

Computer Crime: developments in the Netherlands

Professor Richard De Mulder and Pieter Kleve*,
Erasmus University Rotterdam

1. Introduction

For years now, an argument has been raging as to whether products which are the results of new technical developments, such as computer software and data, are adequately protected by legislation drawn up long before such products had become commonplace. The question has arisen as to whether various forms of undesirable behaviour committed by means of information technology could be prosecuted under existing legislation.

It is contended in this article that, with the possible exceptions of hacking without causing damage, behaviour popularly referred to as computer crime already falls within the ambit of the existing criminal law code in the Netherlands. Additional legislation, which has now been passed by the Lower House of the Dutch Parliament, is to a large extent irrelevant. It will be interesting to see whether needless complications will ensue when this legislation comes into force.

2. What is computer crime?

“Computer crime” is a generic term generally used to cover various forms of undesirable behaviour which involve the use of a computer. The crimes usually referred to in this context are fraud by computer and forgery, hacking, software and chips piracy, data theft/espionage and damage to computer programmes and/or data particularly by infecting the same with viruses or other forms of sabotage. However, not all forms of undesirable behaviour are criminal. This raises the problem of defining computer crime.

2.1. Some examples of computer crime

One of the most common forms of computer crime is fraud. Perhaps the most spectacular crime perpetrated in this way in the Netherlands was reported in 1987 when a Dutch municipal council accused one of its civil servants with embezzling almost eight million guilders. The civil servant had been able to appropriate this remarkably large sum of money over a period of three years by

* Richard De Mulder and Pieter Kleve have acted respectively as chairman and secretary of the special working committee on computer criminality of the Netherlands Association for Computers and Law. This committee has published two reports on computer criminality in the Netherlands.

making use of shortcomings in the procedures of the computer system to his own advantage¹.

Two years earlier, the director of one of the regional fish auctions managed to develop a computer system which could deal with the sales of fish made at the auction without these sales being registered in the European fish quota system. At least 600,000 guilders worth of fish was sold this way².

These are but two examples of the imaginably numerous petty and larger frauds perpetrated by computer every year. Fraud and forgery, however, are not the only sort of computer crime which has concerned the authorities in recent years.

Another major source of irritation is hacking. Where computer systems are connected to public telephone lines, it is possible for outsiders to access the system. In many cases the *raison d'être* of the hacking is the challenge of entering the system. The successful hacker may announce his achievement by leaving a message. A number of hackers in the Netherlands have even publicly displayed their skills by openly hacking on Dutch television. Hacking is not always done for kicks alone. Commercial spying may be a motive. Or hacking may simply be necessary to access the system in order to carry out fraudulent transactions as described above. Unauthorized access is a source of much concern to firms. Even if fraud is not perpetrated, files may be tampered with or destroyed. Criminals or criminal organisations could blackmail firms just by threatening to enter their computer systems and place a logic bomb. One general practitioner in the Netherlands became aware that a hacker had accessed his system. He was, therefore, forced to check the integrity of his files. It later appeared that his files were intact but many hours had had to be wasted in the process of verification.

It would seem, however, that the major form of computer criminality is neither fraud nor hacking. It is software piracy. A recent investigation commissioned by the Platform for Computer Criminality in the Netherlands (in which participants are drawn from both business and the civil service) revealed that software piracy accounts for 47% of offences³. This poses a considerable problem not only to software companies but also to their bone fide patrons who pay the price of the piracy. As regards the Netherlands, it is not easy to obtain figures but a poll was carried out by Borking in 1985⁴. It would appear from this poll that the damage caused by illegal copying and illegal distribution amounts to at least 24 million guilders each year. Further research would indicate that the financial damage accounts for 10% of the turnover of the software suppliers in the Netherlands. For 1986, that would mean a sum of 90 million guilders. A recent estimate made by Business Software Alliance, an alliance which includes Lotus, WordPerfect and the Microsoft corporation, states that a sum between 400 and 600 million guilders per year is lost to software suppliers this way⁵.

