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Sabermetrics and Patents?: Open Source, Property Protections, and Alice v. CLS Bank

SABERMETRICS AND PATENTS*?*: OPEN SOURCE, PROPERTY PROTECTIONS, AND ALICE V. CLS BANK

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I. INTRODUCTION

Recently, there was a systems patent filed on a new method of calculation, creating a system that gathers data and uses it to quantify the quality of a pitch made by a pitcher based on movement, location, and velocity of pitches.[1] This utilizes a system similar to baseball's TRACKMAN system, a radar system, to measure readouts on data provided by the ball during its flight. This new system has created a firestorm amongst the baseball analytics community, usually referred to as the sabermetric community, a collection of independent researchers. Sabermetricians are known for their collaboration, sharing data and formulas, operating similar to academia. In patenting this metric, the creators of "Quality of Pitch" (QOP) have circumvented this community and have also stepped on the toes of other researchers by registering this patent. This is a major development due to the explosion of data in baseball and sports in general.[2] This silence of legal research is deafening, as there is so much data and technology being introduced into the sports world each year. Data is being used to better understand what is occurring on the field, with the hope it will be

1. U.S. Patent No. 10,737,167 (issued Aug. 11, 2020).

2. Lara Grow & Nathaniel Grow, *Protecting Big Data in the Big Leagues: Trade Secrets in Professional Sports*, 74 WASH. & LEE L. REV. 1569 (2017).

used to improve the athlete's talents and skills. This increase in technology and data creates a heightened need to protect it. There is also a lack of legal research into the development of big data patents in sports.[3] This case broaches the patentable subject matter issues set out in *Alice Corp v. CLS Bank* and presents an interesting inquiry into this area of patent law.[4]

This Comment centers around the protection of new data production and use, specifically one that was met with a lot of controversy in the baseball world. This search must start with exploring sabermetrics and the community that focuses on it. Section II will explain the TRACKMAN patent, a precursor to the QOP patent, one which the QOP patent built upon. Section III will highlight the patent history, as well as outlining all of the claims in the QOP patent. Section IV will discuss the law after *Alice Corp. v. CLS Bank* and what it means, specifically to the QOP patent. It will also look at what this case tells us about *Alice* and what it aims to protect. This Comment hopes to analyze the patent and see its possible impacts on an open-source community by considering its future importance to both the baseball and patent worlds.

The sabermetric community is a unique one in the world of sports. The baseball research community acts more like academia than a community based on for-profit research motives. This tends to look like a collaborative space, in which researchers look to discover and publish their research with the goal of furthering knowledge in the game, not putting money in their own pocket.[5] This data is then used by other researchers to further the field through their own published research and the collaborative cycle continues.[6] Collaboration is done through message boards, comment sections, and even Twitter, as researchers share ideas freely.[7] Like academia, the community isn't always in complete agreement and debates are rampant.[8] Research is done by these individuals with little to no reward besides the desire to further the knowledge

3. *See generally* Richard T. Karcher, *The Use of Players' Identities in Fantasy Sports Leagues: Developing Workable Standards for Right of Publicity Claims*, 111 PENN ST. L. REV. 557 (2007); *See generally* Timothy W. Havlir, *Is Fantasy Baseball Free Speech? Refining the Balance Between the Right of Publicity and the First Amendment*, 4 DEPAUL J. SPORTS L. & CONTEMP. PROBS. 229 (2008); *See generally* David L. Gregory & Joseph Gagliano, *A Message from the Symposium Chairs*, 22 SETON HALL J. SPORTS & ENT. L. 163 (2012).

4. Alice Corp. Pty. Ltd. v. CLS Bank Intern., 573 U.S. 208, 217 (2014).

5. Eno Sarris, *'You can't own an idea': Attempt to patent a baseball stat surprises community,* THE ATHLETIC, (Sep. 22, 2020), https://theathletic.com/2074516/2020/09/22/you-cant-own-an-idea-attempt-to-patent-a-baseball-stat-surprises-community/.

6. *See generally Fangraphs.com,* FANGRAPHS.COM, https://www.fangraphs.com (last visited Mar. 29, 2021); *Baseball Prospectus,* BASEBALL PROSPECTUS, https://www.baseballprospectus.com (last visited Mar. 29, 2021)).

7. Sarris, *supra* note 5.

8. *Id.*

of the game they love.[9] This love affair is what makes this community a unique one. This research is a labor of love for many who just want to further the knowledge of the game. These researchers' goal is to make their little corner of the baseball world better, with no care for any reward that would come of it.

