

Corner it Like Chester

By Michael Esser

Based on Characters Developed by James Kroll

The country music was playing loudly at the honky tonk bar in Nashville, Tennessee, and everyone was having a good time. But, now there would be a break in the action. It was 8:00, and eyes were glued to the television as the big game was about to start. The game was soccer. And, how did soccer replace American gridiron football as Nashville's favorite sport? Well, there's an interesting story behind that.

The story begins with the gold medal soccer game of the 2024 Global Championships. Deacon Carrera, AJ Palmer, and Roy Currington were watching the game at their office, due to their inability to generate enough interest in any of their houses. Deacon and AJ were partners at Frozen Analytics, a consulting firm based in Nashville, TN, which assisted long term care insurance companies and long term care providers. Roy was the CEO of their largest client, New Era LTC Holdings (NELTCH), which was the world's largest writer of long-term care insurance. Deacon grew up in a poor Chilean family, and was sponsored through an international child assistance program. He had a PhD in economics from Cornelius University in Nashville, TN, and never sat for an actuarial exam. AJ received an undergraduate degree in Data Science from Count University in North Carolina, and he attained his fellowship 4 years after graduation. AJ provided all actuarial opinions for Frozen Analytics, as he was their only certified actuary.

Chile was trailing Brazil 1-0 late in the second half. Deacon was rooting for Chile.

"Well, your guys did a lot better than ours did", AJ said to Deacon, referring to the US team's failure to even qualify for the Global Championships. Both AJ and Roy were born in the United States.

"Yeah, but it's almost worse to come so close. ALMOST, hehehe", replied Deacon.

But a few minutes later, something unexpected happened. At the 84th minute of the game Stephen Bachelet, a boyhood classmate of Deacon's, scored an "Olympic" Goal on a corner kick. The game was tied 1-1, as would ultimately be the score at the end of regulation, which would cause the game to be decided on penalty kicks.

"And the kid from Punta Arenas comes through!!!" Screamed Deacon, "but, here's what I don't understand."

"Let me guess", interrupted Roy, "why will the official final score be 2-1 even if more than 3 penalty kick goals are scored?"

"Well, that too, but first, hear me out on this one", Deacon continued. "Why are corner kick goals so rare while penalty kick goals are converted 75% of the time? There are like 5 corner kicks per team per

game. If a team could convert just 40% of their attempts, it would more than double its per game scoring average.

"If you were to use a simple multivariable calculus function, you could model the path of a ball from the corner kick arc to the goal line. With gravity being a known constant, you could play around with the vectors and the velocities until you came up with the formula that was the most compatible with a given player's abilities. Then, you could place a tracking device in the ball and try to replicate the vectors and velocities in the formula. It would be an iterative process, for sure, but it is not something that is out of the realm of possibility to accomplish."

"Yes, but aren't there 10 defenders plus a goalie standing in the way of your kick?" rebuffed AJ.

"Yes, and they are required to stand a minimum of 10 yards away, 3 yards more than for field goals in American gridiron football which, by the way, have an 85% conversion rate," said Deacon.

"But, couldn't the opposing players just line up along the goal line, in between the posts? They're only 24 feet apart, that's 2 feet per player," said AJ. "And, what would you do about wind conditions?"

"It's a little something called scenario testing, my good man," said Deacon. "The position of each player, their height in the high jump, the velocity and direction of the wind, and to mention the air temperature, could all be put into the model and tweaked to simulate real life adjustments. Since they could all be known prior to taking the kick, they could all be factored in by the kicker.

"And, if the kick crosses the goal line at the right height, player positioning, with the exception of the goalie who is allowed to use his hands, would become essentially moot. Penalty kicks that cross the goal line between 5 and 8 feet in the air have a near 100% success rate. There's no reason to think that corner kicks would be any different. You would just need to begin your calculations aiming for the 6 foot 6 inch mark on the goal line inside the posts, and then work your way from there.

"I mean, how would opposing players even defend a kick like that? Jump at precisely the right moment to hit the ball with their heads? In a best case scenario, they either give six opposing strikers possession inside the penalty box or, if it goes out of bounds the kicker just gets another opportunity. Do they try to hang from the crossbar and trap the ball in their legs, without it crossing the goal line?"

