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Full Bench Appeal Successful - Powerflex Services Pty Limited v. Data Access Corporation


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Previous cases involving the application of copyright principles to computer programs have been harshly criticised for showing a lack of understanding of the technology, but none more so than the February 1996 decision of the Federal Court of Australia, Melbourne registry, *Data Access Corporation v Powerflex, Bennett & Ors*. That decision resulted in calls for legislative change to bring Australia into line with the rest of the world, following the failure of the Court to recognise the utilitarian nature of computer software and to clearly exclude 'methods of operation' from copyright protection. While many earlier decisions involving

copyright had shown a lack of understanding of the distinction between ideas (eg: functions) and their expression (source code and object code), none had gone so far as the *Data Access* decision which found that a single reserved word in a programming language could be a computer program in its own right.

The Court reverted to the theory that a computer program can infringe copyright in another if it fulfils the same functions. This is despite the fact that the theory had already been rejected by the Federal Court Full Bench judgment in *Autodesk Inc v Dyason*. In applying that theory, the

Court in *Data Access* commented that the copyright infringement arose out of the desire of a software programmer to achieve compatibility with another program. Such an approach gives rise to the situation where arguably any piece of code which is deliberately written to be compatible with another will result in copyright infringement. It ignores the fact that interoperability is generally accepted within the software industry as a desirable goal. From a policy perspective, the independent development of interoperable

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products is vital to the development of the industry and can only provide benefits to users.

Australian developers therefore had a vested interest in the subsequent appeal to the Full Federal Court, which delivered its decision on 4 June 1997 (*Powerflex Services Pty Ltd v Data Access Corporation* [1997] 490 FCA). This recent decision is to be welcomed by the computer industry, not only because of the result which overturns the earlier judgement on nearly all of the key points, but also because of the style and approach of the judgment. The decision is premised on a clear and simple didactic summary of the technical issues surrounding computer language and its syntax, as set out at the beginning of the judgment.

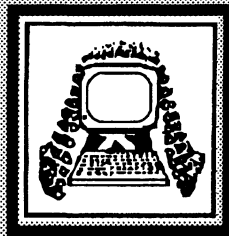
Going back to basics, the judgment explains how the development of a computer language involves the process of defining the names of each

word in the language (reserved words) and the rules governing the use of each word (syntax). While we speak colloquially of particular words or commands as having meaning, the judgment explains that what is really meant is that a command will cause the computer to perform a particular operation or function in a particular program. While commands in two programs may have the same meaning, ie will ultimately cause the computer to perform the same function, the set of instructions in source or object code in each program may be completely different.

Starting from this premise, the facts of the case start to take on a somewhat different perspective to that adopted in the judgment of the lower court. Without labouring over the facts (which are clearly set out in the September 1996 edition of *Computers & Law*), a medical practitioner called Dr David Bennett set out to create a program for use in the creation and manipulation of databases which would be highly compatible with

another application development system called Dataflex. Accordingly, both programs were always going to be functionally similar. The program developed by Dr Bennett, PFXplus, intentionally used the same commands, file structure and function keys as those contained in the Dataflex program to perform the same functions so that persons familiar with the Dataflex program would have no difficulty in transferring to PFXplus.

The evidence presented at the trial established that Dr Bennett had not at any time accessed the source code of Dataflex or decompiled it. This is borne out by the fact that there was no similarity between the source code of the two programs. The problem which Dr Bennett confronted was the similarity between the function keys and file structure of the two programs, as well as the similarity of certain minor features such as compression and error display. In other words, certain commands used by Dr Bennett in PFXplus caused the computer to perform the same functions as did



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those same commands when used in the Dataflex program, notwithstanding the fact that the set of instructions in source and object code was quite different.

Words as computer programs

The Full Federal Court then turned its mind to the contentious issue of whether the words or commands used in the Dataflex program could individually or together constitute a computer program, defined in the *Copyright Act 1968* as an expression of a set of instructions intended to cause a computer to perform a particular function. To this end, the Court focused not on the idea underlying the set of instructions, but upon the expression of the set of instructions.

As a preliminary step, the Court turned its mind to the definition of computer program contained in the Copyright Act, and the scope of the term set of instructions incorporated in that definition. The judgment contains a detailed and comprehensive affirmation of the proposition that contextual data can in fact form part of a set of instructions, citing Gaudron J in the second of the two High Court *Autodesk* decisions (176 CLR 300, 329-330):

“... the words ‘set of instructions (whether with or without related information)’ extend to comprehend information as well as commands. There is thus no basis for an argument that the Act does not extend copyright protection to information forming part of a set of instructions of the kind falling within the definition of ‘computer program’, at least if that information is a substantial part of the relevant set of instructions.”

