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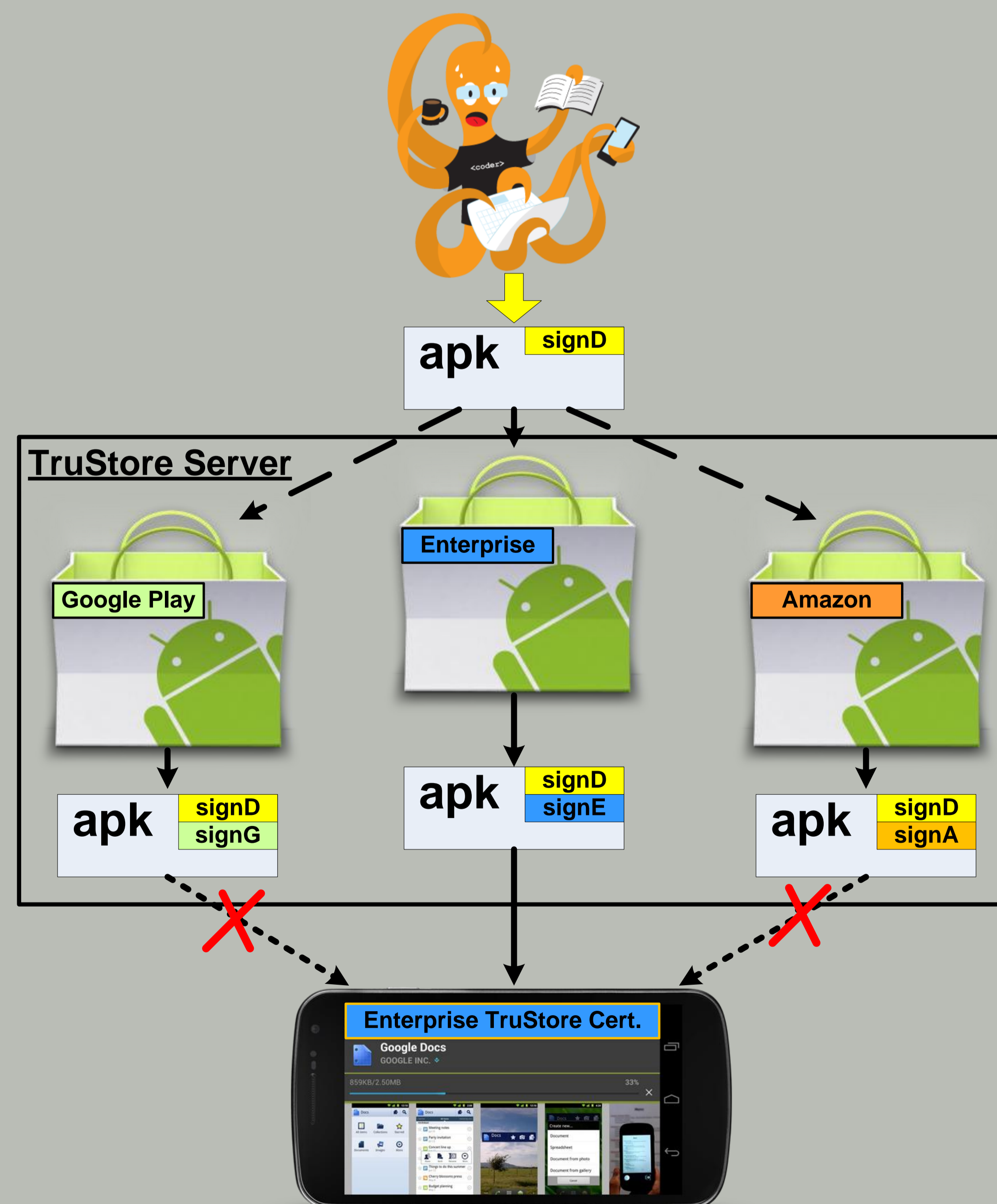


## Motivations

- ▶ Due to the open nature of Android, there is a large number of third-party markets (Amazon, Yandex, F-Droid, etc.).
- ▶ A certified vetting process of the Android apps is absent.
- ▶ There is no centralised signing authority.
- ▶ Users take all the responsibility for security decisions.
- ▶ There is no possibility to prohibit installation of uncertified applications in BYOD scenarios.

