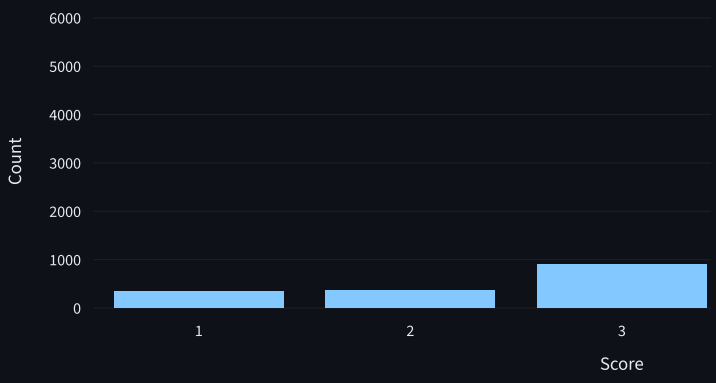
📦 Amazon Customer Review Analysis (Plotly)

Single-page interactive dashboard (Plotly) showing reviewer behavior, product rating trends, review verbosity and sentiment analysis.

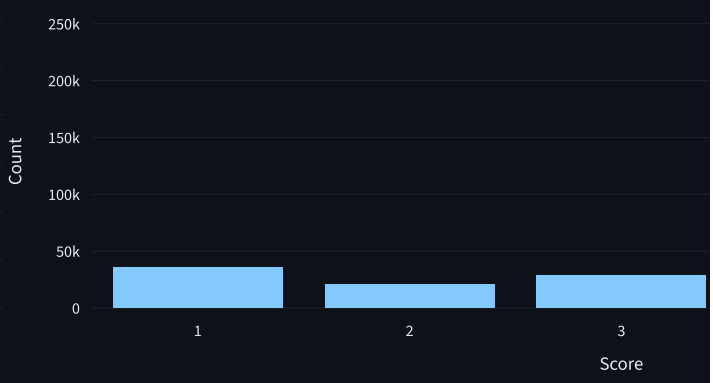
- All visuals are interactive (hover / zoom).
- No dropdowns — scroll to navigate sections.

⭐ Score Distribution — Frequent vs Not Frequent

Frequent Users — Score Distribution



Not Frequent Users — Score Distribution



Percent distribution (Frequent):

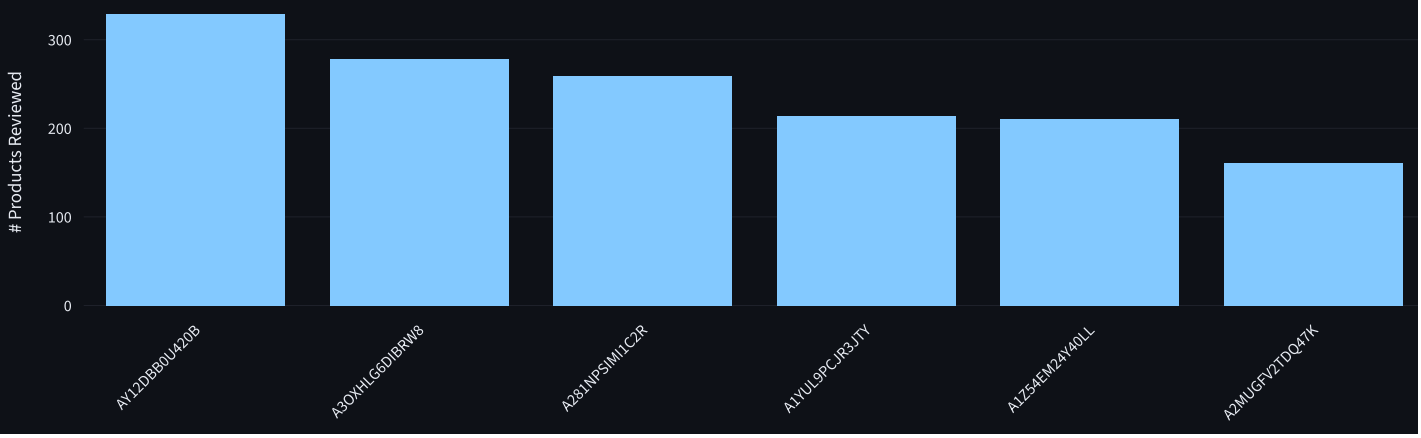
Score	Percent (%)
1	
2	
3	
4	
5	

Percent distribution (Not Frequent):

