

Chapter 10

Winy Criminal Case: How Have Controversial Science, Technology, and Society Problems Been *Solved* While Avoiding Conflicts?

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Abstract This chapter analyses how the Winy criminal case developed and how people as well as the copyright protecting body defined the issues and situations surrounding it and *solved* the issues. Winy, pure peer-to-peer file sharing software as an application of advanced software technology components might lead to software innovations, while it has been a tool to facilitate illegal file sharing. Therefore, since the developer of Winy was arrested for being in charge of aiding and abetting copyright infringement, although the Supreme Court acquitted him seven years later, he had attracted praise from the software engineering community, law specialists, and citizens as well as censure in the process. In response to his arrest, the following interlinked problems had brought to citizens, courts and the copyright protecting body respectively: (1) building social consensus on acceptable software development, (2) establishing a landmark precedence on aiding and abetting copyright infringement, (3) revising the Copyrights Act to cope with online piracy. However, the link between the problems bridged by Winy were broken into pieces as the key decision makers closed themselves off from other problem areas and our society gradually shifted its attention away from the case. As a result, the problems as a whole went by the wayside although each problem obtained its local optimum. Therefore, our society did not have any clues about what socially acceptable software development is, but it returned to a stable condition.

10.1 Introduction

Dr. Isamu Kaneko was a talented Japanese computer software engineer who passed away on July 6, 2013. He received both praise and censure during his life.

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He first came to the attention of the software engineering community in 2000 when he joined a project funded by The MITOH Program¹ of the Information-technology Promotion Agency of the Ministry of Economy, Trade, and Industry (IPA/METI). At roughly the same time, he developed and released 3D physical simulators as freeware that were extolled in the software engineering related community. Professor Jun Murai, who is well known as the father of the Internet in Japan, lamented Dr. Kaneko's death as his talents were confirmed, as follows.²

Dr. Isamu Kaneko was a valuable pioneer and hero in the field of software engineering.

Although he encountered difficulties, these brought many supporters and friends to him. He was quoted as saying that he resumed activities to achieve his new dreams; thus, I expected extraordinary results from him.

I take my hat off to people like Professor Hiraki, Professor Inaba, and Mr. Dan for the contributions to developing such favorable environments for Dr. Kaneko.

Now, it is our heartfelt mission to understand, develop, and pass on his technology within the spirit in which it was intended.

I would also like to make an ironclad promise that we intend to shed light on the social factors behind the difficulties he encountered to achieve a society where his spirit can be dynamically engendered.

His guiding light continues to shine in our consciousness.

We are thinking of him and praying for him at this time of loss.

Meanwhile, the *difficulties* described above are the results of his actions, which gained him recognition in our society. He developed and released file-sharing software called Winny, which was designed to make it difficult to detect who uploaded files on its peer to peer (P2P) network. Many people used the software to illegally share copyrighted content and software. He was consequently arrested for being in charge of aiding and abetting copyright infringement,³ although the Supreme Court acquitted him seven years later.⁴ He attracted praise from the software engineering community, law specialists, and citizens as well as censure in this process.

Winny as an application of advanced software technology components might lead to software innovations, while it has been a tool to facilitate illegal file sharing, which has recently started to calm down in Japan, as will be explained later.⁵

¹ "This program aims to discover and develop outstanding human resources called Super Creators. Specifically, these are persons possessing creative ideas and skills for achieving software innovation and who can put these ideas and skills to use." (Retrieved August 5, 2014, from <http://www.ipa.go.jp/english/humandev/third.html>).

² <http://itpro.nikkeibp.co.jp/article/NEWS/20130707/489582/> (Retrieved August 5, 2014).

³ The arrest of two users who uploaded copyrighted files apparently directly triggered his arrest.

⁴ Supreme court decision (Retrieved August 5, 2014, from <http://www.courts.go.jp/hanrei/pdf/20111221102925.pdf>).

⁵ According to the survey by the Contents Overseas Distribution Association (Retrieved August 5, 2014, from http://www.meti.go.jp/medi_lib/report/2010fy01/E001204.pdf), the percentage of people (over 15) using file-sharing software declined from 9.1 to 5.8 % in 2010. Moreover, middle and high school students who ceased to use such software cited the revision of the Copyright Act as its number two reason (21.9 %). In addition, it can be presumed that rapid diffusions of digital distribution and smartphones as well as price reduction of digital content has decreased the percentage even lower in the last few years.

When I think about Winny, I always remember a local news article⁶ on a 2002 EASST meeting at York.

Think through the appliance of science

STEPHEN LEWIS finds out why we don't need to be scared of science - but we do need to be careful with it.

JUST imagine it. Some crazy scientist comes up with a wacko idea for a souped-up new form of personal transport that can whisk you effortlessly from place to place in a tenth of the time normally required. The only drawbacks: it relies on the controlled explosion of a highly inflammable liquid for power; it has a side-effect of slowly poisoning the air we breathe, and it's so fast it is dangerous. Hundreds, no thousands, will be killed every year using it.

It would never be allowed, would it? Of course it is! It's called the car. "If somebody tried to introduce a technology where you pump petrol today, it would never get passed!" says Steven Yearley with a dry, slightly donnish smile.

(snip)

Although there has been deep-rooted criticism against prosecutors' extensions of the concept of aiding and abetting copyright infringement, were software engineers, in consideration of innovations in the future, to deem Dr. Kaneko's ideas *crazy*? Or, were people who accused Dr. Kaneko and his Winny merely scared of cutting-edge software engineering? Whatever the case, the Winny criminal case then gripped the nation's attention.

This chapter analyses how the Winny criminal case developed and how people as well as the copyright protecting body defined the issues and situations surrounding it. Then, ways of *solving* these issues by critically analyzing the copyright system in Japan will be discussed.

