

European Patent Office
Enlarged Board of Appeal
80298 Munich
Germany

Attn.: Mr Nicolas Michaleczek
(EBAamicuscuriae@epo.org)

8 December 2023

Your ref:

Re: Amicus Curiae Letter Concerning Referral G1/23

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G1/23 – But what if the prior art is (use of) a software product?

Dear members of the Enlarged Board of Appeal,

The purpose of this amicus curiae brief is not to suggest any responses to the questions referred to the Enlarged Board of Appeal. Rather, this amicus curiae brief intends to draw the Enlarged Board of Appeal's and the public's attention to the breadth of the questions and the potential breadth of the answers given by the Enlarged Board of Appeal. When looking at the decisions cited in T 438/19 (the interlocutory decision of the referral), it appears that all these decisions are from the field of chemistry which is maybe not surprising since Board 3.3.03 is a Board in the field of chemistry. However, the reception of T 438/19 in many articles on the Internet already shows that the decision of the Enlarged Board of Appeal will no doubt have wider impact. Moreover, question 3 of the present referral explicitly refers to decision G 1/92 (of 18 December 1992) which gives a similar picture. All decisions cited in G 1/92 are from the field the chemistry. However, the answers given in G 1/92 are as follows:

“1. The chemical composition of a product is state of the art when the product as such is available to the public and can be analysed and reproduced by the skilled person, irrespective of whether or not particular reasons can be identified for analysing the composition.

2. The same principle applies mutatis mutandis to any other product.”

While the first answer clearly refers to a “chemical composition of a product”, the second answer shows that the Enlarged Board of Appeal had in mind that the answer given could and should be applied to products different than chemical products. Hence, decision G 1/92 is applicable in any field of technology. This is underlined by item 1.1 of the reasons:

“1.1 These points of law concern the interpretation of the requirement “made available to the public” in relation to the prior use of a product. In this context, it should be noted that the EPC does not make any distinction between chemical products and other products such as mechanical or electrical articles.”

Forresters
Skygarden
Erika-Mann-Str. 11
80636 Munich
Germany

T +49 (0) 89 2441 299 0
F +49 (0) 89 2441 299 10
www.forresters-ip.com

Patent and Trade Mark Attorneys

While the reasons for the decision explicitly mention “mechanical or electrical articles”, they do not mention “software products” – maybe because there have not been many cases where a software product was used as prior art. However, history has shown that G 1/92 has been cited in cases where prior art was a software product and if we extrapolate this fact into the future we can assume that G 1/23 is likely to be cited in cases where the prior art will be use of a software product.

In the following, I would like to give a short overview of case law of the Boards of Appeal in which prior art has been use of a software product.

T 461/88

Let us start with the seminal case T 461/88 (of 17 April 1991 – 1.5 years before G 1/92). Its headnote reads as follows:

“Where a device which has been disclosed by public prior use contains a microchip on which a program written in machine language is stored which realises a control procedure, the said procedure does not form part of the state of the art under Article 54(2) EPC if no logic diagrams and block diagrams are available to skilled members of the interested public, if the principle underlying the control procedure is not discernible by inspection, and if, moreover, the technical possibility exists of ascertaining the contents of the program but experience suggests that, under the circumstances, especially in view of cost-benefit considerations, this cannot have occurred.”

While G1/92 clearly states that no motivation is necessary for analysing the composition, T 461/88 at least mentions “cost-benefit considerations”. In T 93/89, the Board still held that the public needed a reason to analyse a product put on the market. It was again confirmed in T 2517/11 that a reason was not necessary.

6.3 In view of these circumstances, the question arises whether it was possible, in connection with prior use V1, for skilled members of the interested public, having no knowledge of the logic and block diagrams specific to the program, to recognise immediately the program written in machine language and stored on the microchip, and thereby infer how it functioned. Even if the Koebau engineering company and the end-user in Finland are counted as members of the "interested public", the following picture emerges:

In theory, it is possible to reconstruct the contents of a program stored on a microchip, for example by using a "disassembler" program or by so-called reverse engineering. However, these procedures require an expenditure of effort on a scale which can only be reckoned in man-years, during which time the chip is only available for examination purposes and cannot be put to the productive use for which it was intended. Depending on the method of investigation used, there is also a danger that the chip may be destroyed.

