

Patent law briefing

Software cases at the EPO Technical Boards of Appeal: *Konami*, *Fujitsu* and *Sharp* show pragmatism in applying *Comvik*

by Richard Lawrence

The President of the EPO, Alison Brimelow, has referred a set of questions relating to the patentability of software to the Enlarged Board of Appeal. It is not clear whether the Enlarged Board will accept this reference, but if it does, fundamental issues in this area will remain unsettled for some years.

From the point of view of the applicant, this is unfortunate - the line of cases since *Konami* show a consistent and pragmatic approach from the Technical Boards of Appeal in considering inherent patentability and inventive step in software cases.

For software inventions that are clearly new, there have been two major obstacles to overcome in obtaining a granted European patent: one is the exclusions to patentability under Article 52 (under which neither a mathematical method nor a program for a computer "as such" can qualify as a patentable invention); and the other is the determination of inventive step under Article 56. It might be expected that the first obstacle would be difficult to avoid, whereas the second obstacle would only require the same considerations as for any other invention. Neither is currently true.

The first obstacle is currently low. In *T 208/84 (Vicom)*, it was held that a claim directed to a technical process which is carried out under the control of a program cannot be regarded as a computer program as such - in the case of *Vicom*, this concerned the processing of images to be stored electronically. In *T 935/97 (IBM)* and *T 1173/97 (IBM)* it was held that claims to a computer program stored on a data carrier were patentable if the program comprised all the features of a patentable method. It is a consistent feature of EPO case law in general that a patentable invention must have technical character, although this is not defined in the European Patent Convention and the approach to determining whether technical character is present has changed over time. In *T 258/03 (Hitachi)*, the mere execution of a computer program by a computer was held to provide technical character. The Enlarged Board of Appeal reference expresses the concern that avoiding the first obstacle is simply a matter of choosing an

appropriate form of claim, and most of the questions in the reference relate to the height of this obstacle.

In practice, the second obstacle is far more difficult to overcome. Indeed, it poses challenges greater than those in areas of technology where 'excluded subject matter' is not an issue. The key case in this area is *T 641/00 (Comvik)*. *Comvik* related to an IC card used as a subscriber identity module (SIM) in a mobile unit of a GSM system. In *Comvik*, the SIM has at least two identities, only one of which can be activated at a time, allowing for distribution of costs between the different identities. The Technical Board of Appeal held that, adopting the problem-and-solution approach to inventive step, the problem to be solved had to be a technical one, and non-technical features of the patent claim not only could provide no contribution to the solution of the technical problem but could not even be used to help in formulation of the technical problem. In the case of *Comvik*, the distribution of costs between different identities was held to be a non-technical matter, and the technical problem to be solved by the invention was "to implement the GSM system in such a way as to allow user-selectable discrimination between calls for different purposes or by different users." In this case, the Board submits that "the technical professional would, in a realistic situation, receive knowledge of the cost distribution concept as part of the task information given to him."

The inventive step test in *Comvik* appears to pose special difficulty in the claiming of software inventions - far from contributing to the invention, novel non-technical features can seemingly be used to attack the claims, by providing a non-technical 'brief' to be used by the person skilled in the art when they address the 'technical problem' to be solved by the invention. Subsequent decisions indicate some ways to show that the *Comvik* test has been met.

The cases following Comvik

Although it relates to an older patent, *T 60/98 (Sigma, Inc)* was decided after *Comvik* and references *Comvik* in the decision. The patent relates to a game machine in which a winning

combination could include a substitutable character used as a different character to make the winning combination. In the decision, it was made clear that improvements in game rules could not contribute to inventive step – the technical problem was considered to be that of “*providing alternative technical means for determining the actual winning in case of occurrence of special characters in the combination of characters stopped along the winning line.*” The claimed solution was held to simplify the game machine compared to the prior art, allowing an arithmetic operation to be dispensed with – none of the prior art suggested this, and the claimed invention was held to have an inventive step.

T 0928/03 (Konami) relates to video games, and is particularly relevant to the display of characters in a football (soccer) game – this case will be termed *Konami I*. The first player character with the ball is depicted with a ring-shaped guide mark by its foot, and a second player character best placed to receive a pass is depicted with a pass guide mark. A portion of the pass guide mark is visible even when the second player character is outside the display area. The closest prior art showed a symbol above the head of the player character with the ball. The Board considered the differences between the claimed invention and the prior art, and considered which of these could contribute to inventive step. The increased size of the guide mark could do so, as this improved visibility – which was a technical purpose. The ring-shape of the guide mark had only an aesthetic purpose, and could not contribute. The foot-related location of the guide mark was considered to be non-technical – either aesthetic or indicated by game rules. The provision of a pass guide mark with a second player was considered to have an underlying technical consideration (once game-rule-driven aspects of the feature were removed) of highlighting a second point of interest on the screen in order to draw the user’s attention to it. The continued visibility of a portion of the pass guide mark when the second character is not visible on the display was considered to relate to an underlying technical problem: the desire to display a portion of the image on a large scale, with the difficulty of showing all zones of interest on a limited display area. Resolving this conflict by technical means implied a technical contribution.

