

## Soccer Specific Point of Decision Enabled Metrics

### INTRODUCTION

In the domain of team sports and exercise science elite performance has largely been explained by superiority in “perceptual information” and “cognitive processes” related to “decision schemata,” [Araújo et al., 2005](#); [Helsen and Starkes, 1999](#); [Lerda et al., 1996](#); [McPherson, 2000](#); [Starkes et al., 1994](#); [Starkes et al., 2001](#). These perception/knowledge/decision matrices are “specifically concerned with the processes which intervene between processing perceptual information and generation of a response.” ([Ripoll, 1991](#), p. 187, quoted in [Bar-Eli and Raab, 2006](#)); indicating that variance in performance between novices and elite players, and as players gain experience are explained by the development of these decision matrices. Yet little research has been done on how to develop decisional matrices, how they are structured, and even how they are used to make decisions ([Bar-Eli and Raab, 2006](#); [Thomas and Thomas, 1994](#)) let alone how to best develop such matrices to produce elite players. Recent studies, however, have begun to at least attempt to quantify the influence that “perceptual information” and “associative knowledge” / associative decision-making respectively have on a player’s decisional matrix and concomitantly on a player’s development. [Steiner \(2018\)](#) But we are a long way off from analyzing the quality of the decisionmaking process, and developing methodologies for acquiring better “perceptual information” and deploying better “cognitive processes.” In this paper the “next step:” a method of aggregating decisionmaking data into a player profile and rating player decisionmaking performance according to a game plan and weighted value analysis is presented.

Some of these questions have been examined by [Pâques et al. \(2005\)](#) for example, in the case of soccer, using a methodological approach that was devised by [Anderson \(2008\)](#), and already used in sport decision-making by [Vergeer and Hogg \(1999\)](#), and also [Dru et al. \(2004\)](#). [Pâques et al. \(2005\)](#). In this methodology a narrow set of decisions (quick restart) was investigated under various game conditions (time left, score, game importance, numerical advantage). While the results from these narrow analyses indicate useful developmental trends in decisionmaking across age groups (and to come up with age-specific strategies to support decisionmaking) or allow one to measure the impact of cognitive factors/cues in decisionmaking, what seems lacking overall is an approach that rates the quality of decisions, in order to support player development, a “rating” systems aggregating different decisions, under differing game plans and changing game scenarios.<sup>1</sup>

There have been approaches explaining the mechanisms underlying interpersonal coordination in interactive sport teams which focus of various scientific contributions (e.g., [Steiner et al., 2018](#); [Cannon-Bowers and Bowers, 2006](#); [Gorman, 2014](#); [Araújo and Bourbousson, 2016](#);

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<sup>1</sup> While beyond the scope of this paper, the implementation of a “rating” “crucible” for player development has been observed to quickly convert decisionmaking meta data and giving players quick, readily accessible, relevant decision specific information into a “culture” that supports innovation, competition and team improvement. [cite to Podcast UNC]

McNeese et al., 2016). These analysis broadly fall into two (2) categories of attribution examining influence over decisionmaking. One approach highlights the role of “perceptual information”<sup>2</sup> focusing on the game condition ( e.g., Araújo et al., 2006; Fajen et al., 2009). The other approach focuses on the role of cognitive processes<sup>3</sup> (game plans or “internal” information

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## <sup>2</sup> Sources consulted on “perceptual information” :

