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Senior Project Proposal for MMA Fighter Odds Calculator

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For my senior project I plan to create a program that will produce betting odds for Mixed Martial Arts (MMA) matches. MMA is a quickly growing combat sport where competitors fight using a variety of techniques like kickboxing, Muay Thai, wrestling, and jiu-jitsu (submission grappling). Because of the wide range of techniques the fighters can use, the results of MMA matches can be very unpredictable and difficult to bet on. MMA is also a newer sport (only 30 years old) so there are no established algorithms or programs for MMA betting. The challenge of creating a betting program for this unpredictable sport is what drives me to choose this project.

I am choosing to learn Python for this project because the libraries I want to use are written in Python and I am interested in learning the language. The first part of my project will to be create a program that will populate my database of MMA fighters (I have completed this part of my project already). I assembled a list of 1700 MMA fighters using the Wikipedia API and created a Python script that reads in the relevant data from their Wikipedia pages. For each fighter, my script reads in their name, weight class, opponents, and a record of all their fights. This is enough data to move on to creating a basic betting algorithm but I may still want to collect more types of data to create a more advanced algorithm.

The second part of my project will be to create an algorithm that generates betting odds for any two MMA fighters (in the same weight class). I will need to research other sports

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betting programs to help me find the best way to do this. Once I have a betting algorithm, I plan

to compare my results with the published betting odds of previous and upcoming fights. The

user should be able to sort all fighters by different categories, view upcoming bouts, and

generate odds for any matchup. I don't know if I will create a webpage using JavaScript or

create a basic user interface using Python, but I will need to research and learn either of those

things. The result should be a program where a user can conveniently view and create betting

odds for upcoming MMA matches.