

Is Database Protected Under Copyright? A Legal Analysis

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Abstract—Databases are an essential element of the continuous advances in human knowledge and productivity. Databases, particularly computer databases touch every one's life either directly or indirectly. Many people use computer databases at work and obtain benefits from it. All those benefits are the product of labour, skill and creativity as well as monetary investment by the database producer. On that reason, database producers expect revenues for the creation. Without adequate protection for databases, the producers will not have enough incentive to produce them. The process of creating a database is extremely costly and complex. A single database can require millions of dollars in development costs. In addition to compiling the data, a producer must solve many complex marketing, programming and information science problems. Lack of adequate protection would encourage free riding activities. The database producers waste their efforts because end users as well as competitors in the industry can quickly copy the final product. Thus, the objective of this paper is to analyse the difference between categories of database and to what extent it is protected under the copyright legal regime.

Index Term—Database, copyright, law

I. INTRODUCTION

In the K-economy community, information serves as a commodity which observably needs legal protection, particularly under copyright law. However, one of the fundamental doctrines of copyright law is that facts cannot be copyrighted.[1] Facts are normally in public domain, they are not deemed to be original to be entitled for protection under copyright law. Nevertheless, since individual bits of information are less valuable than as a whole, it is often thought that compilations of information should be protected. Although mere facts are not eligible for protection, one of the many kinds of works protected by copyright law is factual compilations. Database work can be protected under intellectual property regime, as a subject matter of copyright, either as compilation of works, or, as a database.

II. DATABASE AS TABLES AND COMPILATIONS

A database maybe protected as a literary work under the category of tables or compilations as it has a lot in common with compilations.[2] The dictionary definition of a "table" is "an arrangement of numbers, words, or items of any kind, in a definite and compact form, so as to exhibit some set of facts, or relations, in a distinct and comprehensive way." [3] From the definition, the important element of a table is "arrangement". The dictionary definition of the verb "to compile" is "to construct a written or printed work out of

materials collected from various sources." This definition can be broadly summarized as "a (written) work made out of already existing materials or materials originating from other places." The important element in the definition of compilation is "selection".

There are two different opinions on the effect of the meaning of "tables" and "compilations". First, it is inferred from the definitions that the two terms clearly overlap. However, to distinguish the essential characteristics of these two, the former depends on the arrangement of the items contained in the table, while, the latter lies in the gathering together of the items. Secondly, is suggested that there is room to argue that there is a difference between tables and compilations. Tables are described as "...the inclusion of tabulations of facts or data and other non-works with an element of selection or arrangement..." while compilation implies elements of "...selection or arrangement or both..." [4]

The difference between them can be found in the fact that a compilation does not in all cases have to be arranged as long as there is some selection, while, an important element in tables is arrangement. If tables are not arrange it is doubtful that it can be called a table. Selection is not sufficient as without an arrangement of the content it is highly unlikely that anyone could understand and use it. This argument is supported by the fact that a literary work must be able to offer information, instruction or pleasure[5] and importantly, it needs to be understood at least by a class of persons.[6]

In referring to the meaning of database given above, such interpretations can be concluded as a collection of information stored in certain methods and capable of being retrieved by the user of the database. The element of a table in a database can be seen in the arrangement of factual information in the work. In fact this element is very relevant to a computer database as the large collection of information is structured in computer storage to make it accessible in a variety of ways. On the other hand, the element of compiling (compilation) factual information is substantially involved in the making of a database. The definition of computer database, for example, always uses the terms "a collection of data" which illustrates that the work must involve the act of compiling. As a matter of terminology, the phrase "table" or "compilation" is clearly appropriate to cover a database.

In the United Kingdom, copyright has been allowed in the works of compilations [7] such as street directories,[8] trade catalogues,[9] football fixture lists,[10] examination papers,[11] a timetable index,[12] racing information service[13] and the listing of programmes to be broadcast [14]. In the United Kingdom, a database was formerly protected as a literary work by virtue of being a type of compilation. At that juncture, the UK Copyright Design and Patent Act 1988 made no specific provision for database but

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in general, they were protected as literary work since that category included compilation. Copyright at that time may subsist in a compilation on two levels; firstly in individual works of the compilation and secondly, the database as a whole as a result of the skill, labour and judgment in the selection and arrangement of the work.[15]

Although a compilation is included in the category of a literary work, it is assumed that the definition of compilation is not only confined to compilation of literary materials, but also to the compilation of literary and artistic materials as well as the artistic works alone. The obvious examples of a mixture of literary and artistic material are a story told in a series of pictures, trade catalogues and business literature.