Information provided by situational game contexts is essential for teams in coordinating their behavior in real time (e.g., Eccles and Tenenbaum, 2004, 2007; Araújo et al., 2006; Silva et al., 2013; Travassos et al., 2013; Gorman, 2014; McNeese et al., 2016). The perceiving the positioning of team members is relevant because it constrains passing opportunities to nearby areas (Gorman, 2014; Vercruyssen et al., 2016). Presumably, athletes consider perceptual information in deciding which pass to make. Steiner (2018) The distance of defenders to ball trajectories (e.g., shooting or passing paths) is related to the frequency of ball interceptions, corroborating that “perceptual information” is relevant to passing decisions, Travassos et al., (2012); Vilar et al.,(2013). Given the primary goal of scoring more points than the opposing team, there is a certain need to pass the ball forward to take it into scoring positions near the goal (e.g., Carling et al., 2015). Whether a team member is closer to the opponents' goal than the ball carrier or further away from it represents perceptual information that discloses the goal-approximative consequences to be expected after a corresponding pass (Oesterreich, 1981). At the same time, passes must have a chance of reaching the intended receiver and lie within each agents' range of capabilities (Fajen et al., 2009; Vercruyssen et al., 2016; see also Bandura, 1997; Tenenbaum, 2003; Nitsch, 2004, 2009). It has been shown that passes to distant team members are made less frequently than passes to nearby team members (e.g., Rampinini et al., 2009; Hjelm, 2011). While long passes may create new opportunities for the team (and be worth a try), they generally have a higher risk of being off-target and missing the intended receiver. Team members' large distances from the ball carrier is perceptual information that could prevent these team members from being perceived as viable passing opportunities. Finally, when opponents defend team members tightly, they jeopardize the success of a pass because it may be intercepted (Johnson, 2006; Hjelm, 2011; Vilar et al., 2014; Macquet and Kragba, 2015). How tightly team members are defended represents further perceptual information athletes must consider.

## <sup>3</sup> Sources consulted on “cognitive processes”

The role of conceptually-driven cognitive processes in recognizing decision-relevant factors in game situations has been researched, the main point being that the encoding of situational information is mediated by the perceiver's knowledge of what he is observing, such as a game plan, long term memory (game scenarios) or cognitive player profile of a teammate. (Willams et al., 2006); Petiot et al (2013). This mediating role of cognitively represented knowledge has been discussed in terms of its various contributions to sports (e.g., Eccles and Tenenbaum, 2004; Tenenbaum and Lidor, 2005; Reimer et al., 2006; Rentsch and Davenport, 2006; Nitsch, 2009; Tenenbaum and Land, 2009; Vilar et al., 2012). Generally, it is argued that this approach enables experts to see beyond the perceptual information itself (Gobet, 1998; Willams et al., 2006). The knowledge athletes have regarding their fellow team members has been argued to be of special

such as executive memory) that the athlete attributes to the environment (e.g., Annett, [1996](#); Eccles and Tenenbaum, [2004](#), [2007](#); Reimer et al., [2006](#)). Finally, some have taken integrative approach and studied the impact of both (e.g., Nitsch, [2009](#); Gorman, [2014](#); see also Pedersen and Cooke, [2006](#); Duarte et al., [2012](#); Cooke et al., [2013](#); McNeese et al., [2016](#)).

Recently, an integrative perspective that considers the simultaneous contributions of multiple information sources to enabling coordination in interactive team sports has been presented (Steiner et al., [2017](#)). This perspective views decision-making from the angle of athletes adapting their own goal-directed behavior to that of other team members in order to enable interpersonally coordinated team behavior in dynamic group-task environments. The environments in open-type sports constantly change when positions of team members, opponents and the ball are altered. Athletes must keep themselves informed about these changes by visually monitoring their environment (Tenenbaum, [2003](#)). The integrative perspective (Steiner et al., [2017](#)) considers different ways in which information picked up by the visual system affects decision-making. The direct impact of perceptual information on behavior (e.g., through the perception of affordances; see Gibson, [1979](#); Silva et al., [2013](#)) represents the bottom-up part in organizing directed behavior. It is considered an integral part of coordinated team behavior. At the same time, the framework considers the role of internal knowledge that players associate with their perceptual environment in a cognitive top-down process. In this case, perceived information is passed on for higher level processing. Assumedly, this higher level processing consists of an ongoing interaction between working memory and long-term memory (Tenenbaum, [2003](#)). Depending on situation- and athlete-specific characteristics, various sources of information are assumed to be of different relevance to the decision-making process. The characteristics may refer to given time constraints, the novelty of a situation, an athlete's perceptual attunement to key features of a situation or other knowledge structures resulting from previous experience with similar situations. In an example involving passing decisions, Steiner et al. ([2017](#)) illustrate how perceptual information about the positioning of team members and opponents define task constraints on a moment-to-moment basis and inform athletes about available and unavailable passing opportunities (see also Araújo et al., [2006](#); Fajen et al., [2009](#); Silva et al., [2013](#)). If time allows, athletes may complement the perceptual information about the positioning of team members with knowledge they associate with their team members (e.g., Annett, [1996](#); Eccles and Tenenbaum, [2004](#), [2007](#); Nitsch, [2004](#); Rentsch and Davenport, [2006](#); Rico et al., [2008](#); Tenenbaum and Land, [2009](#); Seiler, [2014](#)). If a ball carrier perceives two team members standing equally open for a shooting attempt, then her associative knowledge about the higher task-specific strengths of one of them could be the decisive factor to pass the ball to that team member (Johnson, [2006](#)). While Steiner et al. ([2017](#)) illustrate the theoretical simultaneous involvement of perceptual and knowledge-based

