



IN THE HIGH COURT OF JUSTICE
BUSINESS AND PROPERTY COURTS OF ENGLAND AND WALES
INTELLECTUAL PROPERTY LIST (ChD)
INTELLECTUAL PROPERTY ENTERPRISE COURT

Rolls Building
New Fetter Lane
London

Neutral Citation Number: [2021] EWHC 237 (IPEC)
Date: 9 February 2021

Before:

HER HONOUR JUDGE MELISSA CLARKE
Sitting as a Judge of the High Court

B E T W E E N:

Claim No: IP-2016-000011

(1) **SOFTWARE SOLUTIONS LIMITED**
(a company incorporated under the laws of the British Virgin Islands)

(2) **MINDLIFE SOLUTIONS LIMITED**
(a company incorporated under the laws of Israel)

(3) **MINDLIFE (UK) LIMITED**

Claimants

-and-

(1) **365 HEALTH AND WELLBEING LIMITED**

(2) **JOHN FREDERICK SMITH**

Defendants

Mr Jaani Riordan (instructed by **Rechtschaffen Law**) for the **Claimants**
Mr Guy Tritton (instructed by **Hill Dickinson**) for the **Defendants**

JUDGMENT

Her Honour Judge Melissa Clarke:

A. INTRODUCTION

1. The Claimants claim that the Defendants have infringed copyright and database right in a computer application development framework known as the ‘Integrated Development Environment for Applications’ (“**IDEA System**”) by marketing a mental health application called Beating the Blues (“**BTB**”), and specifically version 5 of BTB (“**BTB v5**”). Both the IDEA System and BTB are written primarily in the Java programming language.
2. The IDEA System was developed utilising the XML format to create/structure, validate and run applications created using the IDEA System. Three of the main components of the IDEA System can be described as follows:
 - i) the IDEA Editor, or authoring software, which allows the author-user creating an application to define the ‘frames’ and ‘trees’ of the application and creates XML files which conform with the XML data formats developed as part of the development of the IDEA System and referred to in the pleadings and the evidence collectively as the “XML Schema”;
 - ii) the IDEA Engine, which deciphers XML files which have been encoded according to the XML Schema, renders the results for the user, and handles the data flow between different parts of the system; and
 - iii) the IDEA Player, which processes the XML files and ‘plays’ them according to the sequence of IDEA commands encoded within them.
3. The ‘Beating the Blues’ or BTB application was the first application built using the IDEA System. It is a mental health self-help tool which provides end-users with a clinical programme aimed at treating depression by means of a series of eight self-guided sessions. It is not disputed that it was initially developed by the Second Claimant, and the rights in BTB versions 1 and 2 were assigned by the Second Claimant to Ultrasis plc in 2002.

B. MATTERS CONCEDED AND WHAT REMAINS IN DISPUTE

4. The claim was issued in January 2016. The Defendants filed a Defence which, broadly, (i) denied that BTB v5 infringed the Claimants’ rights, asserting that in 2004/5 it had been completely rewritten from the versions created by the Second Claimant; and (ii) asserted that the Defendants had acquired all intellectual property rights in BTB v5 from the administrators of the Ultrasis group of companies in 2015.
5. After a significant delay which appears to have arisen mainly, but not entirely, from the Defendants disputing the Claimants’ request for disclosure of the source code of BTB v5, computer experts were instructed by each side. A CMC took place before HHJ Hacon on 29 November 2019 which identified (and to a certain extent limited) the issues to be determined at trial. Expert evidence was then served sequentially. About a month before trial, being some 5 years after the dispute arose, and four years after the claim was issued, the Defendants notified the Claimants that they did not intend to serve any fact evidence and conceded liability on a number of issues.

6. Although the Defendants have made no formal admissions, the effect of the Defendants' concessions (and further clarification provided in subsequent correspondence between the parties and their legal advisors and at trial) means that the following is now common ground:
 - i) Copyright subsists in the IDEA System, each of its components and its source code;
 - ii) Copyright also subsists in the XML Schema as a literary work;
 - iii) The First Claimant is and has been since 2005 the owner of all copyright subsisting in the IDEA System and each of its components, (but not the XML Schema which the Defendants deny is part of the IDEA System or owned by the First Claimant);
 - iv) BTB v4, and BTB v5 as marketed by the Defendants, reproduces the IDEA System source code materials and XML Schema;
 - v) A licence granted by the Claimants to Ultrasis plc in 2002 terminated upon the insolvency of Ultrasis plc in June 2015, and was ineffective to convey any rights to the Defendants to use the IDEA System source code;
 - vi) It follows that all of the First Defendant's dealings in BTB v5 infringe the copyright of the Claimants in the IDEA System source code;
 - vii) The Second Defendant is jointly liable with the First Defendant for the admitted copyright infringement (and any further copyright or database infringement which the court may find).
7. Those concessions dispose of the majority, but not all, of the claim. The issues which remain for me to determine are very narrow:
 - i) What is the XML Schema? Is it properly to be characterised as part of the IDEA System or part of the BTB application developed using the IDEA System?
 - ii) Who owns the rights in the XML Schema? If the answer is the Claimants, the Defendants admit that BTB v5 infringes the copyright and any database rights that the court finds to exist in the XML Schema;
 - iii) It being accepted by the Defendants that copyright subsists in the XML Schema, whether database rights also subsist in it;
 - iv) What factual findings the Court is able to make which may be relevant to the consideration of additional damages under section 97(2) of the Copyright, Designs and Patents Act 1988 ("CDPA") and/or Article 13(1) of Directive 2004/48/EC ("**Enforcement Directive**").
8. There are a few other minor consequential matters which remain outstanding in relation to the scope of the order that the Court will make.

C. THE IDEA SYSTEM AND BTB

9. This section provides a high-level summary and explanation of the IDEA System and the BTB v5 software. I do not understand it to be contentious or disputed by the Defendants, but to the extent that it is, it is based upon evidence from the Claimants' witnesses which I accept.
10. The IDEA System is an advanced software authoring tool, which computer-assists users to develop and deploy multi-media applications using generic components without the need for such authors to know how to programme themselves, or even to understand the underlying engineering. At the time of its development, the IDEA System offered market-leading capabilities.
11. The purpose of the development of the IDEA System was to create "*a comprehensive integrated environment for interactive multimedia, mental health applications which will enable us [the Claimants] to develop, maintain and change any common psychological intervention and assessment and deliver it in a reliable and appealing way to the end user*". In particular, it allowed development of self-help mental health applications based on cognitive behavioural therapy ("CBT") for conditions such as anxiety and depression.
12. The IDEA System is made up of a number of components. It can be used in authoring mode to produce applications (using the IDEA authoring software, or IDEA Editor), and then in runtime mode to run applications which have been built on top of the IDEA Engine and IDEA Player, utilising those two components and the Runtime player.
13. Applications which are built using the IDEA System are presented to end users using graphical elements such as buttons, tags, etc to enable them to navigate through the application. These are generic components available to anyone who writes (or 'authors') an application on the IDEA System, and it is the application author who chooses which graphical components to use from the options that the IDEA System makes available, depending on how he or she wants it to look to the end user and what functionality he or she wants to make available to the end user. However, the content that is presented to end users of the application, such as text, images, audio and video content, is provided by the application author and not by the IDEA System ("author-provided content").
14. To that extent, and to aid understanding, a comparison can be drawn with Microsoft's Powerpoint: the Powerpoint program enables authors to produce a slide presentation without having any idea of programming or the underlying engineering. The user who wishes to author a Powerpoint presentation can choose from Powerpoint's menu of options: to structure the presentation by choosing the number and flow of slides; to choose the template of the slides (layout, whether they have textboxes or graphics boxes or both etc.); and to add formatting options and effects. All of these are generic components and functions of the Powerpoint application, available to all authors, although an author will only choose a sub-set of those available options in any given presentation. However, the author chooses and inserts his own (or third party) content into the Powerpoint to create the presentation.
15. The 'Beating the Blues' or BTB application was the first application built using the IDEA System. It is a mental health self-help tool which provides end-users with a clinical programme aimed at treating depression by means of a series of eight self-guided sessions. It was initially developed by the Second Claimant, through a single

employee called Ms Svetlana Berg who was not a programmer, and not part of the IDEA System development team. There is some dispute about the authorship of some of the audio and videos clips forming part the content of the BTB application delivered to end users, but it is common ground they were not created by Ms Berg, and the Claimants do not make any claim to ownership of the IP rights in such content.

16. Continuing the Powerpoint analogy, the end-user of the BTB application will choose one of the eight sessions, and progress through the slides or ‘frames’ of that session, by interacting with on-screen components, such as by choosing one of several multiple-choice answers, or clicking on buttons to view embedded videos, images and text. The way in which the slides or ‘frames’ are sequenced within a session is referred to as a ‘tree’, since there may be a number of different branching paths through the frames which are taken, depending on the user’s interactive choices. The BTB application therefore includes a number of sessions each of which comprises a series of ‘frames’ (equivalent to Powerpoint slides) and a number of ‘trees’ (which represent lists of frames/slides in a defined order). It also includes run-time software based on the IDEA System, to enable it to be run on a stand-alone basis.
17. The first three versions of BTB were produced on CD ROM, and the Second Claimant was involved in the development of all three using the IDEA System:
 - i) BTB v1 was developed between late 1996 to 2003;
 - ii) BTB v2 (for computers running Windows ’95 and ’98 OS) was developed during a time period that is not entirely clear, but is probably predominantly between 1999 and 2002 and;
 - iii) BTB v3 was a desktop version of BTB to be run on Windows 2000/XP which was developed by the Second Claimant for Ultrasis plc pursuant to a 2004 agreement (“**the 2004 Agreement**”). This contained similar provisions to those contained in the 2002 Assignment in relation to what was assigned to Ultrasis plc and what was retained by the Second Claimant but licensed to Ultrasis.
18. BTB v4 was developed as a web-based application, in order to move away from the need to distribute the application to end users by CD-Rom. The Defendants plead that it was commissioned by Ultrasis from an external company based in India, Agilisys, in 2004/2005. The Defendants asserted in their Defence that BTB v4 had been completely rewritten by Agilisys from scratch: as previously noted, they now accept that it was not.
19. BTB v5 is also a web-based application and was commissioned by Ultrasis’ own internal IT team in around 2007. According to the Defence, this was led by an employee software developer called Yuval Simonov. It is now common ground that it, too, being based on BTB v4, was based on the IDEA System and includes within it the various components needed to run an IDEA application, including the IDEA Player. It is also now accepted by the Defendants that BTB v5 uses the same proprietary XML format as the earlier versions, and the XML files are all, in substance, identical to the corresponding files from the previous versions of BTB.

D. THE PARTIES

The Second Claimant (Mindlife Solutions Limited)

20. The Second Claimant has gone through a number of name changes, beginning life as Ultrasis International (1993) Limited (an Israeli company), later changed to Ultrasis International Limited (“UIL”) and later still to Mindlife Solutions Limited, by which it is still known.
21. The Second Claimant carried out research and development of technology and software for commercialisation by a connected UK company. This UK company has also undergone name changes: from 1992 to 2000 it was called Ultramind Ltd and then became Ultrasis UK Limited (“**Ultrasis UK**”). Both the Second Claimant and Ultrasis UK were owned by a holding company, Ultramind plc. Mr Tuvi Orbach was the founder of the Second Claimant, Ultrasis UK and Ultramind plc.
22. In 1999 Ultramind plc was acquired by Villiers Group plc, an engineering firm listed on the London Stock Exchange, which changed its name to Ultrasis plc following completion of the acquisition (“**Ultrasis**”). Mr Orbach and his business partners took a 40% shareholding in Ultrasis, with Mr Orbach as the single largest shareholder. At one point the market value of Ultrasis was over £100 million.
23. On 29 November 2002, a series of agreements was entered into which brought the Second Claimant outside the Ultrasis group of companies:
 - i) Mindlife Limited, a company owned by Mr Orbach, purchased the shares of the Second Claimant, being the Israeli R&D company, pursuant to a share purchase agreement (the “**SPA**”);
 - ii) Various mental health applications including BTB (at this time BTB v1 and v2 existed) were assigned by the Second Claimant (then called UIL) to Ultrasis (the “**2002 Assignment**”), but this expressly did not include the IDEA software required to run it, which remained the property of the Second Claimant (“**IDEA IPR**”);
 - iii) The Second Claimant/UIL granted Ultrasis a licence to use the IDEA IPR as it was not possible to run BTB without it (the “**2002 Licence**”). Under the 2002 Licence, Ultrasis would have no right to use the source code of the IDEA software unless the Second Claimant became insolvent.
24. I will consider the 2002 Assignment and 2002 Licence in more detail later.

The First Claimant (Software Solutions Limited)

25. The First Claimant is the current owner of the intellectual property rights in the IDEA System, including the IDEA IPR, following an assignment of those rights from the Second Claimant dated 4 January 2005. This assignment provided for a licence-back to the Second Claimant allowing it to continue to use and sub-license the IDEA System.