This interesting and, in a way, utopic community was hit with a surprise late in 2020. On September 13, 2020, the creators of MLB Quality of Pitch tweeted out that they had received their patent for their new metric which will be "combining measurements of movement, location and velocity to quantify pitches in baseball."[10] The founders of the statistic, state that their goal is to combine "speed, location and movement into a single numeric value," thus providing a rating for the pitch thrown.[11] This announcement was subsequently followed by cease-and-desist messages sent to anyone who possessed a metric similar to the one which QOP looked to protect with their patent.[12] This left many in the community up in arms, as it ran counter to the community's established norms of publicly available research.[13]

What has caused much uproar in the community is the fact that many independent researchers were working on or have built their own metrics, all using different calculations based on publicly available numbers published by Major League Baseball.[14] Members of this community felt this was an affront to the community norms and goals, with some even deeming this as counterproductive to the goals of those who have created the metric.[15] Many who create metrics publish them precisely to prove their usefulness.[16] This stems from the fact that advanced metrics were looked at unfavorably by the upper management in baseball for a long period of time.[17] The beauty of this open-source world is that it presents a way to improve and further metrics that aren't tied to the market, but rather tied to academic integrity and interest. This idea may be threatened by the advent of the QOP patent and marks a possible shift in this corner of the baseball world, one that might have far-reaching implications.

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9. *Id.*

10. *Id.;* MLB Quality of Pitch (@qopbaseball), TWITTER (Sep, 13, 2020 8:07 PM) https://twitter.com/qopbaseball/status/1305312279466921984?ref_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1305312279466921984%7Ctwgr%5E%7Ctwcon%5Es1_&ref_url=https%3A%2F%2Ftheathletic.com%2F2074516%2F2020%2F09%2F22%2Fyou-cant-own-an-idea-attempt-to-patent-a-baseball-stat-surprises-community%2F.

11. Sarris, *supra* note 5.

12. *Id.*

13. *Id.*

14. *Id.*

15. *Id.*

16. *Id.*

17. *Id.*

II. TRACKMAN PATENT

The precursor to the QOP patent is the TRACKMAN patent.[18] The TRACKMAN System laid the foundations for the QOP metric to be calculated, as it essentially is the system for gathering the data needed to calculate the pitch rating. The patent listed is a way of "simulating movement of a projectile in a virtual environment."[19] The TRACKMAN takes "primary data comprising a plurality of sets of position values, and a plurality of time values for a projectile is received, with each time value being associated with one of the sets of position values."[20] This invention's goal is to take all the data on pitches and batted balls and recreate it for better studying and understanding of the data.[21] This is done by taking the "primary data'' and "process[ing it] to generate secondary data which represents at least two consecutive sets of positions, each set of positions comprising a start position and an end position for the projectile."[22] This secondary data is then "used to simulate movement of the projectile in the virtual environment."[23]

This invention takes the data produced by a projectile, the numbers and velocity associated with the projectile, and recreates them in a simulation to better understand them and what is occurring in the projectile's flight. This is extremely helpful for baseball research, as this data enables a researcher to be able to understand the movements a ball will make over the course of its flight. This data, when combined with other forms of research, allow people to build out models for prediction and provide evidence for their theories, ultimately leading to greater knowledge in the field. This knowledge can improve the understanding of pitchers, the movement of their pitches, and how they are effective with them.

The introduction of TRACKMAN was a huge step for the sabermetric community because it allowed, through data, an outlet for research that goes beyond what occurs on the baseball diamond. When you are able to gather more data, you are able to do additional research, the hallmark of this community. This technology has granted the baseball world access to numbers and data they previously never had access to. Theories that had already been worked out in the heads of many in baseball could now be quantified for the first time. For example, certain pitchers, who did not throw as hard as their peers, seemed to have a fastball that "appeared" faster than what the numbers showed. With data

18. U.S. Patent No. 8,734,214 (issued May 27, 2014).
19. *Id.* at col. 1 ll. 61-62.
20. *Id.* at col. 1 ll. 62-65.
21. *Id.* at col. 1 ll. 17-23.
22. *Id.* at col. 1 l. 66-col. 2 l. 2.
23. *Id.* at col. 2 ll. 3-5.

from the TRACKMAN apparatus, researchers were able to show that these pitchers have a higher spin rate on their fastball enabling the pitch to resist gravity and thus explaining this phenomena.[24] The importance of this development cannot be overstated, it gave a community that loves data, even more data to analyze, and became the precursor to the patent discussed later in this Comment.