After software piracy, the most common form of computer criminality is intentional damage to computer programmes or data. A considerable proportion of this damage is the result of computer viruses. A virus can cause damage to data or programmes by deleting or altering them. Viruses come in a variety of forms and cause extensive damage because they can infect a large number of systems before they become apparent.

Various viruses have affected Dutch personal computers in recent years: the datacrime virus, the Michaelangelo virus, the diskkiller virus and the Jerusalem virus to name but a few. It is difficult to estimate the extent of the damage caused by viruses. Organisations tend to be reluctant to reveal they have had a virus but the Centre for Computers and Law of the Erasmus University in Rotterdam alone has received hundreds of reports from individuals, firms and public organisations of probable cases of viral infections.

The implanting of, or threatening to implant, a virus may be ascribed to a whole range of motives; blackmail, sabotage, to attract attention, to advertise, to warn software pirates off or as part of a fraud.

2.2. The problem of definition

Writing a virus is not in itself a criminal offence. To hack, if the only effect of the hacking is the gaining of access, may also not be a criminal offence. The hacker who simply enters and then leaves could possibly be charged with stealing computer time or, in extremely rare cases, breaching the provisions of official secrets acts. He could not be criminally prosecuted for unauthorized entry as this in itself is not a crime according to the present law in the Netherlands.

There is, therefore, a difference between what public opinion would define as being criminal and what the law itself defines as criminal. Not only members of the public but lawyers themselves have argued that the criminal law code should be amended in order to give it the competence to deal with computer crime. This argument, however, is not logical. If the criminal code does not recognize certain types of behaviour as being criminal, then it is not possible to refer to these forms of behaviour as being crimes. It would be necessary to legislate upon computer crime, to enter such offences into the criminal law code. This would entail drafting definitions.

The international organisation for economic cooperation and development (the O.E.C.D.) has tried to provide a solution for this problem. It defines "computer related crime" as "any illegal, unethical or unauthorized behaviour related to the automatic processing and the transmission of data". The Council of Europe has adopted this definition in their report "Computer-related crime"⁶. Such an approach, however, is not in the least satisfactory. It is not acceptable to identify

“crime” with “any illegal, unethical or unauthorized behaviour” as does the OECD. The fact that something is illegal (for example: breaching a contract) does not make it a crime. Indeed, it would be against the principle set down in article 7 of the European Convention on Human Rights to treat it as such. The same is true for the other attempts in the definition to make something a crime that is not according to the criminal law. “Unauthorized behaviour” is never per se a crime, as no legislation could be based on the principle that a citizen needs an authorization for everything he wants to do. As for the “unethical” part of the definition, to introduce ethics into the law is a particularly dangerous operation as morality could be quite different for large groups of the population in a multicultural society.

The other part of the definition by the OECD, that which attempts to define which behaviour is “computer-related” and which is not, is equally unsatisfactory. By replacing “computer” by “automatic processing and the transmission of data” the term “computer” is avoided. It is questionable whether the dropping of the word “computer” makes the situation any clearer. One would presume it unlikely that the intention was actually to exclude from the definition the two other main functions that have been made technically possible through information technology, i.e. storage and retrieval of information.

The direct purpose of the OECD definition is not, of course, to transform certain forms of behaviour into crimes merely through the wording of the definition. It is, however, the intention that the definition should be used as a guideline for legislators in national states to enable them to expand the range of behaviour which can be categorized as criminal behaviour. The legal structure would then be in place to allow them to deal with social problems which may arise from the development of information technology. The definition itself, nonetheless, is clearly too broad and superficial.

An interesting question which will be examined below is why state-representatives at the national and international level are prepared to put so much effort into defining a form of behaviour as criminal that is not criminal. However, before dealing with this question we would first like to examine whether there is any objective need, or even use, for national legislators to change the criminal law in order to expand the range of behaviour which can be designated as criminal behaviour.

