

Electronic Signature

Shanmugham

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Legal and Technical Perspectives



Shanmugham D. Jayan



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Dedication

To my parents Dr. T. M. Dhananjayan
and Adv. S. K. Devi; and sons
Rithwick S. Jayan and Shivdutt
S. Jayan.

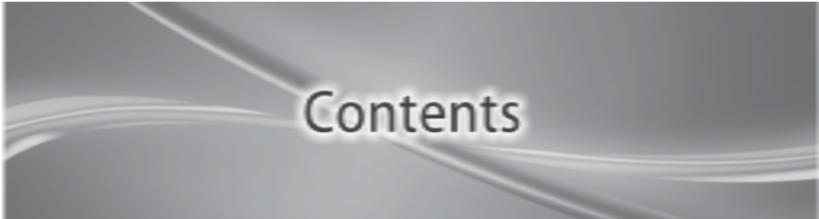


Preface

Shri. Shanmugham D. Jayan, Advocate, High Court of Kerala has the rare distinction of being a computer expert even while he keeps himself very busy with his lawyering work. He is also teaching Information Technology Law in the National University of Advanced Legal Studies, Kaloor, Cochin. His erudite examination of the evolution of law relating to signature in the context of current laws made by various countries conferring peculiar states to electronic signature is exceptional. It signifies his in-depth knowledge about the role of law in the lives of men. He captures correctly the vitality of law when it is introduced as part of the day to day practice of men rather than as an imposition of a requirement from an authority. He feels, correctly though, that the technology specific approach adopted by the law in treating electronic signature different from hand signature has curtailed the freedom of citizens and changed the hitherto followed commercial practices. He shows that the technology specific approach is bereft of jurisprudential basis. Shri. Shanmugham has given an excellent and extensive analysis of the laws in different countries to prove the soundness of his arguments. He has not spared the Information Technology Act, 2000 of India also.

A very good effort. Informative. Innovative. Invigorating and useful for legal fraternity.

Prof. (Dr.) K. N. Chandrasekharan Pillai
Former Member, Law Commission of India
Former Director, Indian Law Institute, Delhi



Contents

1. Introduction	1
2. Electronic signatures: The Various Technical Possibilities	13
3. Electronic signatures: The Legal Issues	29
4. Law of electronic signatures: A comparative study	37
5. Conclusion	63
Annexure I—The Indian Law—information technology act, 2000: A study	65
Annexure II—A note on amendment of information technology act, 2000	75

About the Book

It is an important work that fills the gap in the law library of the new millennium. It tells not only the story of the evolution of electronic signature but also dwells on its technological aspects in the legal terra firma of hand signature. The comparative study of ten legal approaches made by different countries and various international organizations is the main attraction of this book that makes it relevant and inevitable for a global readership. A note on the Indian Law in the form of Annexure makes the book exceptionally essential for the Indian professional.

Being the first book specifically on the subject it is having good potential. The book will be indispensable for legal academic. Any legal professional seriously into the subject will find it useful. The aspect of convergence of law and technology is capable of generating interest persons in other subject area. Without doubts any good law library will not be complete without the book.

About the Author

The author had his graduation in Physics and after that had his LL.B. and LL.M. from Cochin University of Science and Technology. Presently is practising as lawyer and is guest faculty at National University of Science and Technology (NUALS), Kochi. The author's study in the subject of information technology law is of almost one decade old when he did his dissertation in the subject. He has been handling the subject of Information Technology Law since the start of NUALS. Presently his doctoral research in Cochin University of Science and Technology is also in the same subject area.

