

ABSTRACT

LIST STEGANOGRAPHY BASED ON SYLLABLE PATTERNS

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List-based steganography or Listega is a steganography method which based on noiseless steganography paradigm, or Nostega. In this method, a message is embedded in the first characters of list items to create a list-cover. There are some problems in Listega, i.e. small embedding capacity, embedding failure in using several index of Latin square that it uses as mapping method, risk of suspicion due to the use of unfiltered cover, which uses only embedded items as list-cover, and less resilient to noise. For overcoming the problems, List Steganography Based on Syllable Patterns is proposed. The basic concept of the proposed method is embedding message based on syllable patterns of Indonesian language into a list-cover. In this case, employee birthday list is used as a list-cover. This research also introduces an algorithm to generate an unfiltered list-cover, which contains both embedded and non-embedded list items. This kind of list-cover reduces the suspicion because it contains the whole natural list items. Furthermore, the results of the experiments show that the proposed method has higher capacity compares to Listega in filtered cover conditions. It can also be implemented using other language message, with reduced capacity. The embedding failures in the proposed method only happen in long message due to the shortage of the characters. In general, the message embedding capacity of the proposed method depends on the character frequency distribution of the characters used in the message, the size of the cover and the grouping method of the cover.

Keywords: Listega, Noiseless, steganography, syllable patterns