III. QUALITY OF PITCH PATENT

A. Patent History

The first point in determining what litigation might look like is to consider the patent's validity. It is best to look at the patent's history to see the patents development. The original patent application had eight claims that did not make it into the granted patent.[25] These claims were later removed or amended for different reasons and show the development of the patent over the course of years since the original filing. These issues are usually very important, as they detail what might be raised by someone defending a suit for infringement, and they are key for the owner when defending their patent. Because there were so many metrics in the works before the patent, this will be key to any suit in which the QOP owners bring to protect their work.

The first claim we discuss is claim 22, which was rejected under 35 U.S.C. § 101 as an abstract idea. This claim is interesting because it was later removed from the patent. It discusses subjective ratings, which would have been based on "determin[ations] by one or more human experts."[26] This was intended to generate a "score of each of the individual sample pitches, that statically correlates to a subjective rating for a corresponding sample pitch."[27] Much of the rest of the claim is the same as portions of the detection system in the granted claim 1, but this portion sticks out as it shows the original goal of the patent. The omission of this portion in the granted patent illustrates the difference between the beginning and the end of this patent process. This claim was rejected by the USPTO for being an abstract idea under 35 U.S.C. § 101.[28] The patent examiner stated, "[l]ooking at the limitations as an ordered

24. *Spin Rate (SR)*, MLB.COM, http://m.mlb.com/glossary/statcast/spin-rate (last visited Mar. 25, 2021).

25. *Amendment to the Claims* dated March 23, 2020, U.S. Patent Application Serial No. 14/645, 361 p. 5.

26. *Final Office Action* dated April 20, 2018, U.S. Patent Application Serial No. 14/645, at 361 p. 6.

27. *Id.*

28. *Id.* at 8; *See generally* Elec. Power Grp., LLC v. Alstom S.A., 830 F.3d 1350 (Fed. Cir. 2016).

combination adds nothing that is not already present when looking at the elements taken individually."[29] This, in laymen's terms, means nothing was added by combining the elements of the patent that wasn't already in those elements, thus, preventing it from being transformed into an eligible invention.[30]

Claim 27 of the *Final Office Action* is another claim discussing this "'subjective rating of sample pitches.'"[31] The goal was to result "in a computer-generated score for each of this individual sample pitches."[32] These, combined with the ratings taken from the detection system, would have allowed for the system to determine a quality of a pitch. Much of the rest of claim 27 again discusses the detection system, pitch quantification system, and the pitch rating system. This shows that much of the original claim is present in the issued patent.[33] This was denied again, for being an abstract idea under 35 U.S.C. 101.[34] Once more, the court stated that this was "[s]imilar to but not exactly the same as *Electric Power*."[35]

Claims 2-11, 21, 23-26, 28 and 30 were also rejected because they "limit the abstract idea of claims 1, 22, and 27 without introducing any other non-abstract limitations that amount to significantly more than the abstract idea itself."[36] This again adds nothing to the already claimed abstract idea when looking at these portions individually.[37] These claims aimed to further describe the process of quantifying the pitch, with the detection system, pitch quantification system, and the pitch rating module.[38] In all three, the examiner stated that there is "no indication that the combination of elements improves the functioning of the computer or improves any other technology."[39] Some of these portions of these claims were kept in the issued patent, while others were removed in the patent's development.

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29. *Id.*
30. *Id.*
31. *Id.* at 9.
32. *Id.*
33. '167 Patent.
34. *Final Office Action*, dated April 20, 2018, U.S. Patent Application Serial No. 14/645,361 at p. 11.
35. *Id.; See* Elec. Power Grp., LLC, 830 F.3d 1352 (Fed. Cir. 2016)).
36. *Id.* at 12.
37. *Id.*
38. *Claims,* submitted March 11, 2015, U.S. Patent Application Serial No. 14/645,361 at p. 41–43.
39. *Final Office Action,* dated April 20, 2018 U.S. Patent Application Serial No. 14/645,361 at p. 12.

The patent's claims were later amended by the applicants, as they removed much of the language with regard to the subjective ratings, by human experts.[40] This was most likely in response to the USPTO's rejection of the original application, as they determined that the original idea was too abstract.[41] This pitch rating module is now scored only on the data taken from the detection system, with no subjective ratings making up any of the pitch rating.[42] This illustrates that the application developed a very interesting turn away from its original intent, mainly in the pitch rating system, towards a mathematical formula that quantifies this data in one single score. This is significant, since the omission of all the human elements laid out in the original claim places the metric squarely in the statistical realm where sabermetricians lie and sets up a fight between the sabermetricians and QOP patent owners.

