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The Art and Craft of Fraudulent App Promotion in Google Play

As mobile phones have become an integral part of our lives, we see applications being developed to make various day to day tasks easier. This is shown by the staggering 84.3 billion app downloads from the Google Play Store in 2019. When searching for an app among the 2.96 million on the store, the search rank of apps determines which ones show up first (of course, the app should be relevant to the search). The search rank is determined by the reviews and ratings given by previous users of this app. This paper reviews fraudulent methods used by people known as app search optimizers to increase the visibility of mobile apps. A large number of Google accounts (approximately 6000-7000) are commonly used to post positive reviews and ratings to increase the search rank of the apps they are asked to promote. The paper explores the different ways these fraudsters exploit “cracks” in the Play Store’s design to carry on with their work without being detected by the fraudulent review scanners. Finally, the findings show that there is a large impact on the rating of apps on the store due to the fraudulent marketing schemes and hence the apps get a much larger search rank than normally possible. For example, a useless app with a lot of bugs which could even cause harm might have a rating close to 5-stars. The paper finally gives some ways to possibly minimize the fraudulent promotion of apps on the store.

Key Points:

- How the fraudsters dominate
The paper explores many methods used by the fraudsters, even unknown to Google. These methods were not covered in previous papers which only observed the effect on society by fraudulent users and similar topics.
- Recommendations for the App Store
The paper has given possible fixes for the exploited vulnerabilities. This can be researched upon further, observing effectiveness of implemented methods compared to the suggested methods and so on.
- Limitations and Future Prospects
The paper gives the lack of a comprehensive sample as a limitation which is an accurate conclusion. It also mentions pathways that can be taken in exploring this topic further.

My 3 Questions:

1. What are the challenges when attempting to solve the fraudulent app promotion issue with an AI model (smart testing agent)?
2. What are some ways to get a broader, representative data set, which seemed to be the only limited factor in an otherwise very well laid out research?
3. What could be done to reduce the influence of the fraudulent reviews on the overall rating?
(Time spent on app acts as a weighting?)

