



Neutral Citation Number: [2021] EWCA Civ 1770

Case No: A3/2021/0936

IN THE COURT OF APPEAL (CIVIL DIVISION)
ON APPEAL FROM THE HIGH COURT OF JUSTICE
BUSINESS AND PROPERTY COURTS OF ENGLAND AND WALES
CHANCERY DIVISION
INTELLECTUAL PROPERTY ENTERPRISE COURT
His Honour Judge Hacon

[2021] EWHC 293 (IPEC)
Royal Courts of Justice,
Strand, London, WC2A 2LL

Date: 02/12/2021

Before :

LORD JUSTICE ARNOLD
MRS JUSTICE FALK
and
SIR CHRISTOPHER FLOYD

Between :

MICHAEL PENHALLURICK

- and -

MD5 LIMITED

Appellan

Respond

Nicholas Caddick QC (instructed by **Virtuoso Legal**) for the **Appellant**

Michael Conway (instructed by **Lupton Fawcett**) for the **Respondent**

Hearing dates: 2-3 November 2021

Approved Judgment

Sir Christopher Floyd:

1.

The principal issue in this appeal concerns the ownership of copyright in a number of literary works consisting of computer software underlying a tool for the forensic examination of computers ("the

Works”). The software in question was written by the claimant and appellant, Michael Penhallurick. The respondent, MD5 Limited, utilises at least some of the Works in software products which it markets under the name VFC. The appellant sued for infringement of copyright in the Works. The respondent contends that the copyright in the VFC software belongs to it rather than the appellant because it was all created in the course of the appellant’s employment by it under a contract of service, or alternatively had been assigned to it by an agreement of November 2008 (“the November 2008 agreement”), and that the copyright can therefore be exploited without the appellant’s consent.

2.

After a two-day trial in the Intellectual Property Enterprise Court on 2-3 July 2020, HHJ Hacon decided in favour of the respondent. He therefore dismissed the appellant’s claim for copyright infringement in respect of the respondent’s commercial use of the Works.

3.

The respondent also counterclaimed, asserting that the appellant had infringed the respondent’s copyright in the Works by making an adaptation of the Works without the consent of the respondent, or by retaining copies of the Works. The judge also dismissed this claim.

4.

The appellant appeals against the judge’s order dismissing his claim, and the respondent appeals from the judge’s order dismissing its counterclaim.

The facts

5.

Agencies, such as the police, may wish to extract evidence from the contents of a computer’s memory without thereby corrupting or altering the source files and reducing or extinguishing the value of the evidence. The appellant, a former police officer, worked on a method of retrieving an image of the hard drive of a computer without writing on it and then viewing the image on a virtual machine, allowing the contents to be investigated.

6.

The appellant worked on this method whilst studying for an MSc degree at Cranfield University from 2002 to 2005. His master’s thesis consisted of a description of his Virtual Forensic Computing (“VFC”) method. The method was manual, in the sense that it used commercially available, proprietary software. No bespoke software was written by the appellant at this stage.

7.

The appellant asserted that in 2005 and 2006, after leaving Cranfield University and while still developing his VFC methodology, he wrote his own software which would allow a computer to perform his VFC method automatically, and that he also began work on a graphical user interface (“GUI”) and a user manual.

8.

On 6 November 2006 the appellant commenced employment with the respondent. By early 2007 the appellant had developed software which permitted a fully automated version of VFC, including a GUI. This was referred to as “Version 1”. The appellant asserted that Version 1 incorporated software which he had written before his employment commenced, and which therefore belonged to him.

9.

The respondent's account of these events was very different. The respondent's case was that the manual VFC method which the appellant brought to them was slow and cumbersome, and that it was Mr Geoffrey Boyd (a director of the respondent at the relevant time) and Mr John Green (then the chairman and managing director) who, at a meeting which was said to be in about January 2007, suggested to the appellant the possibility of developing software to implement the method. The respondent contended, therefore, that all such software was created following this suggestion, and all was created in the course of the appellant's employment. In consequence, all relevant copyrights belonged to the respondent.

10.

Following the completion of Version 1, the appellant created three further versions of the VFC software. Version 2 was released in April 2008; Version 3 in May 2014; and Version 4 in August 2016. The appellant's case was that the core functionality of each of these versions was developed by him in his own time, albeit whilst employed.

11.