10.2 What Is Winny?

Winny is pure P2P file sharing software. File sharing software systems are comprised of pure P2P, hybrid P2P, and client-server systems.

Files and their search tags are typically stored on a server in client-server systems. Their users have to access servers to upload/download files. There are technological challenges for client-server systems to enhance computational and communications capacities much more for mass users as transactions in the servers are likely to be intensive.

P2P systems have the potential to solve such capacity problems. That is, as files are separately stored in nodes (i.e., computers) that run P2P file sharing software, computational/communication loads are balanced among nodes. Consequently, if

⁶ Retrieved August 5, 2014, from http://www.yorkpress.co.uk/archive/2002/07/31/7922885.Think_through_the_appliance_of_science/.

super-large-scale file sharing services are socially required, the development of P2P file-sharing software can be justified.⁷

Although search tags are stored on servers in hybrid P2P systems, they are separately stored on nodes in pure P2P systems. Thus, access logs that might reveal the footprints of illegal file uploaders are not recorded centrally on pure P2P systems unlike those on hybrid P2P and client-server systems, and it is hard to block illegal file distributions by using search tags.

Winnie is more than pure P2P file sharing software. It appears to be designed for illegal file sharing. Winnie stores and transmits all files in small-encrypted cache files. There is no information about upload nodes like uploaders' IDs in cache files. As nodes relay files, it is difficult to identify upload nodes. Moreover, as cache files are stored in relaying nodes, it is impossible to distinguish the upload node from other relaying nodes after files are transmitted. Consequently, illegal file uploaders are strongly protected from being identified.

It is important to remember that although Winnie has such *dark* specifications, it is also excellent software in terms of the quality of file sharing services. For example, it enhances the efficiency of file sharing to store cache files in relaying nodes. That is because the number of nodes storing a file becomes larger with the popularity of the file so that users can download the file from nearby relaying nodes. Interestingly, this specification is also useful for protecting the anonymity of illegal file uploaders. Although there are many other devices that offer better file sharing services than Winnie, Winnie is software that is evolving in a direction that conforms to the expectations of society.

Then, what are the main problems with Winnie?

Winnie was *intentionally* designed for illegal file sharing. That does not mean that its developer's primary purpose was to promote illegal file sharing. However, evidence for such an intention can be singled out due to the existence of technology components and absence of another component.

The first technology component is encryption. File encryption to anonymize users would not be necessary, unless software had purposes such as protecting free speech under brutal dictatorships, which Freenet (<http://freenetproject.org/>) was designed for. Winnie does not have such a purpose⁸ according to Dr. Kaneko's messages on a bulletin board system (BBS) for exchanging messages with its users. If so, encryption is only a factor that burdens its nodes. Thus, this wasteful implementation of encryption could be taken as strong but indirect evidence of his intentions to invite illegal file uploaders. However, it is noteworthy that encryption is not very important to protect illegal file uploaders from the danger of arrest in this regard. Unless police had then broadly monitored communication over the Winnie

⁷ For example, although Skype is not P2P file sharing software, it used P2P technology.

⁸ Dr. Kaneko and his lawyer claimed that his release of Winnie was a social verification experiment of a secured communication system like Freenet, and the court acknowledged it. But, as the encryption technology used in Winnie was an established one, it was not very easy to justify its use in a *verification experiment*.

network, which has been illegal in Japan, they could hardly arrest illegal file uploaders under our Copyright Act, which was irrelevant to encryption.

Another technological component was devices to prevent file transactions (Ootani 2004a). Winny had no devices to block illegal file transactions. Or, there were no devices to suppress illegal acts by file uploaders. For example, if Winny had assigned a unique ID to each uploaded file,⁹ users would have hesitated to release illegally copied files over the Winny network. That is because they might have been tracked with such IDs, where ID systems have been introduced into e-mail networks or other Internet services. Although such devices cannot completely stop illegal file transactions, they could be the next best things.

Dr. Kaneko seemed to have known the relations between these technology components and illegal file sharing judging from his message¹⁰ on the Winny BBS. If he had introduced such components, however, Winny would not have been as widely used. He seemed to place diffusion of Winny ahead of preventing its illegal use.

10.3 Road to Winny *Criminal Case*

The Winny case traces a trajectory with the following chronology.¹¹

The first arrest in the world for copyright infringement by file sharing software occurred in Japan on November 28, 2001. The software used by the arrested men was WinMX, which was then the most popular file sharing software. Its developer was not arrested. Afterward, the use of WinMX slowed down.

Mr. 47 (Dr. Kaneko's nickname on the BBS) appeared for the first time on April 1, 2002, in a thread of 2 Channel, i.e., the most popular open Internet BBS in Japan, and he declared the development of another file sharing software. The title of the thread was "What will the successor to *WinMX* be called?"

The name of the software he was developing was determined to be Winny on the 5th of the same month, which followed a suggestion by his supporters on the thread. Winny (WinNY) means the successor of WinMX ($M \rightarrow N$, $X \rightarrow Y$).¹²

The beta version of Winny was published on March 6, 2002. Then, supporters started testing the software. The first official version of Winny was published at the end of 2002. Upgraded versions of Winny were continuously published until the police began searching Dr. Kaneko's home and office.

Warnings on illegal file sharing first appeared in README attached to Winny on February 2, 2003. That is because Dr. Kaneko started a new way of distributing

⁹ Such an ID function must not be implemented in an alternative system of Freenet. Even if it were implemented in the system for a verification experiment, it would not have caused substantial problems.

¹⁰ Retrieved July 1, 2005, from http://Winny.info/2ch/2ch_log1.html (dead link).

¹¹ The chronology is based on the summary retrieved July 1, 2005, from <http://www.nan.sakura.ne.jp/Winny/page/lib/history.htm> (dead link).