The Court found that while each command was itself an instruction triggering the computer to take certain action, a command could not be seen as an expression of the set of instructions:

“... The set of instructions is expressed in the source code which is the computer program

and, at least at a higher level, includes the particular word which is a command.”

In support of the view that individual words of command are not, themselves, computer programs within the definition contained in the *Copyright Act*, the Full Federal Court again cited Gaudron J in *Autodesk*:

“... it is, in my view, clear that that expression directs attention to an entire instruction or, more accurately, an entire set of instructions, and not merely those parts that consist of bare commands...”

The Court rejected the argument by Data Access that that even if individual words were not protected by copyright, the group of words together was - use of the same 192 words in either language would result in a computer performing the same functions. In this regard, Dr Bennett had stated that he created PFXplus to achieve compatibility with the least possible duplication of material from Dataflex, and that the 192 words used were the least he needed to achieve this. The Court found that:

“...it is just as impossible to say of the entire set of commands that it is itself an expression of a set of instructions, as it is to say that in respect of any individual word...”

The Macros

The lower Court found strong similarity between the source code for the macros used in each of the computer programs. On this basis, Dr Bennett was held to have made an adaptation of each set of instructions invoked by the macro commands. However, this was overturned by the Full Federal Court, based on analysis of the term adaptation which is defined in the *Act* as “a version of a work that is not a reproduction”. It was held that Dr Bennett did not translate from one form of language to another, nor did he carry out any decompilation:

“In our view, a process of devising a source code to perform the same function as is performed in some other source code expressed in original language does not involve

creating a version of the original source code. It is an original work, albeit that the function to be performed is the same.”

Having reached this conclusion, the Court did not find it necessary to determine whether the underlying set of instructions to each macro command should be looked at as a separate software program. The Court commented that one should look at the work as a substantial whole, rather than at a particular part of a work as involving a separate work:

“...in the context of copyright law where protection is given for a “work”, one should look at the work as a substantial whole rather than at a particular part of a work as involving a separate work. A poem may consist of a series of stanzas, but copyright exists in the entire poem not separately in each stanza. ...it is doubtful that the macros themselves could be seen as a substantial part of the whole or, to adopt the language of Gaudron J in *Autodesk*, that they would be described as the “linchpin” of the program.”

A point of confusion does arise in one area, namely the rationale for determining what constitutes a ‘substantial whole’. Here the line of reasoning becomes somewhat murky, reverting as it does to the concept of function. The Court commented by way of obiter that if a particular set of instructions is ‘functionally separate’ from the entirety of the program, it can be treated as a literary work in its own right. However, it is difficult to see why the functional nature of any particular piece of software should be determinative as to whether or not that software comprises a ‘substantial whole’. This finding is all the more surprising, given that earlier parts of the judgment upheld the basic premise that a function amounts to an idea (rather than the expression of an idea) and is therefore not of itself to be accorded copyright protection.

Compression Table

One area where the Full Federal Court did not overturn the findings of the lower Court was in relation to the existence of copyright in the Huffman compression table. By way of background, Dataflex uses a compression table to aid in space saving in the storage of data. To read Huffman encoded data, it is absolutely essential to have exactly the same string of coding as that with which the data was originally compressed. Therefore, Dr Bennett went about creating that compression table and, not surprisingly, the table that he produced was indistinguishable from that used by Dataflex. Unlike the earlier decision, the Court in this instance did not find it necessary to address whether the source code for the compression table (comprising approximately 0.25% of the total program) comprised a substantial part of a computer program. Instead, the Court found that the compression table clearly fell within the definition of literary work as a scope of a table or compilation.

Furthermore, the Court found sufficient skill, judgment and labour involved in the creation of the Huffman table to accord it copyright protection. The Court rejected submissions by the respondents to the effect that the table comprised a method of operation. This was despite the fact only an identical table would provide the necessary compatibility between the two programs.

This raises the question of whether legislative amendment is still required, notwithstanding the general trend in the judgment away from protection of methods of operation. It is difficult to see how the compression table could amount to anything other than a method of operation, given that it embodied the one and only method for achieving compatibility in respect of data compression. As previously suggested by James FitzSimons in the September 1996 issue of *Computers & Law*, such an approach effectively grants Dataflex a monopoly in the compression table they have chosen.

In the event that the compression table is in fact a work comprising skill,

judgment and labour, questions of public policy then arise as to the extent to which interoperability should be encouraged. Should infringement arise as a result of an attempt to create a truly compatible program which enables the user to read and write files which have been compressed in another program? Or more to the point, should users be denied compatibility?