The electrical equipment for the printing press was at the disposal of the Koebau engineering company from about the middle of 1977 onwards, i.e. for approximately one year before delivery to the end-user. This is a relatively short period in which to build a large machine, and experience suggests that it would be a very busy time, with strenuous efforts being made to meet the agreed delivery date and avoid penalties for breach of contract. Subsequently, the machine was in normal service in a newspaper printworks (see document D2), whose expenditure on the plant represented a major investment, the presetting devices alone having cost DEM 450 000 (see p. 22, right-hand column, of document D2). The printworks would therefore only be interested in ensuring that its periodical publications appeared on time, and it would not be prepared to countenance lengthy interruptions in production.

For both companies, the usefulness of the knowledge to be gained by investigating the microchip would therefore have been entirely disproportionate to the economic damage caused by the time spent on such an investigation. Thus the possibility can be ruled out that the public gained knowledge of the program via Koebau or the end-user by investigating the chip. Having regard to the circumstances of the present case, it can be said that the program was not disclosed by the delivery of the microchip on which it was stored and does not therefore form part of the state of the art within the meaning of Article 54 EPC.

Incidentally, the appellants made a request that the following question should be referred to the Enlarged Board of Appeal:

Does a computer program form part of the prior art if it meets the following conditions:

- (a) it was only supplied to a single customer and incorporated in a machine, and
- (b) it is under the control of a single person, and
- (c) access to the machine is restricted to a certain category of persons, and
- (d) inspection of the machine does not reveal the program or the structure thereof, and
- (e) even if the machine is dismantled, the program or the structure thereof does not become apparent.

This request was refused.

T 212/99

In T 212/99, documents D7 and D8 were considered as the most relevant prior art. D7 related to a service manual of a RDS car radio Blaupunkt Montreux RDR 49 which was available to the public before the date of priority of the patent in suit. The RDS car radio Montreux was equipped with a microprocessor and a memory as this appeared from D5, page 10 and the diagram on page 42. D8 listed, in a programming language, part of the program of the car radio Montreux RDR 49. This could be confirmed by the witness offered in the proceedings before the opposition division, but the opposition division did not hear the witness. The program was stored in a ROM which could be read out by a skilled person. In contrast with the case T 461/88 the skilled man could thus read, analyse, copy and reproduce the program without undue burden. The program was accordingly available to the public at the priority date of the patent in suit. The method of claim 1 which could be read on the program according to D8 (subroutines TEPI and TEPI2) thus lacked novelty in view of the prior use of the car radio Montreux RDR 49.

In the view of the Board the circumstances in the present case could well differ from those underlying case T 461/88 in which a program written in machine language was stored on a microchip sold to a customer and could only have been reconstructed with great difficulty using a "disassembler" program or by reverse engineering. However, the Board cannot decide upon this matter, since the witness offered to support the allegations of the appellants has not yet been heard. The case has been remitted to the opposition division.

T 1169/04

In T 1169/04, the Board stated that the respondent has also proven to the Board's satisfaction that the interface boards of the type Intercon-Ether were sold, in particular by presenting evidence of a number of non-confidential shipments of such interface boards of clients. As an example chosen from affidavit E2, two interface boards InterCon-Ether were sold to the company GRAFIKOM, Vienna (AT), with an invoice dated 10 September 1992 (see also the testimony of the opponent's executive director Mr Ellerbrake who had signed the invoice). The circuit diagrams of DL-820 added to some of the affidavits were not available to the public but according to the date printed on them (5.5.92) it can be accepted that they describe the design of the sold interface boards. According to decision G1/92 of the Enlarged Board of Appeal (OJ EPO 1993, 277), the shipped interface boards could be analysed and the features shown in the circuit diagrams could be derived from that analysis. A skilled person was able to decompile the functions of the software of the interface boards. Therefore, those features were available to the public and form prior art under Art. 54 (2) EPC.

T 2440/12

In T 2440/12, a software product relating to a simulation program was sold before the priority date. The situation underlying T 2440/12 was in a way special since it was undisputed between opponent and patent proprietor that the commercialized software product embodied the subject-matter of claim 1 as granted. Consequently, the question at issue was whether the public use of the software product resulted in public availability of the corresponding method. The Opposition Division nevertheless rejected the opposition, arguing that a mere disassembly of an available program would not enable the person skilled in the art to reconstruct the underlying mathematical method for a finite element program. In particular, a skilled person would not be able to directly and unambiguously derive the feature "inside the surface mesh, a framework of internal rod elements is generated extending from node to node of the Polygons".

