.000000
25%	17.612500	20.590000	12.500000	33.170000	10.380000	5.597500	99.750000	2.828862	0.646501	0.283676	0.132626
50%	25.000000	26.975000	17.860000	39.735000	13.700000	8.330000	116.000000	3.163978	0.683942	0.363546	0.190892
75%	30.612500	31.580000	23.840000	47.100000	18.545000	12.030000	136.250000	3.527083	0.716479	0.454574	0.297593
max	46.150000	47.830000	43.480000	60.710000	30.770000	17.860000	171.000000	4.640000	0.784483	0.615324	0.750000

0s [64] 1 package_a.describe()

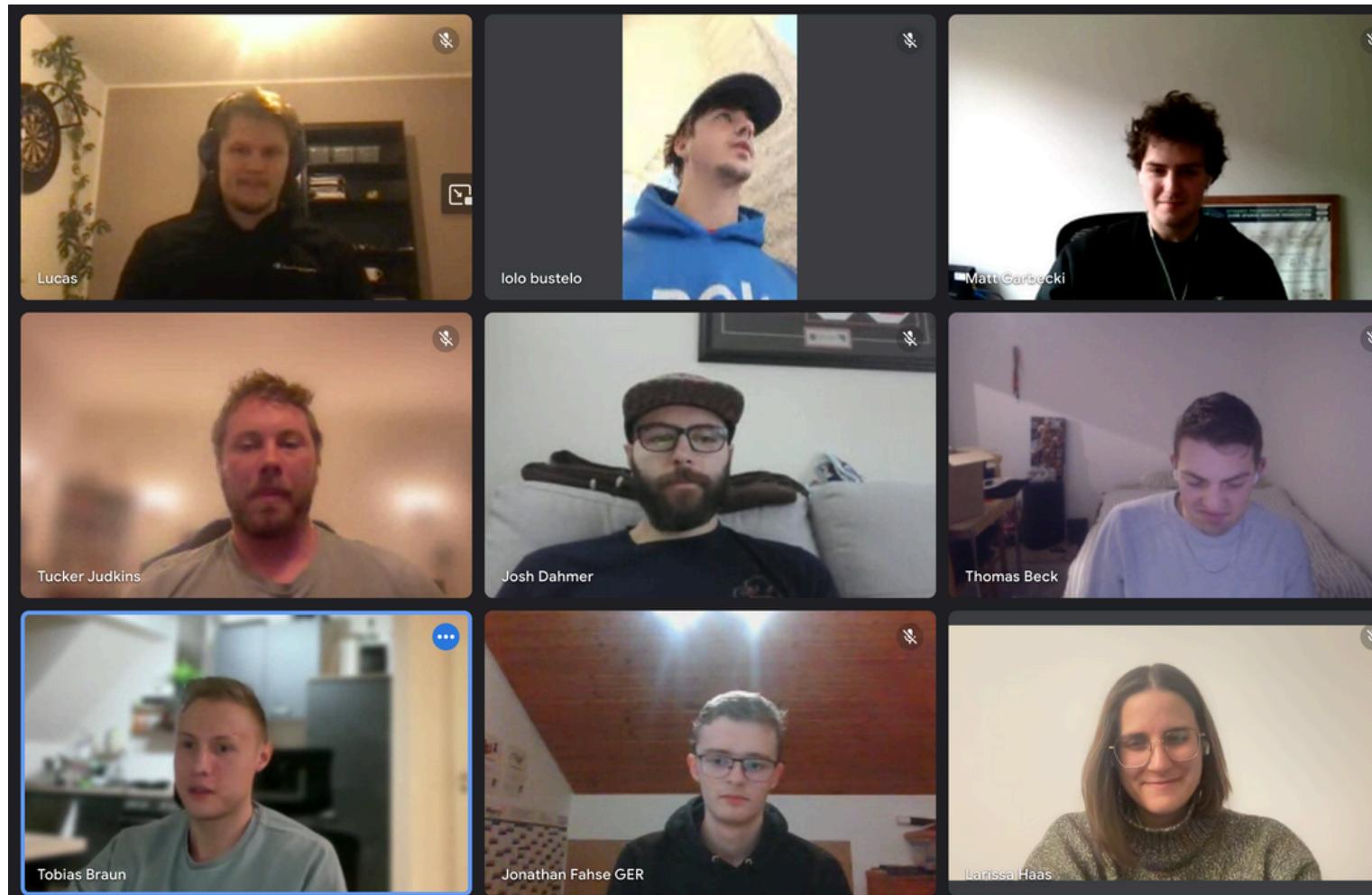
	Double Faults	Points won on serve	aces	sideouts	sideouts with defensive touch	rallies	Touches	Touches/Point	T/P Ratio	defensive touch ratio	rally ratio
count	22.000000	22.000000	22.000000	22.000000	22.000000	22.000000	22.000000	22.000000	22.000000	22.000000	22.000000
mean	25.886364	33.440000	22.571364	28.220455	12.229545	12.449545	120.090909	3.233443	0.662870	0.434508	0.464391
std	10.262509	10.503412	10.050191	8.863247	6.214248	6.994294	29.645379	0.854488	0.124124	0.162822	0.284980
min	13.510000	15.000000	6.250000	10.000000	2.780000	2.500000	50.000000	1.250000	0.200000	0.100072	0.076878
25%	17.267500	24.740000	16.330000	24.260000	8.120000	6.810000	103.000000	2.798364	0.642620	0.297673	0.250000
50%	24.660000	32.380000	20.605000	28.990000	10.505000	11.960000	114.500000	3.278947	0.694608	0.499919	0.399943
75%	29.725000	41.302500	29.410000	33.085000	16.220000	17.635000	137.250000	3.707617	0.730262	0.537148	0.627296
max	50.000000	55.000000	42.500000	46.880000	25.000000	25.710000	177.000000	5.057143	0.802260	0.666941	1.000000

[65] 1 # Group data by division and calculate the mean for specified columns
2 averages = baseline.groupby('division').agg({
3 'Double Faults': 'mean',
4 'Points won on serve': 'mean',
5 'aces': 'mean',
6 'sideouts': 'mean',
7 'rallies': 'mean',
8 'Touches': 'mean',
9 'Touches/Point': 'mean',
10 'T/P Ratio': 'mean',
11 'defensive touch ratio': 'mean',
12 'rally ratio': 'mean'
13 })

Disk 70.73 GB available

THE REAL WORK WILL START NOW

we are a group of 10 very motivated
annotators and analysts, that love to
play roundnet!



but the work has just started:

- 22 test events scheduled right now
- first test events are already recorded
- about 20 responses from community players already (the last survey had around 600, so yeai!)

THANK YOU!



- If you have any ideas, comments, questions – let me know!
- If you want to learn more about roundnet and our analysis, feel free to follow:



@larissaha



Larissa Haas



sovanta
simplicity first

