

# Cryptography

## Past, Present and Future



Imad Fakhri Taha Al Shaikhli

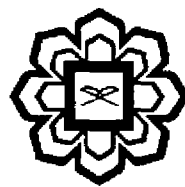


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# **Cryptography: Past, Present and Future**

**Imad Fakhri Taha Al Shaikhli**



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## 15. Digital Signature Algorithm

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- Iqram Mohammed Hayek
- Kusai Abu Hilal

### ABSTRACT

In this article we will talk about the background of digital signature algorithm. Also we will introduce into key generation and signing. Also, we will describe how to verifying with DSA and cryptanalysis of DSA.

### BACKGROUND

Digital signature is actually a mathematical scheme to show if the digital message is authentic or not. We want to make sure that the message was created by a known sender, and wasn't modified while transferring. (Kleinjung, 2007)

The most widely used algorithm for digital signature is known as Digital Signature Algorithm (DSA), which is an United States Federal Government Standard for digital signatures. It was proposed in 1991 by NIST. DSA is actually a variant of ElGamal signature scheme, which was created by Egyptian cryptographer Taher Elgamal. He published his idea in 1985, in his paper named "A Public key Cryptosystem and a Signature Scheme Based on Discrete Logarithms".(Kleinjung, 2007)

Digital Signature Algorithm uses Secure Hash Algorithm (SHA-1). This algorithm has been revised in 1993 in response to public feedback concerning the security of the scheme (Stallings, 2005). Digital Signature Algorithm cannot be used for encryption or key exchange,