Google Maps vs. Waze: A Battle for Gamers' Loyalty

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1. ABSTRACT

This research compares the usability of Google Maps and Epic Games stores. In the following paper, the comparison was made depending on (SUS) System Usability Scale questionnaire system to set side by side each launcher's capabilities and performances, ease of navigation, functionality, and user satisfaction. Data was collected through Google Forms survey, completed by 10 different users. The data provides a brief description of each user's insight and point of view of the usability of the launchers.

This paper compares the usability of Google Maps and Waze GPS applications. The system employed for the comparison is the System Usability Scale (SUS) questionnaire system. This system allows us to analyze and compare the ease of use, functionality and performance of both applications. The data was collected using Google Forms.

Keywords: SUS, Google Maps, Waze, System Usability Scale, Navigation, Ease of Use

2. INTRODUCTION

As GPS technology advanced, Google Maps was one of the first applications to thrive in that space [1], Waze on the other hand, was developed later that Google Maps [2]. Being older, Google Maps did a good job at keeping up with the user demands, Waze however, has taken a different approach in its approach to this market. The way Waze operates uses real-time user feedback to allow drivers and users of their app to share real-time road information with each-other.

Keywords: GPS, Google Maps, Waze, real-time, Navigation, Ease of Use

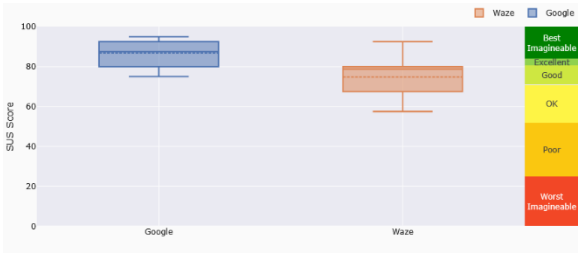
3. METHODOLOGY

To compare the usability of both applications, the System Usability Scale (SUS) questionnaire system was used to collect user data. This system consists of 10 questions, repeated for each application/system (totaling up to 20 questions). Each question was scaled from 1 – 5 (Strongly Disagree – Strongly Agree),

Keywords: System, GPS, System Usability Scale (SUS), Ten Usability Questions, Questionnaire, Application.

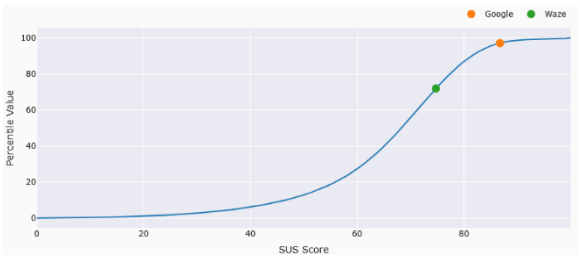
4. RESULTS

The results produced by the questionnaire using SUS system of evaluation are shown below. In *Fig.1*:



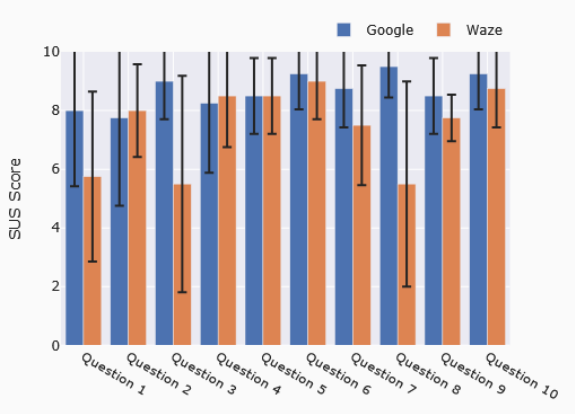
Google Maps received a mean score of 86.75, with a maximum score of 95 and a minimum of 75. Waze on the other hand scores a mean of 74.75, a maximum of 92.5 and a minimum of 57.5. These results allow us to conclude that although Waze may offer tempting features like real-time user feedback, the early adoption of Google Maps allowed it to take over the market, and it was further solidified by regular updates and maintenance to keep up with user demand.

The results from *Fig.2* further display the conclusions drawn from *Fig.1*:



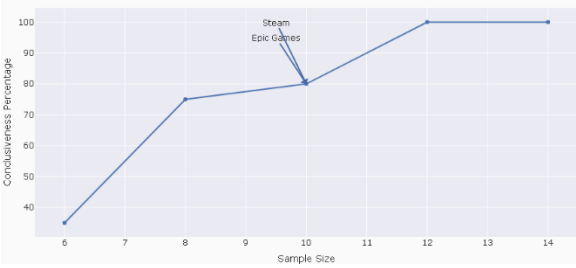
The SUS score on the percentile curves further aids our conclusion. We can see that Google Maps, scoring in the 97th percentile has a better usability that Waze, scoring in the 72nd percentile.

Fig3 below allows us to get a detailed view at the user responses per question:



The SUS bar chart allows to compare scores for each question. We can see that for 60% of the questions, Waze and Google Maps have a close score, with Waze being favored over Google Maps for question 3, a question about each of use. Even so, we can see that the differences in scores for the remaining 40% of questions was devastating difference (look q3&8).

In *Fig4*, the Conclusiveness Chart*:*



The conclusiveness chart shows us that with a sample size of 10, both Waze and Google Maps display a Conclusiveness percentage of 80%.

Keywords: SUS Scores, Score, Comparison, Chart, Conclusion, Question

4.1 Performance Metrics

Our evaluation of Google Maps and Waze using the SUS method consisted of a few key performance metrics. Firstly, we looked at the mean SUS score per chart to deduce if the average skew of users was towards Google Maps or Waze. Secondly, we reviewed the maximum and minimum SUS scores on the box plot to find out what are the outliers for either system. Finally, we looked at the difference in scores per question to find the exact usability benefits and/or issues users found with either platform.

Keywords: Mean, Score, platform, User, Usability

4.2 Analysis

Analyzing the results found in the graphs plotted using the SUS system of usability testing, we can confidently deduce that users find Google Maps higher of the System Usability Scale, reflected by the mean score of 86.75 for Google Maps as well as scoring in the 97th percentile.

Waze on the other hand, though falling behind Google Maps, we can conclude through the per-question SUS score bar chart that users find Waze as easy to use compared to Google Maps if not easier, this is reflected by Waze gaining a higher score on q4, a question on ease of use.

We suspect that the reason for the lower mean score for Waze of 74.75 is due to being less adopted and having less exposure.

Keywords: SUS, Ease of Use, Exposure, Mean, Waze, Google Maps, Percentile

5. CONCLUSION

The conclusions drawn based on the evidence found in the graphs related to the SUS analysis of Google Maps and Waze is as follows:
Google Maps application is a user-friendly application with up-to-date software and great usability, Waze falls behind Google Maps in adoption but is comparable to Google Maps in ease of use, if not better. (reflected by q4)

Keywords: SUS, Ease of Use, Software, Usability, Waze, Google Maps

6. REFERENCES

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[2] Waze. (2024, November 1). Wikipedia, the free encyclopedia. Retrieved November 8, 2024, from https://en.wikipedia.org/wiki/Waze