

A New Authenticable Steganographic Method via the Use of Numeric Data on Public Websites

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Abstract : A new steganographic method via the use of numeric data on public websites with self-authentication capability is proposed. The proposed technique transforms a secret message into partial shares by Shamir's (k, n) -threshold secret sharing scheme with $n = k + 1$. The generated $k+1$ partial shares then are embedded into the selected numeric items in a website as if they are part of the website's numeric content. Afterward, a receiver links to the website and extracts every k shares among the $k+1$ ones from the stego-numeric-content to compute $k+1$ copies of the secret, and the phenomenon of value consistency of the computed $k+1$ copies is taken as an evidence to determine whether the extracted message is authentic or not, attaining the goal of self-authentication of the extracted secret message. Experimental results and discussions are provided to show the feasibility and effectiveness of the proposed method.

Keywords : steganography, data hiding, secret authentication, secret sharing

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