

10 September
2008

PATENTS ACT 1977

APPLICANT Abbas Yamkangaz

ISSUE Whether patent application number GB
0401039.3 complies with section 1(1)
and 1(2)

HEARING OFFICER R C Kennell

DECISION

- 1 This application entitled "Games and Educational Tools" was filed on 16 January 2004 with no claim to any earlier priority date. It was published under serial no. GB 2 409 983 A on 20 July 2005.
- 2 The applicant (who is not professionally assisted) has not been able to overcome the examiner's objection that the invention is not patentable. He has been offered a hearing to resolve the matter, but is content for me to decide it on the basis of the papers on file. I have considered all such papers, including the prior art documents cited during the proceedings and the applicant's comments in his letters of 13 December 2004, 19 October 2007 and 30 May 2008.

The invention

- 3 Referring to the applicant's specification, his starting point is that computer-based games and educational toys are known in which the user makes instinctive or semi-instinctive choices to solve a problem. He believes that it would be preferable to give the user a more precise and rational explanation of why particular choices should be made, with the aim of providing educational stimulation in an entertaining format.
- 4 The independent claims 1, 2, 3 and 22 which define the invention in its widest form embrace means to provide a game or educational tool, programming means to provide a game or educational tool, and a method of education or playing a game. They have in common as essential features: (1) a text, (2) a programme or instructions on how to solve a problem based on (and possibly contained in) the text, (3) a formula (which may in simple cases constitute the programme) containing variables to be used in solving the problem, (4) a list of possible

values of some or all of the variables for insertion into the formula, (5) choice of values from the list in order to solve the problem; and (6) display of the resulting solution. The variables need not be numerical; they may be textual or pictorial (in which case the formula would be non-mathematical). Although the game can be played wholly on a computer or gaming device, this is not essential: for example the text may be provided in a booklet. One embodiment involves the use of text booklets, problem and instruction cards for steps (1)-(4) and a calculator for carrying out steps (5)-(6) into which the formula may be programmed.

- 5 The specification discloses a number of optional features - providing explanation or commentary, especially if a non-optimum choice is made, and then allowing a replacement choice to be made; interactive use by two or more players, preferably competitively and with means for timing the game; introduction of random or programmed hazards; and providing print-outs of solutions, choices and commentaries. It lists a number of possible topics for the game, particularly space travel where the problem might be to calculate a transit time between the Earth and the Moon for a space vehicle in the light of the variables which might affect the transit.

The law to be applied

- 6 The examiner has maintained that, insofar as the invention can be distinguished from conventional teaching methods or systems, it does not relate to anything which is patentable. In order to be patentable, under section 1(1) of the Act an invention must (amongst other things) be new, involve an inventive step (i.e. not be obvious to one skilled in the art in question), and not be within certain “excluded” categories.
- 7 On the latter point section 1(2) declares that certain things are not inventions for the purposes of the Act; these include at subsections (c) and (d) anything which consists of *a scheme, rule or method for playing a game, or a program for a computer, or the presentation of information*. Section 1(2) kicks in only to the extent that a patent or application for a patent relates to the excluded thing as *such*.
- 8 As the examiner has explained, when interpreting section 1(2) he is bound to follow the guidance in the *Aerotel* case.¹ In this case the Court of Appeal approved a four-step test for deciding whether an invention is excluded under section 1(2): (1) properly construe the claims, (2) identify the contribution which the invention makes, (3) ask whether it falls solely within the excluded matter (the “as such” proviso above), and (4) check whether the contribution is technical in nature. As explained in the judgment, identification of the “contribution” is essentially a matter of determining what it is as a matter of substance that the inventor has really added to human knowledge.

The outstanding objections

- 9 The examiner’s report of 20 June 2007 sets out his objection in full. If I can

¹ *Aerotel Ltd v Telco Holdings Ltd and Macrossan’s Application* [2006] EWCA Civ 1371, [2007] RPC 7, available from <http://www.ipo.gov.uk/2006ewcaciv1371.pdf>; see paragraphs 40-48.

summarise this very briefly, he considers that conventional teaching methods and systems routinely involve providing students with all the features of the invention identified above along with commentary or explanatory material, particularly in mathematical and scientific cases where formulae will often be given together with a choice of values to be inserted. He considers that such methods would routinely be delivered by means of textbooks, cards, notes and calculators (programmable calculators and graphics calculators having been prevalent in teaching mathematics and physics for many years), and that it is well-known to provide computer and other electronic equivalents of the "paper" systems. He also considers that it is well-known to provide such teaching methods in the form of competitive games.

- 10 Accordingly, the examiner considers that if the invention makes any contribution over known teaching methods and systems it can lie only in the choice of a particular subject, such as space travel, and (in computer cases) the actual program which is used to control the computer. In his view this falls solely within the excluded areas of presentation of information and computer programs.
- 11 The applicant has not disputed the factual basis upon which the examiner has founded his objection, but instead has stressed the social and educational benefits of his invention, and the types of problem and information that might be presented to the user. Although the applicant suggests that instructions might be provided in the form of an abbreviated book, possibly in audio form, or on a disc, the examiner thinks these are well-known ways of providing teaching material and cannot be relied on to make the invention patentable.

Analysis and conclusions

- 12 I accept the examiner's analysis of what conventional teaching methods involve. As to the prior art which he has cited in support of his objection, I consider patent specifications US 2003/0148253 A1 (Sacco), US 2002/0127533 A1 (Grant) and US 2001/0026914 A1 (Samuels) to be of particular relevance. All of these disclose computer-implemented educational systems in which the student is presented with text containing a problem and some form of instructions or "programme" for solving it and is invited to respond, possibly by selection from a multiple choice of answers, the answer being displayed. All of them also provide commentary or explanation in the form of scores, hints or dialogue to assist the student. Sacco (paragraphs 0068) and Samuels (paragraphs 0013 and 0015) also embrace non-computer implementation. Further, all of these specifications optionally present the student with a "formula" – the mathematical concepts in Sacco (e.g. paragraphs 0073-0074), the formula #7 and the specific examples in Figures 2-4 of Grant and the equation mentioned in paragraph 0019 of Samuels.
- 13 It therefore seems to me that, even if the applicant could demonstrate that his invention is new because the prior art does not unambiguously disclose it, it would still (apart from the particular topics presented to the student) lack inventive step. This is because in my view it is using standard items of equipment in a way which would be obvious to those working in the field of providing teaching and study methods and systems. This includes the optional features which I have identified above, all of which seem to me to be

conventional aspects of games and educational tools.

- 14 Following the *Aerotel* test above, if the invention contributes anything to human knowledge then I think it can lie only in the particular topics which are presented to the user. I consider that such a contribution lies solely within the following excluded areas
- the presentation of information, i.e. the provision of particular text, programme/instructions, formulae and list of values;
 - a computer program (where implementation is by computer), since the contribution does not cause the computer to operate in any technically different way or solve any problem in operating the computer;
 - and, although this was not pressed at substantive examination, a scheme, rule or method for playing a game (where what is presented to the user constitutes a way of playing a game even if it has an educational aspect);

and is not technical in nature.

- 15 I therefore agree with the examiner that, insofar as the invention is new and has an inventive step as required by section 1(1), grant of a patent for it is excluded under section 1(2). Since the applicant is not allowed to add any new matter to overcome the objection, I refuse the application.

Appeal

- 16 The applicant can appeal to the Patents Court if he disagrees with my decision. Under the Practice Direction to Part 52 of the Civil Procedure Rules, any such appeal must be lodged within 28 days of the date above.

R C KENNELL

Deputy Director acting for the Comptroller