We would like to enable a system that maintains a list of trusted application markets and ensures that only apps from these markets can be installed on the device.

## TruStore Big Picture

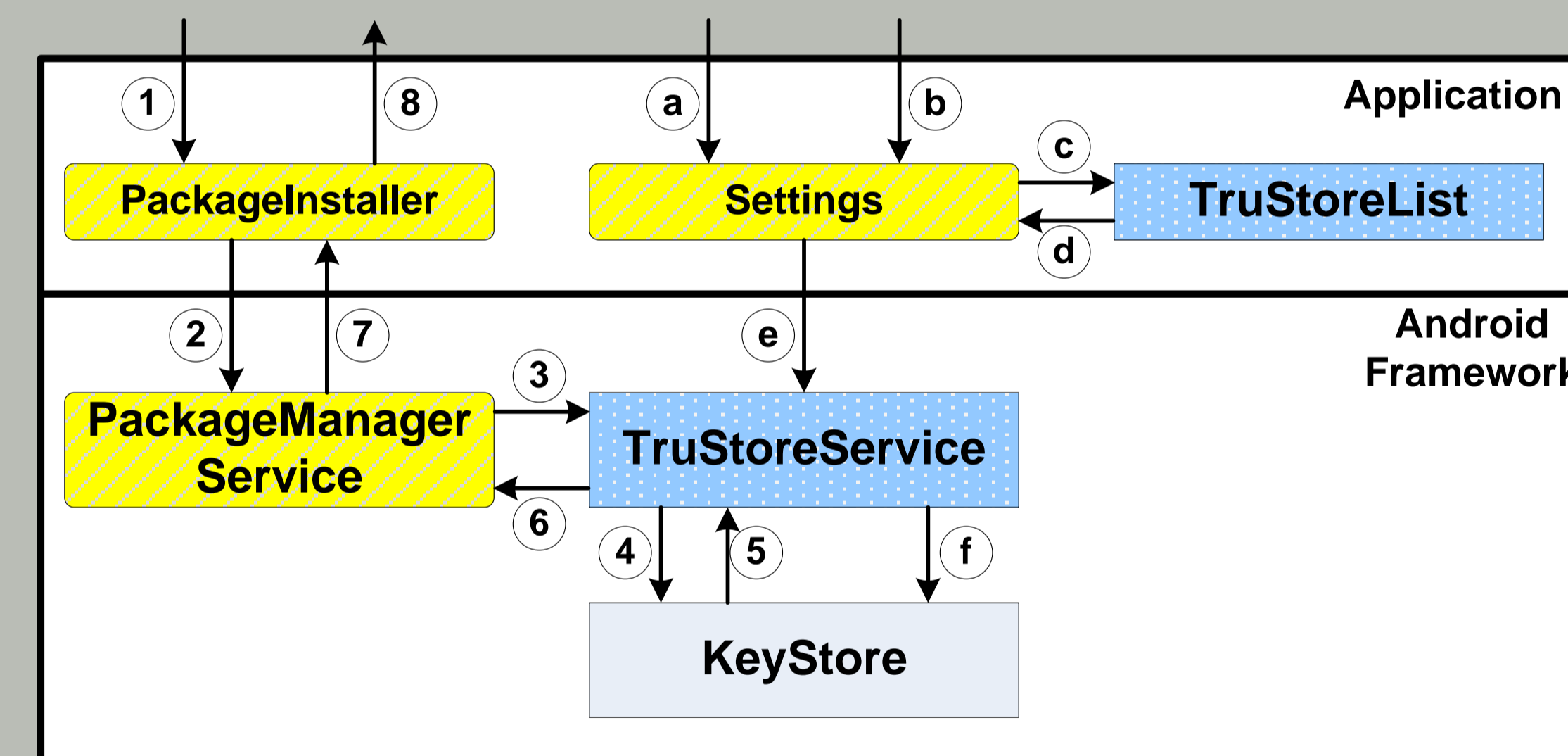


## TruStore Idea

*TruStore Server* besides offering the standard app publishing and provisioning functionality, is responsible for the application vetting process. If an app has passed the vetting process, the server signs the application with its own certificate and places it in the market to be accessible by users.

*TruStore Client*, which is based on a modified Android system, allows a device holder to install only the applications signed with TruStore server certificate.