The First Defendant (356 Health and Wellbeing Limited) and the Second Defendant (Mr John Smith)

26. Mr John Smith joined Ultrasis as Director of Sales in May 2005. He joined the Board of Ultrasis in 2007, became CEO of Ultrasis in June 2013 and became Interim Executive Chair of Ultrasis in October 2013.

27. The First Defendant was incorporated in May 2015. Documents filed at Companies House show that Mr Smith was transferred 20% of the share capital and appointed a director on 15 June 2015 (while he was still CEO and Chairman of Ultrasis). His co-director Mr Stephen Williams was an 80% majority shareholder. At this point it was apparent that Ultrasis was in financial difficulties. It appointed KPMG to advise. The Claimants had given KPMG notice of breach and termination of the 2002 Licence in June and July 2015, copied to the Second Defendant.
28. Ultrasis went into administration on 9 October 2015 and KPMG became the administrators. The Claimants sought to buy the rights to BTB out of administration, but it was unsuccessful. KPMG preferred the First Defendant's bid, and in October 2015 the First Defendant acquired the "e-health" business of Ultrasis from the administrators. The documentation included an assignment of certain intellectual property rights relating to that business (purportedly including the BTB application) dated 21 October 2015.
29. The Defendants now accept that assignment was not effective to assign any licence of the IDEA IPR previously enjoyed by Ultrasis, as this terminated on the insolvency of Ultrasis, but aver that it was effective to transfer ownership of such rights that Ultrasis had in, *inter alia*, BTB v5 to the First Defendant. The Defendants accepts they have marketed, distributed and exploited BTB v5 after the date of that assignment.
30. Finally, the Defendants admit in the Defence that since 25 June 2018 a holding company called 365 Health Group Limited is the parent of the First Defendant (although I note that the form PSC07 filed at Companies House declares that Mr Williams ceased to have significant control of the First Defendant on 25 May 2018). Companies House records show that the Second Defendant is a director of, and owns 20% of the shares in, 365 Health Group Limited.

E. WITNESSES

Witnesses of fact

31. The Claimants rely on evidence from three witnesses of fact:
 - i) **Mr Tuvi Orbach**, the founder of the Claimants and a director of the Third Claimant. He gives evidence about the history of Claimants and the Ultrasis group, the development of the IDEA System, the development of BTB, and the factual matrix relevant to the transactions entered into in 2002. He attended court and was cross-examined and re-examined. The Defendants submit he was intensely argumentative and that he provided "*pre-rehearsed answers to many things*". I accept he was prolix, providing long explanations seeking to explain the history or thinking behind certain decisions or to explain the complexity of the software in answer to focussed questions and sometimes seeking to advocate his case in a way which caused me to intervene on several occasions. However I do not accept that those answers were pre-rehearsed or not honestly given. The subject matter of this claim is rights in an application development framework which I accept Mr Orbach has spent years and many millions of pounds of his own money developing; the Defendants have late in this lengthy litigation conceded that they have infringed the Claimants' rights, so he has some reason to feel aggrieved. He is very intimately acquainted with the matters about which

he gave evidence. I think he came to court to have his say, and he did so passionately but honestly, intending to assist the Court. I found him to be consistent and unshakeable in his evidence, which was supported in large part by the other factual witnesses for the Claimant, the documentary evidence and the Claimants' expert. I found him to be both credible and reliable.

- ii) **Mr Yochai Uliel.** Mr Uliel can be considered as the 'architect' of the IDEA System. He worked for the Second Claimant from 2001 to 2005 as a lead programmer and Engineering Team Leader and developed, with colleagues, the early versions of the IDEA System and BTB. One developer who reported to him was Mr Yuval Simonov. Mr Uliel attended court and was cross-examined. Mr Uliel gave evidence about the development and components of the IDEA System. He wrote extensive documentation for the IDEA System which is in the trial bundle, and which predates the 2002 Transaction. These documents cover the IDEA System and its various sub-components including the XML Schema. As Mr Riordan pointed out in closing submissions, Mr Uliel was not taken to or challenged on this documentation in cross-examination. The Defendants accept that he is a straightforward and honest witness who gave measured answers. I am satisfied that he is both credible and reliable.
 - iii) **Mr Yuval Simonov.** Mr Simonov is a software developer previously employed by the Second Claimant (and later by Ultrasis) who confirms that BTB v5.0 was based on the IDEA System. Mr Simonov did not sign a witness statement but was interviewed by the Claimants who have filed a proof of evidence. He did not attend court and a Civil Evidence Act notice has been filed explaining that he did not want to be involved in the proceedings. Both sides rely on his evidence; Mr Smith described him as an honest person; Mr Orbach and Mr Uliel described him as honest, decent and truthful, and so I do take his proof of evidence into account, although I give it less weight than if Mr Simonov had attended court to be questioned.
32. The Defendants have not served any fact evidence. As is usual in IPEC, and as was directed by HHJ Hacon at the CMC, the pleadings stand as evidence. The Amended Defence was signed by the Second Defendant **Mr John Smith**. He attended court and was cross-examined and re-examined.
33. After he was sworn in, Mr Smith sought to correct a number of statements made in the Defence, which he had signed with a statement of truth, and which he now accepts are untrue. In fact, as he had to agree with Mr Riordan in cross-examination later, he left a number of matters uncorrected which should also have been corrected. Mr Smith sought to raise a number of matters in oral evidence which he had not mentioned in the Defence and he was unable to explain to my satisfaction why he had neither amended the Defence nor filed witness evidence in the usual way. The Defendants submit that he was an honest witness whose evidence held although his credibility was attacked. However, the Claimants have had no opportunity to investigate or properly challenge evidence which was given for the first time at trial. For that reason, I look for some corroboration from the documentary evidence, other witness evidence or the inherent probabilities before accepting Mr Smith's evidence, and where it conflicts with the Claimants' witnesses, I prefer their evidence.

Expert evidence

34. The only expert evidence before me is that of the Claimants' expert, **Dr Nigel John Bowes Young**, who is a computer consultant. He holds an MA and PhD in Mathematics from Cambridge and has 40 years' experience as a software engineer, systems project manager and software architect and developer in industry before becoming an independent consultant in 1997. He is a Fellow of the Academy of Experts of which he was Chairman in 2008 and 2009. He is a Member of the British Computer Society and has been a Chartered Information Technology Practitioner since 2004.
35. Although both parties were permitted to, and did, obtain expert evidence from an expert in the field of computing, and although the court had pre-read the report of the Defendants' expert Mr Jason Coyne and was expecting to hear from him at trial, on day 2 the Defendants stated that they considered that the Claimants' expert Dr Young had clarified his written evidence sufficiently in oral testimony that they did not need to rely on Mr Coyne, and so would not be calling him. Instead they too rely on Dr Young.
36. For the purposes of the issues which are left to me to determine, Dr Young was instructed to opine on whether there has been any copying of the Claimants' source code or XML files and XML Schema or any part of them in the files contained in the Defendants' BTB v5.0 repository. He filed a first report, and then a second short report replying to Mr Coyne's report.
37. I have no doubt that Dr Young has the experience and expertise to assist the court as CPR Part 35 expert, and that he came to Court to assist it to the best of his ability. He was a thoughtful, precise and professional witness who was very careful not to stray from the bounds of his expert role. The Defendants accepted in closing that he gave oral testimony fairly. The Defendants submit that care should be taken on reading too literally what he said in his report, but Mr Tritton had the opportunity to cross-examine him on the matters which concerned the Defendants and I have heard his answers. Beyond that, the report is unchallenged. The Court is grateful for Dr Young's assistance.

F. ISSUE 1 – WHAT IS THE XML SCHEMA AND IS IT A PART OF THE IDEA SYSTEM OR BTB?

What is the XML Schema?

38. XML stands for Extensible Markup Language. Mr Riordan for the Claimants relies on what he describes as a 'good working definition' of XML provided by Mr David Stone, sitting as a Deputy Judge of the High Court, in *Technomed Ltd v Bluecrest Health Screening* [2018] FSR 8, 2017 EWHC 2142 (Ch) at [103]:

“XML is a standard computer language for defining/representing structured data in a way which is partly self-describing using natural language terminology. It is not a data format, but a standardised abstraction which allows flexibility in the kinds of data structure which can be represented, and in the choice of terminology and layout. Because of its flexibility, it is likely that independently designed XML schemata will differ markedly, even when describing essentially the same data”.
39. I do not understand the Defendants to object to this definition. Dr Young describes an XML database as a text file which holds data in a hierarchical database. He describes the main parts of an XML file as including: (i) elements, which can have sub-elements

or ‘child elements’ nested within them, in a hierarchy; (ii) attributes, which are names set to value within an element; and (iii) values, which are the application data stored or referenced within the XML file. This may be text or numerical values or may, for example, be a link or a pointer to an image, video or audio file to be played. Dr Young gives examples of an XML hierarchical database file at pages 11 and 12 of his first report.

40. Dr Young draws an important distinction, as Mr Riordan notes in his submissions, between the *structural* elements of an XML file, which are the elements and the attributes, and the *data* elements which are the values. For BTB, then, the values are (or link/point to) the author-provided content of the application.
41. At paragraph 36 of his first report Dr Young states that, in his opinion, each XML file can be considered a database because it contains data (i.e. the values) that are arranged in a systematic and methodical way, by means of the hierarchical elements. Each value in an XML file is individually accessible by electronic means by parsing the XML file so as to extract the values from each of their associated elements. Dr Young states that the key characteristics of systematic hierarchical design and the ability to extract data are independent of the method of storage, so that XML formatted text can be stored (for example) in individual computer files as XML files or in records in a database as XML text records. He makes clear at para 92 of his first report that within his report he refers to a distinct block of XML data as a ‘file’ whether it is, in fact, held in a text file or a database record: either can be retrieved and read by a computer program.
42. Dr Young identifies different types of XML files in the IDEA System: XML frame files, XML tree files and XML logic files. However, it can be seen from paras 57 and 115 of his first report, and it became further apparent to me during his cross-examination, that what he calls XML logic files: (i) are in fact a sub-set of XML frame files; and (ii) utilise a unique and special set of elements which have a special meaning and provide special instructions to the IDEA Player. As such they can be seen almost as shortcut elements, where the IDEA Player recognises the special characters as having the specific meaning which would otherwise require additional coding to communicate, and acts on them accordingly.
43. XML frame files set out how a screen appears to a user (e.g. where text is shown in what size and font; or how content such as a video is presented). XML tree files determine the order and flow of the XML frame files, which may be dependent on the interaction that the user has with the content presented to it: for example whether the user replies “yes” or “no” to a question will cause it to choose which frame to present next.
44. Dr Young explains XML schemas from paragraph 38 to 41 of his first report, as follows:

“38. XML files are flexible as to the manner in which their data is structured and presented. In practice it is useful to be able to define what types of data and combinations of data are valid in a particular file. This can be done explicitly or implicitly.

39. One explicit method is to use an XSD (XML Schema Definition) file. Such a file is itself an XML file. Its contents are not the data of the original XML file but the structure and validation rules or ‘schema’ permitted to be used in that database.

40. If an XSD file is available for a project then it can be used to validate XML files for that project, test files from other sources, or be compared with an XSD file from another source.

41. A collection of XML files may in practice adopt the same schema even if it is not made explicit by means of an XSD file. If an XSD file is not available it may be possible to generate such a file, which will allow the implicit schema to be determined. Certain programs can act as schema generators. They are able to examine an XML file, and apply rules of induction to extract validation rules in the form of a schema file”.

45. Accordingly, an XML schema, which provides the structure and verification rules for XML files, may be explicit and set out in an XSD file, or implicit and will have to be identified by use of a schema generator.

46. Dr Young was instructed to compare BTB v2 (which all accept was created using the IDEA System) with BTB v5 (which the Defendant averred in the Defence was based on v4 which had been completely re-written by Agilisys so that nothing of the IDEA System remained within it), in order to determine whether the latter copied the former. It is common ground that neither of these versions of BTB utilised explicit XML Schema Definition or XSD files, and so Dr Young generated XML schemas using Microsoft Visual Studio 2017, so that he could then compare that generated for BTB v2 and that generated for BTB v5 in a text editor (para 85, para 97 first report). He presents the results of that comparison at Annex 4 to his first report.

47. As is now accepted by the Defendants, Dr Young found that the generated schemas were substantially the same with only minor changes in the form of a small number of additional elements and attributes (para 99 first report). He states at paragraph 100 that although he did not include his analysis of the XML schemas for all the files in his report, his conclusion is the same for all of them: *“In each case, the schema structure of the Defendants’ files is substantially the same as that of the Claimants’ files. In my opinion, the only plausible explanation for this is that the Defendants have copied the structure of the XML files from the Claimants”*. I note that although there are in fact multiple schemas, the parties and Dr Young refer to “the XML Schema” in the singular, as it is common ground that it is not necessary to distinguish between them. I will do likewise.