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relevance (e.g., Annett, [1996](#); Tenenbaum, [2003](#); Eccles and Tenenbaum, [2004](#), [2007](#); Johnson, [2006](#); Reimer et al., [2006](#); Annett ([1996](#)) uses the term “cognitive people models” to refer to the knowledge and understanding of fellow players, such as knowledge of their strengths and weaknesses (see also Eccles and Tenenbaum, [2004](#)). Such cognitive models of team members can be important in many game situations, both offensive and defensive ones. In Steiner et al.'s ([2017](#)) example, they contribute, in combination with perceptual information, to the ball carrier's perspective on the degree to which specific team members represent viable opportunities for passes.

information in decision-making, they do not provide a precast way of determining the contributions of various information sources empirically.

We hypothesized that studying decisionmaking in an agnostic manner (independent of the control factors: time, score, etc...) and using an integrative approach one could discern strength and development of decisionmaking across all game scenarios. In soccer as in most team sports there is a correct decision or decisions, and there are incorrect ones, irrespective of the aforementioned control/context factors. The correct matrix of decisions is driven by the game plan, itself a meta compilation of decisional scenarios, measuring decisions relevant to the game plan (right or wrong) allowed us to obviate the step of validating each decision relative to results and select for our true intent which is the development of the skill in executing the coach's specific game plan. Thereby selecting and developing for stronger "decisionmakers." This paper will include a discussion of our methods, and results in the decision rating system that we call "SSPOD'EM" Soccer Specific Point of Decisionmaking Enabled Metrics. In the following statistical method it was also shown how both the "perceptual model" in the case of Emilio (a U15 elite defensive player transitioning to 5 v 5 Futsal; undervaluing opportunities) and the "cognitive model" in the case of Chase (a left-footed U15, midfielder, transitioning to 5 v5 Futsal; modifying his game decisionmaking for "footedness") could both be used to explain quick corrective measures and have an immediate measurable impact on the following game.

## **METHODS**

The decisionmaking of six(6) youth futsal academy players was tracked over the course of two (2) games. The players were strong technical 11 v 11 players who were relatively new to Futsal (less than 12 sessions) and were playing against established futsal programs. The players had played together in 11 v 11 for two plus seasons (2+), they practiced together four times per week (two futsal and two 11s) , and played two (2) futsal matches and one (1) 11s game per week. A detailed game plan was published to the team in advance of each game, including a one-on-one coaching session with each of the players (Chase and Emilio) who were the primary focus of the paper. In team meetings after practices the details of the game plan were reviewed, and the game plan and supporting analytical materials were published and accessible online.

## **Procedure**

A detailed game plan involving 13 graphics scenarios was presented, along with game management indicators that were toggled for time and score. The author of this paper was also the coach, and since the team was formed during the course of the study, the entire game plan was representative of how the team was supposed to play, and had been drilled and conditioned to play. Practices involved detailed elements of the game plan and formations.

## How to Use SSPOD'EM

SSPOD'EM (Soccer Specific Point-of-Decision Enabled Metrics) is our system for the identification, selection and development of elite soccer player talent. By way of background as to how we arrived at this point. SSPOD'EM is our good faith attempt at reverse engineering the analytics process, and player development process of top “selling” clubs. We started with a master “Index of Studies” which provided an overview and summary of “lead indicators” and the analysis behind each one. The “lead indicators” index started us thinking about the key measurements and concepts that we wanted to implement and measure throughout our game plan.<sup>4</sup> Once we had tailored our “lead indicators” to our general game plan we then started by writing down and implementing our game plan with specificity.

