UK Intellectual Property Office □□□□
For Creativity and Innovation

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13 February 2008

PATENTS ACT 1977

APPLICANT Sony Computer Entertainment Inc.

ISSUE Whether patent application number GB 0603446.6 complies with section 1(2)

Mrs S E Chalmers

DECISION

Introduction

1 Application GB 0603446.6 was filed on 21st February 2006 and published under serial number GB 2435335 A on 22nd August 2007. The applicant has been unable to persuade the examiner that the claims relate to a patentable invention within the meaning of section 1(2) of the Act and the matter came before me for a decision on the papers. Although other objections were raised to the claims, this decision covers only the question of excluded matter leaving other questions to further processing of the application, if appropriate.

The Application

2 The application is concerned with data processing, for example, in the field of electronic games. It is often the case that where a data processor has been upgraded to a new "generation", the manufacturer will still want software relating to the older generation device to be handled. One way of achieving this is for the newer generation device to run emulation software which acts upon instructions relating to the older generation device. To do this, the emulating processor runs native program code arranged so that such native instructions have the same effect as data processing instructions relating to the emulated system. Specifically, the embodiments describe the emulation of the PlayStation2 (RTM) computer games machine.

3 One problem associated with an emulating system which uses a multi-processor architecture is that the speed of communication between processors in the emulating system is relatively slow compared to the general speed of operation of the emulating system. The invention is said to provide faster and more efficient communication and reduced message traffic by dividing the emulation of an emulated processing unit between two or more emulating processing units and to use a single emulating processing unit to emulate two or more emulated

processing units.

4 The application comprises four independent claims:

Claim 1

A data processor comprising a plurality of interconnected emulating processing units arranged to emulate the operation of an emulated processor having a plurality of interconnected emulated processing units, in which:

at least one emulated processing unit is emulated by contributions from two or more emulating processing units; and

at least one emulating processing unit contributes to emulating two or more emulated processing units.

Claim 6

A data processing method relating to a system having a plurality of interconnected emulating processing units arranged to emulate the operation of an emulated processor having a plurality of interconnected emulated processing units;

the method comprising the steps of:

emulating an emulated processing unit by contributions from two or more emulating processing units; and

emulating two or more emulated processing units by one emulating processing unit.

Claim 8

Computer software for carrying out a method according to claim 6 or claim 7.

Claim 9

A medium by which computer software according to claim 8 is provided.

The Law

5 The relevant parts of Section 1(2) read (emphasis added)

"it is hereby declared that the following (among other things) are not inventions for the purposes of this Act, that is to say, anything which consists of –

(a) a discovery, scientific theory or mathematical method;

(b) a literary, dramatic, musical or artistic work or any other aesthetic creation whatsoever;

(c) a scheme, rule or method for performing a mental act, playing a game or doing business or **a program for a computer;**

(d) the presentation of information;

but the foregoing provision shall prevent anything from being treated as an invention for the purposes of this Act **only to the extent that a patent or application for a patent relates to that thing as such**.

6 The correct approach for assessing the patentability of an application is governed by the judgment of the Court of Appeal in *Aerotel/Macrossan*[1]. In this case the Court reviewed the case law on the interpretation of Section 1(2) and approved a new four-step test for the assessment of patentability:

1) Properly construe the claim;

2) Identify the actual contribution;

3) Ask whether it falls solely within the excluded matter;

4) Check whether the contribution is actually technical in nature.

7 However, as stated at paragraphs 45 – 47 of the judgment, the fourth step of checking whether the contribution is technical may not be necessary because the third step – asking whether the contribution is solely of excluded matter – should have covered that point.

8 However, that judgment left open a question about the wording of patent claims: can claims to a computer program (or a program on a carrier) be allowable when other claims in a different form, claims covering the use of that particular program, would be allowed? In his recent judgment in *Astron Clinica*[2], Kitchin J has now clarified the law in this area, and decided that where, as a result of applying the test formulated in *Aerotel/Macrossan,* claims to a method performed by running a suitably programmed computer or to a computer programmed to carry out the method are allowable then, in principle, a claim to the program itself should also be allowable. This ruling is a narrow one which places a greater emphasis on the substance of what has been invented than the words used in the claim. It does not have the effect of making computer programs generally patentable in the UK. The Practice Notice[3] issued on 7 February 2008 gives more details of the Office's approach.

