Dear Puzzle Editor of the New York Times:  
Your Wordle is a hugely successful game, with great numbers of participants and discussion around the world. We have built a series of models to analyze the published data for the period 2022/1/7 to 2022/12/31 of this game, hoping to help your company make full use of the resulting data, which will be helpful for the optimization and future planning of this game.

1) According to the analysis of the number of report results, we found that wordle had a period of sharp increase in the number of report results from 2022/1/10 to 2022/2/2, but the heat did not last for a long time. After that, the number of report continued to decline, and by 2022/12/31, the decline has been more than 90%. According to our model forecast analysis, the data will continue to fall, and the number of reported results is expected to be between 16735 and 17328 on 2023/3/1  
2) As for the word attributes and the ratio of reports about the hard mode in choosing the pattern to the total number, which you are concerned about. After we built a model and analyzed several word attributes and relevant data ( Refer to the above article for details ), we found that there was no direct correlation between the two.

3) We built a model to predict the distribution of report results, and optimized the two important parameters in the model through the detection and comparison of multiple data results. According to this model, we predicted the distribution of report results of the word "EERIE" (as shown in Table 6), and we are confident of the accuracy of its prediction results.

4) In the end, we divided the difficulty of words through model construction. There were 7 criteria for classification, including word frequency, letter repetition times and other dimensions, so as to ensure the scientific and accurate classification results. For visualization purposes, the seven parameters were converted into two parameters, which were displayed in the rectangular coordinate system (Figure 13). For the example of "eerie", the correlation analysis is shown in Figure 14

We also found something else in our analysis of the charts: On Christmas Day, for example, there was a surprisingly low number of results reported, which we believe is indicative of the casual puzzle nature of Wordle's game -- a genre that often lacks an addictive point for players and is simply used as a common pastime in life, like a board game. This is probably one of the reasons why the game continues to lose regular players; For example, the rate of playing "hard mode" is going up and up, and while there is a reason for the rapid loss of regular players, we think the more important reason is that the base of" elite players "or" expert players "is relatively stable, and as players become more proficient, they are more likely to keep playing and play hard mode. This can be used as a reference point to strengthen wordle's player base, for example by increasing advertising to increase the frequency of engagement with the game.

We sincerely hope that the above data and analysis can help your company to optimize and plan the game Thanks for taking the time out of your busy schedule to read our letter.

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