"The only player to really worry about would be the goalie. And, wouldn't they just stay in the center when they're ahead and go to the right when they're tied or behind, like they do for penalty kicks?"

"So, are you saying that soccer players should work on trying to 'curl it' like Chester?" said AJ, referring to both the popular 2002 soccer film and the popular Association gridiron football placekicker, Chester Marks. "Because that is something I would really like to see."

"Challenge accepted!!!" said Deacon.

"Deacon, if you can pull that off, then maybe you are doing the wrong kind of modeling" said Roy, "now hush, I don't want to miss the penalty kicks."

Chile won the shootout 4-2, with the official score of the game being 2-1, as had been previously mentioned. But, the story of the game was Stephen Batchelet's "Olympic" goal, as was the term for a goal scored off of a corner kick. The American media dubbed this goal "the shot heard round the Southern Hemisphere", a reference to soccer's lack of popularity inside the United States.

The next night, Deacon was having dinner with his wife Michelle, and their children, Ray and Heather. Ray was a graduate student at Cornelius University, studying astrophysics. Heather was a junior at Nashville Tech High School, and was very advanced in mathematics. She was planning to attend Truman Commonwealth University (TCU), in neighboring Missouri, when she graduated from high school. She mentioned a friend, Kelly McGwire, who was in her English class. She was playing in Nashville Tech's intramural soccer program, but she was in a little bit of a shooting slump.

This gave Deacon an idea.

"Heather", Deacon asked, "Aren't you taking multivariable calculus?"

"Yeah, what's your point?" Heather responded.

"Well", responded Deacon, "You could use a 3 variable function to simulate the path that the ball would need to travel on a corner kick. Just make sure to include..."

"The initial speed of the ball, split into a vector, gravity, temperature, and wind conditions?" interrupted Heather.

"Well, don't forget player placement," offered Deacon.

"Please!" said Heather, "The only player who could possibly make a difference is the goalie, and they just stay in the center when they're ahead and move to the right if they're tied or behind."

"That's my girl," said Deacon.

"I have a question," said Ray. "Wouldn't this be more of a project for someone with a physics background?"

"Five words," said Heather. "Higgs Boson Machine Learning Challenge."

"Touche," said Ray.

The next night, Kelly McGwire came over to study with Heather. They had a big test in Ms. Bechdel's English class the following day.

"Before we get started," began Heather, "can I ask you a question?"

"What is it?" said Kelly.

"It's an interrogative statement used to test knowledge, but that's not important now. What position do you play in soccer?"

Next, Michelle walked in and told them, “I just want to tell you both good luck. We’re all counting on you.”

“STRIKER!” shouted Kelly, and Heather went over and pretended to punch Michelle.

Their test was on an iconic 1980’s comedy film franchise.

“But, back to my question,” continued Heather, “would you be interested in helping me test some software that I’m using for my multivariable calculus class?” asked Heather.

“Would it be a big time commitment? I am kind of busy with soccer right now,” asked Kelly.

“Well, actually, the software could model your kicks,” answered Heather.

“That sounds great. But now, let’s study for tomorrow’s test.”

“Okay, but one last thing”, Heather added.

“What’s that?” asked Kelly.

“Can we use a replica of ‘The Sacred Tomato’ as a stand-in for the goalie?” asked Heather.

The Sacred Tomato was an iconic piece of TCU folklore that with which Heather was fascinated. Heather had learned of it when she took a course there the previous summer. It was an irregularly shaped portion of the sidewalk which had previously been home to a tree. Even though it had since been paved over, teachers had told her about it, and she walked on the grass whenever she got to that spot. Stepping on the sacred tomato had been rumored to cause students to either fail their next test or to become pregnant, so Heather felt that it was a good symbol of something to be avoided.

“Whatever you want”, grumbled Kelly.

An outline of the spatial modeling algorithm appears in Table 1 of the Appendix

When they finished studying at precisely midnight, they cut a virtual knife through the replica of the sacred tomato on Heather’s wallpaper for good luck, another superstition that Heather had learned from her professor at TCU. Heather and Kelly both passed Ms. Bechdel’s test.

The training was also a success, and Kelly became a star. Her intramural games drew more fans than did the varsity soccer games at most Nashville high schools.