¹² This episode strongly suggested that Dr. Kaneko recognized his software would be frequently used for illegal file sharing.

Winnie. Winnie had primarily been posted on his website before this, and such warnings were provided on it. He started to distribute updated versions of Winnie from this new version through the Winnie network. Thus, such independent distributions of README were required.

Development of the first generation of Winnie was terminated on May 5, 2003. Beta tests of the second generation of Winnie started simultaneously. Dr. Kaneko added an anonymous BBS function to the second generation.

The first PC virus targeting Winnie users (i.e., an anti-Winnie computer virus) appeared on August 8, 2003. The first anti-Winnie virus incident was reported on March 31, 2004. Investigating information was ironically released on the Winnie network from an affected PC owned by the Kyoto police. Similar incidents in public and private organizations continuously occurred.

Dr. Kaneko published a paper entitled “Digital content distribution system maintained by digital securities” on October 10, 2003.

Two people¹³ who were alleged to have uploaded files illegally on the Winnie network were arrested on November 28, 2003. Police simultaneously searched Dr. Kaneko’s house and office. They seized items like his laptop and notebooks. As a result, the development of Winnie ceased. However, this house search was officially said to be to collect evidence on copyright infringements by the two parties who had been arrested.

Dr. Kaneko was asked to go voluntarily to the police for questioning on May 10, 2004, and he was then arrested on charges of aiding and abetting copyright infringements. He received much media exposure, which reported his private and public life including his job as an assistant professor at The University of Tokyo.

10.4 Initial Responses by Society

Three typical initial responses by society to Dr. Kaneko’s arrest were observed. These responses can be labeled as those by defenders, offenders, and meta-analysts.

The “Dr. Kaneko support group”, which was formed three days after he had been arrested, is taken to be a typical defender.¹⁴ Their emergency statement argued the following things: His arrest on charges of aiding and abetting copyright

¹³ They were later convicted for copyright infringements.

¹⁴ There could be observed another *famous* arrest of a software engineer in Okazaki “Librahack” case (<http://astand.asahi.com/magazine/wrnational/special/2011012800004.html>), where the engineer was arrested on suspicion of unlawful access to a library’s server (DoS attack) was put under investigation for *weeks*. As the result of the prosecution’s ignorance about technology, he was only suspended of prosecution, even though the case should have been just dropped because of insufficient evidence. Actually, he only used his software to access the server as frequently as once in a second for only a limited time, but these accesses “crashed” the server due to errors in the server program. As this case might represent, Japanese software engineering community was clearly skeptical about technical understandings of law enforcements.

infringements is unlawful because it was based on a stretched interpretation of the concept of aiding and abetting in criminal law. If developers of software are arrested on charges that its users exploit it illegally, most manufacturers and distributors of recording media, hardware, and software, which are not only used for legal copies but for illegal copies, could be arrested. That is irrational. If such an irrational arrest were accepted, many developers and manufacturers would cower at the risk of being arrested. This situation would be against the national interest.

In contrast, the Sankei group¹⁵ news site, which considered him an offender, claimed that Dr. Kaneko's challenge to the copyright system was foolishly bold and obviously illegal. Their articles¹⁶ described him and his acts as follows; "[He] was devoted to the development of unprecedented underground software." "A computer wizard competing head on against the copyright system was defeated." "[He] wrote messages on BBS like 'We cannot help redefining the concept of copyrights due to the appearance of anonymous file sharing software'." In sum, they insisted that a green computer whiz developed illegal software to challenge the copyright system as a result of his ignorance.

These two "inflated" responses were opposite opinions, but they shared four common features. First, neither of them drew little attention to "technological" aspects as the author did. They consequently missed why Winny was problematic within this particular context. In reality, Winny was not problematic just because it offered a file-sharing function. Second, offenders especially downplayed the legal details of the Winny case. Winny as software has been indisputably legal under the Copyrights Act. As will be explained later, the main point referred to by judicial courts was neither the legitimacy of Winny nor the legitimacy to develop it but whether Kaneko *intentionally* aided and abetted the infringement of copyrights.¹⁷ That is, both sides only argued a fraction of his acts. Manufacturers and distributors actually do not need to recoil at the risk of being arrested, and Kaneko did not develop underground software. Third, both responses argued indirectly about what type of software development society should accept (and promote) on the basis of discussions on the Winny case. That is, defenders tended to claim that software developers should be defended for (potential) national interests even if there is minor damage in the process of its development and use. Meanwhile, offenders were likely to claim that software developers should be blamed for distributing software to be used for damaging existing legal systems even if the software brings important benefits to society, at least, in the future. Last, both discussed the Winny criminal case on the assumption that our copyright system was well organized and socially acceptable. For example, they did not mention that the system had become dysfunctional.

¹⁵ Sankei group is a representative conservative media group.

¹⁶ Retrieved July 1, 2005, from http://www.zakzak.co.jp/top/2004_05/t2004051119.html (dead link).

¹⁷ Legal experts pointed out this central issue in a suit just after he had been arrested (cf. Sonoda, Asahi Newspaper, 14/05/2004).

Meta-analysts focused on the last feature. They attempted a bird's-eye analysis of the Winny criminal case. Their claim was a typical academic response. For example, Dr. Azuma,¹⁸ a spirited cultural interpreter and academician, insisted as follows: It is necessary to formulate a new style of copyright controls and new billing systems for content when facing new technologies like Winny. Even if society blindly made such technologies illegal, such an order could not last long. Furthermore, it is nonsense to arrest software developers expanding technological frontiers. That is obviously against social and cultural interests in the long run. What we then need to discuss is problems with our current copyright system that is less attuned to innovations like the Internet and digitalization of content.