Arguments and Analysis

9 The examiner applied the above test in the letter of 27 April 2007, concluding under step (3) that the contribution from the claims fell solely within the computer program exclusion. Since the claims failed at step (3), it was not necessary to

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[1] *Aerotel Ltd v Telco Holdings Ltd (and Others) and Macrossan's Application [2006] EWCA Civ 1371*

[2] Astron Clinica's Application and others Applications [2008] EWHC 85 (Pat)

[3] http://www.ipo.gov.uk/patent/p-decisionmaking/p-law/p-law-notice/p-law-notice-subjectmatter-20080207.htm

apply step (4). The applicant has not replied to these arguments (other than to express disagreement) although his agent's letter of 22 March 2007 (in response to an earlier examination report) asserted that the claims did generate a "concrete technical effect".

10 It is clear from paragraph 22 of *Aerotel/Macrossan* that just because an invention involves the use of a computer program it is not necessarily excluded. I also note that, in part, the applicant's argument is based on *Sun Microsystems*[4] - a previous decision of the comptroller. However, although I have found this instructive, it is of course not binding on me and I must make my decision on the particular merits of the case before me.

Applying the Aerotel/Macrossan Test

Claims 1 and 6

11 Applying step 1, I do not think the construction of the claims presents any real difficulty. The examiner has questioned whether claims 1 and 6 should specify that the two processors (ie the emulating processor and the emulated processor) comprise *different* pluralities of interconnected units. However, the applicant argues that the skilled person would appreciate that the emulated unit could not emulate itself and that the emulating and emulated processors would, by necessity, be of different arrangements. I agree with the applicant. Applying a purposive construction to the claims as I must, it seems to me that it is implicit that the two different processors must comprise different pluralities of interconnected units. I also note that there is an inconsistency between the language of the claims and the description. In particular, claims 1 and 6 refer to "an emulating unit" whereas the consistory clause on page 1 refers to "a real processing unit". Although the latter term is not defined anywhere, taking the specification as a whole, I do think anything turns on it and I am content that these terms would be understood by the skilled person.

12 For the second step, it is necessary to identify the contribution made by the invention. Paragraph 43 of *Aerotel/Macrossan* explains that this is to be determined by asking what it is, as a matter of substance not form, that the invention has really added to human knowledge.

13 The examiner considers the problem being addressed is how to enable programs written for one known multiprocessor to run on a second known multiprocessor and that the contribution is a new method of emulating a known multiprocessor using a different multiprocessor. I find it harder to determine what the applicant considers to be the contribution. However, in his agent's letter of 22 March 2007, the applicant refers to the decision in *Sun Microsystems* in which "a program that operated on another program" was held to be patentable. Although that statement is couched in broad terms, I think I can infer that the applicant does not disagree with the examiner's assessment. I also agree with the examiner's assessment of the contribution.

14 Addressing step 3, the examiner argues that the contribution identified above

[4] BL/057/06

relates to a computer program *as such*. In the correspondence, the applicant asserts that the claimed invention generates a "concrete technical effect" in that it makes real-time emulation feasible for a greater number of individual PS2 games by reducing a bottleneck in the emulation process. It does this by cutting down the number of comparatively slow messages between emulating processors which is said to result in a faster and more efficient emulation. In the applicant's view, this "effect" takes the contribution beyond the section 1(2) computer program exclusion.

15 Although the applicant argues that the claimed invention results in a faster and more efficient emulation, I do not think the contribution is really about a *technically* new or better way of data processing. I agree that the routing of messages could be regarded as 'technical' within the broadest definition of the term and that technical means such as a computer are used to implement the invention. However, that is not in itself enough to make the invention patentable. While the end result of implementing the invention is the new routing of messages, it is achieved by programming the data processor to have the necessary functionality to enable the emulation. The fact that this happens in the context of one program operating on another program does not to my mind make the contribution any less a computer program *as such*. Accordingly, I agree with the examiner's conclusion. I find that the substance of the contribution lies wholly within the computer program exclusion. Having determined that the contribution relates solely to a computer program, the step (4) check is redundant. Accordingly, claims 1 and 6 are not patentable.

Claims 8 and 9

16 Following the judgment of *Astron Clinica*, claims 8 and 9 are not excluded solely because they relate to a computer program or a program on a carrier; such claims are allowable if the method performed by running that program is allowable. However, I have found that the contribution provided by the apparatus and method claims falls solely within the computer program exclusion. It follows that the contribution made by the invention defined in claims 8 and 9 must likewise fall within the computer program exclusion. Thus those claims are also excluded.

Conclusion

17 I find the invention is excluded under Section 1(2) because it relates to a computer program as such. I have carefully reviewed the specification and do not see any possible saving amendment. I therefore refuse the application under Section 18(3).

Appeal

18 Under the Practice Direction to Part 52 of the Civil Procedure Rules, any appeal must be lodged within 28 days.

S E. Chalmers.

MRS S E CHALMERS

Deputy Director acting for the Comptroller