“I guess we just had a better year,” Kelly was quoted as saying, referring to herself, the team, and the spatial modeling software.

This popularity led to her being recruited by Nashville’s Braun High School for her senior year. While Kelly was at Braun High, the girls’ varsity soccer games drew more fans than did any other varsity sport, including the boys’ American gridiron football games. Also, Kelly’s per game average was higher than that of any other team in the conference. This led to her receiving a soccer scholarship to TCU, where

Heather also attended. Kelly would major in English, while Heather majored in Math and minored in English.

At TCU, Kelly received national recognition. In anticipation of her arrival, TCU scheduled its first game against Dewey College in San Juan, Puerto Rico. Prior to that game, TCU's student newspaper, the "Indicator", photographed Kelly holding a copy of the iconic November 1948 issue of the Chicago Tribune. TCU left San Juan with a 3-2 victory, with Kelly scoring all 3 goals, with each one coming off of a corner kick.

This photograph and subsequent game performance, aided by a push from the governing body of college sports to allocate more promotional resources to other women's soccer, helped to propel Kelly to stardom. TCU's women's soccer games were routinely sold out, and were carried on local commercial radio and television stations, in addition to campus stations. But, the success was not limited to just Kelly, partially because she was always willing to share the credit.

"I couldn't have done it without the help of Heather Carrera's spatial modeling software," was a frequent comment of Kelly's.

"And I couldn't have created the software without using the sacred tomato," would be Heather's reply.

Initially, other teams attempted to replicate the software. This included all schools in the Large Lakes Valley Conference (LLVC).

"If a high school student can do it, how hard can it be?" said Jonah Wagner, President of St. Louis University of Missouri, another school in the LLVC. He had also been Deacon's Doctoral dissertation adviser at Cornelius University.

"I worked with her father. If she's anything like he was, we should be able to replicate that model in 2 weeks, tops. I can't believe that the apple could possibly fall far from the tree."

But, they were never able to match its proficiency, at least not before Kelly and Heather graduated in 2030.

"The apple may not fall far from the tree, but a tomato vine can extend indefinitely," was Heather's reply.

Ultimately, the software, which was shared by Heather and TCU, was licensed out to other college and professional teams. American College Soccer, the National Women's Soccer Association, and Large Scale Association Soccer (LSAS) were changed forever. Ironically, the new spatial modelling software had helped to transform the game, which now consisted mainly of long passes downfield followed by attempts to ricochet it off of opposing players in the absence of a clear shot, into something that resembled the once discredited visions of statistical soccer analyst Charles Feep. The sport was also able to cash in on its newly found popularity.

LSAS network began offering a new subscription service called “The Hot Corner” which switched from game to game each weekend as corner kicks are attempted. Substitution rules were modified, allowing teams to designate a corner kick specialist. Additionally, the combination of the low American birth rate, the increasing immigration rate, the increased scoring, and the viability of corner kick attempts and goals as relevant soccer statistics propelled fantasy soccer to the top of fantasy sports. This helped to make Soccer into America’s national pastime. Large Scale Association Soccer was able to add a few franchises, including one in Nashville, Tennessee and one in St. Louis, Missouri.

“I told we’d end up with a good team,” said Jonah Wagner.

But all of this success was not without a cost. And, that biggest payer was association gridiron football. The previously mentioned influx of immigrants led to soccer being referred to in America as “futbol”.

“What’s the big deal?” asked Deacon. “That’s what we Spanish speaking immigrants had been calling it our entire lives. It’s no different from referring to a taco or an amigo.”

Meanwhile, the sport previously known as “football” now required the adjectives “Association”, and “gridiron” as in “Association gridiron football”, or AGF to avoid confusion. But that was not the only migration to have an impact. The migration of casual fantasy AGF players and casual AGF followers to futbol lead it to a downward spiral in attendance that caused AGF to take drastic measures.

The AGF’s downward attendance spiral coincided with an upward spiral in scoring which predated futbol’s increased popularity. Players who would retire as all-time leaders in a category would not even rank in the top 20 by the time they were inducted into the professional AGF Hall of Fame.

“This has got to stop!” exclaimed Carol Dalton, the association’s commissioner. “Why even call it the Hall of Fame if no one knows who any of these players are?”