The appellant accepts, however, that aspects of the software (both in Version 1 and later versions) such as software related to the licensing of VFC and to security of the system, were developed by him in the course of his employment, and that the copyright in those aspects therefore vested in the respondent by operation of law. In contrast, the respondent contends that each of Version 1 and the subsequent Versions were, in their entirety, created in the course of the appellant's employment.

12.

From March 2007 VFC software was offered by the respondent to its customers. In November 2008 the appellant and respondent entered into the November 2008 agreement under which the appellant was entitled to 7.5% of the annual sales by the respondent of its VFC software. This was later increased to 10% by an agreement entered into on 8 November 2011.

13.

The November 2008 agreement is said by the respondent to have operated as an assignment of any relevant copyright relating to VFC which was in fact vested in the appellant. It is in the following terms:

"Michael, this letter is in confirmation of the verbal agreement we have regarding the annual payment of the 7.5% bonus of the *qualified VFC sales MD5 pay you for your continuing contribution to VFC. This payment will only be applicable while you are an employee of MD5 Ltd and you are continuing your involvement and development of VFC software or future versions.

*The bonus will be calculated from the total sales of the software less any direct VFC expenses such as dongles, postage, commissions and direct sales costs. 50% of training costs will qualify for a bonus and the balance will be added to your personal fee earnings.

I would also like to take this opportunity to confirm with you for our records, that the software developed at MD5 Ltd by yourself and sold as VFC is the sole property of MD5 Ltd, including the access code I would also like confirmation that this code will not be modified or changed without the consent of the Managing Director.

I agree to the above statement and conditions.

Signed [by the appellant and Mr Green for the respondent]"

14.

The appellant resigned his employment with the respondent on 26 February 2016.

15.

The eight pleaded Works relied on were described by the judge as follows:

i)

First Work: The earliest version of the VFC source code, said to have been created before November 2006;

ii)

Second Work: The object code compiled from the First Work;

iii)

Third Work: A fully automated version of the First Work, referred to as VFC Version 1;

iv)

Fourth Work: The GUI for the Third Work;

v)

Fifth Work: Version 2 of the VFC source code released on or about 4 April 2008;

vi)

Sixth Work: Version 3 of the VFC source code released on or about 12 May 2014;

vii)

Seventh Work: Version 4 of the VFC source code released on or about 10 August 2016;

viii)

Eighth Work: The user guide for Version 2 of the VFC source code.

The judgment of HHJ Hacon

16.

The judge had no serious criticism of any of the three principal witnesses, the appellant, Mr Green and Mr Boyd. He said that the appellant gave clear and direct answers to the questions put to him in cross-examination and made realistic concessions in the course of his honest attempt to explain matters as he saw them. Mr Green had come under some criticism for his uncertainty regarding the dates on which things had happened, and for some evidence which he had been allowed to give concerning the meaning of terms used in the November 2008 agreement. The judge rejected the suggestions that these matters undermined the reliability of his evidence. Mr Boyd was described as a very good witness who had given his evidence straightforwardly.

17.

The judge first considered the evidence in relation to the First and Second Works. He concluded that he found the evidence of Mr Green and Mr Boyd more convincing than that of the appellant. He accepted that it was Mr Green and Mr Boyd who suggested to the appellant that software should be written to automate the VFC methodology and that the appellant had then volunteered to do it. He accepted that it was possible that the appellant had done something by way of working on VFC software before he joined the respondent, but “it did not work and was not worth showing to [the respondent]”. He went on to say that if any such software did exist it was likely that the appellant had

“abandoned it and started again” while employed by the respondent. The First and Second Works, if they ever existed, were therefore not of relevance to the appellant’s claim.

18.

The judge then turned to the remaining works which were, by common accord, created whilst the appellant was in the respondent’s employment. The dispute concerned whether the work done by the appellant on VFC software was within the course of that employment. The judge reached the conclusion that all the remaining works were created by the appellant in the course of his employment. An important factor was that writing VFC software was the principal task for which the appellant was being paid by the respondent from late January to March 2007. As to the work which the judge accepted was done in December 2006/early January 2007, and before the appellant had been given permission to devote the majority of his time to the writing of VFC software, the judge noted that in December the appellant had demonstrated his methodology to the respondent with an eye to its being exploited by them; that he must have contemplated that software which made the methodology automatic would be shown to and exploited by the company; and that it was likely that the discussion with Mr Green and Mr Boyd about software being written took place before the end of December 2006 rather than in January 2007. Work done by the appellant on VFC software at the end of December 2006 would have been work which he understood to have been integral to his duties.