The Board set the decision of the Opposition Division aside and held that a software product sold before the priority date of a patented computer-implemented method and admittedly executing said method when run anticipates the method by public prior use even if the program and the method as claimed are to be considered as two different forms of disclosure of the same subject-matter. Defining a known method in different terms does not give rise to a different method, just like giving a different definition of a chemical composition does not create a new chemical composition. By executing the program line-by-line, a skilled person would be able to see how the input data was processed and understand how the method implemented by the software product was carried out step-by-step. The information provided by the stepwise execution of the software product represented a form of disclosure of a specific embodiment of this method.

Moreover, any interested person who acquired the program and used it for the purpose of which it was commercialized automatically executed the method steps as defined in claim 1 of the patent. This fact is as such already sufficient for destroying the novelty of the claimed subject-matter.

In the Board's opinion, defining a known process or method in different terms did not give rise to a different process or method, just like giving a different definition of a chemical composition did not create a new chemical composition. In the present case, the method implemented by the software product before the filing date of the patent in suit was expressed in computer-readable code, whereas in the patent the method was specified in much more abstract, even somewhat metaphorical language. If the machine code of the software can be translated into human-readable language, the two representations of the method should, in principle, be

considered as two different forms of disclosure of the same method which are equally available to the public.

Even if decompiling or disassembling of computer programs was not allowed by European copyright law, as argued by the patent proprietor, this argument was not persuasive in the context of an international commercialization which was not restricted to Europe. Moreover, the patentee's European customers were not prevented by law to load the computer program and run it line-by-line in order to determine its underlying principles.

The Board also found its conclusions to be in line with the opinion expressed by the Enlarged Board of Appeal in case G 1/92 "Availability to the public" (OJ EPO 1993, 277). According to G 1/92, the chemical composition of a product was state of the art when the product as such was available to the public and could be analyzed and reproduced by the skilled person, irrespective of whether or not particular reasons could be identified for analyzing the composition. Furthermore, the same principle applied *mutatis mutandis* to any other product, since the EPC did not make any distinction between chemical products and other products such as mechanical or electrical articles. In particular, the Enlarged Board observed that an essential purpose of any technical teaching was to enable the person skilled in the art to manufacture or use a given product by applying such teaching. Where it was possible for the skilled person to discover the composition or the internal structure of the product and to reproduce it without undue burden, then both the product and its composition or internal structure became state of the art. In the case of a software product, the "internal structure" was represented by the set of instructions which constituted a program to be run on a computer. As explained above, by executing the instructions line-by-line the skilled person could derive knowledge of all the operations to be performed in order to carry out the method embodied by the software product.

Decompilation right in Europe

It should be borne in mind that when applying G1/92, and in future possibly G1/23, to cases where prior art is (use of) a software product, decompiling a computer program is allowed in Europe only under certain circumstances, e.g. for the sake of achieving interoperability with another piece of software (Directive 2009/24/EC on legal protection of computer programs). Article 6 of the Directive establishes several conditions for such permitted decompilation. First, the decompilation right should only apply when there is no other way to achieve interoperability with the second program. This would be the case, for example, if the code of the API of the second program is not freely available and the software vendor refuses to provide it upon request. Second, the right can be applied only by someone who is developing an independent program. Third, that person should also be a lawful user of the second program that is to be decompiled. Fourth, the decompilation should only cover those parts of the second program that are necessary to achieve interoperability. Finally, the information obtained through the decompilation should not be used for goals other than achieving interoperability. It should not be shared with third parties and it should not be used for developing a substantially similar program, as this would constitute a copyright infringement. Finally, any restrictions imposed through a licensing agreement by a software vendor on this decompilation right, as established under Article 6, shall be null and void.

In its judgment in case C-13/20 of 6 October 2021 (Top System SA v Belgian State), the Court of Justice of the European Union ("CJEU") concluded that the lawful acquirer of a computer program may decompile it, fully or partially, to correct errors that affect the program's functioning.

Conclusion

In view of the restrictions related to decompilation at least in Europe, one inevitably comes to the conclusion that the art of reverse-engineering in the field of software cannot be equated with the art of analysing a product in the field of chemistry or pharmacy where the skilled person is typically familiar with many standard analysis methods while the skilled person in the field of computer implemented inventions is not familiar with reverse-engineering techniques. Hence, in general, the burden of reverse-engineering a program and identifying its internal functioning is higher than the analysis of a chemical product. Therefore, the internal functioning of a (compiled) software product should - as a general rule - not be considered to be made available to the public (except in certain circumstance such as in T 2440/12 where it is undisputed that the software product, when executed, performs the claimed method).

Yours faithfully



Michael Fischer
Forresters IP LLP (Association No. 1062)
mfischer@forresters-ip.com