“Well”, replied Jennifer Johnson, the AGF’s Vice President of marketing. “Why not apply a fast track Cantonization process for anyone who breaks a career record?”

“What the heck is fast track Cantonization”, asked Carol.

“Every time a player breaks a career record, they are inducted into the Hall of Fame the following week”, replied Jennifer.

“That’s brilliant!” said Carol, “Our players need all the exposure that they can get.”

Unfortunately, this strategy only served to diminish the Hall of Fame induction ceremony.

The next attempt involved reducing the scoring.

“Why are so many records being broken?” Carol asked Marianne Phillips, the chair of the association’s rules committee.

“We’ve just been giving the fans what they’ve wanted”, replied Marianne. “Higher scoring had always equaled higher attendance, higher TV ratings, and an increased interest in ancillary products like fantasy

football and licensed merchandise. It had just been a win-win for as long as anyone could remember. And no one complained, so we just kept increasing the scoring.”

“Well, now attendance, ratings, and revenues are all in decline. Scoring is so proficient that it’s quicker to discuss when teams fail to score than it is to discuss when they score. See if you can reverse this trend. In fact, let’s cut to the chase. Let’s see if we can figure out when the trend started so we can work our way towards that.”

The trend was traced back to 1978, so rules were adjusted with those results in mind. The removal of restrictions for defensive players did reduce the scoring, but this also made the game much more violent, continuing to turn people off of the game.

“This is unbelievable”, screamed Carol. “And, it’s all because they turned their corner kicks into our field goals. Why can’t we just do that to them?” she asked the chair of the rules committee.

“Who says we can’t?” replied Marianne.

Both Jennifer’s and Marianne’s proposals appear in Table 2 of the Appendix.

“This had better work,” said Carol, “because otherwise it is both of our jobs.”

The new rules did not work, as attendance, viewership, and revenues continued to fall.

The final step was to name a former US Secretary of State, who had long sought the job, as its new commissioner. While the naming of the first African American female commissioner seemed like an attention grabber, AGF had the misfortune of making the announcement at the same time as the World Premier Cricket Association Championship. Ultimately, attendance fell to a point where AGF games were no longer profitable, and thus were no longer played. The association’s assets were divided among the 32 clubs, and each of the major owners left the country. But, unfortunately for AGF, the worst was yet to come.

In March of 2010, a bill was signed into law. A relatively small piece of that bill was abandoned by its supporters in 2011 and ultimately repealed by its detractors in 2013. But, it is not just politicians who do not wish to talk about the subject of that piece of the bill. Actuaries, grandparents, and their adult children, would do what they could to change the subject when this topic comes up. Even internet search engines would try to divert a user to instead research a 1992 retelling of Mark Twain’s “The Prince and the Pauper”. And, as in that tale, the national association of AGF was forced into an unspeakable act, which many consider to be a four-letter word, LTCI: Long-Term Care Insurance.

Although AGF no longer had an income stream of any significance, they still had moral obligations to their former players in the areas of pensions, disability benefits, and long term care. Each of the major owners did leave the country, but one of the clubs had no major owners. It was publicly owned by a group of shareholders. And those shareholders had a collective conscience. They also may or may not have had a tax incentive.

Initially, they tried to use this collective conscience to their advantage. Since corporations were legally recognized as people, it tried several ways to subsidize its budget.

One approach, in anticipation of the association's official demise, was an attempt to purchase a life insurance policy on the parent company, prior to that company's death, and to name itself as a beneficiary. Unfortunately, they were informed that this death was to be ruled a suicide, so the corporation needed to try another approach.

"There goes the civil suit against LSAS," said Jamie Holmes, the corporation's CEO.

Another attempt was to try to draw from the National Bureau of old age, survivor, and disability insurance, (OASDI) since its parent company had died.

"Yes, I'd like to make a claim on behalf of my client whose parent has just become deceased", asked Jamie.

"And, what year was your client born?" asked Nadine Brady, the agent for the OASDI bureau.

"Well, my client was originally founded in 1918, but their years of operation did include a hiatus," added the Jamie.

"And when did the hiatus end?" asked Nadine.

"They've been in continuous operation since 1920," replied Jamie.

"I'm sorry," replied Nadine, "this benefit is only available to dependents under the age of 18."

Unfortunately, the entirety of the association's liabilities would need to be funded by one team's share of its assets.

