

Q&A with ADG Developer, Tim Farrell (26/07/25)

What's your background in football?

I'm just a football fan, simple as that. I grew up in Australia in the 70's, and like most boys I played football, or soccer. I was a totally hopeless player, but that didn't diminish my love for the game. As a 16 year old, I clearly remember the 1986 World Cup and Maradona leading Argentina to victory.

Watching the World Cup down here needs some passion and dedication because the matches are mostly in the middle of the night and the dead of winter. I also have clear memories of the 1994 World Cup final and Baggio's missed kick. You could literally feel the knife go through the hearts of the Italian communities here in Australia.

A lot of people have assumed that I'm some bitter old English bloke, who has suffered years of shootout torment and that's why I created ADG. But, as fortune would have it, Australia have now qualified for two World Cups on penalties. So, as a devoted Socceroos fan, these were obviously unforgettable moments. The point I'm trying to make is that ADG isn't about national allegiances, or who's been successful in shootouts, and who hasn't. ADG is just about the beauty of football and creating a tiebreaker that does the sport and its players justice.

What was the inspiration for ADG?

Over many years and like a lot of football fans, I've thought that there had to be a better solution than penalties. I suppose around the 2006 World Cup ideas began gestating again, but it wasn't until the 2008 UEFA Champions League final that I actually sat down and began to flesh out an alternative. Once again, I wasn't a Chelsea supporter who had just suffered a heart-breaking defeat, I was just a neutral fan who was trying to improve the sport.

What was the starting point for ADG?

Two of the really big issues with the shootout, the abuse, racism and trauma players suffer, and the first-kicker advantage, both stem from the same underlying problem. And the problem is simply, that there's the expectation the kicker should always score. So, you ask yourself, how do we change that expectation? It was then that I thought of including a defender. The challenge was then to develop a tiebreaker format that would combine the skill, speed and athleticism of modern football, with the climactic drama and tension of penalties.

What exactly is wrong with the penalty shootout?

Well, there are three very obvious and fundamental problems. Firstly, it exposes players to psychological trauma, racism and death threats. We see this time and time again, and if anything, it's getting worse. You can act like FIFA and put your head in the sand, and hope it goes away. But it won't. The second problem is that it fails to showcase the game. Football

has some of the most gifted male and female athletes on the planet and the shootout fails to showcase their skills. And thirdly, there's the first-kicker advantage. This is because the team kicking second is usually playing catch-up and experiences greater pressure with each kick. It's the reason why the ABBA kicking sequence was trialled. So, we've got three absolutely massive problems. Normally, you would assume that any one of these problems would be enough for the governing body to say, we have to fix this up straight away. But FIFA obviously exists in its own universe.

What psychological impact does the penalty shootout have on players?

You just have to listen to the players who have missed important kicks. Baggio said that it affected him for years. Didier Six has related how it was hard for him to get a job, because people thought he was unstable. Christian Karembeu has compared it to Russian roulette with someone always getting the bullet and it reducing them to nothing. Roma's favourite son, Bruno Conti, described it as unspeakable pain and being psychologically destroyed. This was after the 1984 European Cup final against Liverpool and Grobbelaar with his wobbly legs. Roma's captain that day was Agostino di Bartolomei, who scored with his penalty, but later suffered from clinical depression and committed suicide on the tenth anniversary of the game. It's a stark reminder that professional athletes are just as susceptible to mental illness as any other group in the community.

Twenty years ago, the late great Terry Venables, who I don't think anyone is going to mistake as a new-age sensitive guy, said that, 'We ought not be subjecting people to this kind of pressure. Penalties put too much strain on one player.' Since then, the situation has only gotten worse. Today's players also have to endure all the scrutiny and vitriol from social media. Death threats were made against several players at the 2018 World Cup. Three English players received racial abuse and a mural was vandalised after they missed penalties in the 2020 Euro final. And of course, this is just going to continue. So, the football community needs to ask itself, is this what we really want for our players?

How does ADG reduce trauma, racism and death threats? Isn't a missed goal in ADG going to have the same repercussions as during the shootout?

Football is the ultimate low scoring game. But the shootout turns the game upside down and creates the expectation that the kicker will always score. Players measure themselves against their team-mates. If four of your team-mates convert penalties and your solitary miss loses the match, you'll feel singularly responsible for the loss. You're going to feel guilty about letting your team-mates and supporters down.

ADG's scoring rate is estimated at 30%, which is two and a half times lower than the shootout. So, now the expectation from team-mates and fans is that you won't score. They hope you do, but they don't expect it. We've successfully flipped those expectations around. If you manage to score a goal during ADG, you're going to be a hero for your country or your club. However, if you don't score, you won't be saddled with feelings of guilt and responsibility, because it's likely none or very few of your team-mates scored either. And of

course, you won't be subject to the vile abuse and trauma that kickers who miss penalties are subjected to.

How has ADG evolved over the years?

ADG has evolved significantly since it was first conceived in 2008, though the core idea remains the same. The original version had the attacker starting from the centre mark with a 30-second clock. This was designed to avoid adding any new markings to the field. However, expert feedback made it clear that this distance presented too great a challenge for the attacker.

For ADG to work as a viable tiebreaker, a scoring rate of around 30% is required. At this rate, players are no longer expected to score every time, which removes the psychological burden seen in traditional penalty shootouts and consequently eliminates the advantage for the team kicking first. At the same time, a 30% rate is high enough to ensure that if ADG enters sudden death, a winner will emerge pretty quickly.