19.

The judge went on to hold that, even if the respondent was not the owner of the copyright in all the relevant works, it acquired those copyrights by virtue of the November 2008 agreement.

The appellant’s appeal

20.

The grounds of appeal challenge both the judge’s findings as to first ownership of copyright in the Works and his conclusions as to the effect of the November 2008 agreement.

21.

The majority of the time spent in argument on the appeal concerned the appellant’s challenge to the judge’s conclusion on first ownership of copyright in the Works, and in particular the judge’s conclusion that the First and Second Works either did not exist or were abandoned. It became clear that the judge had not been assisted in his task by two aspects of the procedure in the run-up to the trial. The first of these was the late disclosure by both parties of documents relating to the source code of VFC, in the case of the appellant on 16 June 2020 and in the case of the respondent on 22 June 2020. The disclosed documents were spreadsheets of metadata and printouts of executable computer files, which, as the judge said, went to the central issue of whether the appellant had written VFC software before he became an employee of the respondent in November 2006. The proper understanding of these documents would have been assisted by expert evidence. Neither side, however, had applied for permission to adduce expert evidence.

22.

The second aspect of the procedure which gave rise to problems was that, on 22 June 2020 and 26 June 2020 respectively, the respondent served second and third witness statements from Mr James Clark, the sole director of a company called Data Synergy UK Ltd. Mr Clark had a master’s degree in forensic computing. In his second statement Mr Clark commented on the appellant’s late disclosure while in his third statement Mr Clark commented on the respondent’s late disclosure. This led to applications being made on the first day of trial by the appellant to exclude the second statement and by the respondent for permission to adduce the third statement. As the judge rightly observed, Mr

Clark's two witness statements went well beyond legitimate factual evidence: they contained material that was manifestly expert evidence. The judge nevertheless allowed the respondent to rely upon these witness statements in order "to provide an explanation" of the various late-disclosed spreadsheets and computer files. He did not give permission for them to be adduced as expert evidence, leaving the parties to argue the extent to which the evidence was admissible. In his judgment, the judge accepted the respondent's submission that the late-disclosed documents contained too much confusion and inconsistency for him to place any weight on them. He said that the same went for the witness statements of Mr Clark. I agree with Arnold LJ that it can now be seen that it would have been better if the parties had taken stock of the state of this evidence before trial, and either sought a transfer to the High Court or at least an adjournment.

23.

On the appeal, Mr Caddick QC, for the appellant, sought to resurrect reliance on the appellant's late disclosure to establish that substantial work had indeed been done on the VFC software in September 2006 before the appellant began his employment with the respondent, and that that early work had been carried through into the later works. The documents further showed that there had been substantial further writing of software in late December 2006, before the meeting with the respondent at which the appellant was authorised to devote his time to the automation of VFC (which, contrary to the judge's conclusion, the appellant continues to maintain was in January 2007, not December 2006). He further submitted that the second and third witness statements of Mr Clark, even if admitted, did nothing to undermine the effect of the disclosure documents. He realistically accepted, however, that if he was right on this ground of appeal, the only relief for which he could sensibly ask would be for the case to be remitted for a new trial, at which the contentions based on the new documents could be properly examined.

24.

It is significant, as Mr Michael Conway for the respondent pointed out, that the case as presented to us on appeal was significantly different from the appellant's pleaded case. His pleaded case was that in the course of 2005 and 2006 he had created source code "embodying the VFC methodology" that he had developed and had created object code derived from that source code. He had also developed a GUI for use in VFC by mid-2006. During cross-examination, however, the appellant accepted that, although something had been started and then dropped in September 2006, the First and Second Works were not created until December 2006. The critical exchange was the following:

"Q. Before you were saying that you developed software that, essentially, embodied VFC methodology before you even started at MD5; that is no longer your case?

A. No, the concept of how I was going to do it was in my head. Getting it to work in code was a little bit more problematic. I knew exactly what I wanted to do. Coding it was a little bit more difficult, and that should be December 2006. I started it in September. There was a pause while I relocated and during the last weeks of December I had the breakthrough, in much the same way as I had the breakthrough in September of 2004 with actually getting the manual method to work."

25.

It follows that, even taking the appellant's case as it is now advanced at its highest, the pleaded First and Second Works were not completed until December 2006 at the earliest, and therefore during the appellant's employment.

26.