Copyright systems were historically introduced in response to the emergence of new technologies, and they have been changing with advances in ICT. In this sense, the claim of meta-analysts is hardly deniable, or only such discussions could provide a *final* solution to the matter. Still, as their arguments lacked analysis of the technological and legal aspects of the Winny case, they were nothing more than words on paper.

In view of those responses, the arrest of Dr. Kaneko aroused five main underlying issues: (1) Was his conduct legal? (2) Was his conduct socially acceptable? (3) What types of conduct by software engineers (or programmers) are legal? (4) What types of conduct by software engineers are socially acceptable? (5) What is a socially acceptable copyright system?

10.5 Defining Problems

If your private photographs are distributed over the Winny network,¹⁹ how can you cope with this situation? As presented earlier, Winny is a P2P file sharing software to allow users to upload and download files over the Internet. Problems like this occur very often with or without Winny. However, unlike in cases of file sharing through the Web or the file transfer protocol (FTP), files uploaded through Winny automatically flow over its P2P network. To make matters worse, no one can stop this flow virtually, even in part.

Winny is likely to cause problems ironically because of its technological excellence. As was previously explained, it is very difficult to identify who has uploaded files using Winny. That is to say, the anonymity of uploaders is highly secure on its network. Consequently, Winny lowers the technical and psychological hurdles in illegal file sharing.

As a result, there are no measures to cope with these situations because people who uploaded personal pictures on the Winny network can hardly be found.

¹⁸ Retrieved July 1, 2005, from <http://www.hirokiazuma.com/blog> (dead link).

¹⁹ One of the most repugnant cases is the distribution of child pornography materials. In addition, there were known to be numerous disastrous incidents of private photographs being leaked.

Charges might have to be brought against the developer as its original cause may be attributed to the person who developed and distributed Winny. The developer, Dr. Kaneko, was actually arrested on charges of assistance in the infringement of copyrights without victims' complaints. However, this was not because he was alleged to have assisted someone to upload private photographs of victims.²⁰

His first trial started in a District Court in September 2004 and his last trial ended in the Supreme Court in December 2011. People first expected to find an answer to their question (i.e., was his conduct legal or illegal because programmers are allowed or are not allowed to do things based on social values) through these trials with their *reasonable* belief that the judicial decision would reflect the social value of Winny and software in general. Therefore, this question addressed a problem to be solved concerning Winny.

In parallel with discussions on the above issue, courts faced another but somehow similar issue. That is to say, as there was no clause related to the assistance of copyright infringements, especially those by using technology in the Copyright Act, courts had to rule on whether Dr. Kaneko's actions were legal based on their interpretation of aiding and abetting in the Penal Code. Although he could be said to have assisted copyright infringements by using technology he developed, what he actually did on a superficial level was nothing more than releasing his versatile software on the Internet. On top of that, the court had to construct a rationale from this legal boundary of aiding and abetting, as there had been no direct judicial precedent. Thus, it was a matter of course that the final decision would serve as an important precedent. Thus, this issue was another problem to be solved concerning Winny.

The third and last problem was how to cope with illegal file sharing not only by using Winny but also by other means on the Internet.

It has been very hard to estimate the economic damage of copyright infringements by file sharing software. However, 26 million US dollars in copyright royalties were offered in a compromise settlement in Napster versus numerous record companies, for example.²¹ Although the Japanese music market is much smaller than that in the US, it is the second largest market in the world.²² Thus, it is quite reasonable to estimate the economic damage caused by illegal file sharing in Japan has been huge. If illegal sharing of video content had gained momentum as the bandwidth of the Internet widened, there might have been much larger economic damage for digital content distributors throughout Japan.

²⁰ There might indeed been something wrong with the fact that he only stood trial in a criminal court over aiding and abetting of copyright infringements. However, there was no way for him to go to court without victims' accusations. It was natural for victims of private photographic outflows not to bring about action for damages considering the possibility of secondary or tertiary harm. Nevertheless, these outflows posed a serious social problem.

²¹ Retrieved August 5, 2014, from <http://www.jiten.com/dicmi/docs/n/8079.htm>.

²² Retrieved August 5, 2014, from <http://ifpi.org/news/music-subscription-revenues-help-drive-growth-in-most-major-markets>.

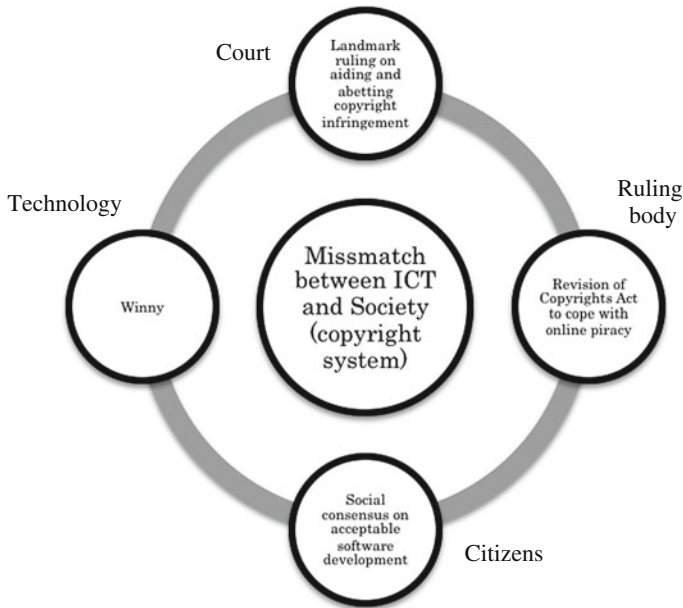


Fig. 10.1 Problems to be solved concerning *mismatch* between ICT and society

As was previously explained, discussions on illegal file sharing tended to focus on copyright infringements because of its economic impact and volume of stakeholders' voices. In this sense, the question that was asked at the beginning of this section would better be rewritten as "If your own CD data were distributed over the Winnie network, how would you cope with this situation?" Meanwhile, we should never forget that the whole story was not to discuss Winnie from the viewpoint of copyrights.²³

In any case, people needed consensus building on how our society would cope with software like Winnie (i.e., the 2nd problem), and our legislative body (virtually equal to the copyright protecting agency) had to revise the Copyright Act in line with the current conditions of technology and society (i.e., the 3rd problem).