You can find one of our game plans here:

[Weave v Box Press](#)

One major component of the analytics process is looking at “decisions” and weighing decisions not results. This does two things for the analysis process. First, it eliminates “results” or “latency bias” in our evaluation of events on the field. Latency time bias or length of time is a form of selection bias that results from the an evaluation distortion based on small data sets and/or immediacy. Results bias and false correlation bias are also avoided by looking at decisions (what the Spanish call “intentions”) rather than results. One of the original sins of early soccer analytics was that long balls and direct plays were correlated to goals, and in turn winning- neither of which are accurate, but were nonetheless “observed” and concluded to be true. The right lead indicators and the right correlative analysis that fit your game plan are a key component to building your club’s style of play and success. Similarly, looking at decisions and comparing them to executions adds an additional layer of analysis if there is a significant disparity between the two. Gonzalez-Vilora et al (2013)

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<sup>4</sup> For instance a rash of studies indicated: (1) overall vulnerability of crosses to countertattacks; (2) the high value of “blocking” shots; (3) the correlation of “effort” on defense; and (4) the importance of possession; (5) playing through the back, and (5) setting up attacking in a “counter press” formation.





"We look at *intentions* we don't look at results..." -Pep Guardiola

One major way to eliminate both "bias" and "luck" from the analysis process is using the weighted or "expected" (goals) methodology. Every action down field has a probability of resulting in a goal, not all goals are valued the same, and not all "misses" are valued the same, just as not all goals are valued the same. The aggregate valuation of these scenarios is the the "expected" goals number. Comparing a teams "Expected Goals" values will give you a probability of victory, but from a player development standpoint players and teams that *outperform* their expected goals over a long period of time are the players, and teams you need to focus on for selection and development purposes.

#### Team Shots by Probability

Team A Shots

0.154,0.154,0.154,0.154,0.154,0.154,0.154,0.154,0.154,0.154,0.154,0.15

Team B Shots

0.124,0.124,0.124,0.124,0.124,0.124,0.124,0.124,0.124,0.124,0.124,0.12

[Calculate](#)

#### Summary Results

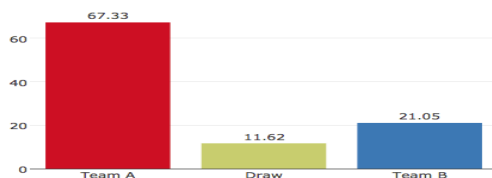
	Goals	M[A]Dev	Shots	Win%	PPG
TeamA:	5.7	±1.74	37	67%	2.14
TeamB:	3.97	±1.46	32	21%	0.75

Share these results!

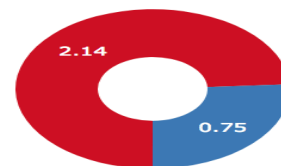
Right Click -> Copy Link Address

#### Match Graphs

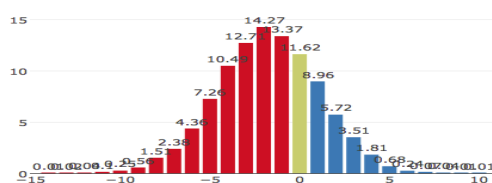
##### Result Percentage



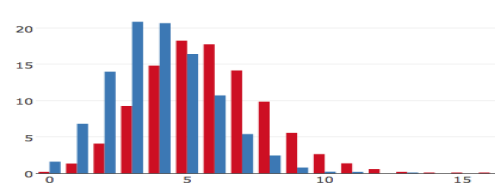
##### Points Per Game



##### Goal Difference



##### Goals Scored



Expected goals methodology was therefore conceptually important in coming up with a “weighting” factor for our rating system. Not all passes are weighted the same, and assists are not weighted by whether or not they resulted in a goal, similarly, not all shots are valued, nor weighted the same. And “Expected” methodology can be used to inform the weighted value of most actions on the field. We gave a standard weight of 10 for any completed pass. We gave a weight of 20 for an “unlocking” pass with strategic value, and a weight of 30 for shots on goal, and passes with a high Expected Assist value.

We selected (1) interceptions, (2) tackles/possession gained, (3) blocked shots, (4) completed passes, (5) “expected” assists, and (6) “expected goals” as our lead (positive) indicators. We did not get into lead negative indicators such as certain dribbling decisions. In doing so we excluded most “dribbles,” we don’t analyze the value of “runs,” “goals” in and of themselves, nor “speed of play.” Again, these “lead indicators” were most suited to our possession/counter press style of play, another game plan might require a different data set to optimize. The “proof” of your “lead indicators” is established through a multi variable regression analysis (the subject of another paper) But this was our way of getting to quick actionable data- fast.