48. At paragraph 44 of his first report Dr Young explains that:

“44. An XSD file (whether explicitly defined or automatically generated from one or more XML files) contains a definition of:

- (i) What elements and attributes are valid in the data schema (and therefore in the XML);
- (ii) What number and sequence of child elements are valid; and
- (iii) What types of data are valid in each element.

It therefore provides a means for defining the schema or structural design of an XML file. It is important to note that the schema does not contain the contents of

any XML file; rather it provides a format for validating and verifying what may be the contents, and for defining the arrangement and presentation of contents”.

49. Once again, here he is drawing a distinction between the contents (or data, or ‘values’) of an XML file and the XML Schema which provides the structural parameters for the data in the XML file.

Is the XML Schema part of the IDEA System or BTB?

50. I remind myself that all of the evidence about the way in which the IDEA System was developed and the circumstances around the 2002 Transaction comes from the Claimants’ witnesses. Mr Smith accepted that he has no technical IT skills or knowledge, being a nurse by training before moving to Ultrasis in 2005, originally in a sales and marketing role. Accordingly there is no evidence from the Defendants to gainsay the Claimants’ evidence on these points.
51. Mr Orbach’s evidence is that the Second Claimant’s software development team was led by Mr Zeev Danieli, and the head of development of the IDEA and BTB projects was Mr Uliel, who led a team of five to seven software engineers over a period spanning 1996 to 2005. It was intended that Mr Danieli give evidence for the Claimants in this trial but, sadly, he died suddenly at the end of May 2020.
52. The Claimants’ fact evidence is, in summary, that the XML Schema:
- i) was painstakingly developed with great effort, time and expense;
 - ii) is special and unique;
 - iii) is part of, and lies at the heart of the IDEA System, being utilised in a number of components including the IDEA Editor, IDEA Engine, IDEA Player, and Runtime player; and
 - iv) is utilised in the creation and running of any application created using the IDEA System, not just BTB.
53. I accept these points and find accordingly, as they are supported by the both the fact and expert evidence which I accept, and set out below:

Developed with great effort, time and expense

54. In relation to point (i), Mr Orbach said that the Second Claimant spent a total of at least £2m between late 1996 to 2005 developing both the IDEA System and then certain applications on the IDEA System, of which BTB was the first. The financial accounts of the Second Claimant disclosed in these proceedings broadly support this level of R&D spend. He estimates that of this, only about £100,000 was attributable to building applications based on IDEA System, including BTB.
55. Mr Orbach was the main funder of the Second Claimant at this time. At paragraph 22(4) of his witness statement he says, “*A very significant part of the IDEA Software was the time developing the XML Schema. I remember that a huge amount of time was spent working out how data would be represented and validated, what components and properties would be supported, and how this would be displayed in*

the user interface. Our strategy and purpose in designing the XML Schema, is to define all type[s] of elements and attribute[s] which can [define] any complex interactive self-help applications.” (my emphasis).

56. Mr Uliel’s written evidence is that he decided to save application files in XML format “as it provides a structured hierarchical model that can represent the application construct. Those XML files must follow a specific schema to describe the applications flow and content. **This was a schema... that we developed with painstaking effort over a number of years to create a structured format that could represent all of the objects and data types that users might wish to include in applications.**” (my emphasis). He confirmed in cross-examination that at that point he was referring to users who were using the editor to author applications, not end-users of the application itself.

Special and unique

57. In relation to point (ii), Mr Uliel says that the IDEA Engine “uses unique logic that we developed to decipher (or parse) the XML files and send instructions to the IDEA Player” that presents it to the user accordingly. Mr Orbach described the XML used in the IDEA System as more sophisticated than ‘normal’ XML: “XML – the purpose of them is normally to define data. So if the XML define the application of car, there’s the name of the car, the colour of the car, the engine. But our IDEA XML was much more sophisticated than this because we create a new type of element that is almost like a program, but is in fact code”.
58. This is what Dr Young referred to as XML logic files. A good description of what Mr Zeev Danieli describes as “unique XML format[s]” is found at pages 10 to 11 of a memorandum that he wrote for the purposes of this litigation shortly before he died, which is contained in the trial bundle. In it, he says “*The structure and "terms" (elements and properties names) of the XML frames created and design[ed] for IDEA are unique and created an XML unique schema (although I think that when we started to [develop] these schema, modern Schema languages [were] not [being] used and we invented our own unique schema). And, BTB is just one implementation that was created using IDEA.*”
59. Mr Orbach, like Mr Uliel and Mr Danieli, also described this logic as unique, as did Mr Simonov in his proof of evidence, who described it as a unique version of XML which used unique elements and symbols that could be made sense of only with the IDEA Engine. As I have noted, the IDEA Engine instructs the IDEA Player, and so this fits with what Mr Orbach described in his written evidence:

“The team used, also, specific characters and code for specific functions such as “@fieldname(serial)” which was a database retrieve command to return the field value from a data base. Or “\$fieldname(serial,temp,trim,data)” which is a database store command, to store the field, and if necessary to trim (truncate) the field, and indicate what data that should be stored in the field. **Only the IDEA Player Java code could read, understand and execute such parameters with these special characters and structure. An XML file which was encoded with these special characters and structure cannot be executed to perform its function by any XML reader but only by the IDEA Player.**” (my emphasis).

60. Finally, I have seen in evidence a report from one of the original authors of XML, Mr Liam Quinn, dated 22 June 2016 in which he acknowledges that the XML Schema developed by the Claimants uses proprietary elements and attributes developed by them, which he describes as specific to the IDEA System.

Part of, and at the heart of the IDEA System

61. In relation to point (iii), Mr Uliel said that “*the schema does not dictate that within a certain screen you will have to have all types of objects. It provides a set of rules which dictates validity of certain objects. And whatever you use, the schema covers everything... the schema is applied on top of it.*” (my emphasis). He agreed with Mr Danieli’s statement in his memorandum, and Dr Young’s observation at para 39 of his first report, that the schema is largely a set of validation rules which does not refer to the data (by which I understood him and the others to mean author-provided content specific to each application created using the IDEA System) but refers to the structure of the XML files.
62. This comes back to the distinction, which I highlighted above, between the structural elements of an XML file and the data elements. As Dr Young states at para 14 of his second report, “*the XML Schemas define the permissible types of data and what are valid values for each element and, therefore, the options for presentation and interaction; but the XML Schemas do not define the specific values (such as positioning or formatting choices) in a particular application*”. The positioning or formatting choices are those made by the author of the application using the IDEA Editor in authoring mode, as I have previously explained.
63. Mr Tritton submits that Mr Uliel, the architect of the IDEA System, has defined the three main elements of the IDEA System as the IDEA Editor, IDEA Engine and IDEA Player, and none of these descriptions can apply to the XML Schema: I agree that he has done so, but I am satisfied from all the evidence before me that this is a significant simplification of the structure of what is a complex and sophisticated system, as described in the IDEA System documentation. Mr Orbach made the point, which I accept, that there were many components to the IDEA System, and that there were no clear divisions between them - some parts of the IDEA Editor (or authoring system) are used in other parts of the IDEA System, and what is needed for authoring includes both object code and source code. Dr Young prefers to look at the IDEA Player as being part of the IDEA Engine, for example.
64. Mr Tritton also asks me to take care not to equate the IDEA Player with the XML Schema. I agree it would be incorrect to do so. The XML Schema is not ‘part of’ the IDEA Player. It is the rules against which XML files are created and validated so that they can be parsed by the IDEA Engine and run by the IDEA Player.
65. I have set out below Dr Young’s reasons for opining that the XML Schema is part of the IDEA System and those reasons, too, show that Mr Uliel’s description relied on by Mr Tritton is a significant simplification to aid understanding, rather than a technical treatise, in my judgment.

Utilised in the creation and running of any application created using the IDEA System

66. In relation to point (iv), Mr Orbach's evidence is that part of the driver for the development of the IDEA System in the way it was developed was the desire to be able to use it to quickly and cheaply to develop mental health-related applications, all using the same XML Schema:

“... I believe it was very clear what was part of the IDEA and what belonged to the BTB project. All the software which was developed and used to generate and run the interactive sessions with the users was part of the IDEA software. The content, which the user could see and hear to improve his mental health (videos, audio files, psychological explanations, etc) were part of the application (BTB or [another series of applications called] the Relief Series). **When the development team designed the IDEA even the general graphic components, such as buttons, multi-select radio buttons, which were useful for many applications, were defined as a component of the IDEA to allow us to reuse them. Only the content itself, which was different for each application, belonged to the application (e.g. BTB) rather than to the IDEA.**

For example, all the logic components which can be used in many applications during the runtime of the application were part of the Player, i.e. part of the IDEA side of the equation...

Svetlana Berg used the authoring tool of the IDEA to create the XML files for the BTB application. These were generated according to the IDEA XML Schema. The elements of these IDEA XML were defined by the development team to describe any interactive multi-media mental health applications. However, the parameters of attributes within the XML defined the specific content of the application (e.g. which video to play when, which text to present where on the screen, what will be the next frame to show to the user, etc). There were many hundreds of such XML files, and it was only possible with the help of the IDEA Authoring System [*otherwise known as the IDEA Editor*] to create and maintain so many XML files; and only the IDEA Engine and the IDEA Player were able to “understand” these XML files and to execute them.” (my emphasis).

67. Mr Simonov supports this in his proof of evidence: *“For us, as programmers, the distinction between the IDEA software and BTB... was clear. IDEA is an application generator, and software tool to run the application. **The main purpose of IDEA was to create different mental health and behaviour multimedia e-learning applications such as the BTB app. It could have been used to create many different applications but we, as a company, concentrated on CBT** [cognitive behavioural therapy]... the difference between IDEA and BTB was obvious, not only because the files were different but also because the whole purpose of the software and its functionality were very different. IDEA is an application generator, and application player, and BTB was the application that was written and run by IDEA. We considered IDEA as an engine or a platform and BTB as a content application”.*
68. The IDEA System documentation exhibited by Mr Uliel also makes this clear, in my view. Mr Riordan in his skeleton has pulled out some examples of documents which show that the Logic XML Schema is held within the IDEA Engine, but the XML Schema is also utilised by the IDEA Editor and communicated to its various players (e.g. the IDEA Player and the runtime player) and are applicable and operative across

different platforms. Mr Uliel was clear and consistent in his oral evidence that the XML Schema imposes rules and defines the structure of XML files for all applications created on the IDEA System so that the IDEA System can validate those files and so the IDEA Player can run any such application, not just BTB. Mr Orbach says the same, as does Dr Young, and I turn to his evidence now.

The expert evidence about the XML Schema

69. As Mr Riordan notes in his skeleton argument, and which I accept, when the Claimants prepared their evidence for trial they did not anticipate a major dispute about whether or not the XML Schema formed part of the IDEA System and so this was not a particular focus of Dr Young's first report which was more focussed on whether BTB v5 copied the XML Schema. However, his second report particularly addresses: "*The significance of the XML data files (and in particular their schema) and their relationship to the IDEA Player software*". I consider that Dr Young's evidence is supportive of the factual evidence provided by the Claimants' witnesses above, and I have taken it into account when making the findings that I have.

70. In paragraphs 30 and 31 of his second report Dr Young makes clear (my emphasis):

"[30] For the avoidance of doubt, when I refer to the terms "IDEA System" or "IDEA Software" (both in this report and in my First Report), I am intended to refer to the Claimant's IDEA software architecture as set out in Figures 1 and 2 above, including both its Java source code and **other elements such as configuration files, databases and XML schemas**.

[31] In particular, the system enables the same IDEA Player software to play various [mental health] applications provided that the application XML data files conform to the correct schemas. In this sense Mr Coyne is correct when he says that **I refer to the IDEA System as encompassing both the IDEA Player and the XML data schemas (rather than the data of a particular application)**".

71. Dr Young agreed in his second report and in oral evidence that the XML data files are indeed data files and not source code files but states at paragraph 37 of his second report (my emphasis):

"Nevertheless, in my opinion the schemas (structures and permitted data types) of the XML data files are part of the IDEA software design because:

- i) The schemas defined the allowable XML data for use with the IDEA Player. The IDEA Player is then a player for any self-consistent set of files which conform to the schemas; BTB v5.0 will similarly play any XML data files which conform to its schemas;
- ii) The IDEA Player and BTB v5.0 will not play XML files which do not conform to those schemas;
- iii) This means that the schemas for the IDEA XML files are understood by the IDEA software. Similarly, the schemas for the

BTB XML files (substantially the same as the IDEA schemas) are understood by the BTB software...”