The pension and disability benefits had been self-funded, but the long term care insurance had been purchased from a private carrier. In an attempt to save money, AGF wanted to make a self-funded long term care option available to its retirees.

They wanted someone with experience, so they contacted the world's largest writer of long term care insurance, New Era Long Term Care Holdings, or NELTCH.

"NELTCH Insurance, how may I help you?" said Colleen Rodriguez, the agent at NELTCH.

"Yes, I was interested in setting up a self-funded long term care plan, and I was wondering if you could tell me who you were using," said Susan Garcia, the AGF's vice president of retiree benefits.

"We use Frozen Analytics," said Colleen.

"And, do you have the name of a contact with them?" asked Susan.

"Well, there are 2 partners, but we mainly deal mainly with Deacon Carrera."

Susan's jaw dropped. "Thank you, and have a nice day," she said, as she promptly hung up the phone.

Next, Susan called Jamie Holmes.

"Jamie, you'll never guess who NELTCH used to set up their LTC products."

"Who do they use, Susan?"

"Deacon Carrera", replied Susan.

"Wait, Carrera, as in Heather Carrera?" asked Jamie.

"Possibly," said Susan, but there is only one way to find out.

Susan contacted Deacon, they had a little laugh, and Frozen Analytics took on AGF as a client.

Next it was time to for AGF meet with the players' union to discuss the basic outline of an LTC Insurance plan. Representing AGF were Susan Garcia and Jamie Holmes. Representing the players' union were Jennifer Johnson and Marianne Phillips. Deacon and AJ were also present at the meeting to serve as brokers.

"Well, we all know why we're here," were Deacon's words to open the meeting. "Jamie, would you like to start?"

"Thank you Deacon," Jamie began. "Our client is thankful for what the members of the players' union were able to contribute over the courses of their collective careers', and it would like to honor the contracts made by our parent company to the best of our ability. But let's be frank. The tax write-offs don't hurt either. I mean, corporations are only human after all."

"Tomato, tom-ah-to," replied Marianne.

"Oh, no, not you, too," joked Deacon, in reference to his daughter's well known borderline obsessive relationship with all things tomato.

They all had a nice chuckle, before Jamie continued, "At any rate, as you are well aware, our assets are literally only a fraction of those that were available at the time that the contracts were made, and so fulfilling that contract may require some modifications from the original plan."

"We understand that," began Marianne, "however, since we are starting from scratch, we also have some suggested modifications from the original plan. For starters, some of our clients feel as though they may be better off taking AGF's premium subsidy as a present day lump sum of cash and investing it themselves, rather than possibly receiving some sort of lottery-esque payout somewhere in the distant future. And some of them may also feel that way at some point in the future, at which point any prior premiums, which could include employee contributions, would have been wasted."

"Well, there is always a nonforfeiture benefit," countered Susan.

“Please, that’s nothing more than a public relations stunt,” responded Jennifer. “A very small percentage of, if any, nonforfeiture claimants could possibly recover from a claim during the reduced benefit periods of their policy. And, unless they go on claim, their policies aren’t worth a dime.”

“This is very interesting,” said Deacon. “Jamie, how do you respond?”

“We understand that you don’t want to lose your premiums without ever receiving a payment, but we can also not make payments without ever receiving a premium. We would like some sort of initial vesting period to accumulate enough capital to make our payments,” said Jamie.

“As long as our clients retain the option to withdraw their premiums at the end of that period,” said Marianne.

“The entire amount?” said Jamie.

“How about 80%,” offered AJ, “with the other 20% going to cover administration expenses? And, to make things easy to remember, the initial vestment period would last 5 years.”

“80% seems fair,” Jamie and Marianne said in unison.

AJ continued, “Then, the 80% could be used to pay future premiums.”

“Wait, so is this just a glorified savings account?” asked Jennifer.

“No, the claim payments would eventually come out of the 20% administration expenses, but the policyholders would be given an advisor to help them with investment decisions regarding their 80%. Of course, there would be certain restrictions on what could be invested.” continued AJ.

“We can work that out later,” said Marianne.

“Does anyone have any other concerns?” asked Deacon.

“Well,” said Jamie, “I’ve heard that, at least in some states, it is difficult to get a rate increase approved on a long term care product.”