## TruStore Client Architecture



- Unmodified Android components
- Modified Android components
- TruStore components

Figure 1: The TruStore architecture: the steps with letters represent the TruStore management process; those ones with numbers describe the checks during application installation.

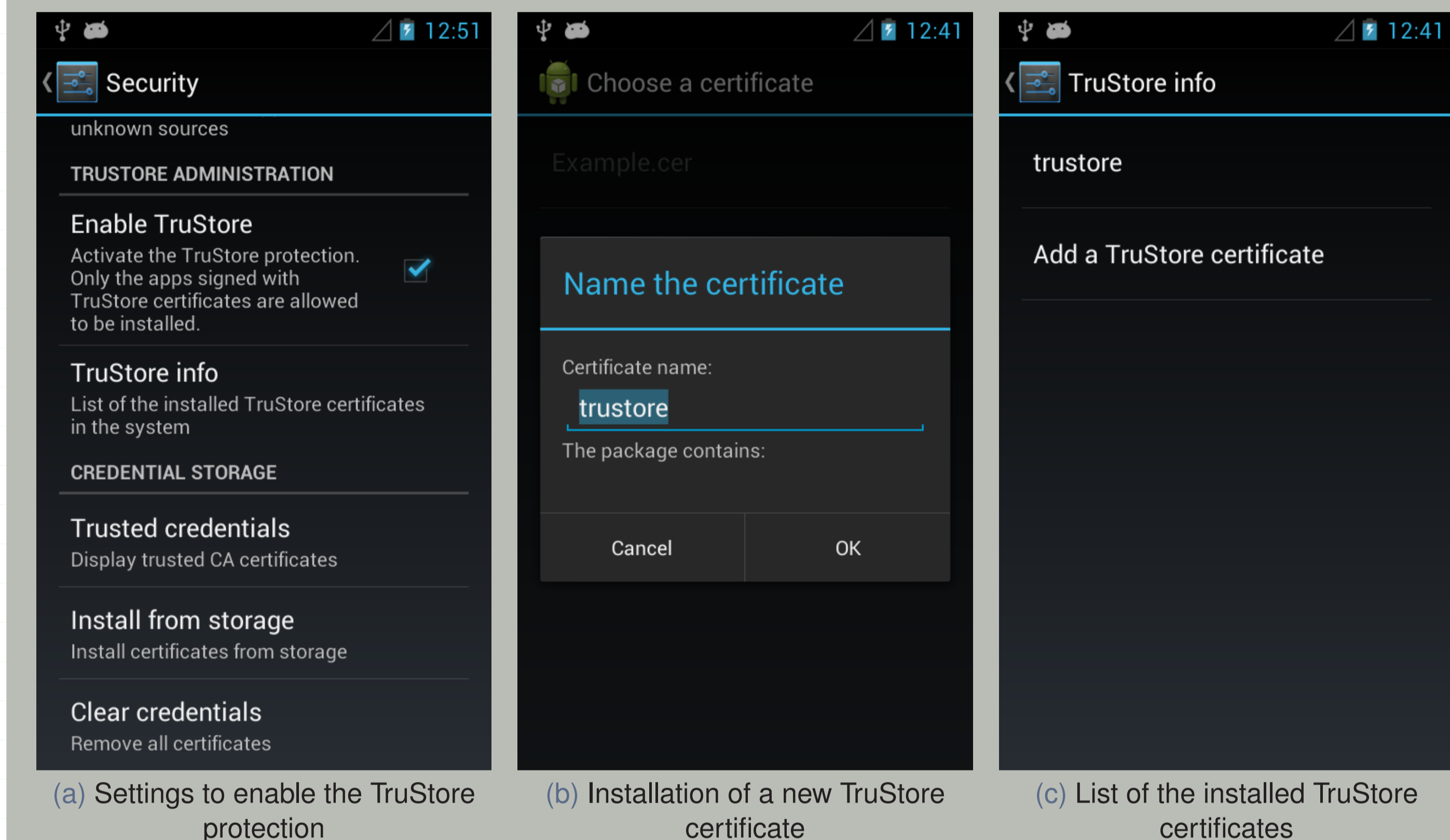
## TruStore Features

- ▶ Supports the open nature of the Android ecosystem;
- ▶ Does not change current development, signing and publishing workflow;
- ▶ Can be applied to already developed applications;
- ▶ Relies on the current Android security model;
- ▶ Allows to prohibit installation of uncertified apps (BYOD scenarios).