In the United Kingdom, there was some doubt as to whether a database of artistic works could be a compilation, as literary works are defined in terms of works which are written, spoken or sung. In the previous Copyright Act 1956 (United Kingdom), a literary work had to be reduced to writing or some other material form if it were to be protected under the law. This requirement has been soothed by section 3(1) of the Copyright Design and Patent Act (CDPA) 1988 (United Kingdom), which provides that "...literary work means any work, other than a dramatic or musical work, which is written, spoken or sung...". So far as art work is concerned, there seems to be no reason in principle why a work should not be both literary and artistic in its content. For example, a graph which conveys information through purely visual means may fall within the definition of "literary work" if it can be said to be "a table or compilation" as stated in section 3(1) of the CDPA 1988.[16] Another justification on this matter is, the express exclusion was made to dramatic and musical work in the definition of literary work in section 3(1) of the CDPA 1988, but nothing is mentioned about artistic work. This can be taken as implicit inclusion of spoken artistic works as literary work.

The important element in this definition of literary work is that of communication of information. In the case of a spoken or sung work, the medium of communication will necessarily involve the use of human language or voice which need not be a human voice. It is suggested that "literary work" includes the words of the song but not the tune, and "musical work" includes the tune but not the words.

A written communication will include any form of notation or code whether or not in the form of human language or whether or not it is readable or intelligible to a human. The above deliberations suggest that what matters is the message, not the medium. A message expressed in any of the form comprised in the phrase of "written, spoken or sung" is capable of being a literary work. However, according to section 3(2) of the CDPA 1988(UK), "...Copyright does not subsist in a literary, dramatic or musical work unless and until it is recorded, in writing or otherwise..." This provision evidently requires that a spoken work must be reduced to certain forms before it is protected as a literary work. This means that whether a recollection of spoken words is a copyright work will depend on whether it remains merely a spoken recollection or become fixed, by being recorded in some way.

In short, database may be protected under copyright law as tables or compilations. This is regardless of whether the

database is created by different authors, or whether it includes non-copyright materials derived from different sources.[17] A database in this sense may include new items or commonplace and pre existing materials.[18] That is why they are protected not because of the literary content but in view of the fact that the skill, labour and judgment invested in selecting and arranging the content of the work. Alongside with this, a database may also be protected as collection of works or collection of mere data as discussed in the following section.

III. DATABASE AS A COLLECTION OF WORKS OR COLLECTION OF MERE DATA

The term "database" is expressly defined in section 3A(1) of the United Kingdom's Copyright Design and Patent Act 1988 which states that "...database means a collection of independent works, data or other materials which – (a) are arranged in a systematic or methodical way, and (b) are individually accessible by electronic or other means..." [19]

The Copyright Design and Patents Act 1988 was amended in 1997 to meet the requirements of the European Council Directive on Database. With the amendment of that section, a "database" is protected as a separate category of work and not as tables and compilations. The words "other than database work" were added in section 3(1)(a), which excludes literary protection to database works. The rationale for this was to avoid overlapping in the protection to database. In other words, compilations or tables which do not fit in with the definition given are not protected as database but only as work of compilations.

From the 1996 Amendment of the CDPA 1988, it is concluded that a database is no longer protected as tables or compilations but it is recognized as a separate category of a literary work. In addition to that, tables or compilations are treated differently from "a database" if they do not fit the database definition in section 3A (1) of the CDPA 1988.

The main issue here is how to differentiate between a database and a table and compilation. As mentioned earlier the main difference between a table from that of a compilation is that the former is more functional than the latter. A table needs an arrangement to information or works and tables is usually done to facts or works that are not understandable (without the arrangement). Conversely, a compilation normally involves selection which is done to a subject matter, which has meaning, or can be understood. What about a "database"? A database is defined in section 3A (1) as:

A collection of independent works, data or other materials which-(a) are arranged in a systematic or methodical way, and(b) are individually accessible by electronic or other means.