B. Quality of Pitch Patent: The Final Approval

The QOP patent is a development in tandem with the TRACKMAN patent, building off it to calculate a score for a specific pitch in real time. Claim 1, as set forth by the claimants looks to protect a "system for automatically determining a pitch rating for a pitch in baseball."[43] This pitch rating works to indicate the quality of the pitch thrown.[44] The "system comprise[s of]: one or more hardware processors . . . a detection system . . . a pitch quantification system in communication with the detection system . . . a pitch parameter module . . . a pitch rating module . . . and a display system."[45]

The system can be broken down further, starting with the detection system. A detection system protected by the patent consists of at least one of the following: "(a) a Doppler radar system that includes one or more antennas, (b) an imaging system that captures video, or (c) a sensor tracking system."[46] This detection system is used to determine "the position of the ball . . . using at least one or more of (a), (b), or (c)."[47] In doing this, the system is able to gather data from the ball's flight.

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40. *See Final Office Action,* dated April 20, 2018, U.S. Patent Application Serial No. 14/645,361 at 3-12; *Amendment to the Claims,* submitted September 5, 2019, U.S. Patent Application Serial No. 14/645,361 at p. 2-5.

41. *Final Office Action,* dated April 20, 2018, U.S. Patent Application Serial No. 14/645,361 at p. 3-12.

42. *Id.* at p. 3; *Amendment to the Claims,* submitted September 5, 2019, U.S. Patent Application Serial No. 14/645,361 at p. 3.

43. '167 Patent at col. 28 ll. 57–58.

44. *Id.* at col. 28 ll. 58–59.

45. *Id.* at col. 28 l. 60–col. 30 l. 10.

46. *Id.* at col. 28 ll. 61–67.

47. *Id.* at col. 29 ll. 1–2.

The pitch quantification system can be broken down further as well. The first portion is that this system must be "in communication with the detection system."[48] The next part of the system contains a flight path module. This is "configured to . . . be executed by the one or more hardware processors to receive from the detection system detection data."[49] The data used by this detection system looks to "execute the position and speed of the ball [as well as] an initial position coordinate point representative of an initial position of the ball and a plurality of additional coordinate points representative of a flight path of the ball."[50] The data will also comprise of a "plurality of additional coordinate points including a maximum height coordinate point."[51] Essentially, the system is taking data points on the ball during the course of its flight. These points are the x-coordinate, the y-coordinate, the z-coordinate, and the maximum height coordinate.[52]

Each of these points is entered into the system, with the x-coordinate representing "a distance along an x-axis parallel to the ground."[53] The y-coordinate describes "a distance along a y-axis parallel to the ground and perpendicular to the x-axis."[54] The z-coordinate represents "a distance along a z-axis perpendicular to both the x-axis and y-axis."[55] The last coordinate that the system measures is the maximum height coordinate which "comprises a z-coordinate equal to the largest z-coordinate of any of the initial position coordinate point or the plurality of additional coordinate points."[56] These points make up the data used by the pitch quantification system to calculate the value of the pitch, and thus are a key component of the system.

The next portion of the design is the pitch parameter module, which is "configured to . . . be executed by the one or more hardware processors to receive the initial position coordinate point and the plurality of additional coordinate points from the flight path module."[57] This also "generate[s] pitch parameters corresponding to properties of the path of the ball."[58] These generated pitch parameters include multiple components. The first is "a rise component determined based at least in part on a difference between the z-

48. *Id.* at col. 29 ll. 3–4.
49. *Id.* at col. 29 ll. 5–7.
50. *Id.* at col. 29 ll. 8–12.
51. *Id.* at col. 29 ll. 11–13.
52. *Id.* at col. 29 ll. 13–23.
53. *Id.* at col. 29 ll. 16–17.
54. *Id.* at col. 29 ll. 18-20.
55. *Id.* at col. 29 ll. 21–22.
56. *Id.* at col. 29 ll. 23–26.
57. *Id.* at col. 29 ll. 27–31.
58. *Id.* at col. 29 ll. 31–32.

coordinate of the maximum height coordinate point and the z-coordinate of the initial position coordinate point."[59] The second is "a breakpoint component determined based at least in part on a difference between the y-coordinate of the maximum height coordinate point and the y-coordinate of the initial position coordinate point."[60] There are also vertical and horizontal break components, as well as "a final location component determined based at least in part on the x-coordinate and the z-coordinate of a final position coordinate point."[61] The "final position coordinate point is selected from the plurality of additional coordinate points to have a y-coordinate matching a predetermined location on the y-axis."[62] Again, these data points are properties from the flight of the ball, which the system needs to do its analysis.