Score	Percent (%)
1	
2	
3	
4	
5	

👥 Top 10 Users by Number of Products Purchased

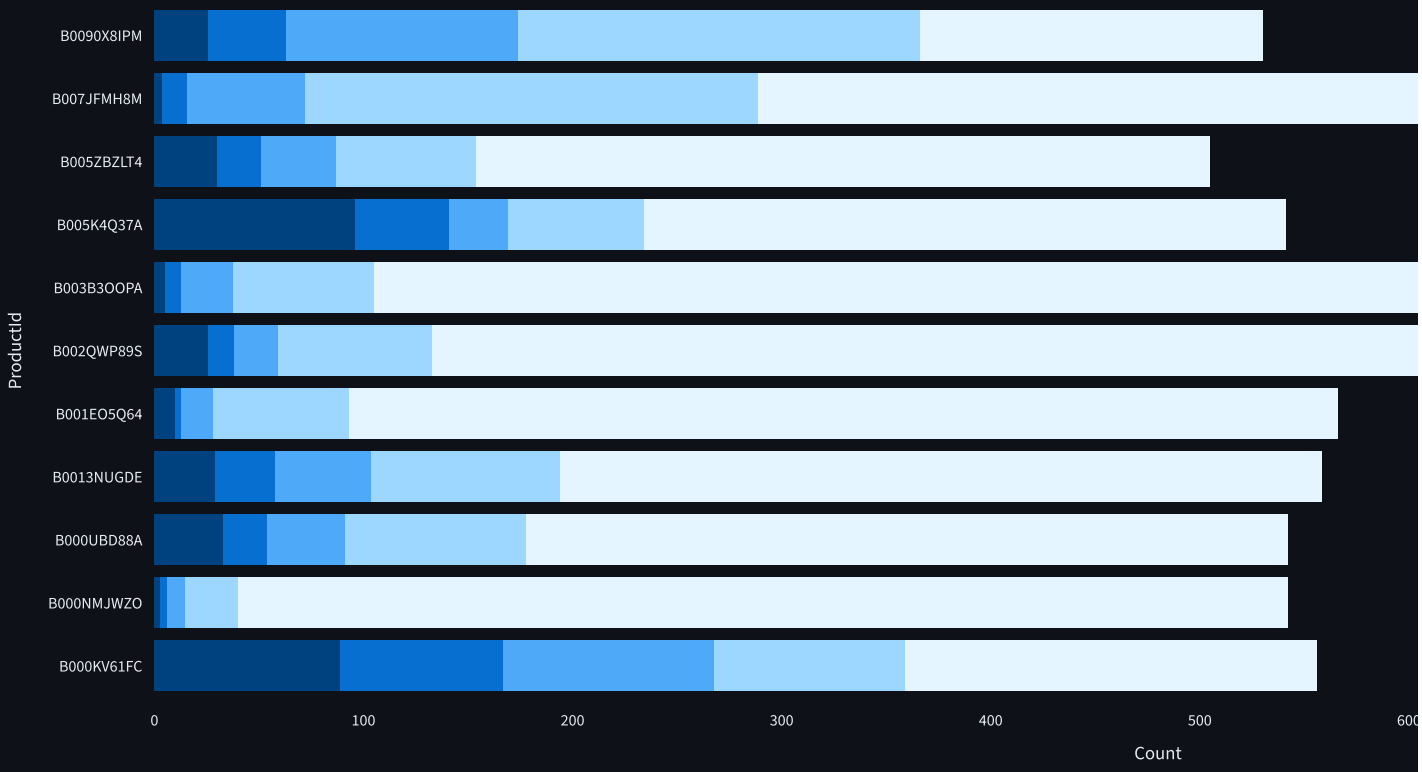
Top 10 Active Users



UserId

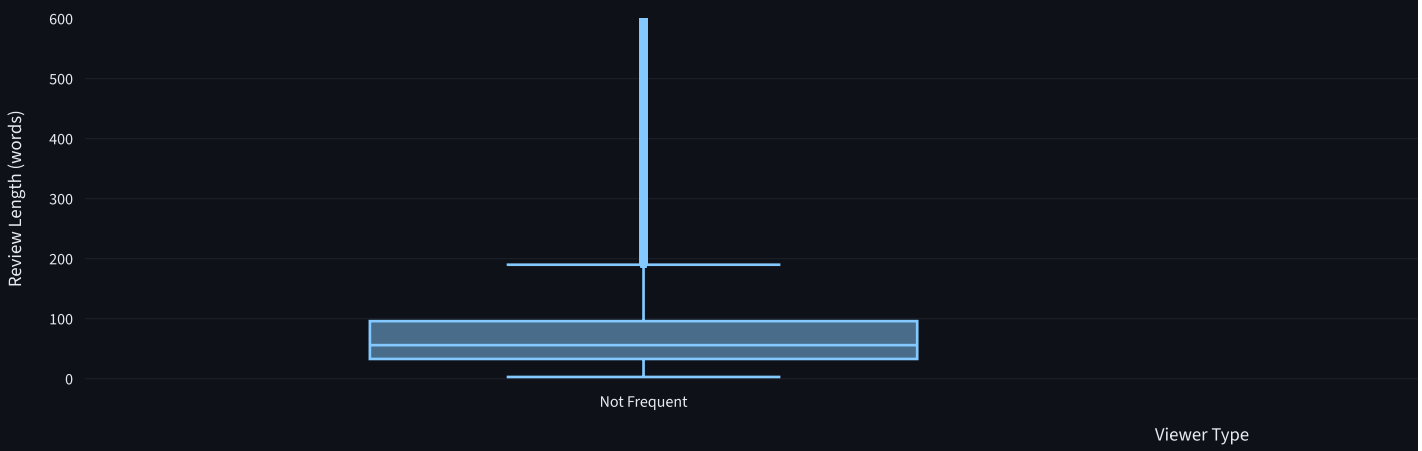
📦 Product vs Score Analysis (Products with > 500 reviews)

Product vs Score Distribution (Top products)



✍️ Review Length & Verbosity Analysis

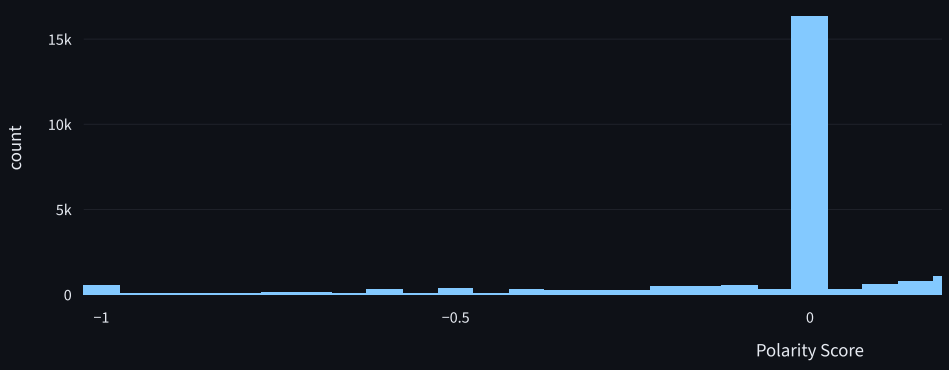
Review Length by Viewer Type



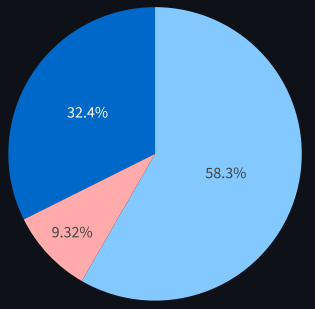
Insight: Frequent reviewers typically write longer reviews — more useful for product feedback and NLP tasks.

💬 Sentiment Analysis (TextBlob) — Sample of 50,000 summaries

Sentiment Polarity Distribution (Sample)



Sentiment Breakdown



Total reviews analyzed (sample): 50,000

Positive: 29,155, Negative: 4,659, Neutral: 16,186

📌 Key Business Insights Summary

1️⃣ Who should Amazon recommend more products to?

Frequent users (>50 reviews) — they show:

- Higher engagement and purchase frequency
- Consistent reviewing patterns
- More detailed, valuable feedback
- Better indicators of product quality

2️⃣ Behavioral differences between frequent & non-frequent users

Frequent Users	Non-Frequent Users
Very positive ratings	Mixed ratings
Many purchases	Few purchases
Long, detailed reviews	Short reviews
Consistent engagement	Irregular engagement

Frequent users are valuable, loyal, repeat purchasers.

3️⃣ Are frequent users more verbose?

✓ **Yes.** Frequent users write longer, more descriptive reviews.

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4 Quick Recommendations

- Prioritize frequent reviewers for targeted offers and early product feedback.
- Use long-form reviews to train product-quality models and extract improvement suggestions.
- Use product-level rating distributions to flag underperforming items.

Built with Streamlit + Plotly · Data cleaning & logic derived from your original app. :contentReference