It is interesting to note that in the *Final Report on Computer Software Protection* (1995), the Copyright Law Review Committee states that no specific amendment is required to the *Copyright Act*, despite submissions to the effect that a full exclusion should be included along the lines contained in s102(b) of the *Copyright Act 1976* (US):

"In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work."

The Copyright Law Review Committee is of the view that no specific amendment is required in this area, based on the premise that it is sufficient to rely on common law principles:

"...the fundamental nature of copyright is that it does not protect ideas as such. For this reason, the Committee is of the opinion that there is no need for an explicit statement to this effect to be included in the Act."

File structure

The file structures produced by the two programs are identical, although source code versions of the modules which produce the file structures are not similar. The lower Court found that the PFXplus file structures were an adaptation of the Dataflex file structures, presumably on the basis that the similarity of functions amounts to reproduction.

However, the Full Federal Court took the view that simply because one set of instructions brings about the same result as another set of instructions, this does not mean that the one set is

necessarily a reproduction of the other, nor that the one is an adaptation or translation of the other.

Function keys

Dataflex uses 16 function keys and ascribes to each one a word suggestion of the function performed by pressing the key. Each of these 16 words is reproduced by PFXplus and allocated the same function. While these 16 words are critical to compatibility, they are by no means the only words which could be used.

In the lower Court it was held that each word was itself a computer program under the *Copyright Act* because of the fact that pressing the correlative key caused the computer to perform a particular function. The lower Court rejected Dr Bennett's argument that the function keys were not copyrightable on the basis that the function is inseparable from the expression.

However, the Full Federal Court has taken the approach that the set of instructions is objectively quite different and not in fact a reproduction. The mere fact that the function proposed is the same does not result in infringement. Again the Court has not found it necessary to determine whether the set of instructions representing each key function could on its own constitute a computer program.

Error Text Table

Finally, the Full Federal Court has upheld the finding of the lower Court that the PFXplus error table did not infringe any copyright which may subsist in the Dataflex error text table. Dr Bennett did not reproduce a 'substantial part' of the Dataflex error table because the Dataflex program could still operate without the error table.

Accordingly, the Court has impliedly upheld the principle set out in the previous decision to the effect that 'substantial' and 'essential' amount to one and the same. However, nowhere in the judgment is there any specific comment on this contentious interpretation.

Conclusion

This latest judgment removes the potentially draconian restrictions which were imposed on local software developers in the earlier decision. A comparison of the results with those of the earlier decision are summarised in the annexed table.

This latest judgment is based on sound technical premises, and goes a long way towards ensuring that Australian copyright law in relation to software is brought into line with worldwide trends. However, the difficulties involved in drawing the line between protecting the expression of an idea and the idea itself will not go away. The decision of the Court in granting copyright protection to a compression table highlights the fact that legislative change may still be required to exclude 'methods of operation' from copyright protection.

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The table at right was prepared by lawyer, Andrew Lim, also of Gilbert & Tobin.

<i>Issue</i>	<i>Jenkinson J</i>	<i>Full Bench</i>
Dataflex Reserved Words	<ul style="list-style-type: none"> A computer program and subject to copyright 	<ul style="list-style-type: none"> Not themselves a set of instructions, but ciphers: not subject to copyright
Dataflex Macros	<ul style="list-style-type: none"> A computer program and subject to copyright Infringement: Powerflex macros are adaptations 	<ul style="list-style-type: none"> A computer program and subject to copyright No infringement: Powerflex macros not adaptations (no translation or compilation then decompilation) but original expressions
Dataflex Compression Table	<ul style="list-style-type: none"> A compilation and subject to copyright Direct infringement: Powerflex compression table is a reproduction 	<ul style="list-style-type: none"> A compilation and subject to copyright Direct infringement: Powerflex compression table is a reproduction
Dataflex File Structures	<ul style="list-style-type: none"> A computer program and subject to copyright Infringement: Powerflex file structure is an adaptation 	<ul style="list-style-type: none"> A computer program and subject to copyright No infringement: Powerflex file structure is not an adaptation because it uses a different set of instructions to produce the same function
Dataflex Function Keys	<ul style="list-style-type: none"> Each a computer program and subject to copyright Infringement: Powerflex function keys are reproductions 	<ul style="list-style-type: none"> No infringement: Powerflex function keys are not reproductions because they use a different set of instructions to produce the same function Therefore unnecessary to decide whether each function key set of instructions can be a separate computer program
Dataflex Error text table	<ul style="list-style-type: none"> Not a literary work: not subject to copyright 	<ul style="list-style-type: none"> Not a literary work: not subject to copyright