The last component of the system is the pitch rating module which is "executed by the one or more hardware processors."[63] This first use is to "determine a trajectory metric as a linear combination of the generated pitch parameters."[64] The second use is to "determine a speed adjustment parameter by taking a difference between the speed of the ball and a speed threshold."[65] The last use is to "generate the pitch rating indicative of the quality of the pitch."[66] This pitch rating is "equal to a mathematical combination of the trajectory metric and the speed adjustment parameter."[67]

The pitch quantification system is used "to generate the pitch rating for the pitch and pitch ratings for additional pitches."[68] This is to provide for "an improved metric for standardized comparison of pitch quality across pitches of a plurality of different pitch types relative to pitch scoring systems that do not account for each of rise, breakpoint, vertical break, horizontal break and final location."[69] This incorporates all the data the system is receiving, starting from the pitch being thrown, and based on this data, calculates the quality of the pitch being made.

The last item listed in claim 1 is a display system. This "is in communication with the pitch quantification system and is configured to

59. *Id.* at col. 29 ll. 34–37.
60. *Id.* at col. 29 ll. 38–42.
61. *Id.* at col. 29 ll. 43–48.
62. *Id.* at col. 29 ll. 47–51.
63. *Id.* at col. 29 ll. 52–53.
64. *Id.* at col. 29 ll. 54–55.
65. *Id.* at col. 29 ll. 56–58.
66. *Id.* at col. 29 ll. 59–60.
67. *Id.* at col. 29 ll. 60–62.
68. *Id.* at col. 29 ll. 63–65.
69. *Id.* at col. 29 l. 65–col. 30 l. 3.

receive and display the pitch rating in real time."[70] The display system shows the data and rating as the data comes in.

Claim 2 specifies that "the detection system is comprise[d] of a Doppler radar system."[71] Claim 3 specifies that the "detection system comprises a plurality of video cameras . . . and a position extraction module, [a device] configured to analyze the images from the plurality of video cameras to extract the position of the ball, a velocity vector of the ball, and an acceleration vector of the ball at a point in time after the pitch has been released."[72] The "detection data further comprises the velocity vector of the ball and the acceleration vector of the ball."[73] The Doppler and video cameras are utilized for the measurements of the speed and angle of the ball. Claim 6 states that "the detection system is configured to determine the position and the speed of the ball for a distance of at least 10 meters along the y-axis."[74]

Claim 4 explains, "the pitch rating module includes coefficients associated with each of the generated pitch parameters."[75] Claim 5 also relates to the pitch rate module and states, "the pitch rating is equal to a linear combination of the trajectory metric and the speed adjustment parameter."[76] Claim 9 explains "the coefficients [of claim 4] are configured so that variations in the final location component affect the calculated pitch rating more than variations in the rise component."[77] Claim 10 outlines "the pitch rating module is configured to determine the trajectory metric equal to a sum" of a select group of measurements.[78] These numbers are "the rise component and a rise coefficient; the breakpoint component and a breaking point coefficient; the vertical break component and a vertical break coefficient; the horizontal break component and a horizontal break coefficient; and the final location component and a final location component coefficient."[79] Claim 11 lays out "the coefficients are configured so that variations in the final location component affect the calculated pitch rating more than variations in the other components."[80] Claim 12 builds off claim 10 and explains that the pitch rating module is "configured to determine the speed adjustment parameter is equal to a speed of the pitch

70. *Id.* at col. 30 ll. 5–7.
71. *Id.* at col. 30 ll. 8–9.
72. *Id.* at col. 30 ll. 10–17.
73. *Id.* at col. 30 ll. 17–19.
74. *Id.* at col. 30 ll. 26–28.
75. *Id.* at col. 30 ll. 20–23.
76. *Id.* at col. 30 ll. 23–25.
77. *Id.* at col. 30 ll. 36–39.
78. *Id.* at col. 30 ll. 40–42.
79. *Id.* at col. 30 ll. 42–51.
80. *Id.* at col. 30 ll. 52–55.