72. In paragraph 42 he reiterates that *“the structure is consistent with the IDEA Player’s function being to act as a generic player for all [mental health] applications with XML consistent with the IDEA XML Schemas”*, and notes that BTB v5 has the same capability *“which reflects the fact that it is based on the IDEA application framework”*.
73. Mr Tritton explored these opinions in cross-examination.
74. Mr Tritton submits that Dr Young in cross-examination on paragraphs 32 to 43 of his first report said that elements and attributes in an XML file are application-specific. He described this as *“significant”* because Mr Riordan at paragraph 118 of his skeleton argument distinguishes between the XML Schema and *“the application-specific XML data files”*, whereas, he submits, the elements and attributes plainly form part of the application (e.g. BTB) and not the IDEA System. In my judgment, this mischaracterises Dr Young’s evidence. He agreed that those elements and attributes *relate* to the application but not that they were *specific* to it, in the sense of being unique to it. He clarified that a number of times, I believe, including at page 95 of the day 1 transcript at lines 26-29, as Mr Tritton acknowledged at line 30. I am satisfied that, as Mr Uliel explained, those elements have been selected during the creation of the relevant application from generic elements and attributes made available to all authors creating any application using the IDEA Editor.
75. The Defendants also rely on graphical representations at Figures 1 and 2 in Dr Young’s 2nd report, which Dr Young said set out *“the Claimant’s IDEA software architecture... including both its Java source code and other elements such as configuration files, databases and XML schemes”*. Mr Tritton submits for the Defendants that Figure 1 in particular, which Dr Young uses in his second report to show that the XML Schema forms part of the IDEA System do not in fact support his opinion, following answers given by Dr Young in cross-examination (at lines 31-33 of page 101 of the day 1 transcript). It is relevant to note that Figure 1 was used in the report of Mr Coyne, and Dr Young included it in his second report so that he could challenge what Mr Coyne had said it showed, as his commentary makes clear.
76. Mr Tritton took Dr Young to Figure 1 in cross-examination and referred to the bottom layer labelled ‘data’ which shows three silos marked *“applications content”*, *“media resources”* and *“user data”*. Mr Tritton asked him: *“And that being the case, as the XML Schema is about data types, it falls within data there, does it not?”* to which Dr Young replied *“Yes”*. Mr Tritton submits that this response is contrary to Dr Young’s stated opinion that the XML Schema is part of the IDEA System. However this submission, in my judgment, fails to take account of the clarification that Dr Young provided immediately afterwards, when he said that Figure 1 was only intended to show platform independence. There followed this exchange:

“Q. (Mr Tritton) So... would you accept from me that the bottom line, what is called data, is not part of the IDEA system as you know it? Applications, content, media resources, user data, that is not part of the IDEA system.

A. (Dr Young) No, I would not because I don’t think that that diagram is separating out what is and isn’t in the IDEA system. I’m – I – in my opinion, what that diagram

is laying out is how the IDEA system can work on different hardware configurations, different ---

Q. OK, well let us rephrase the question. Look at the – the [word] data, do you see that?

A. Yes.

Q. None of that relates to what you understand or what you call in your report as the IDEA system. Or are you saying that user data is part of the IDEA system?

A. What I think the – what I think that’s referring to is the ability to hold data on different sorts of – in different sorts of ways. So, for example, the XML files can be held in the file system, or they can be held in databases.

Q. Yes

A. So, for example, in – in the IDEA system which I investigated, XML files were held in an access database, whereas in the BTB system they were held as – as files in the file system. And the concept that I believe figure 1 is presenting here is that – is that – is one of platform independence, so that the –

Q. Yes

A. And it’s really nothing to do with saying that the IDEA – nothing to do with saying this is or isn’t part of IDEA, it’s saying how the IDEA system can be supported.”

77. I am satisfied that Dr Young remained consistent in oral evidence that, in his opinion, the XML Schema was part of the IDEA System.

Defendants’ further submissions

78. Mr Tritton submits for the Defendants that the XML Schema is “*merely a set of rules what types of data are valid for an element or attribute*” and “*merely lines of code in the XML files*” within the BTB application or “*lines of text within the XML files that define the types of data that can be used and the rules that the XML files must comply with*”. What’s more, he submits, they are only a small proportion of the text within an XML file and as such can be compared to an appendix of defined terms at the back of a book (where BTB is the book).
79. I do not agree that they are ‘merely lines of code’ in the XML files and consider that this amounts to a misunderstanding of the Claimants’ factual and expert evidence, which I have summarised above. Taking Mr Tritton’s analogy of the BTB application as a book, I consider a better (but still imperfect) analogy is that the XML Schema is a scheme for categorising and organising books in a library, no matter how vast – like the Dewey decimal system, perhaps. Such a scheme exists to categorise all the books in a library, irrespective of author, so that librarians can shelve them and library users can find them, and is not limited to the system reference placed on the spine of any individual book in that library. Similarly, the XML Schema exists to provide a structure or format to validate and verify the contents of the XML files of any number of applications created on the IDEA System, not just BTB.

80. As I have noted, it is common ground that there are no separate XML Schema ‘files’, and it is true that, as the Defendants submit, the XML Schema is implicit in and integral to, the XML files. However, as I have accepted, that is because those files were created by the IDEA Editor to conform with the pre-existing XML Schema at the heart of the IDEA System. That is why, as the Defendants accept, if I find that ownership of the XML Schema sits with the Claimants, the XML files infringe the XML Schema.
81. Accordingly, the Defendants’ submission that the XML Schema can only be implicitly defined and not explicitly defined does not, I think, assist them. Mr Riordan in closing submissions suggested that the confusion in the Defendants’ case *“is really between the schema as a file format, which is defined in the IDEA software and the XML data files which embody the file format. So it is [as though]... the Defendants are saying “We owned the Powerpoint presentations” and I am saying “Well, that does not mean you own the Powerpoint file format”, and there is no positive case advanced here that they did own the file format”*. I think that is a fair analogy.
82. Drawing all of this together, then, I am satisfied that when an application is created using the IDEA System, as Mr Uliel says, the IDEA Editor generates XML files which: (i) conform to the XML Schema; (ii) validate the data loaded onto the system (being the application-specific author-provided content); (iii) are parsed by the IDEA Engine; and (iv) are utilised by the IDEA Player or the runtime player to run the application. These XML files are plain text files and not computer programs. The XML Schema which was used to create, validate and run the BTB application and which is implicit in the BTB XML files is substantially the same XML Schema which is utilised to create, validate and run any interactive multimedia self-help application created on the IDEA System.
83. True it is that the creators of BTB have selected specific combinations of generic objects and components from those offered to all author-users of the IDEA System, which may or (more likely) may not be the same as those selected by the authors of other applications created on the IDEA System, nonetheless I am satisfied that what is unique to BTB is only the author-provided content. References to both the generic objects and components and the author-provided content can be found in the BTB XML files: but the mere fact that the XML Schema is implicit in those XML files and can be generated from them does not mean that the XML Schema is nothing more than a few lines of code in the XML files.
84. The IDEA 1.2 documentation dated 4 August 2002, i.e. before the 2002 Transaction, describes the XML Schema (a *“set of elements that enables loading and using application trees and interfaces for the players and databases”*) as being ‘held within’ the IDEA Engine, but on the evidence before me I am satisfied that it is used across the IDEA System and is an important part of the IDEA System. It does seem to me that the Claimants’ description of the XML Schema as being ‘at the heart’ of the IDEA System is as good as any. I find that it is properly to be characterised as part of the IDEA System.

G. ISSUE 2 - WHO OWNS THE RIGHTS IN THE XML SCHEMA?

85. There does not seem to be any dispute that the first owner of copyright (and database right, if any subsists) in the XML Schema was the Second Claimant, then known as UIL. The question is what effect, if any, the 2002 Transaction had on ownership of the

XML Schema. The Claimants say that the XML Schema forms part of the intellectual property rights which it retained pursuant to the provisions of the 2002 Assignment and licensed to Ultrasis under the 2002 Licence. The Defendants say the XML Schema does not fall within the definition of “Retained IPR” in the 2002 Assignment, and so was assigned to Ultrasis pursuant to the 2002 Assignment. If the Defendants are right, there is then a question of whether the assignment of IP rights to the First Defendant by Ultrasis’s administrators in 2015 was effective to assign the rights in the XML Schema.

86. It is common ground that where there is any ambiguity in a contract, per *Wood v Capita Insurance Limited* [2017] A.C. 1173, [2017] UKSC 24 the court’s task is to construe it to arrive at the objective meaning of the language which the parties have chosen to express their agreement. The court must consider the contract as a whole, in its proper commercial context and in light of the commercial intention of the parties.
87. It is the Claimants’ case, which Mr Tritton also accepted for the Defendants in closing, that the 2002 Assignment and 2002 Licence must be read and construed together, as they form part of a single set agreements entered into to give effect to the 2002 Transaction.
88. A summary of the relevant provisions of the 2002 Assignment and 2002 Licence follows.

2002 Assignment

89. Clause 1 sets out a number of definitions including the following:
 - i) “Assigned IPR” means all of the Intellectual Property Rights (other than the Retained IPR) owned, used, developed or enjoyed by UIL as at the date of this Agreement, in connection with the activities of the Business (including without limiting the generality of the foregoing words those specified in Schedule 1).
 - ii) “the Business” means the business of developing and exploiting interactive products and services in the area of healthcare and wellbeing and such other businesses as are carried on by any member of the Ultrasis Group as at the date of this Agreement.
 - iii) “IDEA Software” means the Software identified in Part 1 of Schedule 2.
 - iv) “Intellectual Property Rights means copyright... database rights... and other similar intellectual property rights (whether registered or not) and applications for those rights as may exist anywhere in the world”.
 - v) “Retained IPR” means... the IDEA Software.
90. Part 1 of Schedule 2, which defines the “IDEA Software”, reads as follows:

“Part 1

IDEA Software

A set of software programs to accelerate and improve the process of development and maintain interactive multimedia applications.

The IDEA contains all the development tools and sub-components which have been used to develop and maintain Ultrasis interactive applications, and contains:

1. IDEA 1.0
2. IDEA 1.1
3. IDEA 1.2
4. IDEA_Net

IDEA 1.0 through 1.2 also called IDEA CORE and include:

- Player
- Tree Editor
- Tree Engine
- Diary
- Components
- Env
- Storage
- External tools and interface with external tools (Browser connection, QuickTime, Flash Control, External Runner, External components)
- Uutil
- Questionnaire generator

The IDEA includes also the design and all the code that has been written for IDEA 2 (this project has been started but has not been completed).”

91. Schedule 1 includes the following:

“The Assigned IPR includes (but is not limited to) the following:

1. All the components of the Beating the Blues Application that have been developed or are owned by UIL...”

92. Clause 3 provides the operative assignment provision with a license back to the Second Claimant/UIL in certain circumstances:

“3.1 In consideration of the sum of one hundred thousand pounds (£100,000) UIL shall with effect from Completion assign with full title guarantee, or procure the assignment of, and Ultrasis (relying on the warranties, representations and undertakings in this agreement) shall acquire the Assigned IP free from all liens, claims, equities, charges and encumbrances.

3.2 Where the assignment of any Intellectual Property Rights comprised within the Assigned IPR (“the Relevant IPR”) would preclude UIL from providing its core services to any current and future client, then Ultrasis shall grant back to UIL with effect from Completion a non-exclusive, perpetual, irrevocable, royalty-free worldwide licence to use the Relevant IPR for such core services.”

2002 Licence

93. In this agreement, “the Licensor” is UIL. Clause 1, again, sets out definitions. These include so far as is relevant:

“Player (or IDEA Player)” means all the components of the Software which are required by Users to run applications.

“Software” means

(i) the computer programs listed in the Schedule relating to the IDEA Software; and

(ii) any Improvement or Modification which is acquired by Ultrasis during the subsistence of this Agreement.

“Source Code Materials” means all computer code written by the Licensor in connection with the Software, which shall be sufficient to enable the Software to perform the functions set out in its specification, including a full source language statement of the Software, with all related flow charts, schematics and annotations which comprise the specification (including design documents) sufficient to allow a reasonably skilled third party analyst or programmer to complete, maintain or enhance the Software without the help of any other person or reference to any other material.

“User” means any end user of the Software.

94. The Schedule to the 2002 Licence is headed “IDEA Software” and is in identical terms to Part 1 of Schedule 2 to the 2002 Assignment, set out above.

95. As in the 2002 Assignment, Clause 2 makes completion of this agreement conditional on satisfaction in full of all of the conditions in the Share Purchase Agreement.

96. The operative provisions of the licence are contained in Clause 3:

3.1 Grant of Software Licence

In exchange for Ultrasis assigning to the Licensor (which is hereby assigned) any legal and beneficial interest it holds in the Software and Related Materials, the Licensor hereby grants to Ultrasis a perpetual, irrevocable, royalty-free licence on [a] worldwide non-exclusive basis:

3.1.1 to use the Software and Related Materials in order to develop and maintain applications; and

3.1.2 to grant to any User a sub-licence to use the Player and any relevant Related Materials for the purpose of a runtime licence.

3.2 Scope of use

3.2.1 For the purposes of sub-clauses 3.1.1 and 3.1.2 above, use of the Software should be restricted to use of the Software in object code form (and, after the occurrence of a Trigger Event, in the source code form through the provision of the Source Code Materials) for the purpose of processing data for the normal business purposes of Ultrasis (which shall include any act which is reasonably incidental to such use, including (without limitation) the maintenance of a reasonable number of backup or test copies of the Software.