In Recital 17 of the European Directive On the Legal Protection of Databases, the term "database" is understood to include:

literary, artistic, musical or other collections of works or collections of other material such as texts, sound, images, numbers, facts, and data; it should cover collections of independent works, data or other materials which are systematically or methodically arranged and can be individually accessed, this means that a recording or an

audiovisual, cinematographic, literary or musical work as such does not fall within the scope of this Directive.

The Directive is not concerned with tables or compilations, but only with collections which fall within the aforementioned Directive's definition of database. On the other hand, the CDPA 1988(UK) has indirectly divided a compilation into two different categories, firstly, as a work of tables or compilations which excludes database (non database compilations), and secondly, as a database. Therefore, to differentiate which compilations come under the meaning of database, and which do not, the elements of database described in the CDPA, which were derived from the EC Directive must be fulfilled. A database must possess the following three elements; independence, systematic or methodical arrangement and individual accessibility. If a compilation has all these three elements, it is considered as a database.

What could a non database table or compilation be? A non database table or compilation must be something which is lacking of human creativity and disqualified from protection under section 3A(1) of the CDPA 1988 and the Directive, but may continue to be protected as a literary work under s.3(1)(a) of the CDPA 1988. These non database works can be categorized into:

- i. tables and compilations which are collections of works, or other materials not themselves being mutually independent;
- ii collection of works, data or other materials, whether mutually dependent or independent, which are not arranged in a systematic or methodical way; and;
- iii. Collections of works, data and other materials, whether or not mutually dependent or independent or whether or not arranged in a systematic or methodical way but which are not individually accessible by electronic or other means.

The "independent" work as referred in the first category means that the work or information involved must not be dependent on each other. In short it must be separated and must make sense by itself. Examples of work which are not independent as stated in Recital 17 are recordings, audio visual, cinematographic, literary or works as such. These types of works cannot be seen as databases because their components are not independent. A good example of this non database tables or compilations is a successive and related record of sales and purchases of marketable securities which are computer generated.[20] Yet, another example refers to figures in a Microsoft Excel Spreadsheet where information is dependent on the information from which it is calculated.[21]

The second type of non database tables or compilation refers to collection of works, data or other materials which are not arranged in a systematic or methodical way. A "table" as described earlier must be something which is arranged in a humanly comprehensible method. Therefore any type of arrangement as long as understood by a class of person is systematic or methodical. The word "arrange" refers to an act of putting something in order, which ultimately makes the work easy to understand. Even though there is nothing in the CDPA 1988 (UK) as well as in the EC Directive on the definition of "systematic or methodical way", the nature of the word "arrangement" connotes that "a

table" must be something which is understandable. It is admitted that it is not easy to find a concrete example of a table lacking in system or method. However, it may occur if the compiler merely collates the information or other works without arranging it in an appropriate way. For such tables or compilations, it has been suggested that this work is protected as a literary work of tables and compilations as long as there are skill, labour and judgment in collecting and arranging the data.

The third category refers to the element of lack of individual accessibility. What amounts to individual accessibility? It is not interpreted by the CDPA 1988(UK) as well as the EC Directive. The word "individual" means single or separate, which denotes that "individual accessibility" is something that can be reached or used or understood separately. There is a suggestion that the meaning of this term is synonymous to "independence". It is also understood that a non database compilation must comprise with "elements that cannot be tied in". If the author has to tie in the elements together so that the user will not be able to access the information unless it comes together with other information, this can be said that the compilations are lacking individual accessibility.

Another suggestion is that the reasonable user is to be able "to access the items in the database within a reasonable amount of time or reasonable cost". If the user has to spend a considerable time or exhaust extensive cost to find particular information in the compilations, each item will not be individually accessible, thus, considered as non database. Examples of collections of materials which are not individually accessible by electronic or other means might include a collection on a compact disc which is so compiled as to allow only the entire collection, and not its individual component to be accessed.

From the definition of database as mentioned above, it is concluded that if any of the required elements is missing, a table or compilation would not be regarded as a database but classified as a literary work.

IV. CONCLUSION

In Malaysia, a database is either recognized as a literary work under the head of tables and compilations or as a derivative work under the collection of works or collection of mere data. A question arises as to what amounts to tables and compilations. This term has not been defined by the Act and is thus open to the interpretation of the courts, which in certain circumstances lead to uncertainties.

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