3. Dealing with computer crime under present Dutch criminal law

As will be clear from the above discussion concerning the definition of computer crime, there are those who wish to see legislation drawn up that will

deal specifically with computer crime⁷. There has been a powerful lobby in the Netherlands for doing just that. That lobby has proved successful. The Dutch Lower House has recently passed specific computer crime legislation⁸. It will be incorporated into the criminal law code, the criminal law procedure code and even, in a special case (to promote security in computer systems in private firms), into the civil law code. It will be argued below, however, that in general this additional legislation is unnecessary and even undesirable in the Netherlands as the criminal law code has already proved itself equal to the task of coping with offences which make use of technical innovations.

3.1. The application of the criminal law code

It is of significance to note that before the new legislation was passed there were several test cases on computer criminality in which the perpetrators were identified, prosecuted, found guilty and punished. As far as is known, there has been no single instance in which the prosecuting authorities had to drop a case that they thought should be prosecuted because it was not covered by the existing criminal law code.

The reason for this lies in the construction of the criminal law system. The criminal law code (dating from 1886) and the criminal law procedure code (1921) were written to deal with a wide range of socially undesirable behaviour. Consequently, the criminal acts in the criminal law code are defined in very broad and general terms. The same is true for the powers of the police and the prosecuting authorities. For example, manslaughter, murder, criminal damage and fraud are defined in terms of the **result** of an act (or omission) rather than as a description of the act itself. This means, therefore, that for the criminal law it does not make any difference how the act was committed but what the end result of the act is. If the end result of a certain act is the fraudulent appropriation of money it does not matter whether that result was obtained by using a computer or by non-electronic means.

3.2. Court verdicts in the Netherlands

In the cases which have been heard in the Dutch courts, neither evidential nor procedural rules proved an obstacle to enforcing agencies. As concerns the rules of **evidence**, computer files could be printed out to provide documents. There is actually a verdict which states that in most cases computer files themselves are documents⁹. Even a statement made by a witness who had studied the file has been deemed legally admissible evidence. The seizure by the police of videotapes in order to use their information as legal evidence was accepted as the seizure of “a material good” according to the criminal procedure code.

It would seem that the courts had successfully been able to apply the existing criminal law to existing criminal offences committed with the aid of a computer. Computer fraud and forgery would simply be prosecuted under the

articles of the criminal law code which deal with fraud and forgery¹⁰. Software piracy already fell under the ambit of the copyright legislation in respect to software as an intellectual product¹¹. The designation of software as a material good by the Court of Arnhem in 1983 also placed the appropriation of software under the criminal law provisions related to appropriating goods¹². Damage to computer programmes or data files has been stated to be criminal damage¹³. The only so-called computer crimes which may have fallen outside the existing legislation were hacking without causing damage.

As mentioned above, the Court in Arnhem decided in 1983, that software constitutes goods. This was a most significant verdict. It meant that software fell under the article concerning embezzlement and theft because “the character of the present computer data is that of transferability, reproductivity and availability, while furthermore they are economically valuable”. This verdict was based on criteria presented in the electricity verdict of 1921 in which it was stated that electricity was a material good which could be stolen¹⁴.

The discussion that followed the Arnhem verdict was lively. Those who disagreed with the Arnhem verdict that software is a good argued that in the electricity case the Supreme Court built in certain limitations by stating that the article on theft in the criminal code should not be applied to “rights or intellectual products, such as, for example, copyright or a patent”¹⁵. We would maintain that this argument missed the point. To remove a copy of a computer program (or a computer data file, or a book) cannot possibly mean that the copyright or the intellectual product has been appropriated. After all, “intellectual product” means: the “work” in the sense of the Dutch Copyright Law, the “corpus mysticum”. It is not possible to transfer the right of intellectual property unintentionally by theft.

The authors of this article argued in the “Nederlands Juristenblad”, that the verdict of the Arnhem court was a correct and proper one, as computer software and computer data in general were clearly material goods. They can be manipulated technically and represent an identifiable economic value. Many lawyers, however, thought that the court had gone too far in its interpretation. In Dutch criminal law, as in the criminal law legislation of most countries, “extensive” interpretation is allowed, while “analogous” interpretation is not¹⁶.

