Lecture summary of week 5 and 7

Week 5: Legal Perspectives on the Software Industry

There are two main topics in this week’s lecture: The first topic is about the legal system and discussions about fairness and ethics, and the second one is about surveillance.

Firstly, **features of the legal system** are introduced. The system can be divided into two main parts: **criminal law** and **civil law** that covers the supplementary set of criminal law. Criminal law is launched by the state, so sometimes, criminal litigation is called public prosecution. Conversely, infringement of civil law is issued by legal entities, so often those cases are referred to as private prosecution. Like ethics, there are no golden rules of right or wrong, so in the court, **everything is arguable**. That’s because there are different interpretations of the rules based on the situations of each case. Law is also **sourced** from a wide variety of evidence, including Statutes, Legislature, Codes, Jurisdiction, Precedent, Contracts, Norms, and conventions.

The credibility of law is rooted in its rule. The fundamental nature of law is that **no one is above the law** which means that correctness is solely determined by the law itself, rather than somebody. And the separation of power rule**separates the power** of legislature, judiciary, and execution to three independent parties to keep the neutrality of law and to restraint on arbitrary power. Under the natural justice constraint, fair judgments can be made to prevent harmful activities. Thus, companies may consider the risk of their activities as a factor to prevent the damages caused by IT failure.

To be a professional, one must adhere to certain standards to meet the **professional liability requirements**. Usually, a profession needs to obtain membership from a professional body and obey some agreed standard of practice. Because being a profession not only requires professional skills but also sets more **strict standards** on discipline and reputation. As mentioned in the lecture, Data integrity professionals should also be considered due to emerging needs and the sensitive nature of data. To keep data integrity, a specific training curriculum that guarantees a disciplined professional body is required.

After that, the lecturer discussed **dataveillance**, which raises the concern that IT companies may monitor people’s activities and collect private information with or without permission. Because there is no standard for classifying data privacy, the debates on the regulation of online surveillance become complex. To analyze this, it is important to **avoid pre-judgment** and always make decisions base on evidence and facts. We need to focus on proper levels of oversight, proper uses of technology, and proper restraints to find a balance between privacy and productivity. The most important thing to analyse is to **identify issues, strength,s and evidence**.

Then, a series of ethical conundrums such as the COVIDSafe app is discussed as an example. This app detects proximity to other devices automatically to aid government contact tracing. Although it is designed with good intention, however, the evidence of actual use is unclear. And without the evidence of effectiveness, the intrusion of the app may not be legal or ethically justified. However, before widely used, assessing the usefulness is not possible.

Week 7: Intellectual Property and Software Patents

Both intellectual property and patents are briefly introduced at the beginning of the lecture. Then we went through the practical features of the patent followed by some hypothetical examples and real cases.

**Intellectual property** is a special property right to the **mental work and origination of an idea**. It is a broad concept that incorporates Patents, Trade secrets, Trademarks, Copyright, and Design. Because of the nature of these properties, the law defines different acquirement and preservation methods for them. For example, the law protects **Patent**’s new practical utility functionality for up to 20 years. But only appearance is protected for **Design** and brand is protected for **trademarks**. **Copyright** is more complicated: it protects the **Expression of ideas** that can be presented in various forms including literature, music, performance, and computer programs. Unlike the other rights, **copyright** is preserved until death plus 70 years. And the requirement of copyright is **automatic**, which means that the original work is born with copyright. Also, the protection to it is not as strict as the others, only **substantial copying** is considered an infringement of the law and in addition, independent creation or function cannot be intervened.

**Patent**is a legal contract between the patentee and the government to **prevent exploiting** the invention for a fixed period. Government guarantees the intellectual property right in the period in return for a **full disclosure** of the invention. With the protection for new, involve,d and inventive inventions that are capable of industrial application, patents can **encourage R&D and disclosure of incremental inventions**, and may benefit society eventually. Usually, patents are owned by inventors, employers, and universities and they can be transferred by assignment. So, it can be a bargaining chip that can increase the valuation of an investee. However, the **patent is not free**, the patentee must pay for granting fees and maintenance fees. So, inventors should consider what is worth patenting in addition to what can be patented.

Here is a hypothetical chair example for patent validity and infringement: assume that we claim that a chair comprises a **seat** and **at least four legs** that keep the **seat horizontal**. In this case, **any “chairs” that don’t meet the requirements cannot fall within the patent**. For example, any chair with less than three legs is not covered by the patent. Also, one can register a patent based on existing patents. However, without the permission of the owner of “sub-patent”, he cannot utilise the patent because will infringe the sub-patent. Similarly, the sub-patent owner cannot utilise the patents that are based on their patents.

**Patent** about **computer software** is somewhat complicated, the treatments are different among jurisdictions. Some jurisdictions have legislative **exclusion** for inventions that use computer programs to provide a business process. While some other jurisdictions choose put decisions in the hands of the judiciary. The definition is complex and changing, but we can basically tell whether the software is patentable by identifying the **technical advantages**it achieves. For example, the business, aesthetics and mere presentation of information is not considered technical advantages. The real-life cases may be hard to distinguish, so the patent identification should be treated carefully by analysing the functionality.