In support of his second ground of appeal Mr Caddick submitted that the judge had been wrong as a matter of interpretation to treat the November 2008 agreement as an assignment. By the November 2008 agreement the appellant licensed the respondent in return for licensing royalties under the copyright in the core functionality of VFC which he retained. So far as ownership was concerned, the agreement merely confirmed the existing state of affairs, namely that the respondent was the owner of the copyright in the licensing and security aspects of VFC, but not its core functionality.

Discussion

27.

It is clear that the appellant needs to succeed on both grounds of appeal in order to succeed in his action for infringement. If the subject matter of the November 2008 agreement is, as the judge held, all the copyright in software written by the appellant since he commenced working for the respondent, and if, as the judge also held, it amounts to an assignment of those copyrights, then the appellant's case will fail. That is because, following cross-examination, it became clear that none of the pleaded Works was in existence before the commencement of the appellant's employment. The appellant still seeks to establish that some lines of software were written before that date, but, even if he succeeds, that fact does not establish his pleaded case. It is convenient, therefore, to consider first whether the November 2008 agreement was an assignment of the copyright in the Works.

28.

The only formalities called for by the [Copyright Designs and Patents Act 1988](#) ("CDPA 1988") for an assignment of copyright are that it be in writing and signed by or on behalf of the assignor: see section 90(3). Two additional principles, both set out in Copinger and Skone James on Copyright, 18th Edn. 2021, at paragraph 5-95 were common ground:

i)

A signed, written instrument may amount to an assignment of copyright even though the word "copyright" is not used, if, on its true construction, it was intended that copyright should thereby pass.

ii)

It is not necessary that the words "grant" or "assign" be used if an intention to assign can be gathered from the context.

29.

So far as future copyright is concerned, that is to say copyright coming into existence after the date of the instrument in question, [section 91\(1\) of the CDPA 1988](#) provides:

"Where by an agreement made in relation to future copyright, and signed by or on behalf of the prospective owner of the copyright, the prospective owner purports to assign the future copyright (wholly or partially) to another person, then if, on the copyright coming into existence, the assignee or another person claiming under him would be entitled as against all other persons to require the copyright to be vested in him, the copyright shall vest in the assignee or his successor in title by virtue of this subsection."

30.

The matrix of fact in which an agreement such as the November 2008 agreement is to be interpreted includes, of course, all the background which was available to both parties at the time the contract was made, but excludes evidence about their subjective intentions. The judge said that he must

approach the interpretation of the agreement on the basis that his conclusion that the copyright in the Works was owned by the respondent was wrong. Mr Caddick seizes on this, and says that the judge was correctly holding that he must approach the agreement on the basis that the copyright, at least in the core functionality, was owned by the appellant. I do not think that this is what the judge meant, but if he did, then I respectfully disagree.

31.

It is true that the question of whether the November 2008 agreement was effective to assign the copyright to the respondent was one which only arose if the judge was incorrect in his conclusion that the copyright was already owned by the respondent. It does not follow, however, that the November 2008 agreement is to be construed on the basis that the copyright was owned by the appellant. Rather, the November 2008 agreement is to be construed on the basis of the objective factual matrix available to both parties at the time the agreement was reached.

32.

As to the position in November 2008, the judge pointed out at [79] that it was Mr Green's evidence that prior to the November 2008 agreement the appellant had been complaining about the amount of work he had done on VFC and "what he thought were his rights in the software". There was also evidence before him from Mr Green that the appellant had made claims that much of the research and development for VFC had been done in his own time, and that these statements were creating a bad atmosphere in the computer department. It seems likely that the judge accepted this evidence, although he did not expressly say so. The factual matrix leading to the November 2008 agreement therefore included the fact that the appellant had made claims to the ownership of rights in the VFC software which the respondent denied. It does not include the conclusion that the appellant owned the copyright in the core functionality of the VFC software, because that conclusion was the subject of dispute, and was not one which was at that stage reasonably available to the parties to the agreement.

33.

There was nothing in the objective factual matrix to suggest that the November 2008 agreement was intended to operate as a licence, or as a licence only in respect of the core functionality of VFC. As the judge said in relation to the latter point, no reason was given as to why there was any commercial logic for the respondent to own only part of the copyright in the software.

34.

Turning to the language of the agreement itself, it is to be observed from the first paragraph that the payment to the appellant is described as a bonus, rather than a royalty or licence fee. The bonus payments, moreover, are to continue only so long as the appellant remained an employee and continued to be involved in VFC software or future versions. These considerations point away from the payment being a royalty or licence fee.