3.2.2 The rights granted by sub-Clause 3.1.2 shall apply in the event of the occurrence of a Trigger Event

3.2.3 Save as stated in sub-Clause 3.1, Ultrasis shall have no right to copy, adapt, reverse engineer, decompile, disassemble or modify the Software in whole or in part except:

a) as permitted by law; and/or

b) to the extent that such action is legitimately required for the purposes of integrating the operation of the Software with the operation of other software or systems used by Ultrasis in circumstances where the Licensor is not prepared to carry out such action at a reasonable commercial fee; and/or

c) on the occurrence of a Trigger Event.

3.3 Assignment and Sub-licensing

3.3.1 Ultrasis shall have no right to grant sub-licences or assign or otherwise transfer or permit any third party to use this Licence without UIL's consent except as expressly permitted under sub-Clause 3.1.3 and 3.3.2

3.3.2 Ultrasis shall be permitted to assign the benefit and burden of this Licence as a whole to any company which at the time in question is a subsidiary of Ultrasis, subject to that company's first undertaking in writing to the Licensor that it will henceforth perform all the obligations of Ultrasis under this Licence. All references in this Licence to Ultrasis shall be construed as including any company to which such burden and benefit is assigned.

97. To provide a broad overview, then, pursuant to the 2002 Assignment, what is being retained by the Second Claimant ("Retained IPR") is all Intellectual Property Rights (as defined) in the "IDEA Software", which is that identified in Part 1 of Schedule 2 to the 2002 Assignment. All other intellectual property rights owned, used, developed or enjoyed by the Second Claimant in connection with the activities of the Ultrasis Group businesses are assigned to Ultrasis ("Assigned IPR"), and a non-exhaustive list is provided in Schedule 1 to the 2002 Assignment. It follows that I accept the Claimants' submission that what is assigned pursuant to the 2002 Assignment is subservient to the description of IDEA Software contained in Part 1 of Schedule 2, which defines what is retained. The question is whether the XML Schema falls within that description.

The Claimants' case

98. Part 1 of Schedule 2 to the 2002 Assignment includes, “*all the development tools and sub-components which have been used to develop and maintain Ultrasis interactive applications...*” and also includes “*the design and all the code that has been written for IDEA 2*”.
99. I accept the Claimants' submission that the breadth of this definition is reinforced by the scope of the rights that were licensed to Ultrasis under the 2002 Licence, because if those rights were to be licensed by the Second Claimant, they must have been retained by it.
100. In the 2002 Licence, Ultrasis was granted a licence to use the “Software” which was defined to include the “Source Code Materials”. This in turn was defined to include not only “*all computer code written by the Licensor in connection with the Software*” but also “*all related flow charts, schematics and annotations which comprise the specification (including design documents)...*”.
101. The Claimants submit that looking at these two documents together, the court can be satisfied that XML Schema was encompassed within “Retained IPR” retained by the Second Claimant pursuant to the 2002 Assignment because:
- i) it is computer code written by it in connection with the [IDEA] Software (per the definition of “Source Code Materials” in the 2002 Licence);
 - ii) it is a “schematic” for the Software (per the definition of “Source Code Materials” in the 2002 Licence);
 - iii) it is part of the specification of the Software in the IDEA ICD and IDEA Design Document contained in the trial bundles, which design documents also come within the definition of Source Code Materials in the 2002 Licence; and
 - iv) it is necessary to enable a skilled person to complete, maintain or enhance the Software.
102. The Claimants further submit that there would be no sense in the Second Claimant assigning such critical elements of the IDEA System to Ultrasis:
- i) when it has taken pains to retain all code, components and related materials to itself;
 - ii) when the XML Schema lies at the heart of the IDEA System;
 - iii) when so much time, effort and expense has gone into developing the XML Schema; and
 - iv) when without the XML Schema, it cannot use the IDEA System to develop other applications, which was the very purpose for which it was developed.
103. The Defendants make a number of submissions to support their contention that the XML Schema falls within Assigned IPR.

104. The first is that Schedule 1 of the 2002 Assignment sets out that the Assigned IPR includes but is not limited to all the components of the BTB application. The Defendants submit that the BTB application consists of: (i) the author-provided content; (ii) the XML files; and (iii) what is required to run it. However, in relation to (i), the Second Claimant admitted in the Amended Reply that the user-provided content of BTB consisting of interactive text, audio and video files and a methodology, was developed by Dr Judy Proudfoot as set out in paragraph 5.2 of the Amended Defence, and so the Defendants submit that cannot be assigned by the Second Claimant, who had no rights in it. In relation to (ii) it is common ground that the IDEA Player and Runtime player was retained by the Second Claimant and licensed to Ultrasis. Accordingly, they submit, what was assigned must be the XML files, including the XML Schema.
105. Although the Second Claimant did admit in the Amended Reply that the user-provided content of BTB was developed by a psychologist, Dr Judy Proudfoot (and the pleadings refer to it as “the Proudfoot Content”), Mr Orbach in oral evidence said this was incorrect. His evidence was that Dr Proudfoot produced the psychological content in the form of scripts for the video and audio content and text, but the Second Claimant commissioned and paid for the production of the video and audio clips, including by paying for actors, and the rights in those videos and audio clips, apart from the text/scripts, belonged to the Second Claimant.
106. The Defendants ask me to hold the Claimants to their pleaded case and not accept this evidence which was given for the first time at the witness box. In my judgment, this submission sits rather ill in the mouth of the Defendants who although choosing not to file any witness evidence have through Mr Smith sought to provide significant oral evidence to the Court which is not contained within the Defence, and which is directly contradictory to their pleaded case. I do hold the Claimants to their pleaded case inasmuch as they do not seek to claim any rights in the user-provided content, but I consider Mr Orbach’s oral evidence is relevant to this point about what the parties to the 2002 Assignment considered to be assigned, and I believe that evidence was honestly given. I am satisfied on the balance of probabilities that at the time of the 2002 Assignment the Second Claimant considered it owned some rights in the author-provided content, and that the 2002 Assignment was intended to assign to Ultrasis, *inter alia*, any such rights.
107. Secondly, the Defendants submit that the 2002 Licence defines Software as “*the computer programs listed in the Schedule relating to the IDEA Software*”, and it is common ground that the XML Schema is not a computer program, or object code. However, the Schedule lists things which are not computer programs or object code, including the design for IDEA 2. Schedule 2 also specifies that the IDEA Software contains “*all of the development tools and sub-components which have been used to develop and maintain*” BTB and I am satisfied that the XML Schema is a tool which has been used to develop BTB, as I have described in detail. In addition, the definition of IDEA Software in the Licence Agreement includes Source Code Materials which encompasses, *inter alia*, schematics, flow charts and design documents, which are also not computer programs or object code.
108. The Defendants also submit that other parts of the agreement relate only to computer programs or object code and cannot relate to the XML Schema: for example, Clause 3.2.1 which restricts use of the Software to use in object code form, and Clause 3.2.3 which provides that Ultrasis has no right to copy, adapt, reverse engineer, decompile,

disassemble or modify the Software except in the specified circumstances. The Defendants submit this is language referring to object code software and is not language which would be used for the XML Schema.

109. Taking the latter point first, the restriction against copying in Clause 3.2.3 is patently language which can be used for the XML Schema, which the Defendants accept is a work of literary copyright, so that takes me no further. In relation to Clause 3.2.1 this really has been covered by Dr Young, as I have addressed in paragraph 70 and 71 above. Although the XML Schema is not object code, I am satisfied on the evidence, including the expert evidence, that the unique logic elements of the XML Schema act in a way which is almost like code, and a number of the named IDEA components (including the IDEA Player) cannot be used as the licence intends without the concurrent use of the XML Schema, and I am satisfied that this was in the knowledge of both parties (i.e. Mr Orbach) at the time of the 2002 Transaction.
110. Thirdly, the Defendants submit that “Assigned IPR” is defined very widely such that if it is not in Part 1 of Schedule 2, it is assigned. Their primary argument on this point is that the XML Schema is part of the XML files which form of the BTB application, and therefore part of the “Assigned IPR”, but I have found that the XML Schema is part of the IDEA System rather than BTB so this argument does not succeed.
111. Fourthly, the Defendants argue that the XML Schema is also not part of various components which are mentioned in Schedule 2 (including the Idea Player, Editor and Engine), but I have found that the XML Schema is at the heart of the IDEA System used by all those components and, in part, stored in the Engine.
112. Finally, the Defendants argue that the fact that the XML Schema is not mentioned in Schedule 2, despite the long list of programs and components contained therein, is highly unlikely to be an oversight, particularly as:
 - i) both agreements were drawn up by solicitors although the schedules are likely to have been provided by the Second Claimant;
 - ii) both parties were legally represented;
 - iii) the consideration for the assignment was £100,000, which was plainly meant to buy something of real value;
 - iv) Mr Orbach’s evidence is that a great deal of time and effort was spent, and a significant investment incurred in creating and developing the XML Schema, and so their absence from the list of retained IPR suggests they were intended to be transferred; and
 - v) Mr Orbach’s evidence is also that he was concerned to ensure that despite the split of R&D, Ultrasis would not seek to get rid of the Second Claimant after the transaction. This suggests that real care would have been taken when drafting Schedule 2 to the 2002 Assignment to ensure that every aspect of the IDEA software that was to be retained was expressly set out.
113. In relation to (i), (ii) and (v), I accept that the documents were drafted by lawyers and both sides were represented, as was Mr Orbach’s oral evidence. However his evidence

was that the 2002 Licence and 2002 Assignment were hastily negotiated and signed over two days and a night as part of a much larger transaction, and there is evidence of that haste in some of the obvious flaws in the documentation. For example, there is an unhelpfully twice-circular definition of ‘Software’ which: (a) is defined to include ‘Source Code Materials’ which is in turn defined to include ‘Software’; and (b) is defined to mean ‘IDEA Software’ which in turn is defined to mean ‘Software’. It lacks the precision that I would expect in a commercial agreement drafted by professional advisors, and it means that the Court cannot give the words of the contract their ordinary meaning without ambiguity resulting. In *Chartbrook Ltd v Persimmon Homes Ltd* [2009] UKHL 38, [2009] AC 1101, the House of Lords construed a formal contract to cure a linguistic mistake. Lord Hoffmann, delivering the leading judgment of the Court, stated at [25] that where “something had gone wrong with the language”, the court did not have to attribute to the parties an intention which a reasonable person would not have understood them to have had:

“it should be clear that something has gone wrong with the language and it should be clear what a reasonable person would have understood the parties to have meant.” (para 25).

In my judgment, this is a case where it is clear that something has gone wrong with the language, as I have set out. Accordingly, it is necessary to interpret these definitions to give effect to what a reasonable person would have understood the parties to have meant. I will return to that.

114. In relation to (iii) I have found that part of what was being assigned was such rights as the Second Claimant may have had in the production of the audio and video user-produced content. I also note that the consideration for the 2002 Assignment would have been only part of the consideration for the wider 2002 Transaction as a whole, and I can and do draw the inference that in that context, the value attributed to consideration for the 2002 Assignment is less informative of the true value to the parties of what was assigned, than would be the case for a stand-alone transaction.
115. In relation to (iv), this is simply not Mr Orbach’s evidence. He said that in 2002 Ultrasis was facing cashflow difficulties and decided to reduce its expenditure on research and development, which at that time was being carried out by the Second Claimant. Mr Orbach agreed to buy the Second Claimant and continue to fund its operations in the hope that Ultrasis could recover and raise new capital. He says that the purpose of the 2002 Transaction was “*to ensure that the two companies remained connected, that Ultrasis would continue to use [the Second Claimant] for ongoing R&D work on the IDEA software and BTB*”.
116. Mr Orbach emphasises that at the time of this transaction, he was not only the founder and main shareholder of the Second Claimant but also the founder, director and the largest single shareholder of Ultrasis: “*Therefore, my interest and strategy in these agreements was to buy and keep the R&D company ([the Second Claimant]) and the IDEA and to continue to support Ultrasis and BTB through [the Second Claimant]. I explained this to the Ultrasis Board and their solicitors and believe it was clear to everyone involved that this was our shared objective. These 2002 Agreements reflect what we tried to achieve. The [Second Claimant] development team in Israel would continue to be the R&D group which developed and supported the Ultrasis applications (including BTB), but Ultrasis would not have the obligation and the cost to maintain*

the R&D company; at the same time, [the Second Claimant] would own the IDEA software, which was essential to run and upgrade BTB, and would licence it to Ultrasis but in a way that did not give Ultrasis independence from [the Second Claimant]”.