minus a speed threshold value so that speeds above the threshold value increase the value of the pitch rating and speeds below decrease the value of the pitch rating."[81] Claim 13 adds on to the "pitch rating module."[82] This lays out the calculations of the pitch rating module as:

> a sum of a scaled trajectory metric, a scaled speed adjustment parameter, and a rating offset, the scaled trajectory metric equal to the trajectory metric multiplied by a trajectory scaling factor and the scaled speed adjustment parameter equal to the speed adjustment parameter multiplied by a speed adjustment scaling factor.[83]

This explains how the system calculates the pitch rating from the data that it obtains. Claim 14 applies to the pitch rating system and specifies that the system is "configured to have a value such that a majority of pitches have a value between -10 and 10."[84]

Claim 7 outlines that "the plurality of different pitch types comprises a curveball, a slider, a fastball, and a change-up."[85] Claim 8 outlines that the whole entire "system of claim 1. . . compris[es of] a non-transitory computer readable medium that is in communication with the pitch quantification system to receive and store the pitch rating."[86]

VI. ANALYSIS: THROUGH THE ALICE LENS

When looking at the metrics, even though the QOP owners sent cease and desist orders, it seems as though it could be very difficult to prevent the other metric owners from using their own created numbers. The patent above could come under fire for the pitch rating system. In the case of most of the metrics, there is no system currently used which is similar to the patented detection system. Most of these metrics, created by open-source users, are utilizing data already publicly made available by Major League Baseball and its own TRACKMAN and HAWKEYE systems. This complicates the picture for the QOP owners and their efforts to protect this patent. Many of the things they are looking to protect has already been done in separate parts by either the league through their TRACKMAN system, or the sabermetric community through published research and available to all. A lawsuit could manifest itself in a

81. *Id.* at col. 30 ll. 57–61.
82. *Id.* at col. 30 l. 62.
83. *Id.* at col. 30 l. 62–col. 31 l. 2.
84. *Id.* at col. 31 ll. 4–5.
85. *Id.* at col. 30 l. 29–31.
86. *Id.* at col. 30 l. 32–35.

challenge on the patent's validity as to patentable subject matter under *Alice.* Thus, that is where to start.

A. Alice: A History

The Supreme Court in *Alice Corp v. CLS Bank* set out the test in which a court separates "patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts."[87] The first step in this analysis is to "determine whether the claims at issue are directed to one of those patent-ineligible concepts."[88] If the answer is no, the claim is patent eligible under 35 U.S.C. § 101. If the answer is yes, "we then ask, '[w]hat else is there in the claims before us?'"[89] At this point, the Court considers "the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application."[90] The goal of the Court is to determine if there is an "'inventive concept' [i.e.,] an element or combination of elements that is 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.'"[91] Since this case, the federal circuits have applied this to a variety of cases to determine the patentability of subject matter. In the case of the patent history surrounding the QOP patent, two cases were cited. These cases are another place to look.

In *Enfish v. Microsoft*, the court illustrated the difference between a process that uses a computer as a tool, which would fall under the abstract idea portion of § 101, and an improvement in computer capabilities.[92] This case concerned a self-referential table built on a logical model patented by Enfish.[93] Enfish alleged that Microsoft copied this idea in their creation of ADO.NET.[94] The court held, under the *Alice* test, Enfish's self-referential table was not an abstract idea under the first prong, thus not meriting analysis under the second prong.[95] The court discussed how certain cases of computer improvements

87. Alice Corp. Pty. Ltd. v. CLS Bank Intern., 573 U.S. 208, 217 (2014) (citing Mayo Collaborative Services v. Prometheus Laboratories, Inc. 566 U.S. 66, 77 (2012)).

88. *Id.*

89. *Id.* (citing Mayo Collaborative Services v. Prometheus Laboratories, Inc. 566 U.S. 66, 78 (2012)).

90. *Id.* (citing Mayo Collaborative Services v. Prometheus Laboratories, Inc. 566 U.S. 66, 78–79 (2012)).

91. *Id.* at 217–18 (citing Mayo Collaborative Services v. Prometheus Laboratories, Inc. 566 U.S. 66, 72 (2012)).

92. Enfish, LLC v. Microsoft Corp., 822 F.3d 1327, 1336 (Fed. Cir. 2016).

93. *Id.* at 1330.

94. *Id.* at 1333.