Neither enlarging a guide mark or identifying a second player of interest with a guide mark were considered to involve an inventive step – the first was considered to be a routine modification for a games developer, and the second driven by the rules of the game. The third feature of providing continual visibility of a portion of the guide mark even when the second document is not visible was considered to be inventive – it was contrasted with prior art approaches to showing two scales in a game (have a map shown at a smaller scale,

and shifting focus) and was held not to be suggested by any prior art.

T 1351/04 (Fujitsu) is concerned with file search methods. A file to be searched is structured as records with fields at different hierarchical levels. An index file is created with nodes in a tree structure. The nodes are used for searching for key character strings. Each node has management information concerning the starting position and number of corresponding records in the file to be searched. This allows desired records to be extracted directly when the node with the desired key character has been found, meaning that only a part of the tree structure will generally need to be searched. The invention was found to differ from the prior art in that each node in the index contained starting position information and number information for retrieving records. The Board noted that the actual data stored was of no relevance to the technical contribution to the invention under consideration, but that the management information had technical character by virtue of its role in controlling a technical device. The technical problem with respect to the prior art could be considered as devising a search method particularly efficient for a data file containing high level nodes – nothing in the prior art suggested the solution, particularly when considered that a small disadvantage (additional storage requirements for the index file) was required to achieve the advantage. Modification from the prior art to reach the claimed invention was possible, but only with hindsight – this suggests that formulation of the problem itself may have provided an inventive contribution.

T 1188/04 (Sharp) is similar to *Konami I* in that it relates to display of information for user interaction, but operates in a different context. In *Sharp*, a mouse pointer is used to drag and drop a first icon (representing a document) onto a second icon (representing a printer) a number of times in reciprocating movement – the number of times indicates a print parameter, such as the number of copies to print. In the closest prior art, a document icon is dragged to a printer icon and hovered over it – after a predetermined time, a dialogue box opens to allow print parameters to be specified. The prior art disclosed neither the reciprocating movement nor the automated setting of the parameter. The technical problem over the prior art was considered to be how to provide an alternative graphical shortcut allowing direct setting of different processing conditions. The formulation of the problem was not considered to involve any inventive contribution (as graphical shortcuts themselves were known and desirable when a parameter needed to be set regularly). Simply moving the mouse pointer (changing its ‘itinerary’) as an alternative to clicking was not considered in itself to provide an inventive step, as in these broad terms it was known from other prior art. Nothing in the prior art, however, suggested

the reciprocated dragging motion taught in the claimed invention.

A good indication of the boundary is provided by *T 1793/07 (Konami)*, here described as *Konami II*. This case also relates to the provision of ring-shaped guide marks around the feet of player characters in football video games - the prior art in this case also showed player characters with ring-shaped guide marks around their feet. In the invention, an enemy character has an 'area mark' around its feet, the mark changing colour when a player character is within the area. The player scores points when the player character has been within the desired area for some period of time. The differences between the invention and the prior art were considered to be in the change in colour of the area mark, and in the judging and scoring mechanisms. The Board considered that all these features resulted, or would result, from implementation of the game rules with the closest prior art as the starting point, with one exception. This was the colour change in the area mark. This feature was technical in that it conveyed to the user an internal state of a technical device. There was a technical problem associated with this feature - providing the user with accurate information on positional relationships of display items.

However, both the problem and its solution were found to be obvious - the Board cited examples of colour changes in display fields when a mouse is dragged over them and its presence sensed.

Conclusions

There are clearly challenges in obtaining patents for software-related inventions at the European Patent Office, but the line of cases following *Comvik* provide clear guidance as to the approach to take. The features providing a technical contribution need to be identified, as only they can contribute to the solution to the technical problem to be solved. The starting point for the technical problem may not merely be the closest prior art, but may incorporate - typically as constraints - non-technical features from the invention under consideration. There needs to be an inventive step in the solution of the problem. *Comvik* and particularly *Fujitsu* emphasise the importance of avoiding hindsight - in the case of *Fujitsu*, it appears to have been recognised that some measure of inventive activity was involved in the identification of the problem to be solved.

As a result of the line of cases discussed above, applicants in this technical field currently have a fairly clear understanding of what they can expect in prosecution of cases before the EPO. This may change, following the referral to the Enlarged Board of Appeal made by the President of the EPO. It is likely to take some years before the Enlarged Board will be able to issue a decision, if it decides to accept the reference (which it may not), so this case law will remain important at least until a decision issues.

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