Our game plan was arranged around possession and counter pressing. Counterpressing is a game decision whereby offensive players crowd the ball as the defensive press intensifies, to eliminate counter attacks, and win the ball back when lost. The increasing predominance of this strategy was largely as a result of wholesale rules changes primarily involving “Offside.” In an active Offside Regime it might make sense to cross the ball and risk the counter attack because it is easier to defend in zone shorthanded. With a completely Passive Offside regime every man in the counter attack needs to be accounted for, reducing the value of crossing and increasing the value of possession generally. Additionally, counter-pressing/counter balance measures closing space while attacking become more valuable to prevent counter attacks, where zonal defenses and offsides traps are no longer as viable against strong counters.(Note that counterpressing is the exact opposite of how Americans have been taught to understand space and attacking)

Once we have the game plan in place and we have published it to the team and worked on its various components, its time to evaluate and profile our players!

OPTA the “state-of-the-art” platform tracks over 1500 lead indicators, and the other leading platforms, inStat and Wyscout come close in terms of sheer volume of data. But for player development purposes or merely executing your game plan what we term “meta” analysis of “lead indicators” should get you a quick (5-10 min lag time) and responsive look at player performance relative to key performance and execution of what you are trying to do on the field.

We have added a “wrinkle” we evaluate all our “Actions” on a “per attempt” basis, so we are not only looking at decisions/actions but also actions/attempts or an “efficiency” layer. This is very similar to the “passer rating” methodology used in the NFL. And also gives us a comparative

basis to analyze player performance, by setting a “standard” threshold or “score.” The higher the individual player scores (accomplished by successful actions (lead indicators) / per attempts) the more likely the team is to win. For instance we have never experienced a overall average team score of 104 (out of 158) to have lost a game.

Here is SSPOD’EM in practice:

#### Point of Decision Making Matrix Methodology Explained

An “action” is a decision with an execution

Every touch and every action off the ball is rated, whether on or off the ball each event has a “decision rating” and an “execution rating”, as well as a time stamp a notation of “1:1” indicates the correct “decision” and the correct execution

0:01

Lucas Pass 1:1 (to Chase) Pick 1:1

Chase Control (soul foot) 1:1, dribble 2:2, (unlocking pass +20 weight) Pass 1:1 to Emilio

Emilio Run (blind spot) 1:1, post 1:1, control 1:1, lay off 1:1 to Andrew

Andrew run 1:1, pass 1:1 to Lucas (second post)

Lucas 2nd post run 1:1, one time shot 1:1 GOAL

0:13

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2:26

Lucas pass 1:1 to Chase pick 1:1

Chase control 1:1: (soul) pass 1:1 to Andrew

Andrew control 1:1 cut 1:1 pass 1:1 to Emilio

Emilio post run 1:1 control 1:1, dribble 1:1 pass 1:1 to Chase

Chase support run inside 1:1 control 1:0, dribble 0:0 COUNTER

2:38

#### Gamer Rating System Explained

Only certain actions have a definitive ELO value (win/loss value) i.e. they contribute to winning (directly) or are lead indicators of “losing” These “lead indicators” are tackles, blocks, passes, shots, interceptions

ELO is a method of rating comparative performance in a zero sum game scenario, it does not tell you how good a player you are but it does tell you how you scored compared to other players

Each valuable action is designated by an “attempt” a pass tackle interception or block has a weighted base value of 10, a “saving” tackle block or interception has a value of 20, an unlocking pass has a value of 20-30

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## Interpreting the t=0:00 to 0:13 seconds above

	Completion	Attempt	Weight	Goal
Chase	1	1	+30	+1
Emilio	1	1	+10	+1
Andrew	1	1	+10	+1
Lucas	3	3	+30	+1

Interpreting t=2:27 above (Counter goal)

	Completion	Attempt	Weight	Counter
Lucas	1	1	+10	-1
Chase	1	1	+10	
Andrew	1	1	+10	
Emilio	1	1	+10	

Gamer Rating =

$$\left( \frac{(a + b + c + d)}{6} \right) \times 100$$

A= ((Comp/Att) -.3) x 5 B= (((Weight/Att) - 3) x .25) C= (Goals/Att) x 20 D= 2.375 - (Counters/Att x 25)