95. *Id.* at 1336.

must be evaluated under the second prong of *Alice*, but the question at prong one must be "whether the claims are directed to an improvement to computer functionality versus being directed to an abstract idea."[96] The court cites the district court's conclusion that, in the present case "the claims were directed to the abstract idea of 'storing, organizing, and retrieving memory in a logical table' or, more simply, 'the concept of organizing information using tabular formats.'"[97] This colors the first prong under *Alice* more conclusively when dealing with computer software patents, and was brought up during the *Final Office Action* of the QOP patent.

The most common citation by the patent examiner, throughout the *Final Office Action*, was to *Electric Power Group v. Alstom*.[98] In this case, Electric Power Group patented a system that "perform[ed] real-time performance monitoring of an electric power grid by collecting data from multiple data sources, analyz[ed] the data, and display[ed] the results."[99] The court in *Electric Power* affirmed the district court's decision, stating that "the claims do not go beyond requiring the collection, analysis, and display of available information in a particular field, stating those functions in general terms, without limiting them to technical means for performing the functions that are arguably an advance over conventional computer and network technology."[100] The court noted that the collection, analyzation, and displaying of data falls under the first prong of the *Alice* analysis, namely that it is an abstract idea.[101] This requires a move to the second prong of the test. The court in *Electric Power Group* agrees with the district court, stating that the granted patent doesn't add anything to the devices like adding in new "measurement devices or techniques . . . [or] inventive programing."[102] As the court states "[t]he claims at issue do not require any nonconventional computer, network, or display components, or even a 'non-conventional and non-generic arrangement of known, conventional pieces,' but merely call for performance of the claimed information collection, analysis, and display functions 'on a set of generic computer components' and display devices."[103] This case was the crux of the examiner's argument to block the QOP patent previously and thus must be

96. *Id.* at 1335.

97. *Id.* at 1337.

98. *See generally* Elec. Power, 830 F.3d.

99. *Id.* at 1351.

100. *Id.*

101. *Id.* at 1353.

102. *Id.* at 1355.

103. *Id.* at 1355 (citing Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC, 827 F.3d 1341, 1349-51 (Fed. Cir. 2016)).

utilized to understand the differences between the patent history and the granted patent.

Since the *Final Office Action*, there has been many more cases that could be relevant to this analysis, but the most relevant to our analysis is *Thales Visionix v. United States*.[104] This case concerns "an inertial tracking system for tracking the motion of an object relative to a moving reference frame" as patented by Thales Visionix.[105] Thales Visionix sued the United States for using this technology in the "helmet-mounted display system of the F-35 Joint Strike Fighter."[106] The court in this case held that the patent owned by Thales Visionix satisfied the first prong of the *Alice* analysis and was not a patent ineligible concept.[107] The court stated "The claims specify a particular configuration of inertial sensors and a particular method of using the raw data from the sensors in order to more accurately calculate the position and orientation of an object on a moving platform."[108] It further stated "the claims seek to protect only the application of physics to the unconventional configuration of sensors as disclosed."[109] This is relevant to the QOP patent case because it notes specifically the difference between trying to patent the underlying physics of tracking an object and patenting the utilization of a physics concept. This provides a base to analyze the QOP patent.

B. What Does This Say About the QOP Patent and Alice?

In the case of the QOP patent, there is reason to believe that a court will be skeptical about the claims of the QOP patent. Under the *Alice* test, the QOP patent would most likely fall under the § 101 portion that makes "laws of nature, natural phenomena, and abstract ideas" patent ineligible.[110] Failing this portion of the test would merit a discussion on the "we then ask, '[w]hat else is there in the claims before us?'"[111] As such we must analyze the claims while considering "the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application."[112] Focusing on the claims in the granted patent, there are similar questions. The '167 patent can be broken up into six main portions, and the question this analysis will have to

104. *See generally* Thales Visionix Inc. v. U.S., 850 F.3d 1343 (Fed. Cir. 2017).
105. *Id.* at 1344.
106. *Id.* at 1346.
107. *Id.* at 1349.
108. *Id.*
109. *Id.*
110. *Alice,* 573 U.S. at 216.
111. *Id.* at 217 (citing Mayo Collaborative Servs., 566 U.S. at 78 (2012)).
112. *Id.*

address is whether this system transforms itself into a patent eligible application.

