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## **Abstract**

Malware is spreading around the world and infecting not only for ending users, but also for large organizations and service providers. There is a real need of a dimension reduction approach of malware features for better detection. This system describes for malware detection and characterization framework which is based on Static Approach by only analyzing the Manifest File of android application. This system also describes a Feature Selection Approach, which is also based on Manifest File Analysis for the purpose of dimension reducing of malware features. Firstly, a number of Permission-Based Features are extracted by disassembling the Manifest File of Android application. Then, feature dimensions are reduced by proposing Score-based Approach. The results getting from the Correlation and Information Gain are used to compare the results of Score-Based Features Selection. According to the experimental results, proposed a light-weight approach can perform as equal as other feature selection methods. After feature selection, manifest file analysis based on malware classification and characterization results are also described in this system. The classification results tested by without reducing features and the results obtained by reducing features are compared to

determine which methods or classifiers are the best to detect malware.

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## Index Terms

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## Keywords

Android Security, Malware, Smartphone.