(A counter is just a goal against)

Here is an entire game sample... of meta data (not identifying individual action types)

	Chase	Emilio	Lucas	Ethan (big)	Andrew	Ethan	Naveed
Attempts	73	48	51	53	71	10	6
Executions	57	35	44	40	53	8	10
Weight	570	350	440	400	530	80	60
Goals	1	3	3	2	6	1	1
Counters	2	0	0	1	1	0	1
	92.5	114	122	101	117	133	70

Note that we use GPET along with our “weighting” methodology and efficiency rating, GPET is the generally accepted methodology in studies of decisionmaking in Football.

The decision-making and execution assessment was based on indirect and external systematic observation, a methodology that had been used in previous studies to measure athletes’ decision-making and execution in real game situations. (Nielsen et al, 2001). To assess the decision-making and execution of football players, the GPET observation instrument [51] was used. This instrument, that it had already been used for other studies in youth soccer (Gutierrez et al., 2014 [4] Serra-Olivares et al., 2015 [17] Hastie et al., 2014 [43]), is an adaptation to football of the original “Game Performance Assessment Instrument (GPAI)” (Oslin et al., 1998 [52]) which was created to assess performance in the game, from a sporting tactic viewpoint. This instrument permitted evaluating the player’s tactical problem-solving skills, by means of selecting and applying an appropriate technique, and evaluating both measurements (decision-making and execution) in real game situations, as recommended by Travassos, et al., (2013) [53].

All the pass, interception, interception, blocks, shots and possession, actions of each one of the players on the team were recorded. To evaluate decision-making, the *decision-making* component of this instrument was used, assigning value 1 to appropriate decisions and with a 0 to inappropriate decisions. Likewise, to evaluate execution, the *execution* component of the same instrument was used, assigning value 1 to successful executions and unsuccessful executions with a 0 (see Table 3). With respect to the criteria proposed to assess the decision-making and the execution, it must be mentioned that, our analysis includes both a weighting system and efficiency based rating (per attempt or per action average) previously due to the actual characteristics of the game assessment instruments, all the criteria were equally important and therefore, there was no type of weighted hierarchy. The proving out of both the value of the weighted averages and efficiency rating is the subject of whole other inquiry, we felt that this methodology allowed for greater insight in comparisons across environments (games) a key component of “development. ”Significantly, Prexades et al., (2018) drew their conclusions extrapolated from decisionmaking “meta” data (across decisions and scenarios) to investigate “percentages” of decisions compared to percentages of executions as a jumping off point for player development insight. In Prexades et al., (2018) The percentage of successful decisions was calculated individually for each participant. To calculate the percentage of successful decisions and executions, the total number of these decisions and executions was divided by the sum of the number of the total of decisions and executions and

multiplied by 100 [23]. The criteria that were considered to assess if the decision and execution taken were successful or unsuccessful are specified in [Table 4](#).

Adapting GPET/GPAI we added the concept of weighting decisions similar to Earned Goals Methodology, and a weighted efficiency rating similar to the NFL “Passer Rating.” We measure positive events per decision point (“involved” goals), negative events per decision point (defensive errors, and counter attacks which can be expected to lead to goals) and combine all these indicators into a weighted efficiency rating, *infra*.

Significantly, Prexades et al, (2018) found that this methodology could be used to measure the impact of certain tactical based exercises on better passing, learning and development of players.

## **RESULTS**

So in review: (1) we have a game plan; (2) we have a baseline probability of performance ; and (3) we have a means to measure and rate performance according to lead indicators.

So now we play the game! And collect the data!

	Chase	Emilio	Lucas	Ethan (big)	Andrew	Ethan	Naveed
Attempts	73	48	51	53	71	10	6
Executions	57	35	44	40	53	8	10
Weight	570	350	440	400	530	80	60
Goals	1	3	3	2	6	1	1
Counters	2	0	0	1	1	0	1
	92.5	114	122	101	117	133	70