“I see,” said Deacon. “I would recommend the timeline policy be broken into a series of renewal periods, similar to the way that health insurance policies are structured. You may choose to make that period 5 years, to be consistent with the initial vesting period. At the end of each period, a new rate would be proposed, and the policyholder could use their accumulated vested premiums toward future premiums.”

“Or, if they did not like the new rates, could they withdraw their vested premiums?” asked Jennifer.

“Yes,” answered Deacon.

“It sounds like this could eliminate the need for waiver of premium upon disability,” said Susan.

“I would imagine so, but we can work that out as well,” said Deacon. “Does anyone have any other questions or concerns? Otherwise I think we’ve covered everything we wanted to cover with this meeting, and we will get back to you with our proposal.”

“We will let you know if anything further comes up,” said Marianne.

A detailed description of Deacon’s and AJ’s “Term” LTC model appears in Table 3 of the Appendix.

The product was popular among its retirees and also quite profitable, so it was ultimately offered on the open market. The first client was the meatpacking industry, from which the AGF club’s origins could be traced. And the association’s well known initials gave the product a marketing advantage with its target demographic. Since the word “football” sounded too much like futbol, its name was changed to the “Ailing & Geriatric Foundation”.

But before this could happen, it was time for the 2027 Women’s Global Cup futbol Tournament. Kelly was named to the team as a defender. The spatial modeling software was also used to train other members of the team, although Kelly still took all corner kicks. The US won the 2027 Women’s Global Cup, and Kelly was named the silver cleat award winner for being the tournament’s top scorer with 17 goals in 6 matches. The following year, in the 2028 Global Championship, the United States Women’s team won the Gold Medal. Kelly was again the top goal scorer, this time with 20 goals in 6 games.

After Kelly’s and Heather’s college graduation in 2030, and the 2031 Women’s Global Cup, the spatial modeling software was licensed to the open market. One of their largest clients was the US Men’s Global Championship Futbol Team. When combined with the 2031 Women’s Global Cup and the 2032 Women’s Futbol Gold Medal, the 2032 Men’s Futbol Gold Medal caused other countries to take notice.

In an attempt to catch up, other countries began using the spatial modeling software. Scoring increased around the world, and the US Men’s team fell back to the middle of the pack. But ultimately, fans in other countries were not as receptive to this new version of futbol and its ratings and attendances fell in countries that adopted the spatial modeling software. The main reason was that it removed the element that made it fun to watch in the first place. That was the element of risk. And there were multiple layers to this risk.

The first layer was the unpredictability of the scoring. With the exception of in game penalty kicks, it was difficult to predict when a team would score. Even when a team was able to cross midfield with possession, a shot occurred less than 10% of the time. And, even when a team was lucky enough to take a shot, less than 10% of them resulted in a goal. There was always a reason to tune in to a game.

The second layer was futbol’s low scoring. One consequence of that was the fact that in the vast majority of futbol games, the score was tied for the majority of the game. And, even when it wasn’t tied, for the vast majority of the time, it was one play away from being tied. Once tuned in, there was always a reason to stay tuned.

Additionally, the international game was haunted by the ghost of Charles Feep, an amateur statistician whose calculations had previously transformed the game into a series of long passes with as little intra-

team ball movement as possible. Although his calculations have been heavily criticized, they were persuasive enough to influence the head coach of a national amateur futbol team to adopt the “long ball” strategy. That team never contended for a Global Championship medal after losing the Bronze Medal game in 1948. The team disbanded in 1974 when the distinction between amateurs and professionals was abolished.

But it wasn’t just the “long ball” strategy’s lack of on field success that turned off international fans. The strategy was also accused of discouraging low level players, like those in an American high school intramural soccer league, from learning basic technical skills and developing an understanding of different tactical playing strategies. “Avoid the Feep-eat”, became a common slogan among frustrated fans who demanded that something be done.

There was also another factor at play. The president of the World Organization Of Futbol (WOOF), Oliver Mather, had been Deacon’s childhood sponsor, but their relationship became strained due to differences in their economic theories. As a result, WOOF refused to modify substitution rules for corner kick specialists. Additionally, rules were modified so that a corner kick landing in a goal before it was touched by another player, rather than being a goal, would result in a goal kick for the defense.