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1

Introduction

In the ancient society, the word of a person was sufficient to generate trust in others and to act in furtherance of that word, since that was the time of the 'spoken world'.¹ Proving of authenticity was the primary objective of such deeds and the element of trust automatically followed. In layperson's terms, authentication means 'I am who I say I am'.² Many authentications in a person's day-to-day life are casually and automatically done. With the passage of time, the mutual trust simply on the words was losing ground and some other method to prove authenticity was taking ground. Thus, as the society grew, the element of formality slowly replaced the mutual trust that was present in the beginning. History shows many means by which this trust was generated. The 'Mudramothiram' in 'Shakunthalam'³ is a classic example of a method of proving authenticity. The affixation of King's symbol upon the royal documents⁴ was also one of these techniques. These can be

¹ At the inception of use of language as a tool for communication, the same was in verbal form. Writing was of a later origin. So one can cite the former as 'spoken world' and the latter as 'written world'.

² Andrew Terrett, *The Internet: Business Strategies for Law Firms*, Law Society Publishing, London (2000) at p. 184.

³ Ancient Indian Drama written by Kalidasa.

⁴ The term document is one that is of very high importance in this discussion. The term takes its origin from the Latin word *doacre*, which means to teach or to make known. Therefore, the meaning of document is restricted to the thing that makes a fact known. See Antonio A. Martino,

Footnote continued on the next page

2 Electronic Signature

cited as the initial instances of creation of trust on the basis of some material evidence. One can attribute the present-day agreements and contracts as a gradual development of these artificial techniques of trust generation. The marriage ceremonies still followed are continuing examples of ritualistic authenticity generating methods. In early times in Scotland, the contracting parties wetted their thumbs and pressed them together, whereas in some parts the contracting parties had to spit on the ground to make the agreement acceptable to the society.⁵

The growth of society and law paved the way for the formal approach replacing the ritualistic one. One can cite writing and signatures as examples of formalistic prescriptions of law.⁶ In the ‘written world’ people tried to reduce in writing, the spoken words and attach some proof to its origin. This can be attributed as the origin of signature.⁷ Law also gave a different treatment to a signed agreement unlike an unsigned one.⁸ However when examined on the basis of the origin and evolution, it can be seen that affixing signature was always a social event⁹ and the primary goals were non-repudiation and authentication of the document.

⁵“Regulations for Electronic Document Storage and Interchange: The Position in Italy and its Comparison with Europe” in H. W. K. Kaspersen and A. Oskamp (Eds), *Amongst Friends in Computers and Law*, Kluwer Law and Taxation Publishers, Netherlands (1990) at p. 75.

⁶Joseph M. Perillo, “The Statute of Frauds in Light of the Functions and Dysfunctions of Form”, 43 Fordham L. Rev. 39 (1974) at p. 43.

⁷Christopher B. Woods, “Commercial Law: Determining Repugnancy in an Electronic Age: Excluded Transactions Under Electronic Writing and Signature Legislation”, 52 Oklahoma L. Rev. 411 (1999) at p. 411.

⁸The concept of signature is inextricably connected with writing. One is signing a document and it always appears to the reader that the signer is the author of it. See *Hindustan Construction v. Union of India*, A. I. R. 1967 S. C. 526.

⁹See *L'Estrange v. F. Graucob*, [1934] All E. R. 16.

⁹Benjamin Wright, “Eggs in Baskets: Distributing the Risks of Electronic Signatures”, 15 John Marshall J. Computer & Info. L. 189 (1997) at p. 189.

Hand Signature

The most popular form of individual authentication is a signature. A signature is used to authenticate contracting parties to the contract, the subscriber to a negotiable instrument and the cardholder for credit card transactions. There are many regulations that describe the meaning of a signature. To sign means to affix one's name to writing or an instrument.¹⁰ Thus, signature is explained as follows:

"[A] distinguishing sign or mark, especially the name or something representing the name of a person used by him as affixed to a document or other writing to show that it has been written by him or made in accordance with his wishes or directions".¹¹

While one signs a document he unconsciously makes certain basic assumptions like his signature binds him to whatever the document states¹², the document will not be changed after he signs it, etc.¹³ The attributes of a signature are identification of the signer and authentication of the document.¹⁴ It also signifies knowledge, approval, acceptance, obligation, etc.¹⁵ of the document signed.