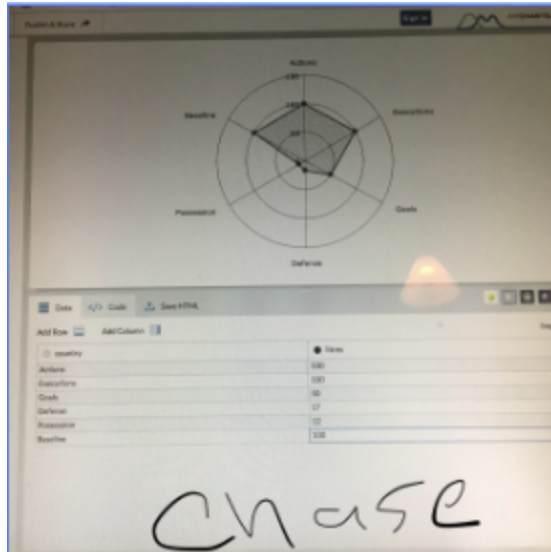
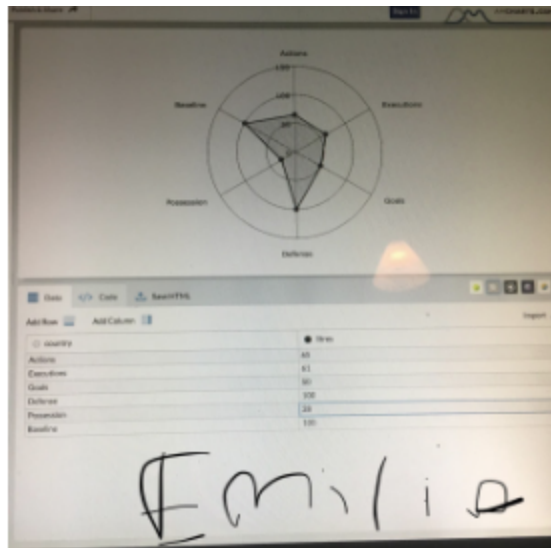
## RANKINGS

Assertion    Chase | Andrew | Ethan | Lucas | Emilio  
 Rate        Lucas | Chase | Ethan | Andrew | Emilio  
 Production   Chase | Andrew | Lucas | Ethan | Emilio  
 ELO        LE | Lucas | Andrew | Emilio | Ethan | Chase|

[You can see complete game report here:](#)

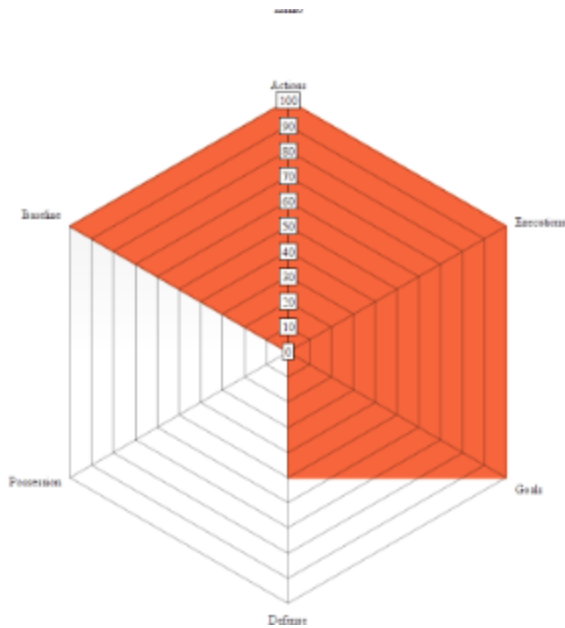
## SPIDERS AND PROFILES

The game “meta” data is then reduced into a “spider graph” to get a clearer visualization of the information:

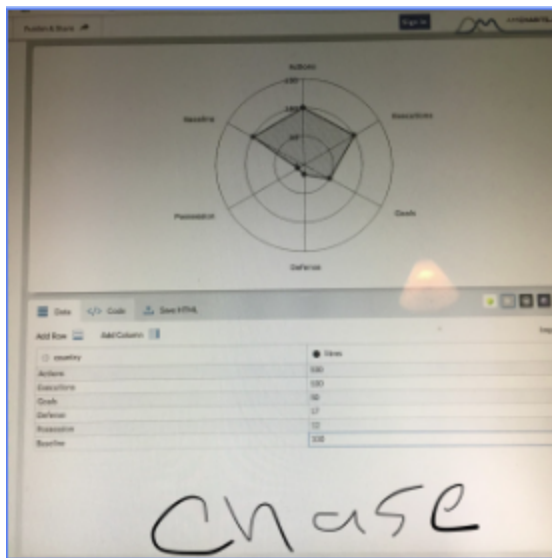


## DISCUSSION

Looking at the graph and analyzing Emilio's play he had a rather high incidence of errors and a low “actions” or attempts tally. It turns out was what the numbers were telling us is that Emilio plays deep within himself, holding back from any offensive risk. So our supposition was that Emilio should assert himself more offensively... Here is the spider for Emilio's next game:



