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Detecting False Messages in the Smartphone Fault Reporting System

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Abstract

The emergence of the Internet of Things (IoT) in Smart City allows mobile application developers to develop reporting services with an aim for local citizens to interact with municipalities regarding city issues in an efficient manner. However, the credibility of the messages sent rise as a great challenge when users intentionally send false reports through the application. In this research, an evidence detection framework is developed and divided into three parts that are a data source, IoT device's false text classification engine and output. Text-oriented digital evidence from an IoT mobile reporting service is analyzed to identify suitable text classifier and to build this framework. The Agile model that consists of define, design, build and test is used for the development of the false text classification engine. Focus given on text-based data that does not include encrypted messages. Our proposed framework able to achieve 97% of accuracy and showed the highest detection rate using SVM compared to other classifiers. The result shows that the proposed framework is able to aid digital forensic evidence experts in their initial investigation on detecting false report of a mobile reporting service application in the IoT environment.

Keywords

Internet of Things Smartphone Application Reporting services Smart City Text classifiers

Notes

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