The above situation is summarized in Fig. 10.1. These three problems are strongly linked to one another. Thus, if society had tried to solve them collectively and coordinately, we might have developed better solutions.

²³ For example, Ootani (2004b) discussed Winnie from the viewpoint of "privacy". While, Lessig, who detailed privacy problems of the Internet in a chapter of his milestone book, *Code and Other Laws of Cyberspace*, Basic Books, New York (1999), pointed out that "Many people had understood privacy problems on the Internet." [Retrieved July 1, 2005, from <http://www.asahi.com/tech/lessig/02.html> (dead link)].

10.6 Winny Trials

Dr. Kaneko had been on trial on suspicion of aiding and abetting copyright infringements. The underlying issues in his case seemed to be exhausted on the first day of the trial at the District Court. There was only one important issue between the prosecution and the defense.

His actions under the US copyright system and laws would be referred to a court as to whether they were a contributory infringement.²⁴ Judging from the Betamax decision by the Supreme Court in 1984 (Sony Corp. of America vs. Universal City Studios, Inc., 464 U.S. 417), the focus could have been on whether Winny had substantially been used for non-infringing use, if the trial had been held in the USA. It would consequently have been judged in a US court according to how it was to be used in society (i.e., use value) as to whether Winny was legal or not.

In contrast, court decisions in Japan are not based on the way software is used, but on the intentions of its developer (i.e., criminal intent). Thus, such decisions that are irrelevant to the use value miss the point of questions like what type of software development society should accept.

In any case, our Copyright Act adopts a system that is different from that in the US. Thus, whether someone aided and abetted (i.e., assisted) copyright infringement is referred to a judicial court within the framework of criminal law. Requisites for enactment of *aiding and abetting* under the criminal law are: (1) the existence of principal(s), (2) assisting illegal acts of the principal(s), and (3) recognition of those assisting those illegal acts.

Only recognition of those assisting the principals' illegal acts became the main focused in the Winny case. This was because two Winny users had already been arrested for copyright infringement so that (1) and (2) were incontestable.

Each court defined this notion of *recognition of assisting copyright infringement*, which had been a focus of trials, as follows. The decisions of courts²⁵ were made according to the definitions and their findings.

The ruling in the trial by the District Court stated: "It is determined by the usage situation of technology in question and its social recognition as well as the supplier's subjective recognition about its distribution whether the action of supplying the technology per se is regarded illegal as aiding and abetting." And, it pointed out, "Although Dr. Kaneko obviously recognized and admitted that many users of Winny would use the software for illegal file sharing to infringe copyrights, he had continued to release and provide it to the public." It added, "He facilitated the two principals to share copyrighted files materially by releasing Winny 2 (i.e., Winny ver. 2.x) and psychologically by implementing the function of anonymity in

²⁴ Contributory infringement involves liability to promote infringement.

²⁵ The following quotations concerning courts' rulings are translated from the decisions of the Supreme Court and the High Court, which also contain the summaries of the decisions of the District Court.

Winnie.” Thus, it concluded that he was guilty of aiding and abetting copyright infringements.

The ruling in the succeeding trial by the High Court criticized the definition of aiding and abetting in the ruling of the District Court as follows: “The definition was short on specifics. Thus, the definition would make it possible to recognize even a provider of value-neutral technology as guilty from the fact that he or she was aware of the possibility that someone could use the technology for the wrong purpose.”

The High Court overruled the original decision by indicating: “Judging from the spirit of the Copyright Act, foreign judicial precedents, and the viewpoint of harmonization between copyright protection and technology development, provisions of value-neutral technology to the public should not be recognized as aiding and abetting in principle. The provider could not be recognized as aiding and abetting, just because he or she was aware of the possibility that someone could misuse the technology.”

Based on this discussion, it concluded, “The fact that a value-free software provider recognized the possibility that someone could use it illegally is not sufficient for assessing that the distribution of the software over the Internet facilitated the principal to share copyrighted files illegally. In addition to the fact, only if the provider encouraged specified or unspecified Internet users to use the software only or mostly for illegal file sharing, the provider should be judged as aiding and abetting copyright infringement.” Then, by indicating the fact that Dr. Kaneko reminded Winnie users not to use it for illegal file sharing in its README file, the court did not recognize that he had encouraged specified or unspecified Internet users to use Winnie only or mostly for illegal file sharing. Consequently, he was acquitted of aiding and abetting copyright infringement.

The ruling in the last trial by the Supreme Court stated: “The prerequisite for establishment of aiding and abetting is both the existence of concrete status of infringing software usage and its provider’s recognition of the status.” On that basis, the court defined two situations for its establishment. (A) “While a provider recognized that concrete infringing usage was about to happen, the provider still continued to release the software. As a result, the software was used for copyright infringement.” Or, (B) “The following conditions were right: (1) it was highly probable that an unexceptional number of people who obtained possession of the software in question would use it for copyright infringement judging from the context of the features of the software, objective status of its usage, a way of providing it, and so forth, (2) the provider of the software recognized this probability and still released or provided it, and (3) someone (i.e., the principal) used it for copyright infringement.” On this basis, the Supreme Court suggested, “It is a matter of course that situation (A) is not applicable, because Dr. Kaneko was not acquainted with the two principals.” Meanwhile, the court admitted, “It was highly probable that an unexceptional number of people who obtained possession of Winnie would use it for copyright infringement, and he recognized this probability but still released or provided it” from an *objective* point of view. Then, the court said, “From his *subjective* viewpoint, it is admissible that he recognized some

Winny users infringed others' copyrights and that the number of such users was increasing. However, there was not enough evidence to admit that he recognized it was highly probable that an unexceptional number of Winny users infringed others' copyrights." Thus, the court denied the establishment of situation (B), and it returned a verdict of not guilty. In other words, the Supreme Court admitted that Dr. Kaneko had assisted copyright infringements from objective points of view. As there was not enough evidence to prove that he had been aware that he could have assisted copyright infringements due to his subjectivity, the court acquitted him.