35.

The language of the third paragraph is in wide general terms. It records that the software "developed at MD5 by yourself and sold as VFC is the sole property of MD5 Ltd ...". Against a background where the appellant had made claims to ownership of copyright in the software, it is obvious, in my judgment, that the intent of the document was to operate so as to ensure that the copyright in the VFC software, including any copyright not already so vested, became vested in the respondent.

36.

Mr Caddick submitted that the judge's conclusion did not accord with the subjective intentions of either party. The appellant clearly did not intend to assign anything. The purpose of the November

2008 agreement was merely to record the financial terms relating to the percentage bonus to be paid to the appellant; and the respondent's case was that the software already belonged to it, and that the document was designed to confirm existing rights. These considerations placed in doubt the judge's ultimate construction of the agreement.

37.

I disagree. The parties' subjective intentions are not relevant to interpretation. As a consequence, it can often happen that the objective construction of an agreement does not align perfectly with the subjective intention of either party.

38.

Mr Caddick went on to submit that the language of the November 2008 agreement pointed towards the division of the copyright into core VFC functionality on the one hand and licensing and security aspects on the other. This was because the agreement referred to "software developed at MD5 by yourself". This was intended to mean software developed in the course of his employment, or even software developed geographically at the respondent's premises. Because the judge was proceeding on the basis that the copyright in the core functionality belonged to the appellant (and was therefore not developed in the course of his employment) the phrase could not encompass that part of the software. Instead, it could only encompass the software relating to the licensing and security aspects. This was supported by the reference to including the access code, which was a security matter.

39.

Ingenious though the argument was, I am unable to accept it. First, as I have explained, the correct approach to the interpretation of the November 2008 agreement includes having regard to the objective fact that the position in relation to the ownership of copyright was the subject of claims by the appellant which were disputed. One does not, therefore, approach the exercise of construction on the basis that there was a common understanding that copyright in the core functionality was vested in the appellant. It is thus not possible to infer, as the appellant seeks to do, that the copyright referred to in the third paragraph of the agreement is something other than the core functionality. Secondly, I am unable to give the words "at MD5 by yourself" the restricted meaning which the appellant seeks to give to them. Rather, it seems to me that those words would be regarded as intended to identify work done by the appellant whilst an employee, whether within or outside the scope of his employment and whether at the respondent's premises or at the appellants' home. If it were not so, it would be difficult to make any determination of precisely what was to be treated as the sole property of the respondent without extensive investigation, and the agreement would operate to promulgate rather than settle the appellant's claims to ownership. Thirdly, if the intention was to create a division between two different types of software, the words chosen were a peculiarly inept way of doing so. Even in an agreement drafted without professional assistance one would expect to see some form of reservation to the general words used. Fourthly, the fact that the agreement uses the words "including the access code" indicates that the access code may have been a particular concern for one of the parties, but does not begin to suggest that the software described by the general words is limited in the way the appellant suggests.

40.

Mr Caddick also submitted that the document was, by the use of the word "confirm", simply setting out in writing the existing position, and not operating as an assignment at all. By "the existing position" he means the split of copyright between core functionality on the one hand and licensing and security features on the other. I do not accept that the word "confirm" is to be understood in the sense of confirming an already established position, principally because the existing position as to

ownership of copyright was not at that stage settled. As Arnold LJ pointed out in the course of argument, parties frequently effect “confirmatory assignments”, for example to put beyond doubt the legal ownership of copyright in advance of commencing proceedings for infringement of copyright. The word “confirm” in the November 2008 agreement is much more easily understood in this sense. Mr Conway also drew attention to the final paragraph where the appellant states that he agrees “to the above statement and conditions”. The “statement” can only be the statement as to the VFC software being the sole property of the respondent, without reservation. In those circumstances the appellant could not be doing otherwise than transferring whatever residual copyright was vested in him to the respondent.

41.

Next, Mr Caddick submitted that the judge had wrongly relied on the evidence of Mr Green as to what was meant by the term “access code” in the third paragraph of the agreement. I agree that the judge appears to have relied on subjective evidence from both parties as to the meaning of this term, including fluctuating evidence on this topic from Mr Green. To that extent, Mr Caddick’s point is a good one. The judge had in mind, however, that the point did not matter. That was because as he said “The first point to note is that whatever “access code” meant, on the face of the November 2008 Agreement the rights assigned were not limited to rights in the access code, they were included within a broader assignment of rights”. Mr Caddick further submitted that the expressed need for consent of the Managing Director for any change to the access code only made sense if the appellant was the copyright owner. I do not see why that is so. The appellant was to continue to be involved in the practical development of the software, and it was open to the respondent to insist on a contractual restriction to the alteration of the access code even if the respondent was the owner of the copyright.

