1. Checking app behavior against app descriptions: what if there are no app descriptions?

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Abstract: Classifying mobile apps based on their description is beneficial for several purposes. However, many app descriptions do not reflect app functionalities, whether accidentally or on purpose. Most importantly, these app classification methods do not work if the app description is unavailable. This paper investigates a Reverse Engineering-based Approach to Classify mobile apps using The data that exists in the app, called REACT. To validate the proposed REACT method, we use a large set of Android apps (24,652 apps in total). We also show REACTs' extendibility for malware/anomaly detection and prove its reliability and scalability. However, our analysis shows some limitations in REACT procedure and implementation, especially for similar feature based app grouping. We discuss the root cause of these failures, our key lessons learned, and some future enhancement ideas. We also share our REACT tools and reproduced datasets for the app market analyst, mobile app developers and software engineering research communities for further research purposes. (0 refs)
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Uncontrolled terms: app description - app functionalities - app classification methods - Classify mobile apps - Android apps - app grouping - app market analyst - mobile app developers - app behavior
Classification Code: C6190V Mobile, ubiquitous and pervasive computing - C7250N Search engines - C7330 Biology and medical computing - C6110B Software engineering techniques - C6130S Data security - C7210N Information networks - E1400 Design
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