The Supreme Court presented the reason why such complicated logic was adopted in the trials as follows: "As the District Court and High Court called Winny value-free software, it could be used for legal purposes as well as illegal purposes like copyright infringements. Thus, whether Winny is used for illegal purposes or other purposes is consistently left to the judgment of the individual." In this sense, it is extremely difficult to judge whether aiding and abetting copyright infringements can be established, based only on the fact that software used for copyright infringements was provided to the public.

Furthermore, as the Supreme Court intentionally chose the word of *called* in the above quote, it did not admit the existence of a priori value-freeness of technology, which STS perceives in a negative light. While, the rulings of the District Court and the High Court were based more or less on a different notion of value-freeness from that of STS.

The District Court said concerning the value-freeness of technology in its trial: "Winny is P2P file sharing software. As clearly described in the defender's testimony and statements, the software is *worthwhile and applicable in various fields* as a technological implementation of P2P requiring no central server. In that sense, regardless of his intention of development, the technology developed per se is value-free." In its ruling, although the technology of Winny was broken down at the level of element technologies, the High Court said: "No element technology of Winny is specialized for copyright infringements, thus Winny is value-free software, namely, software to facilitate its users to exchange information efficiently with secrecy as well as to infringe others' copyrights." In both cases, the possibility to use technology in question in various ways is regarded as evidence of value-freeness of technology.

In any case, as this judgment by the Supreme Court served as a precedent, without taking into consideration the social value of technology that should only be judged within each specified context [i.e., neglecting the value of technology that is socially constructed (Pinch and Bijker 1984)], the legality of development actions by engineers (or, at least, software engineers) can be judged according to a very limited perspective, i.e., based on the engineers' recognition of the current situation. As a result, although the series of trials finished, the problem that surfaced due to the arrest of Dr. Kaneko (i.e., What is socially acceptable software development?) remained unsolved. On top of that, the judicial precedent to prevent social consensus on acceptable software development from being used in court decisions was settled.

10.7 Historical Circumstances of Japanese Copyright and *Solutions* to Winny Problems

Behind the Winny criminal case were such factors shared by developed countries as rapid development and diffusion of ICT (e.g., the Internet, digital content, and personal computing) flaws in copyright systems that could not catch up with such rapid developments of ICT, and limitations of technological measures to prevent copyright infringements. Actually, Dr. Kaneko proposed a *solution* (a digital content distribution system maintained by digital securities) by considering these factors. The Supreme Court adapted this fact as (minor) evidence to prove his innocence.

In addition to this common background, the Japanese *advanced* system of copyrights deserves attention as a factor unique to Japan. First of all, copyright and related rights, especially the latter tend to be protected heavily in comparison with other countries. More to the point, old-established content industries have been protected more than sufficiently in Japan. For example, in terms of prices of the top 20 CD albums in the early 2000s, the US average was 55, and the UK, French, and German averages ranged between 65 and 70, when the Japanese average was set at 100.²⁶ In addition to these price gaps, there is another factor that protects content industries, namely, a resale price maintenance system. Thanks to the system, covered content like that in books, magazines, newspapers, and music media are exempt from antitrust laws.²⁷ Thus, industries cannot only place high price tags on such content but can also maintain their prices. As a result, Japanese consumers have been compelled to accept substantially higher prices for content than those in other developed countries.²⁸

Under these circumstances, the Japanese copyright system is characterized by industry protection as is natural. Because of this characteristic and others, Japan is sometimes said to be an *advanced* country in terms of copyright protection. For example, Japanese lawmakers responded to the World Intellectual Property Organization (WIPO) Copyright Treaty (ratified in 1996) at a moment's notice and were the first in the world (1997) to introduce the "right of making transmittable" and the "public transmission right" into the Copyright Act. In comparison, the US introduced them into the Digital Millennium Copyright Act in 1998, and the EU into 2001/29/EC in 2002. Japan was the earliest country to follow these rights and started to provide "technical protection" and "protection of rights management

²⁶ Japan Fair Trade Commission (2004), a material distributed in its working group meeting.

²⁷ Digital distributions are excluded from the system. Movie and computer software are also excluded from the system.

²⁸ There is a "bunko" (Japanese style of paperbacks) system in Japan, where (mainly popular) books are published as paperbacks at very low prices years after they have been published in hard cover. Thus, we cannot say that the prices of books are higher than those in developed countries. However, although movie content (typically DVDs) is not exempt from antitrust laws, its prices, against expectations, are 20–50 % higher than those in other developed countries.

information” legally in 1999, in response to the WIPO treaty. Moreover, the irony is that Japan is the first country to arrest people for illegal transmission of copyrighted content.

People or groups who appreciate Japan for its *advanced* system of copyrights are possibly, in an extreme instance, members of copyright protecting bodies and industries that have earnings from related rights. In fact, some experts and scholars have strongly criticized the Japanese copyright system as being anachronistic. Why are there different assessments that are 180-degrees apart for the same system? The following are part of the reasons.