## TruStore Configuration

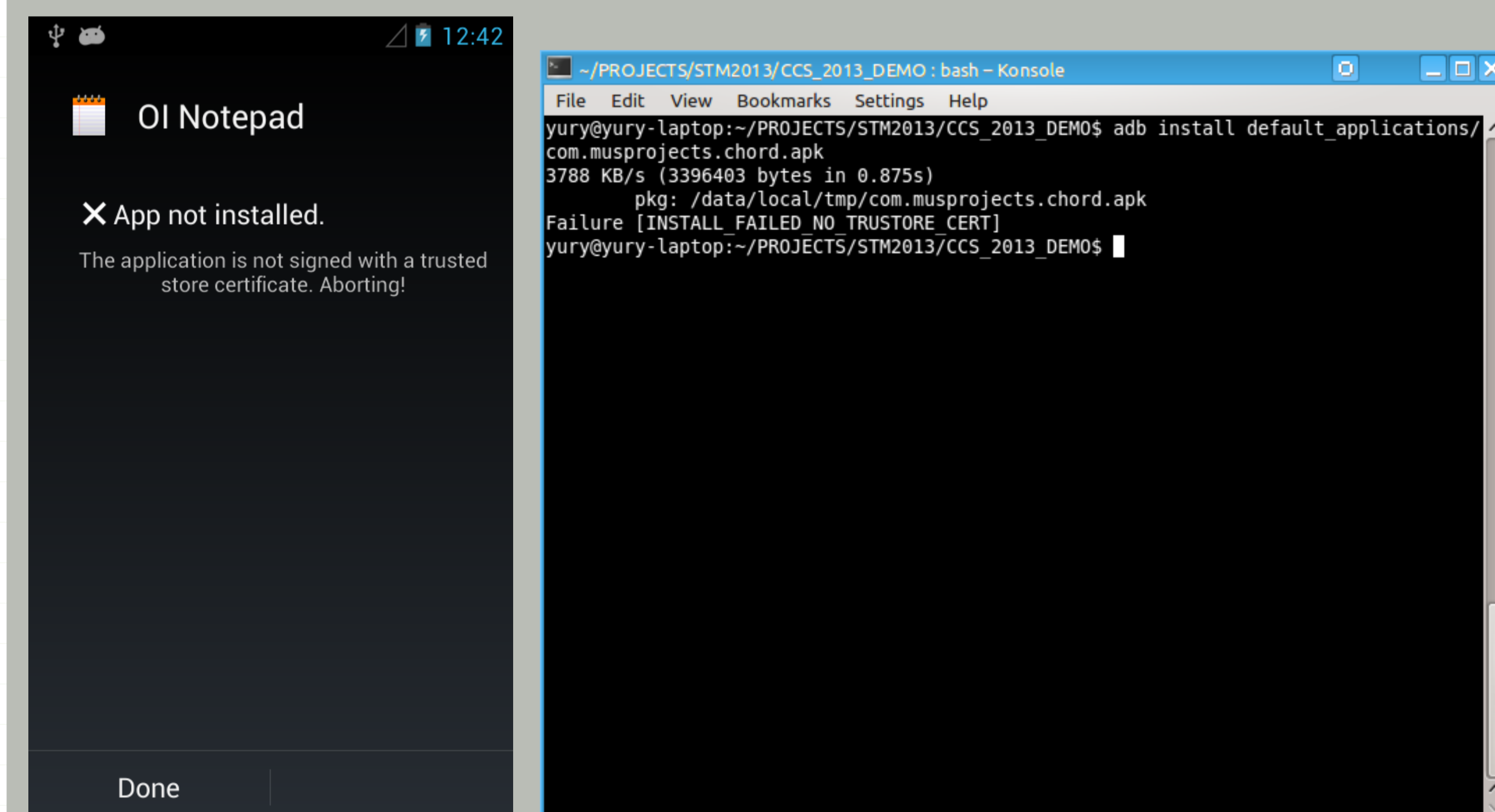
### Steps:

- ▶ Enable the TruStore protection
- ▶ Add a new TruStore certificate
- ▶ Check the list of the installed TruStore certificates



(a) Settings to enable the TruStore protection (b) Installation of a new TruStore certificate (c) List of the installed TruStore certificates

## TruStore in Action



(a) Package Installer: installation failed (b) adb: installation failed