

Abstract

SMS messages can be used as digital evidence if they have a correlation with a crime being handled by an investigator, this is reinforced by the ITE Article 5 paragraph 1 which provides that electronic information and / or electronic documents and / or prints are tools legal proof of law.

Therefore, mobile forensics is very necessary in this case to know and seek more information on the evidence obtained by the investigator. There has been previously proposed a solution that uses string matching method with Boyer Moore algorithm in its implementation. However, the existing method still has some drawbacks such as the less efficiency level due to the complexity of Boyer Moore's algorithm that is $O(mn)$ where the complexity is greater than the current Knuth-Morris-Pratt $O(m + n)$ algorithm used on auto detect feature.

From the implementation that has been done proved Knuth-Morris-Pratt (KMP) algorithm is more efficient when compared with Boyer Moore algorithm in case of string matching on SMS message searching, from 5 attempts to search pattern SMS on one database of KMP algorithm faster 10% in the search time compared to Boyer Moore. This SMS message search case is based on a file containing the Hex string obtained from the android database (SQLite) which is then searched for its SMS header pattern.

Keywords: SMS, auto detect, efficient, evidence, string matching, KMP