“Never underestimate the ability of Keynesian economics to shape rates of interest,” were Oliver’s immortal words at the press conference.

Heather Carrera, watching the press conference from her tablet, moved her tomato icon over Oliver’s face.

As a result of this rule change, the American version of futbol was now known as “American Association Futbol” (AAF), to distinguish it from the game played in other countries.

But the tale was not all for naught. Thanks to Deacon and AJ’s work at Frozen Analytics, the concept of “Term” Long Term Care Insurance was invented. And, even though AJ was the only character with an actuarial designation, he was not the only character to apply the actuarial control cycle. Some examples of the actuarial control cycle appear in the Appendix.

But, there is one group of people that is still stuck trying to define the problem. Those are the fans of association futbol. Across the country and around the world, comes the next generation of the age old question, “Why isn’t association futbol more popular in the United States?”

Appendix

Table 1 – Spatial Modeling for Corner Kicks

Define the Problem	Design the Solution	Define the Model	Monitor the Results
Heather wanted Kelly to be able to score an “Olympic goal” directly off of a corner kick	Develop spatial modeling software to record the path of the ball following a kick.	<ol style="list-style-type: none"> 1. Determine the maximum velocity of which a player is capable of kicking a soccer ball. 2. Using the computed velocity, and the gravity constant, compute the vector required to simulate a path from the corner kick arc to a spot on the goal line, in between the goal posts, at 6 feet 6 inches above the ground. 3. If the velocity is not able for calculation to be possible, develop a leg strength training program to increase maximum velocity. When this has been achieved, proceed to step 4. 4. Place a tracking device on the ball. 5. Try to replicate the path computed in the model using the known velocity and the computed vector. 6. Determine a multivariable calculation which will replicate the actual path of the ball. 7. If the calculation of the actual path differs from that of the computed path, compute the actual velocity, and return to step 2, otherwise, proceed to step 8. 8. Include scenario testing for elements such as player placement and wind conditions. 	40% of her corner kicks resulted in “Olympic Goals”.

Table 2 – Proposed AGF Rule Change

Define the Problem	Design the Solution	Monitor the Results
AGF is losing popularity to Soccer	Players are instantly inducted into the Hall of Fame upon breaking a career record in a positive category.	Hall of Fame inductions are trivialized
	Hash marks for field goals are moved to just inside the sideline.	Field goals are less successful; viewership and attendance are increased slightly.
	Incomplete passes will be kept in play until they go out of bounds.	Injuries are increased; attendance and viewership decreased significantly.
	In addition to the ball crossing the goal line, touchdowns will now also require the ball passing through the goal posts and touching the ground prior to being	Injuries are increased; attendance and viewership decreased significantly.

	touched by a player on the opposing team.	
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Table 3 – Proposed LTC Benefit Design

Define the Problem	Design the Solution	Define the Model	Monitor the Results
<p>The sponsor of an LTC funding program has seen its assets reduced</p>	<p>“Term” Long Term Care Insurance</p>	<ol style="list-style-type: none"> 1. Initial five year vesting period where no claims could be paid, but an investment advisor would be provided. 2. Investments could not include margin securities or options, and must meet minimum diversification requirements. 3. Management services would be offered for 1% of assets under management. 4. 80% of premiums would be vested with the policyholder while the remaining 20% would be used to cover administrative expenses. 5. Vested premiums could always be applied to future premiums or withdrawn by the policyholder at the end of an interval with no penalty. 6. During each 5 year renewal period, premium rates would be locked in, and policies could either be renewed or lapsed at the end, with vested funds being returned to policyholders in the case of a lapse. 7. Failure to meet any premium deadline within a 65 day grace period would also result in a lapse and the return of all vested premiums. 8. Excess vested premiums would be turned over to the estate at the time of death. 9. Traditional LTC features to be eliminated include waiver of premium upon disability, restoration of full benefits upon recovery, and the option of an unlimited benefit period. 10. Traditional LTC features to be modified include Daily benefit inflation and return of premium. 	<p>The Product has a 60% loss ratio after 20 years.</p>
			<p>Ailing & Geriatric Foundation has been approached by other clients about this product</p>
			<p>Ailing & Geriatric Foundation is considering offering an analogous life insurance product.</p>