An all encompassing definition for signature can be found in the American law which says that a signature can be any mark on a message made with the present intention to

¹⁰ *Supra* n. 14 at p. 51.

¹¹ *Encyclopaedia Britannica*, Vol. 20, William Benton Publishers, Chicago (1964) at p. 644.

¹² See *Sayedabad Tea Co. v. Samendua Nath Ghatak*, (1995) 83 Comp. Cas. 504 (Cal.). Wherein, it has been opined that writing implies application of mind to the contents and consequences of the document.

¹³ Gail L. Grant, "How a Digital Signature Works", available at <http://www.commerce.net/research/reports/1998/98_17_r.html>.

¹⁴ D. P. Mittal, *Law of Information Technology (Cyber Law)*, Taxmann, New Delhi (October 2000) at p. 52.

¹⁵ *West's Encyclopaedia of American Law*, Vol. 12, West Group, St. Paul, Minnesota (1998) at p. 239.

4 Electronic Signature

authenticate it.¹⁶ This may be considered true for English law also, as signing is considered as the action of impressing or stamping a distinguishing mark of any kind.¹⁷ For an illiterate a mark is considered as his signature in India also.¹⁸ A mark has the same binding effect upon the individual making it, as does a signature. A mark can also be used by an individual who knows how to write but is unable to do so because of physical illness or disability. Nevertheless in the matter of literate persons, the courts were reluctant to accept a mark for signature.¹⁹ When a mark is used, it can be affixed wherever the signature can appear and even if there is a requirement, that the name must accompany the mark. The fact that the mark and the name are not in immediate proximity does not invalidate the mark.²⁰

In the case of an illiterate, another method that has been used to show the authenticity of a document is the use of thumb impression and such a thumb impression is accepted on par with signatures. The underlying factor in this method of authentication is also that thumb impressions are unique to each person. In India, among the illiterate persons, the use of thumb impressions is more prevalent than the method of making mark. There is legal validity for such practice.²¹ In some instances, English courts also had recognised thumb impressions as equivalent to signatures.²²

In modern English usage when a document is required to be signed by someone that means that he must write his name with his own hand on it.²³ In law, it is not so followed in the literal

¹⁶ Uniform Commercial Code (United States), § 1-201(39).

¹⁷ *The Oxford English Dictionary*, Vol. 15, Oxford University Press, Oxford (1989) at p. 457.

¹⁸ *Govind v. Bhai*, A. I. R. 1916 Bom. 123. See also *Ram Dayal v. Brijraj Singh*, A. I. R. 1970 S. C. 110.

¹⁹ *Raghbir Singh v. Thakurain Sukhraj Kaur*, A. I. R. 1967 Oudh 96.

²⁰ *Supra* n. 18.

²¹ See Indian Evidence Act, 1872, ss. 45 and 73.

²² *In the Estate of Finn*, [1935] All E. R. 419 P. D. A.

²³ Lord Denning, J., dissenting in *Goodman v. J. Eban Ltd.*, [1954] 1 All E. R. 763 at p. 769.

sense and law permits a great degree of freedom in the matter of signature. One may say that a signature consists of the act of writing one's name, coupled with the intention of authenticating the instrument or document signed. It is not the question whether the signature is corresponding to the official name of the person but the real question is whether the signature that is put is the usual signature.²⁴ In the absence of statutory prohibition, an individual can use any symbol, character, figure or designation he wishes to adopt as a signature. If he uses any of these as a substitute for his name, he is bound by it. The position of signature is also immaterial²⁵ unless there is a legal requirement²⁶ for a specific position. However, in this aspect also, courts have given conflicting opinions.²⁷

A signature can be written by the hand of the purported signer either through the signer's unaided efforts or with the aid of another individual who guides the pen or pencil. In cases when the maker's hand is guided or steadied, the signature is the maker's act, not the act of the assisting individual. Ordinarily a signature can be affixed in a number of different ways. It can be handwritten, printed, stamped, typewritten, engraved, painted, photographed or cut from one instrument and attached to another.²⁸

An individual may make signatures for another in his presence and direction or with his assent, unless prohibited by statute.²⁹ Such signature made is valid and the individual writing the name is regarded merely as an instrument through which the party whose signature is written exercises personal discretion and acts for himself. Authorized agents often execute negotiable

²⁴ *Re. Melton Mowbray (Egerton Ward) Urban District Council Election*, [1968] 3 All E. R. 761 Q. B. D.

