Mobile Apps' Feature Extraction Based On User Reviews Using Machine Learning

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The star rating and user reviews of Google Play store play a major role in App Store Optimization. The average number of stars received for an app and the user reviews are used to evaluate the overall app quality. We argue that the star rating is not a reliable measurement for the user satisfaction, since the star rating is a straightforward mathematical expression only. We cannot find a user's real experience about the app by asking them to rate the app out of five stars, even rating user reviews will give only an overall user perspective about the app. Therefore, we recommend a specific app feature evaluation method based on user reviews, which give us a genuine app rating than the conventional method. In addition to review based rating we did popular feature extraction from user reviews. Initially we started our research with mining user reviews from Google Play Store for several categories by using Web Scraping tool. We used the sentiment analysis to extract the meaning from the reviews and define the polarity of them. According to the polarity strength we rated each reviews. Overall rating was calculated by finding the average of given review based ratings. Then we compared review based ratings with the existing star ratings. We found that compare to overall review ratings, the existing star ratings differs and high. Moreover, the app feature set was selected according to the category of the app, and then the popularity of those features was calculated by using machine learning. We were resulted with app features and their popularity based on users' reviews. These popularities can be helpful to the potential app users to get know the top features and their popularity of the particular apps. In the meantime, app developers can identify which features have low popularity and they can improve those features in future.

Keywords: Reviews, Feature extraction, Rating, Sentiment analysis, Machine learning