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Semantic correlation of properties in Android

The full text is currently only available in the Deutsch version. A translation will follow.

Archived. This content is no longer updated. It remains available for reference.

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In addition to an approximate version of the original program code, function descriptions, an authorization model, UI elements, etc. are often available for the analysis of mobile applications. A correlation of these data with the source code would support the security-oriented analysis of mobile applications considerably, as contextual information could be contributed, which would provide information about the purpose of code fragments. However, the processing, evaluation and integration of this metadata into the analysis process is usually only possible to a limited extent due to the different data types.

In the course of this project, ways are to be discussed with the aid of the latest technologies from the field of machine learning in order to link program parts with each other in their functionality. By focusing on relevant properties in the program code, functionally decisive elements are to be identified and used as function descriptions. The aim is to be able to draw conclusions about the functionality of code in natural language. A subsequent comparison of the derived descriptions with the description of an app provided by the manufacturers makes it possible to identify functional discrepancies, incomplete or inaccurate statements.