1. Copyright protection features alone are strengthened in the Japanese copyright system. Thus, these features are assessed as *advanced*.
2. Users’ rights are uncertain and more limited than those in other countries. For example, the range of fair use is not defined in the Copyright Act, which only lists items like those in private use and quotes in its individual exceptional rules. It is symbolic that Japan has prohibited reproduction for private use concerning the “circumvention of technical protection” since its introduction. However, other countries did follow Japan later.
3. A strange clause (Preventive measures for music record reimport) was added to the Copyright Act in 2005. This clause prohibits third parties from importing music content media sold overseas by copyright and related rights holders under the Copyright Act. *Thanks* to the clause, disparities between domestic and foreign prices can be maintained.

Nevertheless, it has to be pointed that their copyright protection measures had been tolerant to illegal file downloading until 2012 from the standpoint of fairness. That is quite in contrast to the US, where a rush of claims for damages²⁹ inflicted by illegal file downloaders by the Recording Industry Association of America (RIAA) and record companies occurred in the mid-2000s. Concerning this, it is particularly worth noting that almost all cases of illegal file sharing have not to civil cases (e.g., claims for damages and injunction demands) but to criminal cases as was exemplified by the Winny case. Illegal reproduced copies of business application software, which often lead to damage suits, are exceptional though.

Although it is completely speculative, a few acceptable reasons for tolerance to illegal file downloading could be explained as follows. (1) Copyright protecting bodies assessed that it was sufficient to crack down on illegal file uploading. (2) They tried to avoid rank-and-file resentment (i.e., sever conflicts with citizens over copyright protection), which might have occurred if they controlled actions by *innocent* citizens’ in downloading contents. Whatever the case may be, cracking down on illegal file uploading could not stop illegal file sharing. Then, downloading copyrighted files became illegal without penalties in 2010 and with penalties in 2012.

²⁹ One of the most tragic outcomes would be Thomas-Rasset versus Capitol Records, 12-715 (Retrieved August 5, 2014, from <http://www.supremecourt.gov/Search.aspx?FileName=/docketfiles/12-715.htm>).

A brief history from the PC and Internet booms to the death of Dr. Kaneko is roughly compiled into a chronology in Table 10.1. It reveals a *strange coincidence*. That is to say, arrests including that of Dr. Kaneko were made as if keeping pace with the tightening of regulations for illegal file sharing. The tightest regulation measures were implemented almost as soon as he was acquitted.

The author has no intention to insist that this *coincidence* occurred for a purpose. Trials in courts and revisions of the Copyright Act are institutionally independent of each other. There is actually no way for them to directly interact. Nevertheless, things were consistently being shaken down. Thus, two controversial STS problems (i.e., Why, how, when, and to what extent does our society regulate illegal file sharing? What is socially acceptable software development?) were *solved* in a sense. Actually, although there were social debates on how to regulate illegal file sharing software mainly on mass media but not in the area of decision-making, conflicts in their main points did not become so obvious. That is, the problem of socially acceptable software development not only remained unsolved but was also avoided. Moreover, the problems were *solved*, while vested interests that had gradually been shrinking with the increase in digital distribution were protected.

Yet another Japonism that insists that such strange *problem solving* is a characteristic of Japanese society has little basis in fact. Instead it can be concluded that players do not solve problems directly but try to handle situations while avoiding

Table 10.1 Chronology of Winny and Japanese copyright system

	Upload	Download	Event
1995	Legal	Legal	Windows95 was released
1996			WIPO Copyright Treaty was adopted in response to advances in information technology
1997	Illegalized with penalty		Revision of the Copyright Act: <i>The first illegalization</i> of this sort among developed countries
2001			File sharing software, WinMX, was developed and released
			<i>The first arrest</i> in the world: Two WinMX users, who uploaded software and content, were arrested
2002			Winny was developed and released
2003			Two Winny users, who uploaded software and content to the Winny P2P network, were arrested
2004			Winny developer (Dr. Kaneko) was arrested
			Two Winny users were found guilty
2006			Dr. Kaneko was convicted in District Court
2009			Dr. Kaneko was acquitted in High Court
2010			Illegalized without penalty
2011	Supreme Court absolved Dr. Kaneko		
2012	Illegalized with penalty		Revision of the Copyright Act
2013			Dr. Kaneko passed away

serious conflicts among stakeholders. As a result, problems became less problematic as to what extent they could be shelved.

The content industry has avoided conflicts with consumers by turning down civil suits presumably, which could be the shortest road for problem solving. Copyright protecting bodies did not select quick and comprehensive measures to regulate file sharing but strengthened their regulations step by step so citizens could gradually adjust to their regulations. Minimal legal orders concerning file sharing were maintained in this process by the presence of a *scapegoat*.

Prosecutors and defense counsels in the process of the court trials respected visionary issues like value-free technology and developers' intentions; thus, the courts could avoid complicated and irresolvable problems. Even so, the Supreme Court issued a moderate ruling for software engineers, and it defined sorts of minimum guidelines for software engineers.

What problems did these results incur? It is needless to say that the life of a software engineer was sacrificed. Not only that, many victims, who had their privacies invaded through the Winny P2P network, remained discontented, indirectly because of the engineer's omissions. It is even worth mentioning that their difficult experiences as tragedies have been virtually neglected by society. They were just treated as amusing anecdotes. Nevertheless, Dr. Kaneko was not held legally responsible, even though he had been excessively punished by society.

To make matter worse, the row over Winny has ended and our software engineering community does not seem to have learned substantial lessons on what to do with themselves from this series of tragedies³⁰ and our society still does not have any clue about what socially acceptable software engineering is.

