

Soccer Skillz

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Super Computing Challenge

Team #125

Socorro High School

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Executive Summary

What we hope to accomplish through the use of this program is the ability to see into the future. Seriously though, this program will benefit all sports players almost as much as foresight. What we plan to do is to use the program to foretell the effects of weather on an evenly matched soccer game. How many games have been lost, when they should have been won, due to weather? How many coaches and players have gone home hanging their heads, all caused by overwhelming precipitation? With our program we hope to be able to tell how the weather will affect the game, thus preventing undue heartbreak, and being able to call a delay before the game starts. With this power we will rule the world!!! Or at least give you at least some insight. Same difference. Either way it will be helpful.

Problem

The problem we are trying to solve with this program is, as stated above, is the heartbreak and anger caused by a game lost due to weather complications. The question all involved are asking is, "How will this [insert weather condition] affect the game?" Will snow affect the other team more, less, than or as much as you? Will the rain cause the friction to increase or decrease, and will that help or hinder? This info will hopefully revolutionize the world of sports. While we used soccer to demonstrate, this info will assist all kinds of sports.

Method

1. Research: First we had to get a handle on the rules of soccer. So, visiting www.fifa.com we received a quick rundown on the handbook, which contains all updated rules which soccer is played by. Now that we understood the rules of soccer, we needed to understand all the complexities of StarLogo. After reading up on it in an uncountable number of books, we felt we understood the eccentricity that is star logo. We then researched how weather will affect the game, and also the players.

2. Algorithm: First we had to program the turtles in. We made 11 on each side, different colors and different commands. We then programmed in single ball which reacts to contact from the other turtles. All turtles have certain rules applied to them according to the FIFA handbook and also according to their position. Defenders only play in a certain area, Mid fielders in another, etc. After applying these rules we applied random weather effects on the game, meaning we added erratic movements to the ball, or less control by the players.

Results

After running this program, we discovered that while weather does affect a game of soccer, it is overshadowed by skill by the players. When weather is applied to a pretty evenly matched game, however, the effects are staggering. Weather can give a team a tremendous advantage, or it can completely wipe the slate if two teams are different, but decently close in skill. Weather is a formidable opponent in all sports, and this program does indeed serve its purpose of telling us about this opponent. While this program does not help us defy weather, it does help us predict the outcome of the game where weather is present, thus preventing the heartbreak of a bad game.

Conclusion

In conclusion, this program is indeed very helpful in determining the effects of weather on any given game. It will hopefully help coaches determine their training techniques, and also help them predict the outcome of a game. This will help them train their team accordingly and prepare for the game, both mentally and physically. So, this program does exactly what we meant it to do, and thus is a complete success! :)

Software

In the progression of our project we utilized a variety of different programs. To implement our study we used Star Logo to run and test our theory of weather effects on soccer games. To research information and educate our selves about facts we didn't know we utilized the information super highway, also known as the Internet. Using this vast bucket information we made use of the web browser titled Fire Fox. Using this handy browser we researched web pages that not only contributed to our project but also furthered our knowledge in utilizing Star Logo. We visited many different soccer sites to review and study the guidelines of the game of soccer we finally decided on using this site(<http://www.fifa.com/fifa/handbook/Q&A/index.q&a.html>). We found this web site to use as a reference for Star Logo (http://education.mit.edu/starlogo/gettingstarted/getting_started.html). The usability of programs was quite beneficial to my partner and I. Accessing Microsoft Power Point we were able to create and practice our presentations and gain feedback from advisers and fellow students.

Achievements

We gained extra knowledge in the several new and different programs which we have never worked with before. We successfully calibrated the right weather effects and the results when we applied them in our program.

Acknowledgments

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