Formula 1 Elo Calculator

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Running since 1950, the Formula One World Championship (F1) is the

Elo Rating System

- Developed by Arpad Elo for use in rating chess players.
- Each player has a rating assigned to them.
- A player with a score 400 points higher is 10 times as likely to win a given match.
- Calculates the expected score between two players.
- Then given the actual result, provides an updated rating.

Elo Rating System Calculation

The expected result of a player is given by:

$$E_p = \frac{1}{1 + 10^{\frac{R_o - R_p}{400}}}$$

The updated Elo of a player is given by:

$$R'_p = R_p + K(S_p - E_p)$$

Elo Rating System Example

For a player with Elo of 1400 and opponent with Elo 1800:

$$E_p = \frac{1}{1 + 10^{\frac{1800 - 1400}{400}}} = \frac{1}{1 + 10^{\frac{400}{400}}} = \frac{1}{1 + 10^1} = \frac{1}{11} = 0.\overline{09}$$

If the player wins (given a *K* of 9):

$$R_p' = 1400 + 9(1 - 0.\overline{09}) = 1400 + 9(0.\overline{90}) = 1400 + 8.\overline{18} \approx 1408$$

Issues With The Data

- For some reason "\N" was used as a placeholder.
- Before 1961, cars were often shared between drivers.

- Analyse the effect of more races in a season.
- Create a way to factor in the relative performance of different cars.

Thanks

All data was taken from CSV's found at ergast.com and checked against other sources for accurracy.

Any Questions?