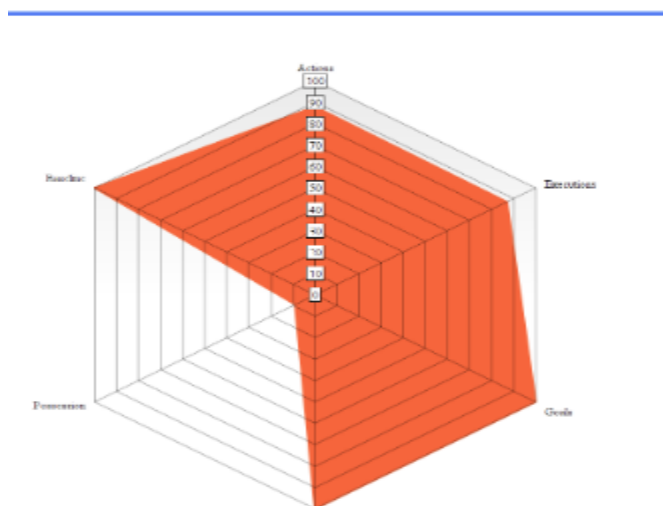
Emilio only marginally gave up more possession and defense but practically took over the offensive production for the whole team. This type of profile is the prototype for a Dani Alves type player, a skilled central attacking midfielder who has been converted to an inverted central back... a rare find.



Chase posed a different problem since he is strong technical player, but his profile shows huge gaps in possession and defense. We were trying to figure out why as his performance was the only one that did not meet the 104 threshold, and by a long shot...



Then we realized Chase is **left footed**. Among the first thing that analytics and futsal taught Barcelona was the importance of “footedness” and how to deal with left footed players. Our entire next week of sessions were on dealing with left footers. Here is Chase’s next game:



The next game’s results against harder competition is a tale of two brand new players and completely different production in the span of 10 days...

	Chase	Ethan (b)	Emilio
Actions	98	84	111
Executions	78	66	89
Weight	780	660	920
Goals	+7	+5	+7
Counters	0	-1	-1
	123	114	118

## CONCLUSION

We can put analytics into practice to support player development in two (2) ways identified in this paper. First, by examining the results of meta data rating and comparing them to the decisionmaking model for each player. By way of example, Emilio had a decisionmaking model that was “within himself” and risk averse, but did not weight the increased value of missed opportunities against the weight of additional execution errors. This player was overestimating the downside of increased errors relative to his increased offensive potential. Additionally, in looking to increase offensive output Emilio learned new skills adapted to the execution of this output that would not have been developed if he had remained risk averse. So use of the data can identify corrections in the decisionmaking matrices, and be a catalyst for player development.

Second, examining meta data results can identify team systemic and personal technical weakness that can be readily corrected. For example once they were identified, problems derived from “footedness” (left footed players being fed right-footed passes) can be quickly addressed. Similarly, a left footed player, Chase, first having to line up his body and spacing to play right-footed passes results in technical, and mechanical inefficiencies, while left footed decisionmaking tendencies were leading to poor tactical outcomes in certain areas of the field. Once the technique, tactical, and mechanical issues are addressed Chase’s output improvement is immediate, -Infra.

## OUR PROCESS

- 1) Sit down with the coaching staff and come up with the “Game Plan”
- 2) Give the technical support (drills and sessions) to make the game plan a reality
- 3) Videotape the game and analyze, generate profiles and reports
- 4) Come up with individualized feedback and relevant actionable information

## WHAT WE DON'T DO

- 1) Talk to your players or their parents
- 2) Share our results and insights with anyone else
- 3) Coach your sessions

## WHAT WE CAN DO

- 1) Give you real-time actionable data
- 2) Customize your game plan to your opponent
- 3) Give you the right feedback and information for your players

## WHY FUTSAL AND ANALYTICS?

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