10.8 Conclusions

Main questions asked in our society in the Winny criminal case could be described as follows: (1) Is Winny legal? (2) Is Winny socially acceptable? (3) What type of software development is legal? (4) What type of software development is socially acceptable? (5) How can we build *reasonable* social systems where copyright protection and ICT innovations are compatible?

Our courts can basically only answer the 1st question due to legal constraints. If the Supreme Court should issue a landmark ruling as originally expected, it would be an answer to the 3rd question. Instead of that, the court issued its ruling that forces us to judge the legality of software development not by social values but by the developer's subjective recognition of various contexts. Subsequently, how will our society lead in socially acceptable software development? We merely have to wait for legal revisions if there is a huge change in our attitudes concerning the 4th

³⁰ See the memorial address at the beginning. It only focused on how society should treat software, software engineers, and innovations.

question, or if there are overly destructive innovations in ICT for our legal system to control.

The question “What type of software engineers’ conduct (software development) is legal?” could be a difficult question for courts to answer, if there are no laws directly linked to it. Probably, “anything goes” would be a universally acceptable (or inevitable) answer.³¹ Nevertheless, without directly applicable laws and regulations, Japanese courts are sometimes expected to regulate software engineers’ conduct through their judgments, as was indicated in the Winny criminal case. In preparation for such situations, it might be a provision to introduce US style legal principles, where the *value* of technology is not judged by its purposes of development but by its use values. This is because this introduction makes it possible to indirectly incorporate social values into legal decisions.

It can be another comprehensive solution to secure a direct channel for *social values* to be reflected in legal decisions, which could have been achieved by that Supreme Court decision. The Supreme Court admitted in its actual decision that Dr. Kaneko had assisted copyright infringements from objective points of view. Because there was not enough evidence to prove that he had been aware that he would have assisted copyright infringements due to his subjectivity, the court acquitted him. If the court decision had not been based on *his subjectivity* but on the objective evaluation of whether he should have recognized that he would assist in copyright infringements within his context (e.g., he was a software engineer with a doctorate in the field and/or an assistant professor of software engineering), the decision could have reflected social values, and a code of ethics for software engineers to some extent. Thus, the technological trajectory of the field might have reflected such values as well. The Supreme Court could have acquitted him even with this changing basis of argument.

Unfortunately, the link between problems bridged by Winny was broken into pieces as the key decision makers closed themselves off from other problem areas and our society gradually shifted its attention away from Winny. As a result, the problems as a whole went by the wayside although each problem obtained its local optimum (Fig. 10.2). Indeed, although our society did not have any clues about what socially acceptable software engineering is, it returned to a stable condition. This *solution* may remind us *translation* in Actor Network Theory (Callon 1986).

We can suggest problems (or dysfunctions) of political systems, especially those between legislation and administration as the reason why our society did not seek a global optimal solution. Unfortunately, legislative system in Japan does not function properly because it has a distorted power structure.³² That is to say, both parliaments and bureaucrats can make new laws and reform old laws in a realistic

³¹ There are currently exceptions like “circumventions of technical protection” in many countries.

³² Nonaka (2014) described this situation as an externally powerful parliament that has become a dead letter.

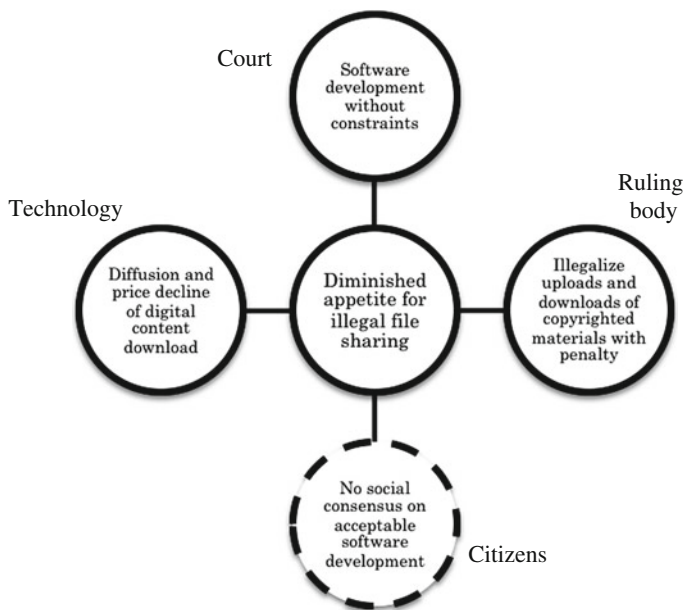


Fig. 10.2 Tentative solutions to mismatch between ICT and society

sense, as the case now stands.³³ As electorates generally lack interest in issues like copyright problems, parliamentary members avoid becoming closely involved with the problems. Consequently, this area has become the exclusive province of bureaucrats. To make matters worse, as bureaucrats tend to follow existing frameworks and to develop cooperative relations with relevant industries, we cannot expect changes to the current industry-friendly framework of the copyright system. Therefore, a malfunctioning copyright system continues to be used in Japan, and political attention, which was attracted once by the Winny criminal case, has turned out to be forgotten and neglected.

Safety questions about nuclear power plants had not clearly emerged (i.e., they had not become a *real* political agenda nationwide³⁴) until the Great East Japan Earthquake as the agenda was supported by a similar political structure. Because most citizens had not taken safety questions seriously to the extent that it became the main agenda of our national elections, a *nuclear village*, which is a complex bureaucratic system with our power industry (and relevant academics, politicians), was easily maintained in an unrecognizable manner. That could have been a remote but essential cause of the accident.

³³ Only parliamentary members can theoretically make and reform laws by statute. However, there are open loopholes.

³⁴ It could be the case that they would become a real political agenda at the local government level. For example, there is a well-known case where a power company conceded plans to build nuclear plants in “Maki Machi” (Maki Town).

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