

Course: Professional Issues in Information Technology

Week 8: Software Contracts

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Lecture learning outcomes

At the end of this lecture, the learner should be able to:

1. Define the two terminologies contract and software contract
2. Describe various parts of a software contractual agreement(s)
3. Describe the various software contracts available

1.1 Definition of terms

1.1.1 Contract

- A contract is an **agreement** between two or more persons
- A contract can be **enforced in a court of law**
- The parties involved in a contract must be **legal persons** or **natural persons**
- A Legal person or a legal entity is a person or entity that has the capacity to **act**, acquire **rights** and create **obligations** (separate from its members)

Essential points of a contract

- All the parties must intend to make a contract*
- All parties must be legally competent (i.e. old enough, of sufficiently sound mind)*
- There must be a consideration: each party receiving/providing something*
- Contract law is largely based on common law*

1.1.2 Software Contract

- A Software contract is an agreement that specifies the rights and responsibilities of a programmer (or vendor) and a principal or customer.¹
- A software contract consists of a non-exclusive licence to use the software

¹ Ethics in Information Technology, 4th ed. Reynolds, G. Course Technology, Boston, USA. (2011) Pg. 286

The following are the provisions of a software contract: -

- i. A copy of the source code is **kept with an agent for release to the customer** should the programmer (or vendor) **fail to comply** with terms of software development²
- ii. Insertion of **special code** in the software through which the **programmer (or vendor) may remotely disable** the program in case the customer fails to comply with his or her part of the contract.

1.2 Software Quality

- Software quality is the degree to which a software product **meets the needs of users**
- High quality software characteristics:
 - i. Easy to learn and use,
 - ii. They meet user needs and
 - iii. They operate safely and reliably
- Poor quality software has **software defects**
- These are errors in software and if not removed they could cause software systems not to meet user needs³

1.2.1 Poor Software Quality

- What causes poor software quality?
 - i. Developers not knowing how to design quality software
 - ii. Pressure to reduce development time to get more time to market these products
- A major ethical dilemma for software development organizations is: “How much additional cost and effort should they spend to ensure that their products and services meet customers’ expectations?”⁴

² Ethics in Information Technology, 4th ed. Reynolds, G. Course Technology, Boston, USA. (2011) Pg. 241

³ Ethics in Information Technology, 4th ed. Reynolds, G. Course Technology, Boston, USA. (2011) Pg. 264,265

⁴ Ethics in Information Technology, 4th ed. Reynolds, G. Course Technology, Boston, USA. (2011) Pg. 266

- Managers face ethical questions of how much money and effort to invest in the development of high-quality software.
- Managers who take short-term, profit-oriented views may feel that any additional time and money spent on quality assurance will only delay a new product's release, resulting in a delay in sales revenue and profits.
- The **unethical perspective** is failure to fix all known defects before putting a product on the market and charging customers for it.⁵

1.2.2 Software Product Liability

- If a software defect causes injury or loss to users, the injured parties may sue as a result.
- Example: faulty on-board computer in a passenger flight could cause accidents
- Injury or loss can come in the form of physical mishaps and death, loss of revenue, or an increase in expenses due to a business disruption caused by a software failure.
- Software product liability claims are based on strict liability, negligence, breach of warranty, or misrepresentation.⁶

1.2.3 Safety-critical systems

- These are systems whose failure may cause human injury or death.
- Software development organizations have a standard software development methodology
- It is important not to assume that while developing safety-critical systems, safety will automatically result from following the said methodology.⁷
- A lot needs to be done

⁵ Ethics in Information Technology, 4th ed. Reynolds, G. Course Technology, Boston, USA. (2011) Pg. 268

⁶ Ethics in Information Technology, 4th ed. Reynolds, G. Course Technology, Boston, USA. (2011) Pg. 268

⁷ Ethics in Information Technology, 4th ed. Reynolds, G. Course Technology, Boston, USA. (2011) Pg. 275

1.2.4 Liability and Breach of contract,

- A product warranty assures users that a product meets certain standards of quality.
- Quality warranty may either be directly stated or implied by law.
- Warranties can be oral, written, or inferred from the seller's conduct.
- If the product fails to meet the terms of its warranty, product users can sue for breach of warranty contract.
- Many dissatisfied customers first seek a replacement, a substitute product, or a refund before filing a lawsuit.⁸

1.2.5 Software Quality Assurance (QA)

- These are methods within the software development cycle designed to guarantee quality of software⁹
- Software development companies need a formal, standard approach to QA
- Software testing should not be the only QA method.
- Checking for errors throughout the development process should be the target.
- Sadly, many companies mainly rely on testing just before the product ships to ensure some degree of quality which is not always sufficient.