The system comprises of: "one or more hardware processors . . . a detection system . . . a pitch quantification system in communication with the detection system . . . a pitch parameter module . . . a pitch rating module . . . and a display system."[113] For our analysis, the hardware processors, detection system, pitch quantification system, and pitch parameter module are all portions similar to the '214 TRACKMAN patent.[114] The innovation claimed by the '167 patent is the pitch rating module with the display system showing the results of this calculation. It is in this system where the '167 QOP patent might fail the *Alice* test. This system uses "hardware processors to determine a trajectory metric as a linear combination of the generated pitch parameters [and] determine a speed adjustment parameter by taking a difference between the speed of the ball and a speed threshold."[115] This is then utilized to "generate the pitch rating indicative of the quality of the pitch equal to a mathematical combination of the trajectory metric and the speed adjustment parameter."[116] Claims 4-14 further color the system the pitch rating module uses, listing out how it is calculated and how location impacts this calculation.[117]

This calculation is inherently a theoretical one and is abstract in nature. Sure, some pitches thrown by certain pitchers are more effective than others, and many in baseball have been researching why for years. The issue, up until this point, has been a debate across sabermetric forums for decades, with different weights placed on different measurements from stemming from "Statcast" and TRACKMAN data. Therefore, the '167 patent is closer to the system portrayed in *Electric Power*. In that case, the patented system "perform[ed] real-time performance monitoring of an electric power grid by collecting data from multiple data sources, analyz[ed] the data, and display[ed] the results."[118] This is very similar to what is being done in the '167 Patent. The system is taking data collected by the detection system, pitch quantification system and parameter modules, running it through a formula, and ending up with a rating based on the data. This is distinct from *Enfish* and *Thales Visionix* because, in both of these cases, the idea was not directed at an abstract idea, but rather at either improving the functionality of a computer system or expressing the application of a law of nature. This portion of the system does neither, all

113. '167 Patent col. 28 l. 57–col. 30 l. 5.
114. '214 Patent, *supra* note 18.
115. *Id.* at col. 29 ll. 53–58.
116. *Id.* at col. 29 ll. 59–62.
117. *Id.* at col. 30 l. 20–col. 31 l. 5.
118. *Electric Power,* 830 F.3d at 1351.

it is attempting to do is to quantify something that has been debated endlessly in baseball circles.

This is what *Alice* sets out to protect, as many have suggested following the decision.[119] The sabermetric community is one that is close-knit and open source, collaborating on all sorts of metrics and research. The QOP patent threatens that open source nature. It would nip discussion of the merits of this metric in the bud, as any metric created attempting to quantify a pitch rating will fall under the QOP patent's pitch rating module. This makes it nearly impossible for a research-based community to work further to discuss an abstract idea like scoring pitches, the precise thing QOP patent claims to do. This threatens a community built on the free flow of research and data surrounding one of the most important areas of the game, pitch design and type. The patent examiner noted this in the prosecution history leading up to the granting of the QOP patent that it was attempting to patent an abstract idea. Even though this patent was granted, there is reason to believe that a court, applying *Alice*, will utilize the case to protect the abstract ideas that this community stands for.

V. CONCLUSION

The sabermetric community was up in arms after the issuance of the QOP patent, and the subsequent tweet that announced it to the world.[120] This marked what may appear to be a shift in the operation of the open-source community surrounding baseball statistical research. For this shift to occur, the QOP patent must be able to survive a challenge in the courts on its patentability. Potentially this could be up in the air based on the test the Supreme Court set out in *Alice*. Considering the fact there were already several similar metrics available to the public, a challenge to the patent might have merit. These metrics were developed in a community that saw themselves more akin to academia than a for-profit model and were very unwelcoming to the shakeup, a type of community that *Alice* seeks to protect. The future of data, metrics, and sports hinges greatly on this patent and whether it will succeed or fail the *Alice* test.

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119. *See generally* Elias Sayre, *Peeking through the Looking Glass: How Alice Has Shaped Patent Eligibility*, 85 U. CIN. L. REV. 1165 (2017); Kevin E. Collins, *Patenting the Social: A Non-Economic Take on Alice*, 2016 JOTWELL: J. THINGS WE LIKE [375] (2016); *see generally* Jasper L. Tran, *Two Years after Alice v. CLS Bank*, 98 J. PAT. & TRADEMARK OFF. SOC'Y 354 (2016); *see generally* Ognjen Zivojnovic, *Patentable Subject Matter after Alice - Distinguishing Narrow Software Patents from Overly Broad Business Method Patents*, 30 BERKELEY TECH. L.J. 807 (2015).

120. Sarris, *supra* note 5.