4. New legislation

A bill concerning computer criminality was accepted by the Lower House of the Dutch parliament in June 1992¹⁷. The Bill contains provisions regarding criminal law and criminal law procedure. One of the key points of the bill is its focus on the individual responsibility of computer users expressed, inter alia, in

a security requirement as a condition for criminal liability for unauthorized entry in computer systems (“hacking”). The bill even extends to accountancy law with the provision that a separate computer security section must be included in companies’ annual accounts.

The provisions concerning criminal law procedure increase the police powers of search. Police power of search in computer systems would now be commensurate with the users right of entry. Furthermore, the police could now be given a warrant allowing them to tap a telephone line in order to obtain computer data.

The Dutch bill on computer criminality has accepted the proposals made by the Committee on Computer Criminality¹⁸ which rejected the verdict of the Arnhem court by explicitly stating that data is not to be designated as goods under the criminal law. This is, in our opinion, a major step backwards in the task of developing clear and simple legal provisions. Instead the bill proposes to create a whole new entity: “data”¹⁹. The arguments put forward to justify a completely new series of supplements to the law for this unprecedented sort of object called “data” are hardly convincing. As a result of technological developments, it is no longer true that data are always an intellectual product. Even if they were, as soon as they took on a concrete form, they could be classed as goods as well. It is consistent that data cannot only be stolen in the form of printed paper but also in the form of a computer file on a disk, or via the telephone. Moreover, if data are accepted to be goods, not only is the intellectual owner of the data protected, but also the “everyday” owner of a computer program, or a data file, in the same way that the owner of a book is protected against theft of **his** book.

It is to be feared that complexity will be the consequence of choosing for a separate regime for data as it will involve introducing further legislation. Furthermore, there has been nothing to indicate that this radical new approach was actually necessary. The existing criminal law code seemed to be sufficiently capable of dealing with most forms of computer crime.

A separate status for data can only give rise to many ambiguities in the future. The new legislation could render some of the precedents from case law obsolete. It would also seem that the entity “data” will not be inserted in all the cases where the present criminal law code refers to a good. It is yet uncertain whether case law will interpret the changes “a contrario”, which would mean that in all cases where “data” are not explicitly mentioned in the definition of the criminal offence, it would be impossible to find the defendant guilty. It is equally questionable, whether the new legislation would have an effect on civil law cases.

A final argument against the new legislation in the Netherlands is the need for harmonization of the law in Europe. The new legislation is proposed at a time in which there is no unity on this front within the EEC²⁰.

5. Conclusion.

New legislation will come into force in the Netherlands, if it will be approved by the Upper House as expected in November 1992²¹. We contend that this new legislation will lead to needless complications, confusion and considerable expense. It will extend the powers of the police significantly without offering any more extensive protection to the victims of computer crime. The efficacy of drafting extensive legislation to cover computer crimes such as damage to data or programmes which are rarely reported and even more rarely charged, is open to doubt. Nor does it fit in with attempts to achieve uniformity of approach in Europe, particularly with respect to the powers of the police and prosecuting authorities i.e. the rules of criminal law procedure.

On the other hand, the existing legal structure had already shown itself to be capable of covering cases arising from information technology. Court verdicts, such as that in Arnhem, contributed significantly to establishing a clearer and more practical legal approach. It opened the way for an effective legal onslaught on software piracy. Only minor changes to the criminal law code and the criminal procedure code would have been necessary to cover hacking and to allow data tapping to the police.

It would have been wiser to invest public funds in other forms of state activity aimed at combatting computer criminality. For example, more police units specializing in computer technology could have been established. At present there are only three such teams in the Netherlands. Furthermore a lot more attention could have been paid to the enforcement of copyrights on computer software.