²⁵ *In the Goods of Wotton*, [1874-80] All E. R. Prob. Ct.

²⁶ *Re. Stalman*, [1931] All E. R. 193.

²⁷ *In the Goods of Gilbert*, [1895-9] All E. R. 370 P.D.A.

²⁸ *Supra* n. 10.

²⁹ Richard A. Mann and Barry S. Richards, *Business Law and Regulation of Business*, West Publishing Company, St. Paul, Minnesota (1996) at p. 440.

6 Electronic Signature

instruments on behalf of their principals³⁰ and courts were never hesitant in accepting such authorized signatures.³¹ If such instruments are executed properly, the liability arising out of such instruments will be transferred from the agent to the principal.³² From these, it can be concluded that law was very lenient in determining what constitutes a signature. The law is not much worried about anything behind the whole process. Law is only concerned about the intent of the purported party to signature. Underlying all these aspects is the age-old common law notion that a signature can take the form of any mark so long as it was intended by the signer to validate a document.³³

The function of signatures is mainly authentication and thereby to create the necessary trust in the minds of the transacting parties and by such an act, the signer is not expected to dispute the contents of the document.³⁴ Literature in this area has been attributing many a various adjectives to the functions of a signature like confidentiality, integrity, availability, non-repudiate ability, audit ability, etc.³⁵ Taking apart these complex terminologies, a signature definitely satisfies the following elements:

- (1) It provides a proof that the signed person considers the content of a document binding.
- (2) For the other party this is a credible guarantee of a fulfilment of the obligations like financial, material, temporal, etc. expressed in the document.
- (3) It confirms the originator of a document.

³⁰ *Id.* at p. 442.

³¹ *Philips v. Butler*, [1945] 2 All E. R. 258 Ch. D.

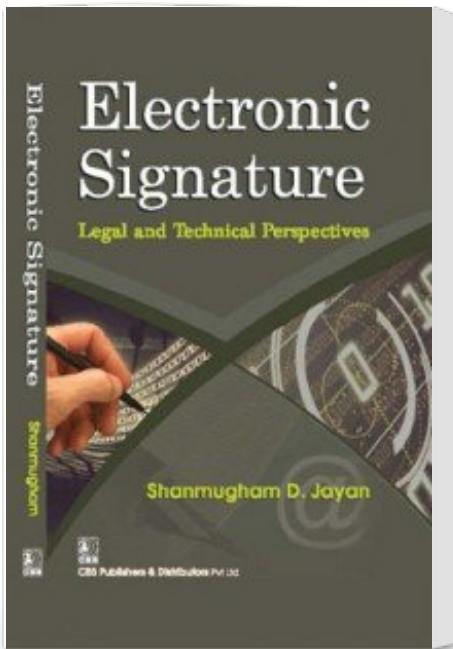
³² *Ibid.*

³³ R. Jason Richards, The Utah Digital Signature Act, as "Model" Legislation: A Critical Analysis, 17 John Marshall J. Computer & Info. L. 873 (1999) at p. 873.

³⁴ J. R. Spencer, "Signature, Consent, and The Rule in *L'Estrange v. F. Graucob*, 32 C. L. J. 104 (1973).

³⁵ Kamlesh K. Bajaj & Debjani Nag, *E-Commerce: The Cutting Edge of Business*, Tata McGraw Hill Publishing Co., New Delhi (1999) at p. 198.

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