

Non-Patent Document Database for Examination of Software-Related Inventions

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Introduction

The Japan Patent Office (JPO) has created the "Computer Software Database" (CSDB) for examination of software-related inventions since 1997. The CSDB contains 130,000 Japanese non-patent documents as of the end of October this year.

The main objectives of this paper are to review the status quo of the CSDB and discuss CSDB copyright issues.

1. Examination Guidelines and Recent Statistics

(1) Examination Guidelines

The Patent Law of Japan defines an invention as a technical idea which is created using a law of nature. A software-related invention is considered to fall within the definition if the claimed invention is implemented by use of computer hardware resources in a concrete manner. If this requirement is met, the applicant can claim the invention as either a product or a process. A program type claim is acceptable as a product invention, irrespective of whether or not the program is stored in a computer readable media.

The general guidelines of inventive step requirements are applied to the field of software related inventions. Namely an invention is deemed as lacking in inventive step if it could be invented without particular difficulty by an ordinary expert skilled in the art on the basis of prior art known to the public at the date of filing of the application.

(2) Recent Statistics

The JPO received 440,000 patent applications in 2000 and published 360,000 un-examined patent applications in the same year. Of these 360,000 publications, 23,000 were classified into G06F (computers) of the International Patent Classification and 2,300 into G06F 17/60 (business related computers).

Business method related patent publications (un-examined) account for only 0.6% of all publications in 2000, but the number of applications filed in 2000 increased by a remarkable rate. It is estimated that 20,000 business method-related patent applications were filed in 2000. This represents a four-fold increase over the previous year.

In response to the increase, the JPO has re-organized its examination corps by

establishing the Electronic Commerce Section with 20 examiners in this field of technology.

2. CSDB

(1) How Often Are Non-Patent Documents Cited?

Prior art can be largely divided into three types: (a) national patent documents (e.g., publication of un-examined patent applications and publication of patents granted), (b) patents published abroad (e.g., US patents and EPO publications and patents), and (c) non-patent documents (e.g., books, magazines and proceedings for an academic meeting). Non-patent documents are important in particular for examination of software-related inventions.

According to the year 2000 statistics, JPO patent examiners cited a total number of 535,305 documents in all notifications of reasons for refusal. These citations can be grouped into (a) national patent documents=498,894 (93%), (b) patents published abroad=10,170 (2%) and (c) non-patent documents=26,241 (5%). In essence, the average citation rate of non-patent documents over all documents cited is 5% for all fields in year 2000.

The same arithmetic concludes that the citation rate of non-patent documents is 11% for the field of computer technology (G06F) and 19% for the field of business method related computer technology (G06F 17/60) in 2000.

Table1: The rate of non-patent documents cited

Year	All fields	Computer field (G06F)	Business field (G06F17/60)
1991	2%	6%	
1992	3%	6%	
1993	4%	8%	
1994	4%	7%	
1995	5%	9%	
1996	4%	8%	7%
1997	3%	6%	7%
1998	3%	6%	8%
1999	4%	11%	17%
2000	5%	11%	19%

Note: The figure (%) means the rate of non-patent documents cited of all documents cited in all notifications of reasons for refusal by fields.

Recent trends in citation rate are shown in the table above. We can see that most documents cited in the process of patent examination are patent documents (95% for all fields, 89% for G06F and 81% for G06F17/60) as well as that the citation rate of non-patent documents is increasing year by year. Also note that the non-patent document citation rate is high in G06F (11%), particularly in G06F17/60 (19%) with comparison to the average over all fields (5%).

(2) Why is the CSDB Necessary?

For the purpose of searching patent documents, the JPO has developed a

computerized patent database with a retrieval system (called "F-term System). Patent documents of EPO and USPTO are also available at the JPO through Trilateral Cooperation.

Examiners use private services such as CAS, ProQuest and JOIS to search non-patent documents. In addition, the JPO has created the CSDB in-house database to search Japanese non-patent documents in the field of computer technology. The CSDB is necessary due to:

- (a) a rapid increase in the number of software related inventions,
- (b) difficulties in obtaining software-related documents such as manuals,
- (c) rapid innovation necessitating more than just searches of only published patent applications made open 18 months from the filing date, and
- (d) proliferation of the fields to which computer technology is applied, obliging examiners to search a variety of prior art fields including finance, banking and other business fields not limited to conventional computer technology.

(3) What is Stored in the CSDB?

Approximately 130,000 Japanese non-patent documents had been stored in the CSDB between the end of October this year and 1997. Note that "non-technical magazines" were digitized for the first time last year to cope with an increase in patent applications in the field of business method inventions.

Table 2: Documents Stored in the CSDB

Type of document	The number of documents stored		Unit
	31 October, 2001	31 March, 2000	
Manuals	14,371	8,845	Books
Technical disclosure bulletins	8,524	5,283	Articles
Academic review	43,220	24,119	Articles
Meeting proceedings	100	82	Books
Scientific magazines	60,175	41,290	Articles
Non-technical magazines	5,646	0	Articles
Books	2,658	845	Books
Association circulars	112	0	Articles
Total	134,824	80,464	

(4) How is the CSDB Created?