42.

Mr Caddick also submitted that if the parties had intended to vest the entirety of the copyright in the VFC software in the respondent they would have chosen words which made this much clearer. I am not impressed by this point. First, the words “the software developed at MD5 Ltd by yourself and sold as VFC” seem particularly apt to cover at the very least the core functionality of VFC. Secondly, it must be borne in mind, as noted by the judge at [82], that the November 2008 agreement was drafted without professional assistance. Criticisms of the clarity of the legal drafting carry little weight in those circumstances. Thirdly, it can be said with much greater force that the language chosen was wholly inapt to convey the meaning of the agreement contended for by the appellant.

43.

So far as future copyrights are concerned, I agree with the judge that there are clear indications in the November 2008 agreement that it was intended also to operate as an assignment of any future copyright first owned by the appellant whilst at MD5. It is plain that the agreement contemplated the continued involvement of the appellant in the development of the software (as indeed happened). It would make no commercial sense at all for the agreement to draw a line in the sand and for future copyrights which would inevitably arise to be vested in the appellant. Mr Caddick’s main point in relation to future copyrights was that the November 2008 agreement could only operate as an assignment if there was a valid agreement to assign supported by consideration. The judge had been wrong to find that the consideration could be found in the agreement to pay a bonus. I disagree. The respondent was to pay a bonus which was to continue so long as the appellant was employed and involved with the development of VFC. I see no reason why that bonus should not be taken as valid consideration for the agreement to assign the copyright in such works as vested in the appellant as a

result of his continuing work until the appellant left the respondent's employment. [Section 91 of the CDPA 1988](#) would then treat such copyrights as vesting in the respondent by operation of law.

44.

For the above reasons, I think the judge arrived at the correct conclusion in relation to the November 2008 agreement. The respondent owns the copyright in the Works. It follows that it is not necessary to consider the first ground of appeal. If my Lord and my Lady agree, the appellant's appeal should be dismissed.

The cross-appeal

45.

Mr Conway explained to us that the purpose of the cross appeal was that, if the finding of ownership of copyright was upheld, the respondent believed that there were copies of the respondent's software in the appellant's possession which should be delivered up. In the absence of a finding of infringement and an ancillary order for delivery up, the respondent would not obtain possession of these copies. Mr Caddick informed us that in the event that the appeal was dismissed and all copyrights were vested in the respondent there would be no objection to an order for delivery up. In those circumstances we saw no reason to investigate the merits of the cross-appeal any further.

Mrs Justice Falk:

46.

I agree with the judgment delivered by Sir Christopher Floyd, and with the additional observations made by Arnold LJ.

Lord Justice Arnold:

47.

I agree that the appeal should be dismissed for the reasons given by Sir Christopher Floyd. I would just add a few words concerning the use of the Intellectual Property Enterprise Court (IPEC) in this case. IPEC is intended to provide access to justice for small- and medium-sized enterprises and individuals in intellectual property disputes by keeping the costs of such litigation down and by limiting the costs exposure of litigants if they are unsuccessful. In order to keep costs down IPEC has special procedures which involve tight restrictions on the materials that can be placed before the court. In addition, trials should not normally exceed two days. It has to be recognised, however, that the procedures of IPEC are not well suited to resolving substantial factual disputes involving extensive disclosure of documents, cross-examination of factual witnesses and expert evidence of the kind contained in Mr Clark's second and third witness statements, which concerned in particular the conclusions that could properly be drawn from metadata extracted by the appellant from files stored on old hard drives that were no longer readable. The judge was faced with a difficult situation on the first day of the trial, and he was understandably concerned that the trial should not be derailed by the flurry of late disclosure, evidence and applications. He therefore attempted to devise a pragmatic solution. With the benefit of hindsight, however, it seems to me that the parties should have realised that it was doubtful whether the case was still appropriate for IPEC. At the very least, they should have made a joint application to increase the trial estimate. That would probably have necessitated an adjournment, but an adjournment would have had the advantage of giving the parties and the court time in which properly to resolve the issues arising out of the late disclosure and Mr Clark's evidence in advance of trial.