117. In oral evidence Mr Orbach said that Manches solicitors were acting for Ultrasis on the 2002 Transaction as a whole, but for the purposes of negotiating the 2002 Assignment and 2002 Licence, another solicitor from Manches was assigned to act for the Second Claimant/UII. He described how negotiations on the SPA, associated financing documentation and other documents including the 2002 Licence and 2002 Assignment, carried on during 28 November 2002 through the night until signing the next day. He said that he had to represent both the future of the Second Claimant and also Ultrasis itself and so it appears he was, effectively, the ‘client’ giving instructions to both of the Manches solicitors acting on each side. To that extent, it seems to me that Mr Orbach’s knowledge at the time of execution of the documents can be imputed to both Ultrasis and the Second Defendant and, therefore, to the reasonable person with all the background knowledge which would have been available to both parties, when deciding what that reasonable person would have understood them to be using the language in the agreements to mean.
118. Mr Orbach said, *“I believe it was very clear what was part of the IDEA and what belonged to the BTB project. All the software which was developed and used to generate and run the interactive sessions with the users was part of the IDEA software. The content, which the user could see and hear to improve his mental health (videos, audio files, psychological explanations, etc) were part of... BTB...”.*
119. Mr Orbach’s evidence is the only direct witness evidence I have about the 2002 Transaction, and I accept it.
120. Mr Orbach was asked in cross-examination why there was no reference to the XML files and XML Schema in the 2002 Assignment and 2002 Licence. He said *“About the Schema, it was obvious. Nobody can think that the Schema belonged to BTB because without the Schema we cannot develop any new application with the IDEA System. [If] we give the Schema then we cannot write any more application with IDEA... It was obvious to every intelligent person that you cannot assign the schema, so you don’t have to do something which is obvious. The software includes source code material which includes not only what we call standard source code but includes all the component code including documents, schematics including flow charts etc. All of this includes the XML Schema and is part of the Retained IPR”.*
121. The Defendants submit that this evidence is self-serving and the statement that it was not listed because it was obvious could be said about many of the things which were listed in the schedule, including the IDEA Player, Editor and Engine. I have considered this submission carefully but on balance I do not consider that Mr Orbach’s evidence on this point was self-serving. It is consistent with the pre-2002 Transaction IDEA documentation; my finding that the IDEA System is a complex system with a number of components with the XML Schema at the heart; my finding that the XML Schema is used by all of the main components of the IDEA System; and my finding that without the XML Schema, the IDEA System in which so much money was invested could not be used by the Second Claimant. I accept the Claimants’ submission that this would be a nonsensical effect. Mr Orbach’s evidence was entirely clear and compelling, in my judgment, that this was not the intention of either party.

122. For those reasons, and in light of Mr Orbach’s evidence about the purpose and intention of the 2002 Transaction and the documentation entered into to achieve that, I find the Claimants’ submissions as to the interpretation of the 2002 Assignment in the context of the 2002 Licence are both compelling and correct. I am satisfied that the reasonable person with all the background knowledge available to both parties would understand the XML Schema:
- i) to fall within the description of the IDEA Software as including (a) “*all the development tools and subcomponents used to develop and maintain Ultrasis... applications*” and (b) “*the design and all the code that has been written for IDEA 2*”; and
 - ii) to fall within the definition of Source Code Materials contained in the 2002 Licence, as (a) a schematic for the IDEA Software, and (b) described in the pre-2002 Transaction design documents,

and accordingly would understand that language to bring the XML Schema within the definition of Retained IPR for the purposes of the 2002 Assignment.

123. I note that the Defendants have abandoned the argument contained in Mr Tritton’s skeleton that if the XML Schema formed part of the Retained IPR then the parties would have been joint owners of copyright in the XML files (the Defendants in relation to the data and the Claimants in relation to the XML Schema), following clarification that the Claimants were not alleging that they had rights in the BTB XML files by reason of the XML Schema, but rather that the XML Schema is a separate work which is infringed by the XML files.

H. ISSUE 3 - IS THE XML SCHEMA PROTECTED BY DATABASE RIGHTS?

124. Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases (“the Database Directive”) as implemented in the UK by the Copyright and Rights in Databases Regulations 1997 (“1997 Regulations”). The Claimants claim that the IDEA Schema is a ‘database’ within the meaning of Article 1(2) of the Database Directive/Regulation 3 of the 1997 Regulations and that by reason of the substantial investment in the obtaining, verification and/or presentation of the contents of the database, it is protected by database right pursuant to Article 7 of the Database Directive/Regulation 13 of the 1997 Regulations.

Subsistence of Database Right

125. Article 1(2) of the Database Directive provides:

“Article 1(2)

For the purposes of this Directive ‘database’ shall mean a collection of independent works, data or other materials arranged in a systematic or methodical way and individually accessible by electronic or other means.”

126. This is reflected in Regulation 3 of the 1997 Regulations.
127. The CJEU has given this definition a “*wide scope, unencumbered by considerations of a formal, technical or material nature*” when considering what falls within this

definition, in *Fixtures Marketing Ltd v Organismos Prognostikon Agonon Podosfairou* (OPAP (C-444/02) EU:C:2004:697; [2005] 1 C.M.L.R.16. at [20] to [36]. This passage is set out in full in the case of *Technomed* at [66]. Mr David Stone further notes in this paragraph that it was cited with approval by Sir Robin Jacob in *Football Dataco Ltd v Sportradar GmbH* [2013] EWCA Civ 27, who noted at [26] “*I think this is completely clear*”. I will not set out the full passage from *Fixtures* here, but I note the following points which are of particular relevance to the submissions I have heard on the point:

“[25] For the purposes of determining whether there is a database within the meaning of the directive, it is irrelevant whether the collection is made up of materials from a source or sources other than the person who constitutes that collection, materials created by that person himself or materials falling within both those categories.

...

[28] A reading of the recitals of the preamble to the directive reveals that, given the ‘exponential growth, in the Community and worldwide, in the amount of information generated and processed annually in all sectors of commerce and industry’ as the 10th recital states, the legal protection provided by the directive is intended to encourage the development of systems performing a function of ‘storage’ and ‘processing’ of information, according to the 10th and 12th recitals.

[29] Thus, classification as a database is dependant, first of all, on the existence of a collection of ‘independent’ materials, that is to say, materials which are separable from one another without their informative, literary, artistic, musical or other value being affected. On that basis, a recording of an audio-visual, cinematographic, literary or musical work as such does not fall within the scope of the directive, according to the 17th recital of the preamble to the directive.

[30] Classification of a collection as a database then requires that the independent materials making up that collection be systematically or methodically arranged and individually accessible in one way or another. While it is not necessary for the systematic or methodical arrangement to be physically apparent, according to the 21st recital, that condition implies that the collection should be contained in a fixed base, of some sort, and include technical means such as electronic, electromagnetic or electro-optical processes, in the terms of the 13th Recital of the preamble to the directive, or other means, such as an index, a table of contents, or a particular plan or method of classification, to allow the retrieval of any independent material contained within it.

[31] That second condition makes it possible to distinguish a database within the meaning of the directive, characterised by a means of retrieving each of its constituent materials, from a collection of materials providing information without any means of processing the individual materials which make it up.

[32] It follows from the above analysis that the term database is defined in Article 1(2) of the directive refers to any collection of works, data or other materials, separable from one another without the value of their contents being affected, including a method or system of some sort the retrieval of each of its constituent materials.”

128. A database right is a property right which subsists in a database if the requirements of Article 7 of the Database Directive, implemented by Regulation 13 of the 1997 Regulations, have been met. This requires the Claimants to show that “*there has been qualitatively or quantitatively a substantial investment in either the obtaining, verification or presentation of the contents to prevent extraction and/or re-utilisation of the whole or a substantial part, evaluated qualitatively and/or quantitatively, of the contents of that database.*”.
129. Accordingly, I must first determine whether the XML Schema is a database, before going on to consider whether it meets the requirements of Article 7/Regulation 13 such that database rights subsist in it.

Submissions

130. The Claimants claim that the XML Schema is a collection of independent works, data and/or other materials which are arranged in a systematic or methodical way and are individually accessible by electronic means, and so constitutes a database. They submit that by reason of the substantial investment in the obtaining, verification and/or presentation of the contents of the database, it is protected by database right because:
- i) As is Mr Orbach’s evidence, the Claimants invested more than £2,000,000 in developing the IDEA System of which only about £100,000 was attributable to developing BTB and other applications on the IDEA System. A significant proportion of this was spent in developing the XML Schema;
 - ii) Further financial investment was made in version 2.0 of the IDEA System, completed on or around 22 March 2005;
 - iii) Relevant investment in verification included the development of the XML Schema to validate and enforce attribute types, mandatory fields and hierarchical data relationships, the use of a standardised logic block and validation of the content of XML files against the XML Schema;
 - iv) Relevant investment in presentation included the creation of graphical user interface elements, the tree navigation structure, development of code to parse and display the contents of the IDEA XML Frame files and code to render and display user interface elements from the IDEA XML Frame files.
 - v) Relevant investment in included the obtaining of the contents included, *inter alia*, the development of the unique logic of the XML Schema through the encoding of special characters.
131. The Claimants submit that the position in this case is closely analogous to that of *Technomed*, in which an XML schema (called in that case the “XML Format”) was a standardised format for storing electrocardiogram (“ECG”) screening results with a number of data types and elements pre-defined. Mr Riordan submits that the claimant in *Technomed* argued that the XML schema was protected by copyright as a literary work or preparatory design material, or that database right protected the overall database of results as a *sui generis* database, and relies on Dr Young’s evidence to argue that the XML Schema is a structural way of formatting data in an XML database.

132. However as the Defendants submit, and I accept, the claimants in *Technomed* claimed only database right in the underlying database itself, and not in the XML format, where the claim was limited to copyright. Accordingly, if the Claimants rely on it as authority that database rights can exist in an XML format, I accept the Defendants' submission that it does not provide such authority.
133. To put flesh on the bones of that submission, Mr David Stone at [26]-[28] of *Technomed* describes the ECG analysis and reporting system known as "ECG Cloud" which is the subject of the claim, from which it is clear that the "Database" is not the same as the "XML Format" in that case:

"[26] ... Put briefly, the process of using ECG Cloud starts with a mobile ECG machine which takes a reading from a patient. The patient data are inputted into ECG Cloud through a web-based processing system. The patient data are reviewed by a qualified cardiac physiologist who selects from a range of options from menus. The menus correspond to each ECG variable in a database.

[27] Technomed relies on its rights in that underlying database. Unhelpfully, for the purposes of these proceedings, Technomed defined its database as "the Database". The Database comprises a set of classifications of relevant physical characteristics shown by ECGs ("the Classifications"), such as ventricular rate or PR interval... For each Classification, the database contains a number of options for how the characteristic tends to manifest in ECG readings ("the Options")...

[28] To enable the patient to access the results of the ECG screening, using software ("the Software") ECG Cloud outputs an extensible mark-up language ("XML") file with a standardised format ("the XML Format"). The XML file is then used to generate a report for distribution to the patient or general practitioner by inserting the information held in the XML Format into a template..."

134. At [53] of the judgment in *Technomed* Mr David Stone sets out at sub-paragraphs (i) and (ii) that the claimant claims infringement of the *sui generis* database right and copyright in the Database, but (at sub-paragraphs (iii) and (iv)) that it only claims infringement of copyright in the XML Format (as a literary work and/or as preparatory design material for a computer program). Thus he went on to determine in favour of the claimant the issues of whether database right subsists in the underlying Database (from [72] to [77]) and was infringed (from [78] to [83]) but in respect of the XML Format he only considered and determined the question of whether copyright subsisted (from [103] to [109] and [111]) and was infringed (at [110]). He did not address database rights in the XML Format.
135. In his reply to Mr Tritton's closing submissions, Mr Riordan appeared to accept that *Technomed* was not a precedent of database rights being argued and found to subsist in an XML schema. If he relies on Dr Young's evidence to found the argument, I do not think it does. Dr Young's evidence, as I set out previously, is that each XML file can be considered a database because it contains data (i.e. the values) arranged in a systematic and methodical way, by means of the hierarchical elements (see para 36 of his first report). Of course it does so by following the structure and validation rules set out in the XML Schema, but Dr Young did not opine that the XML Schema itself was a database.

136. In my judgment the XML Schema provides a structure or framework for arranging independent data in a systematic or methodical way which are then individually accessible by electronic means, but it is not clear to me that it is itself a collection of independent data so arranged. I remind myself that ‘independent’ data are data which are “*separable from one another without their informative, literary... or other value being affected*”. The question appears to be whether they have autonomous informative value, per [33] of *Fixtures*. That case related to a structure for recording the date, time and identity of teams for various fixtures in a football league. This was held to be a database even without being populated by the results of various matches, as that data (date, time and identity of teams) was held to have an independent value in that they provided interested third parties with relevant information (at [34] of the judgment). The Claimants in this case have not drawn my attention to any evidence which can satisfy me that the various elements making up the XML Schema have autonomous informative value. Much as the individual words in a literary work cannot be separated without losing their literary value (per [29] of *Fixtures*), it seems to me (in the absence of any submissions otherwise) that the individual categories of what elements, attributes and data are validly contained in the XML Schema cannot be separated without losing the informative value of the rules as a whole.
137. For those reasons, although the definition of “database” does have a wide scope, the Claimants have failed to satisfy me that the XML Schema is a database. Accordingly it is not necessary for me to go on to consider whether it is protected by database rights.