To achieve that balance, we ran detailed Monte Carlo simulations that model thousands of randomized outcomes based on realistic variables such as player speed, goalkeeper reactions, and defender positioning. These simulations showed that a starting distance of 32 yards with a 15-second time limit produces a scoring rate of approximately 30%. Beyond the data, the 32-yard mark was also chosen because it places the apex of the penalty arc exactly 10 yards behind the ADG mark, creating a natural reference point for the defender's starting position.

The ADG mark also adds an extra layer of unpredictability, including the rare but exciting possibility of scoring directly from kick-off. Think David Luiz at the 2014 World Cup. While those moments will be uncommon, they offer fans another reason to stay on the edge of their seats.

When I first started developing ADG back in 2008, the kind of sophisticated computer modelling we have now simply was not available. Tools like AI-driven simulation and platforms like ChatGPT have made a huge difference. They have helped refine the format, test its fairness, and back it all with solid data. What began as a simple idea has been sharpened into something that can now stand up to serious analysis.

A big part of that process has been running these simulations at scale, using hundreds of thousands of ADG contests to understand how scoring rates, injury risks, fatigue, and sequence timing are affected. For example, the estimated 30% scoring rate comes from over 100,000 simulated contests. To match that level of statistical confidence with real-world data, you would need around 62,500 actual contests! That is the power of simulation. It lets us test, tweak, and improve things quickly while knowing the results are statistically sound.

Of course, simulations, no matter how robust, cannot fully capture every variable seen in real play. Factors like decision-making under pressure, fatigue, pitch conditions, and tactics will always introduce some variation. Taking that into account, we estimate there is an 80 to

90 percent chance that the real-world scoring rate would fall between 30 and 33%. That range reflects realistic fluctuations without including the outliers. ADG has gone well beyond just being an idea. It is now backed by serious data, careful design, and repeatable results.

How does ADG protect players' safety?

Player safety is something I have taken very seriously because modern football is already brutal on players with fixture congestion and travel. We built injury risk models using UEFA injury data and ran thousands of simulations looking at how often injuries could happen in ADG. We also factored in foul rates, sprinting demands and collision risks. All the numbers came back showing ADG is extremely low risk compared to open play. When you scale it to the foul rate and limited exposure time, you are looking at roughly one injury in every thousand ADG tiebreakers.

The design itself also limits risk because players are only involved in a single contest that usually lasts less than ten seconds. There are no long periods of fatigue like in extra time, and there are no chaotic scrambles or aerial collisions like in crowded open play. It is a very controlled environment with clear visibility for referees, so there are fewer fouls and fewer injury triggers. The numbers back it up, but it is also built logically around what keeps players safe.

Why not just leave football as a simple game?

It is a fair question because football has always prided itself on being simple at heart. But when people say it is a simple game, they are really talking about how it feels to play or watch, not the reality of the rulebook. The phrase "a simple game" comes from 1862, when a schoolteacher in England wrote just ten basic rules called "The Simplest Game." That original rulebook had 253 words. Today the Laws of the Game run to over 32,000 words across more than 230 pages. In 2023 IFAB even released a simplified guide called "Football Rules" just to help people keep up. Football might feel simple on the surface but it has become a highly detailed and structured sport.

The reason is pretty straightforward. The sport has evolved, players and tactics have developed, and referees face greater demands than ever before. The game has always adapted. Rules have been brought in to fix real problems, like the back-pass rule, VAR or concussion substitutes. ADG is no different. It is not about changing football itself, it is about fixing how drawn games are decided. The shootout does not showcase footballing skill, it exposes players to racism and sometimes even death threats, and it gives the team kicking first an advantage. Like every other proper rule change in football, ADG is just a potential solution to a long-standing problem.

I also believe ADG is simple where it matters. People sometimes think it sounds complicated but it's really not. It is one attacker, one defender and one goalkeeper. Everyone understands the objective is to score or to stop a goal. Once people see it played, it will feel completely natural. Just like other laws that sounded complicated on paper, it will become instinctive in

practice because it taps into the basics of football. Movement, space, defending and finishing. The best formats are the ones where players do not have to think about it too much, they just play. ADG keeps that simplicity.

What's been the response from FIFA?

You often hear people say, don't fix what's not broken. However, FIFA acknowledged the problem and that's why we saw golden goal and why other alternatives are always discussed. Even Sepp Blatter, for all his faults, declared the shootout a tragedy and in 2012 asked Franz Beckenbauer to come up with an alternative. Beckenbauer said something about them being better than the coin toss, and that was it! So, regrettably there's an astonishing amount of arrogance and wilful neglect exhibited by the sport's law makers and administrators.

ADG has basically been ignored by FIFA. I've never received any substantial feedback from anyone in the organisation. You'd have to ask them why that is. I know that Infantino is aware of ADG, but I haven't received any acknowledgement from him. In recent years I've sent the proposal to Arsène Wenger who is their Chief of Global Football Development. But just like everyone else in the organisation, he has never provided any feedback, analysis, notes, criticisms, or suggestions. It's incredibly poor form.

In contrast, over the years I've had very meaningful correspondence with IFAB technical director, David Elleray. He's been very generous with his time and I know he thinks it's a highly detailed and very well thought out proposal.

But FIFA calls the shots. So, they need to pull their finger out and do some preliminary testing. I know that costs money, but you're the biggest sporting organisation on the planet. Spend some time and money. See how ADG works. See what players and fans think about it.

FIFA itself hasn't come up with anything since the golden goal. But just because you don't have any ideas, it doesn't mean good ideas aren't out there. This beautiful game that we all love deserves a tiebreaker that rewards and showcases the modern footballer, both male and female, for their immense skill and athleticism. Not one that crucifies them, or gives one team a first mover advantage. And don't wait for an irrevocable real-life tragedy before doing anything. We've already had 55 years of penalty shootout carnage. The time for change is now!