The dangers to society of computer crime have been vastly exaggerated. The activities of state representatives cannot be explained by these dangers alone. Civil servants and particularly those with expertise in information technology apparently believe it is important that people **think** that computer crime is a big threat. This will legitimate spending large sums in this field. In a way this is quite possibly rational from the point of view of the state: in the future information flows and therefore information technology will represent the main stream of power. State representatives would naturally desire to control that power.

References.

- 1 The Dutch Supreme Court, H.R. 15 January 1991. Manipulation of a computer file was
designated to be forgery, Criminal Law Code, W.v.Sr. art. 225.
- 2 Forgery, Criminal Law Code, W.v.Sr. art. 225. As the defendant died during the procedure,
no final verdict was given in this case.
- 3 F.H. Charbon and H.W.K. Kaspersen, "Computercriminaliteit in Nederland" (Computer
criminality in the Netherlands), Rapport in opdracht van het Platform Computercriminaliteit,
november 1990.
- 4 C.O.S.S.O., 1985.
- 5 "Aanval op software-piraterij", Algemeen Dagblad, 13 mei 1992.
- 6 OECD report, ICCP No. 10, Computer-related Crime: Analysis of Legal Policy, 1986.
"Computer-related crime". Recommendation No. R(89) 9 on computer-related crime and final
report of the European Committee on Crime Problems. Council of Europe, Strasbourg 1990.
- 7 In the Netherlands an important role has been played by the report "Informatietechniek en
Strafrecht" (Information technology and criminal law), rapport van de commissie computer-
criminaliteit (commissie Franken). Staatsuitgeverij, Ministerie van Justitie, april 1987.
- 8 Wetsontwerp Computercriminaliteit (Computer Crime Bill), Tweede Kamer (the Dutch
Lower House) T.K. 1991-1992, nr. 21 551. The Bill was passed in the Lower House in June
1992. It will be debated in the Upper House in or around November of this year.
- 9 See reference [1].
- 10 Forgery, Criminal Law Code, W.v.Sr. art. 225, Fraud, Criminal Law Code, W.v.Sr, art. 326.
Auteurswet (Copyright Act) 1912.
- 11 Embezzlement, Criminal Law Code, W.v.Sr., art. 321. Hof Arnhem, 27 oktober 1983,
Computerrecht 1984/1.
- 12 Criminal Law Code, W.v.Sr., art. 350. Arrondissementsrechtbank 's Gravenhage, 9 juni 1989,
Computerrecht 1989/4.
- 13 The Dutch Supreme Court, H.R. 23 mei 1921, N.J. 564.
- 14 C.f. G.P. Vandenberghe, Computerrecht 1986/1, p. 44.
- 15 P. Kleve and R.V. De Mulder, "De juridische status van software" (the legal status of
software), Nederlands Juristen Blad 28 oktober 1989, p. 1342. Nederlands Juristenblad 17
februari 1990, p. 279 (contributions from M.S. Groenhuijsen and F.P.E. Wiemans, F. van der
Klauw, G.B.A. Paquay).
- 16 See reference [8].
- 17 See reference [7].
- 18 For an extensive discussion of this subject: Handelingen 1988 der Nederlandse Juristen
Vereniging, deel 1 en 2, Zwolle 1988/1989.
- 19 The O.E.C.D. guidelines, as adopted by the council of Europe (see note [6]), do not deal with
criminal law procedures such as the powers of the police with respect to computer technology
or rules of evidence. C.f. "Rapport Computercriminaliteit", NVIR studiegroep
computercriminaliteit, p. 91, in: F.P.E. Wiemans (ed.), "Computer Criminaliteit", Cipher
Management BV, Maastricht 1991.
- 20 The computer crime bill was approved by the Upper House the end of 1992. Minor changes
have been incorporated during the parliamentary process. The powers of the police have even
been increased with respect to hacking: provisional detention will be allowed for this crime.
The section that refers to accountancy law has been mitigated: a separate computer security
section in companies' annual accounts will not be required, although independent accountants
(who are responsible for the approval of annual accounts) will be obliged to report
inadequacies with respect to companies' computer security in their 'management letter'.