I. ISSUE 4 - FACTUAL FINDINGS RELEVANT TO ADDITIONAL DAMAGES

138. The Claimants seek additional damages under section 97(2) CDPA 1988 as set out in paragraph 80 of the Amended POC, namely on the grounds of flagrancy of infringement and the commercial gain that was intended by the acts of infringement and by the Defendants “deliberately and knowingly” exceeding the terms of the 2002 Licence in such a way that it would inevitably cause maximum damage to the commercial interests of the Claimants.
139. Section 97(2) CDPA provides:
- (2) The court may in an action for infringement of copyright having regards to all the circumstances, and in particular to –
 - (a) the flagrancy of the infringement, and
 - (b) any benefit accruing to the defendant by reason of the infringement,award such additional damages as the justice of the case may require.
140. The Claimants also seek damages under Regulation 3 of the 2006 Regulations (which transposes Article 13 of the Enforcement Directive) which requires the Court to take into account any profits made by the Defendants “*wherever the court reaches the view that the claimant would not receive adequate compensation for the actual prejudice he has suffered if damages were to be assessed by reference to lost profits, moral prejudice and expenses*” (as so described by HHJ Hacon at [80] of *Henderson v All Around the World Recordings Ltd* [2015] IP&T 33, [2014] EWHC 3087 (IPEC)).

141. Mr Riordan set out at paragraph 137 of his skeleton a summary of the principles applicable to a claim under section 97(2) which I gratefully adopt with minor changes:
- i) The award is discretionary, and there must normally be some special circumstances to justify them, such as profit: *Pro Sieben Media AG v Carlton UK Television Ltd* [1998] FSR 43 at [61] (Laddie J);
 - ii) Flagrancy normally involves a calculated infringement. It need not be dishonest, but should be outside the norm: *Ravenscroft v Herbert* [1980] RPC 193 at 206, and *New English Library Limited* [1980] RPC 192 at [206] (Brightman J);
 - iii) For this purpose, the infringement can either be reckless or deliberate, and a “couldn't care less” attitude will suffice: *Nottinghamshire Healthcare National Service Trust v News Group Newspapers Ltd* [2002] RPC 49, at [52] and [54] (Pumphrey J);
 - iv) Given the breadth of the discretion, all the circumstances should be considered: the court is also permitted to take into account other factors, such as injury to pride and dignity, distress, etc: *Nottinghamshire v NGN* at [33];
 - v) Where the defendant has been pursuing a profit, additional damages can take account of any benefit by the defendant: *Nottinghamshire v NGN*;
 - vi) Another relevant factor is whether a defendant has attempted to destroy evidence of infringement: *Nottinghamshire v NGN*;
 - vii) Also relevant are any attempts by the defendant to conceal the infringement through disingenuous correspondence: *Peninsular Business Services Ltd v Citation plc* [2004] FSR 17.
142. Mr Tritton in closing submits that I should limit myself to finding whether the Defendants acted deliberately to infringe, knowing full well that they were infringing the rights of the Claimants, but I decline to do so. As set out above, the authorities provide that infringement can either be reckless or deliberate.
143. It is common ground that a judge of liability may direct a court taking a later inquiry as to damages to have particular regard to any findings which he or she makes which may be relevant as to the flagrancy of infringement, but he or she is not in a position to determine or direct whether the flagrancy of the infringement requires an award of additional damages, as this is a matter for the court before whom the inquiry as to damages is taken (per *MCA v Charly Records* [2002] FSR 26, in particular [65] of the judgment of Chadwick LJ. See also *ZYX Music GmbH v King* [1997] 2 All E.R. 129 at [147] cited in *Nottinghamshire v NGN*: “...on the judge's findings, which I have upheld, *Pinnacle's* infringement was undoubtedly flagrant and substantial benefit must have accrued to *Pinnacle* as a result. Whether the justice of the case requires an award of additional damages can only be determined on the inquiry.”).
144. I am also told that the Claimants have entered into pre-action correspondence for separate proceedings in which the circumstances around the Defendants' purchase of BTB and the wider healthcare business of Ultrasis from KPMG as Administrators of Ultrasis in 2015 are relevant, including: questions surrounding the involvement of Mr

Paul Bell in that purchase; the Claimants' allegations that Mr Smith breached his fiduciary duties as a director and CEO of Ultrasis; and questions over the rejection by KMPG of Mr Orbach's competing bid for BTB. The parties agree it would not be appropriate for me to trespass on those proceedings.

145. Of the many allegations relevant to flagrancy which the Claimants set out in the Amended Particulars of Claim, they explicitly do not proceed with some, others are the subject of the further proceedings I have been asked not to trespass upon and still others were just not pursued. Those upon which Mr Riordan focussed in closing can be summarised as follows:
- i) Mr Smith knew that the Claimants had objected to the sale of BTB to the First Defendant on the basis that BTB v5 was still based on the IDEA System, and so he should have properly investigated whether this was the case or not. The Defendants' decision to exploit BTB v5 in the light of this information was at the very least reckless ("**Allegation (i)**");
 - ii) Mr Smith admitted in cross-examination that he knew that the 2002 Licence to Ultrasis terminated on its insolvency and did not permit assignment of rights, and therefore he must have known those rights could not validly be assigned to the First Defendant by the administrators of Ultrasis. The Defendants' decision to exploit BTB v5 in the light of this information was either knowing or at the very least reckless ("**Allegation (ii)**").
 - iii) The Defendants attempted to conceal the infringement through disingenuous correspondence, alternatively they adopted a deliberate strategy to obfuscate and delay, by refusing to provide disclosure of the BTB XML files, Java source code and other documents mentioned in the Defence when the Claimants requested them, until the Claimants made an application for specific disclosure ("**Allegation (iii)**");
 - iv) The Defendants adopted a deliberate strategy to obfuscate and delay, by objecting to the Claimants showing the BTB source code materials to Mr Simonov, who was the one person who seemed to know about the copying which actually occurred ("**Allegation (iv)**").
146. I think it is useful to set out here some evidence which provides the background to the allegations that I need to consider.
147. The evidence before me is that it was clearly understood at Ultrasis after the 2002 Transaction that they were not allowed to use the IDEA System source code, and I so find. Mr Simonov supports this when he states in his proof of evidence, "*The instructions for us after the split between Ultrasis and the Second Claimant were very clear, although they were allowed to run and use IDEA, they were not allowed to change the source code.*" I accept Mr Orbach's evidence that Ultrasis had a copy of the 2002 IDEA System source code before the 2002 Transaction took the Second Claimant and the IDEA System out of Ultrasis, however, as we have seen, the 2002 Licence made clear that Ultrasis was not allowed to use it, except in circumstances of the Second Claimant's insolvency.

148. In my judgment, this evidence is also supported by contemporaneous documentation in the form of an email exchange between Mr Uliel and Mr Simonov in 2004, where Mr Simonov needed access to the source code to carry out some development and Mr Uliel emailed him reminding him that the development was bound by strict contractual terms so they would have to go through a formal procedure. Mr Uliel makes clear in that email that none of the source code and other resources should be given to any third party *“including other people within Ultrasis”*. He required Mr Simonov to sign an undertaking to that effect, and I do not think it is disputed that he did sign such an undertaking.
149. What about the knowledge within Ultrasis of the true position after the supposed redevelopment from scratch of the BTB source code by Agilisys in 2004/2005? Mr Simonov says in his proof of evidence: *“When we received the new software (BTB v5) from the Indian company, it was clear to me that they copied the IDEA software. I do not know how the Indian company received the source code (as we all knew that we were not allowed to use the source code) but because I was familiar with the source code of IDEA it was clearly either reverse engineering or a straightforward copy. I was younger and naive and closed my eyes”*.
150. Mr Orbach described a conference call with Mr Simonov during the course of these proceedings, in which the Claimants’ solicitors also participated. He said that Mr Simonov had told him that he was surprised to find the IDEA System source code in the Agilisys code, as he knew, and everyone at Ultrasis knew, that they had the source code but were not supposed to use it.
151. I am satisfied from Dr Young’s expert evidence that it is more likely than not that Agilisys based the BTB v4 source code on the 2002 version, as BTB v5 is based on BTB v4 and it contains IDEA source code which is date marked 2002. Mr Orbach would not accept in cross-examination that Mr Simonov must have given the source code to Agilisys to develop BTB v4, as he fairly pointed out that others at Ultrasis could have provided the code which was held within Ultrasis. Mr Orbach said that both he and Mr Danieli had trusted Mr Simonov as an honest person, and it was apparent from his cross-examination that he did not think Mr Simonov had provided it to Agilisys, although he fairly said he could not know.
152. Of relevance is an email exchange between Dr John ‘Charlie’ Martin and Mr Orbach in February and March 2007, i.e. after the supposed redevelopment from scratch of the BTB source code by Agilisys in 2004/2005. In this, Dr Martin asked Mr Orbach for permission to deposit the BTB source code in escrow as required by a contract with the NHS. Mr Smith in cross-examination accepted that this email exchange shows that Dr Martin believed that using the BTB source code in this way would require Mr Orbach’s consent, and in my judgment it appears to be inconsistent with Dr Martin believing in 2007 that the source code had been redeveloped by Agilisys from scratch.

Allegation (i)

153. Mr Smith accepted in oral evidence that by the time he became a director and shareholder of the First Defendant, he knew that Mr Orbach had written a letter to Ultrasis stating that an assignment of BTB was impossible under the 2002 Licence and 2002 Assignment, and that use of BTB pursuant to any such assignment would infringe the Claimants’ copyright. Mr Smith also accepted that he was sent a “Notice of

Termination” by the Second Claimant dated 8 July 2015, following which he read the 2002 Transaction agreements and knew that they provided, *inter alia* that: (i) the licence granted in the 2002 Licence was terminable on the insolvency of Ultrasis; and (ii) the rights assigned to Ultrasis were not permitted to be assigned to an unrelated third party such as the First Defendant. However, he said “*I was of the belief that Ultrasis owned and had rewritten the whole of BTB around the time period of me joining the company so I checked that belief system out with a number of people*”.

154. The people that he initially listed in oral evidence that he had checked this belief with were: (i) Dr John ‘Charlie’ Martin; (ii) Stuart Dennis, Head of IT at the First Defendant; (iii) Tom Turrell-Croft, an IT developer employee who worked on the development of the ‘front end’ of BTB; and (iv) Mr Simonov. He said, “*All those people told me very clearly that the new version had not used any of the previous code except for XML files which they truly believed we had the right to use*”. He later added a fifth person to the list of those he had spoken to: a Neil Chandarani, who he said worked with Tom Turrell-Croft “*more on the front end than the back end*”.
155. I remind myself that the Defendants have not filed any witness evidence. This evidence of Mr Smith is nowhere contained in the Defence, which has not been amended following the extensive concessions and acceptance of copyright infringement, and so still denies copyright infringement. It is unsatisfactory that Mr Smith was endeavouring to put forward a positive case in the witness box which was neither pleaded nor contained in any witness statement, and of which the Claimants have had no notice and no opportunity to investigate.
156. In relation to Stuart Dennis and Mr Chandrarani, there is nothing more than Mr Smith’s mere assertion from the witness box that he had spoken to them, so this does not take me much further.

Dr Martin

157. In relation to Dr Martin, Mr Smith said “*Dr Martin said to me very clearly that he believed that the only files we’d used were the XML files at the front end of the software*”. However he has been able to provide no details of that conversation – where it was held or when, and could not explain why Dr Martin was seeking permission from Mr Orbach to deposit the BTB source code in 2007 if it had been rewritten in 2004/2005.
158. In re-examination Mr Smith was shown a long email from Dr Martin to KPMG on 24 August 2015 giving the history of the development and contractual arrangements relevant to ownership of rights. This had been in response to KMPG forwarding him an email from Mr Orbach alleging that BTB infringed the rights of the Second Claimant. The Defendants rely on this email as evidence that Ultrasis wanted to be independent of the Second Claimant, and so intended Agilisys to develop BTB v4 without using IDEA source code. The whole email bears reading, but of particular relevance are the following statements (the emphasis is in the original email):

“Firstly I’ll try to demonstrate that the copyright to the content of program now belongs to Ultrasis - there is no question of that. Further - agreements in 2002 assigned all other aspects of BtB from [Mr Orbach’s] company to Ultrasis, apart from the IDEA platform. Ultrasis (with minor exceptions) no longer uses this.

