

# Software analyzes apps for malicious behavior

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Apps and tablets are potential data thieves. With new software, computer scientists from Saarland University want to identify such malicious apps already in the app store. Credit: Oliver Dietze

Last year at the end of July the Russian software company "Doctor Web" detected several malicious apps in the app store "Google Play". Downloaded on a smartphone, the malware installed—without the permission of the user—additional programs which sent expensive text messages to premium services. Although Doctor Web, according to its own statement, informed Google immediately, the malicious apps were still available for download for several days. Doctor Web estimates that

in this way up to 25,000 smartphones were used fraudulently.

Computer scientists from the German Saarland University have now developed software which can discover such [malicious apps](#) already in the app store. The software detects pieces of code where the app accesses sensitive data and where data is sent from the mobile device. If the software detects a connection between such a "source" and such a "sink", it reports that as suspect behavior. To give an example of such a malicious source-sink combination, Erik Derr explains: "Your address book is read; hundreds of instructions later and without your permission an SMS is sent or a website is visited." Derr is a PhD candidate at the Graduate School of Computer Science and does research at the Center for IT-Security, Privacy and Accountability (CISPA), only a few yards away.

To identify a functional relation between source and sink, the computer scientists from Saarbrücken use new methods of information flow analysis. As input they provide suspicious combinations of accesses on the application programming interface. As the software needs a lot of computational power and storage, it runs on a separate server. "So far we have tested up to 3000 apps with it. The [software](#) analyzes them fast enough that the approach can also be used in practice," Derr says.

Provided by Saarland University

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