⁸ Ethics in Information Technology, 4th ed. Reynolds, G. Course Technology, Boston, USA. (2011) Pg. 269

⁹ Ethics in Information Technology, 4th ed. Reynolds, G. Course Technology, Boston, USA. (2011) Pg. 272

2.1 Types of software service contractual agreements

1. A click-wrap agreement

- ✓ This agreement is also known as a "click-through" agreement or click-wrap license)
- ✓ It is a common type of agreement often used in connection with software licences.
- ✓ Such forms of agreement are mostly found on the Internet, as part of the installation process of many software packages.
- ✓ Other circumstances where this agreement is sought is while using electronic media.
- ✓ The content and form of click wrap agreements vary widely but most click wrap agreements require the end-user to manifest **his or her assent by clicking an "ok" or "agree" button** on a dialog box or pop-up window.
- ✓ A user **indicates rejection by clicking cancel or closing the window**. Upon rejection, the user cannot use or purchase the product or service.
- ✓ It is a **take-it-or-leave-it contract** described as a **“contract of adhesion”**
- ✓ The contract **lacks bargaining power**, on the side of the buyer forcing one party to be **favoured over the other**.

2. Shrink-wrap Licence

- ✓ The name "**click-wrap**" came from the use of **“shrink wrap contract”** commonly used in **boxed software purchases**,
- ✓ Boxed software products normally come in some wrapping format that requires opening. The wrapped boxed software **contains a notice that by “tearing open the shrink-wrap”**, the user assents to the software terms enclosed therein".
- ✓ Shrink-wrap is considered a type of **passive contract**. This is because, the **buyer of a software** is deemed to accept all the conditions by the fact of opening its **shrink-wrapped package**.

Shrink-wrap License Terms of Agreement

- i. Prohibition from making **unauthorized copies**,
- ii. Prohibition from performing any **modification to the licenced software**,
- iii. Prohibition from **reselling the software**,
- iv. **limited use to one or a specified number** of computers,
- v. limited publisher's liability. The legal implications of a shrink-wrap license are still controversial and far from being standardized.

Other IT Contractual Agreements

3. Body shopping

- ✓ **Body shopping** is the practice of consultancy firms **recruiting Information Technology** workers in order to contract their **services out on short-term basis**.
- ✓ Body shopping is regarded as **legitimate consultancy** by both the companies that practice it and by the people employed.
- ✓ Body shopping is done by those IT services companies that assert that they provide real services (such as **software development**) rather than merely farming out professionals to overseas companies.

4. Contingent Workers

- ✓ These are individuals taken in to do a job without contractual engagement for long term employment.
- ✓ They include independent contractors, temporary workers hired through employment agencies, on-call or day laborers, and on-site workers whose services are provided through contract firms
- ✓ A company picks contingent workers to complete projects quickly and cheaply as compared to developing people within the organization¹⁰
- ✓ Firms use contingent IT workers when their technical staffing needs dwindle
- ✓ These workers join teams of full-time employees and other contingent workers for the life of the project and then move on to their next assignment.¹¹

Contingent workers Ethical dilemma

- ✓ **Ethical perspective** - these workers are likely to learn corporate processes and strategies that are key to the company's success.
- ✓ Preventing contingent workers from passing on such information to subsequent employers is a hard nut to crack.
- ✓ This can be damaging if the worker's next employer is a major competitor.¹²

¹⁰ Ethics in Information Technology, 4th ed. Reynolds, G. Course Technology, Boston, USA. (2011) Pg. 374

¹¹ Ethics in Information Technology, 4th ed. Reynolds, G. Course Technology, Boston, USA. (2011) Pg. 375

¹² Ethics in Information Technology, 4th ed. Reynolds, G. Course Technology, Boston, USA. (2011) Pg. 397

Advantages of using Contingent Workers

- ✓ Savings for the firm – no need to provide benefits such as insurance, retirement plans
- ✓ Firms do not incur training costs since many contingent workers are already specialists in particular tasks¹³

Disadvantages of Using Contingent Workers

- ✓ Contingent workers may lack a strong connection to the company they are working for
- ✓ The additional skills they learn on the job and the knowledge while working for a particular company are lost assets when they depart after a project completion¹⁴

5. Consultancy

- ✓ The end product out of consultancy is very often a **report, not an actual system**
- ✓ Consultancy projects can be done for a daily/hourly rate or at a fixed price
- ✓ If done at fixed price, contract is much simpler:
- ✓ Sums of money involved are usually much smaller

Content Covered in Week 8: Software Contracts

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¹³ Ethics in Information Technology, 4th ed. Reynolds, G. Course Technology, Boston, USA. (2011) Pg. 397

¹⁴ Ethics in Information Technology, 4th ed. Reynolds, G. Course Technology, Boston, USA. (2011) Pg. 397

Course Text Books

1. Professional Issues in Information Technology. Bott, F. *British Computer Society, UK.* (2005)
2. Ethics in Information Technology, 4th ed. Reynolds, G. *Course Technology, Boston, USA.* (2011)
3. Computers in Society: Privacy, Ethics and the Internet. George, J.F. *Pearson Prentice Hall, New Jersey.* (2004)
4. Cyber-ethics: Morality and Law in Cyberspace, 5th ed., Spinello, R.A. *Jones & Bartlett, Burlington, Mass., USA.* (2013)
5. Contemporary Issues in Ethics and Information Technology. Schultz, R.A. *IRM Press, USA.* (2005)