First, the CSDB Committee chooses documents and books to be stored in the CSDB with the assistance of SOFTIC staff. The committee includes university professors, corporate patent specialists, patent attorneys and computer software experts.

Second, a computer master file is created to manage the whole process. This master file is composed of the serial number and relevant information such as title, author, publisher and date of publication for each document.

Third, the documents are scanned and stored in the form of image data. The

documents are also read by an optical character reader (OCR), converted into text data and stored for searching.

Fourth, in the case of magazines, relevant articles are selected, and a secondary document is created by experts for each of the selected articles. The secondary documents include (a) a special index (called CS term), (b) free words, (c) abstracts and (d) bibliographic data. In the case of single books, secondary documents are created for the whole unit, not for each article.

Finally, secondary documents are stored together with original documents (image data for viewing and text data for searching) on the CSDB.

3. CSDB Copyright Issues

(1) Exception for Internal Use by Governments

Article 42 of the Copyright Law of Japan stipulates that the right of reproduction shall not extend to (i) cases necessary for court procedures and (ii) those necessary for legislative and administrative internal use purposes, provided that the interests of the author are not unduly injured in light of the number and mode of the reproduction.

Understanding that the digitization of documents for the CSDB is permissible reproduction under Article 42, the JPO are continuing to digitize relevant documents without license agreement with the right holders.

(2) Making CSDB Available to the Public Online

Most applicants want the JPO to make the CSDB available to the public. Unfortunately, external use of the CSDB is not allowed under Article 42 of the Copyright Law. Accordingly, the Copyright Law should be revised to extend the exception in order to meet applicant requests. It seems very difficult, though not impossible, to extend such an exception as careful coordination is needed between the rights of authors and the interest of users.

Theoretically, external use of the CSDB may be possible under the existing law if the author so agrees, but in practice it is almost impossible for the JPO to obtain such license in advance. One can say the JPO should continue bilateral negotiation with authors after digitization invoking Article 42 and make part of the CSDB available to the extent that external use is authorized. In reality, however, only a few authors would agree with such external use.

A practical approach is to make the secondary documents available to the public. Although secondary documents are not perfect, they are still useful as they include abstracts and other important computer-searchable information.

(3) Provision of Reproduced Documents to the Applicant

Most applicants also request the JPO to provide them with reproductions of non-patent documents cited in notifications of reasons for refusal. There are two possible approaches in this regard.

One approach is the invocation of the "library" exception under Article 31, which

says that a library or other similar facilities recognized by the Commissioner of the Agency for Cultural Affairs are permitted to make photocopies in response to requests from users if certain conditions are satisfied. If the Industrial Property Information Library (IPIL) of the JPO is recognized as a "library" under the Copyright Law, then the IPIL may be equipped with copying machines, which will enable applicants to make photocopies of cited documents on the IPIL premises. The disadvantage of this approach is that the applicant must physically come to the IPIL. Neither the IPIL nor the JPO are not allowed to send copies of cited documents together with the notification of reasons for refusal.

The other approach is the invocation of the "citation" exception under Article 32, which stipulates that anyone can cite works of others in their own works under certain conditions. Some may argue that the meaning of the "citation" in the notification of reasons for refusal is not the same as the "citation" under the Copyright Law, or may wonder whether the provision of a physical copy to the applicant falls within the scope of activities permissible under Article 32. Nevertheless, there is no clear evidence to show that such provisions are unlawful under the Copyright Law.

4. Possible Patent Law Revisions

The Intellectual Property Group of the Industrial Structure Council, an advisory committee to Minister of Economy, Trade and Industry, published a draft report for public comments in October this year. The report contains some recommendations on revision of the Patent Law of Japan.

First, the IP Group suggests in its draft report that the definition of the working of an invention be reviewed. On the presumption that any invention is worked in the real world and materialized into tangible products (or things) such as machines and tools, the Patent Law defines the working of an invention as "manufacturing," "transfer" and so on (It should be noted that in Japan "transfer" includes "sale"). With this in mind, what would happen if a third party provided a patented program over the Internet? Would this constitute manufacture or sale? The answer is unclear. The IP group recommends that the Patent Law be revised in order to clarify that such activities also constitute patent infringement.

Second, the IP Group suggests that the existing "indirect infringement" clause be reviewed with due consideration of recent developments in the software field as well as market realities. The existing clause requires any components of a patented product to satisfy two conditions to constitute indirect infringement: (a) they should be tangible products (or things) and (b) they should be for exclusive use by the patented invention. Most components of a patented program do not meet these two conditions because they are intangible products by nature and potential for multi-purpose.

Third, the IP Group also suggests that applicants be obliged to disclose in the application the results of prior art searches.

These suggestions are yet to be finalized, but if the Patent Law is revised according to these suggestions, more and more software related applications may be

filed in the coming years since clear and strong protection will be granted under any new law. The JPO is determined to further develop the CSDB and to seek the possibility of increasing its availability to the public, taking into consideration copyright issues.