...The Beating the Blues programme was first developed as a CD using the IDEA software as the platform. This software platform was developed specifically to enable running complex components like graphics, video and audio. The 2002 agreement licences Ultrasis to use the IDEA software to enable 'running' Beating the Blues. **Subsequently (not sure of the date - but probably about 2006), Ultrasis wished to develop a web version of beating the Blues and chose a different route that didn't use IDEA.** A company called Agilisys was contracted to build this version. Ultrasis wished to be independent of [Mr Orbach's] company because of failure to provide adequate support and costs. (As an example he quoted £90K to put the programme into escrow - an activity which would have cost much less than £1000.) Subsequently, Ultrasis redeveloped BtB again on a commercially available software platform (can't remember which - probably Java), and again developed a further US version using 'Articulate Storyline' as the platform. If Ultrasis still has CDs of Beating the Blues in the field (probably within the prison service) then these operate on IDEA but they will be few in number"

159. Mr Smith in re-examination said, "*That is exactly what Dr Martin said to me, that is that Ultrasis owns all aspects of the current version of BTB*". This email raises a number of questions, in my judgment – firstly, Dr Martin appears to accept that Ultrasis was using IDEA IPR in 2015, albeit he characterises those as "minor exceptions". What are these minor exceptions? Secondly, he appears to be confused with his timing, as the request for escrow was in 2007 after v4 had been produced by Agilisys, so it cannot have prompted the decision to contract with Agilisys as he states. Thirdly, I struggle to understand how Dr Martin's assertion in 2015 that Agilisys did not use IDEA in the 2004/5 rewrite can be reconciled with his request in 2007 that he needed the IDEA source code to be deposited in escrow, and as I have noted, Mr Smith could not assist me with that. In addition, I accept the Claimants' submissions that this email does not evidence any discussion between Mr Smith and Dr Martin; nor does it appear from that email that Dr Martin carried out any personal investigations into the underlying code. For those reasons I cannot be satisfied on the balance of probabilities that the conversation with Dr Martin took place at all, or if it did, what Dr Martin said and whether it was reasonable for Mr Smith to accept it.

Tom Turrell-Croft

160. I accept Mr Smith's evidence that he spoke to Mr Turrell-Croft, who told Mr Smith there was nothing left of the IDEA software in v5 BTB, as it is supported by evidence from Mr Orbach and Mr Simonov. Mr Orbach in his witness statement says that Mr Simonov told him that Tom Turrell-Croft told the Defendants that "*BTB v5 did not include the IDEA*". In oral evidence Mr Orbach said that Mr Simonov told him that Mr Turrell-Croft had phoned him and said, "*I don't know what to do now because I said something that is not true and I don't know what to do*". This is multiple hearsay, but it does corroborate Mr Smith's oral evidence. Mr Orbach said that he considered Mr Turrell-Croft to be an honest person and so he thought that Mr Turrell-Croft believed that BTB v5 did not include the IDEA when he gave that incorrect information to Mr Smith, and was not lying; but although Mr Turrell-Croft was a technical person, he was junior, and not someone with any real understanding of the background to BTB and not involved with the 'back end' of the application.
161. Mr Orbach thought that conversation with Mr Simonov and Mr Turrell-Croft had taken place in the last 4 or 5 months before the trial, but he could not assist the court with

when the conversation between Mr Smith and Mr Turrell-Croft was reported to have taken place.

Mr Simonov

162. In relation to Mr Simonov, I note that, as the Claimants submit, there is nothing in his proof of evidence which suggests that he was ever asked by Mr Smith whether BTB v4 or v5 had been rewritten ‘from scratch’ by Agilisys, although he reports conversations with Mr Turrell-Croft, Mr Orbach, the Claimants’ solicitors and the Defendants’ solicitors. The Defendants submit that it is not surprising that he didn’t mention it, given Mr Smith’s evidence that Mr Simonov told him that there was no copying by Agilisys of IDEA’s code, and Mr Simonov’s evidence that he knew there was, but “closed his eyes” to it. However this does not fit with the evidence of Mr Orbach and Mr Smith that Mr Simonov was honest. Closing his eyes to it in 2004/5 when the code came back from Agilisys, and when he described himself as young and naïve, is not the same as lying to Mr Smith, and Mr Simonov states in his proof of evidence that if it had happened now, when he is older and wiser, he would speak up (I paraphrase).
163. I accept that, as he says, Mr Simonov did not want to get involved in these proceedings but on balance I think it is more likely than not, given the evidence I have heard that Mr Simonov is an honest person, and given that Mr Simonov offered information about Tom Turrell-Croft, that he would have mentioned it to Mr Orbach if he too had spoken to Mr Smith and misinformed him of the true position at any time.
164. I have accepted Mr Smith’s evidence about Tom Turrell-Croft. Mr Riordan put it to Mr Smith that he invented the other conversations, and he denied it. Because this evidence was produced for the first time at trial, the Claimants were deprived of the opportunity of investigating and challenging it. I am unwilling to accept Mr Smith’s evidence without corroboration. For those reasons I am not satisfied on the balance of probabilities that Mr Smith spoke to Mr Simonov, Dr Martin, Mr Dennis or Mr Chandrarani.
165. The Defendants focus their submissions on whether employees at Ultrasis believed that Agilisys was instructed to rewrite BTB v4 from scratch, but in my view, what they believed in 2004/5 is not the key issue. Although I have no direct evidence of the instructions given to Agilisys, I am prepared to accept on Mr Simonov’s evidence that it is more likely than not that the technical team at Ultrasis did believe that Agilisys was going to rewrite BTB v4 from scratch. I also find, however, that Mr Simonov knew when he saw the code that is not what Agilisys did, and I can infer that if he worked that out immediately, it is likely that other employees with similar technical knowledge of the “back end” of BTB were also aware that BTB v4 and BTB v5 infringed the IDEA source code.
166. What is the key issue, in my judgment, is that upon being informed in 2015 of Mr Orbach’s serious allegations that BTB v5 contained IDEA IPR and was infringing, Mr Smith should have carried out a proper investigation with Mr Simonov or another senior technical employee who had sufficient understanding of the “back end” of BTB, sufficient to satisfy himself that the allegations were unfounded. Mr Tyrell-Croft was not such a person being junior, non-technical and not familiar with the “back end” of BTB, and Mr Smith as CEO and Chairman of the First Defendant should have known that. In fact, in cross-examination he said that Mr Tyrell-Croft would have “*known the*

same hearsay and chat that no doubt a team of people working together would have had if that chat was had. So if Yuval Simonov had declared that that had been a copy then he would have known it but he did not declare that to me, he said that as far as he knows we use the XML files and that is all we use". Asking a junior employee without the requisite knowledge in the expectation that he would have picked up 'hearsay and chat' from better informed employees is an insufficient investigation, in my judgment.

167. Mr Riordan put it to Mr Smith in cross-examination that he was "*essentially agnostic as to whether Mr Orbach was right – you were content to carry on essentially at risk that you might be wrong and he might be right*". Mr Smith disagreed, but I find that the Defendants' decision to exploit BTB v5 without carrying out a sufficient investigation was reckless.

Allegation (ii)

168. This allegation is closely connected with Allegation (i). The Defendants submit that they were not reckless to market BTB v5 despite knowing that the 2002 Licence terminated on the insolvency of Ultrasis, because they believed that BTB v4 had been rewritten by Agilisys from scratch. For the same reasons as I have given in relation to Allegation (i), I consider that the Defendants were reckless, because they did not carry out a sufficient investigation into the Second Claimant's allegations of infringement.

Allegation (iii)

169. Mr Riordan draws my attention to correspondence from the Claimants solicitors requesting disclosure of the BTB source code materials, to which the Defendants' solicitors Hill Dickinson reply that the claim is unclear, the material is irrelevant, and the request for disclosure is misguided. Mr Riordan submits that was the start of a satellite dispute lasting over a year and incurring significant costs, until a consent order was agreed in May 2018 for the disclosure of this material to an independent expert on both sides, following the Claimants' application for specific disclosure. Mr Riordan submits that Defendants' response caused a significant delay in achieving disclosure and a knock-on delay on obtaining the expert reports, which otherwise would have been prepared much earlier and which, when eventually prepared, caused the Defendants to concede the bulk of the Claimants' case on infringement.
170. When pressed by me, Mr Riordan clarified that he does not suggest that the Defendants' solicitors were doing anything other than acting properly under instruction, and he conceded that there was obviously a large degree of mistrust on both sides which meant that the Defendants did not trust the Claimants with access to the source code without stringent undertakings being signed. I do not consider there is sufficient evidence of an intention to conceal the infringement through disingenuous correspondence.
171. Alternatively, he submits there were ongoing benefits to the Defendants from exploiting BTB while this argument over disclosure was going on and he asks me to find that there was a campaign by the Defendants to delay and obfuscate the discovery which was part of a deliberate strategy. The difficulty with this submission is that he did not put that allegation directly to Mr Smith in cross-examination, who has not therefore had the opportunity to answer it. After this judgment was provided to the parties in draft the Claimants provided me with some comments on this observation. I accept, as did Meade

J in *Martin v Kogan* [2021] EWHC 24 (Ch) at [58], that the tight trial timescales in IPEC can mean that it is not possible to cross-examine to all the details in the time given. However this is one of the four key points on flagrancy which the Claimants sought to press in closing. I am also reminded that Mr Riordan did put to Mr Smith a number of related points in cross-examination, including (i) that his approach to the litigation was about seeing who would blink first before he chose to reveal the truth and only did so when he was pressed, which Mr Smith denied; and (ii) that he had deliberately sought to derive a commercial benefit, to which Mr Smith answered that he had not purposefully tried to delay the outcome. I have thought about this and Mr Smith's other oral evidence again, carefully, against the background of mistrust that the Claimants concede the Defendants had at the time about allowing the Claimants to access their software, and it remains the case that I am not satisfied on the balance of probabilities that the Defendants deliberately and strategically delayed and obfuscated disclosure to gain commercial advantage. Accordingly, this allegation is not proven.

Allegation (iv)

172. This allegation is a criticism of an objection made by the Defendants' solicitors in a letter of 19 May 2017 to making the BTB source materials available for inspection by Mr Simonov, Mr Tyrell-Croft or Mr Orbach. However the letter makes clear that they will make the items available for inspection "by a genuinely independent expert" and given the concession that Mr Riordan made in closing that there was genuine mistrust on both sides, I do not consider that requiring inspection by an independent expert, which Mr Simonov patently was not, was unreasonable. For that reason I do not consider this allegation to be proven.

Benefit

173. In relation to whether the Defendants have accrued any benefit by reason of the infringement, the Claimants submit that: (i) the Defendants have benefitted financially, as Mr Smith built the First Defendant on the back of a popular, well-established but infringing product with strong market recognition; and (ii) the Defendants further benefitted financially from the delay in admitting the infringement, as they continued to market BTB v5 after the claim was issued.
174. Mr Smith accepted in cross-examination that sales of BTB had at certain times accounted for up to 95% of Ultrasis's sales, and that at the time of his appointment as interim Chief Executive of Ultrasis it was well-known and being used in the 120 out of 153 NHS trusts. Mr Smith said that after acquiring BTB the First Defendant had inherited an existing customer base, mainly those NHS trusts, and they continued to serve those customers and market it. He said that they developed a new version called BTB US because BTB v5 was an old product which did not work with mobile devices and tablets and the market for it was declining, so for those commercial reasons they stopped selling BTB v5 in May 2019 and finally switched it off in October 2019.
175. Once again, there is no corroborative evidence of the timing for the cessation of marketing and switch off of BTB v5 and I decline to accept Mr Smith's evidence, produced for the first time at trial, without it. The Defendants submit that I am unable to make any real findings as to whether they have benefitted, as I have no evidence about whether the sales of BTB v5 were profitable or not.

176. I accept that I cannot make specific findings about the quantum of any benefit the Defendants may have accrued from the infringement, but I do not need to. What I must do is decide whether on the balance of probabilities on the evidence before me the Defendants have accrued any benefit from the infringement. I accept the Claimants' submissions and I find that they have, as I am satisfied that it is more likely than not that the First Defendant would not have exploited BTB v5, a stable and existing albeit aging product with an existing customer base, for at least 4 years if it did not gain any benefit in doing so. The Second Defendant benefits as a shareholder of the First Defendant.
177. Finally, the Claimants ask me to make a finding that all of this has caused significant distress to the Claimants and their representatives (being, I understand, Mr Orbach and Mr Uliel), which a judge assessing damages may take into account. I have no doubt that it has. I have already described Mr Orbach's passion, the time and money he has invested in the Claimants, the Ultrasis group, the development of the IDEA System and BTB, and that he is legitimately aggrieved by what has transpired. I would go further – he is an entrepreneur who identifies strongly with what he has achieved with the IDEA System and the Defendants' infringements and denials are, I believe, felt by him as a personal insult. Mr Uliel is measured and does not wear his heart on his sleeve, but it was apparent to me that he is a decent and honest man who feels the unfairness of the Defendants' infringements keenly. Both are worn down and aggrieved by how long this litigation has taken to come to judgment, and I apologise for the extent to which I have added to that.

J. SUMMARY

178. In summary, I have found:
- i) the XML Schema is properly to be characterised as part of the IDEA System;
 - ii) the First Claimant owns the rights in the XML Schema, and it follows that BTB v5 infringes the literary copyright in the XML Schema;
 - iii) the Claimants have not satisfied me that the XML Schema is a database, and so I do not find database rights subsist in it; and
 - iv) the Defendants' infringements are flagrant in the manner set out in Section I above, the Defendants have accrued benefits from the infringements, and the infringements and this litigation have caused distress to Mr Orbach and Mr Uliel.
179. My thanks to counsel for the very high quality of their written and oral submissions and the assistance they have provided to the Court.