2 November 2015 Study · Mobile Security · Web & Cloud

Platform Independent CMA System

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 This content is no longer updated.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.

Source https://technology2.a-sit.at/en/publications/platform-independent-cma-system/

A cloud-based mobile augmentation solution enables the efficient use of mobile device performance by decoupling resources such as the programming language, platform, and operating system from actually performing the tasks on the device. Despite their continuously growing popularity, mobile end-user devices still suffer from limited computing resources. This complicates the use of complex mobile applications that require resource-intensive computations. Recently, several frameworks have been developed that enable mobile applications to follow the cloud-based mobile augmentation (CMA) approach. This approach defines a strategy to dynamically outsource resource-intensive tasks to external resources. None of the existing frameworks focuses on cross-platform applicability and interoperability issues. It turns out that all of the existing frameworks are tailored to specific platforms and specific operating systems. Furthermore, security is not tackled at all by any of the frameworks.

In this project an innovative approach, which provides a high level of flexibility in order to meet requirements of different mobile use cases and application scenarios. The proof-of-concept implementation is applicable to all major mobile platforms and supports various types of external resources. Evaluation results yield significant performance boosts for resource-intensive tasks on mobile end-user devices.