United States Court of Appeals for the Federal Circuit

SAS INSTITUTE, INC.,
Plaintiff-Appellant

v.

WORLD PROGRAMMING LIMITED,
Defendant-Appellee

2021-1542

Appeal from the United States District Court for the Eastern District of Texas in No. 2:18-cv-00295-JRG, Chief Judge J. Rodney Gilstrap.

Decided: April 06, 2023

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Before NEWMAN, REYNA, and WALLACH, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* REYNA.

Dissenting opinion filed by *Circuit Judge* NEWMAN.

REYNA, *Circuit Judge*.

SAS Institute, Inc. filed suit in the United States District Court for the Eastern District of Texas alleging, among other claims, nonliteral copyright infringement of its software by World Programming Limited. Both parties moved for summary judgment on non-infringement and copyrightability. The district court decided to hold a special hearing to assist it in deciding the scope of protection provided under copyright law to the elements asserted by SAS. It ordered the parties to submit supplemental briefing on the issue. The district court then reached several determinations. The district court first concluded that SAS demonstrated that it possessed valid copyright registrations covering SAS's asserted software. The district court then determined that World Programming provided evidence that showed the software program elements were not within the scope of protection under copyright law. Based on World Programing's evidentiary showing, the district court required SAS to demonstrate that its asserted program elements were copyrightable. Applying the abstraction-filtration-comparison test, the district court

determined that SAS failed to establish copyrightability. It rejected SAS's expert's report and dismissed the suit with prejudice. SAS appeals the judgment of the district court. We affirm.

SAS SOFTWARE

Appellant SAS Institute, Inc. ("SAS") creates and sells a suite of software ("SAS System") used for data access, data management, data analysis, and data presentation. *SAS Inst. Inc. v. World Programming Ltd.*, 496 F. Supp. 3d 1019, 1022 (E.D. Tex. 2020) ("*EDTX Action*"). The SAS System allows users to input user-written programs into the SAS System's graphical user interface to complete analytics tasks. *Id.* at 1022–23. Users of the SAS System write commands in a programming language (the "SAS Language"). *Id.* at 1023. An earlier version of the SAS System is in the public domain. *Id.* SAS has copyright registrations that cover various aspects of the SAS System. Appellant's Br. 21; J.A. 281.

World Programming Limited ("WPL") created a competitor to the SAS System, the World Programming System ("WPS System"). *EDTX Action,* at 1023–24. The WPS System also uses the SAS Language to allow users to run user-written programs to complete analytics tasks such as data access, data management, data analysis, and data presentation. *Id.*

On July 18, 2018, SAS filed suit against WPL in the district court for the Eastern District of Texas. The complaint alleged a number of claims, including copyright infringement of the SAS System and SAS user manuals. This appeal, however, is limited to three issues. First, SAS argues that the district court's copyrightability determination is erroneous as a matter of law. Next, SAS asserts that the district court abused its discretion in its use of a "special hearing" to determine copyrightability. Finally, SAS argues that the district court abused its discretion when it rejected SAS's expert report. As shown below, the

resolution of the three issues rests on the question of copyrightability.

The term "copyrightability" has different meanings. A commonly accepted definition, and the one herein adopted, is whether the specific elements of a copyrighted work that are asserted in a copyright infringement action fall within the scope of protection extended to that particular work under copyright law. The fields of computer software and computer programs are recognized and addressed as a "literary work" in the U.S. Constitution and the Copyright Act.[1]

U.S. CONSTITUTION AND THE COPYRIGHT ACT

Like the Patent and the Tariff, the Copyright enjoys a provenance stretching back to the birth of this nation. Article I, Section 8 of the U.S. Constitution secures "for limited Times to Authors and Inventors the exclusive Rights to their respective Writings and Discoveries." For purposes of this appeal, it is generally accepted that software coders are "authors" and that their respective works are "writings." *See generally*, *Oracle America, Inc. v. Google Inc.*, 750 F.3d 1339, 1368 (Fed. Cir. 2014).

The Copyright Act protects "original works of authorship fixed in any tangible medium of expression." 17 U.S.C. § 102(a). To explain the scope of the term "works of authorship," the Act sets forth a non-exclusive statutory list of categories of works of authorship covered by the Act. The first category on this non-exclusive list is "literary works." *Id.* at § 102(a)(1).

The statutory definition of "literary works" embraces computer programs:

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[1] Copyright Act of 1976, 17 U.S.C. § 101 *et seq.* (1976).

> "Literary works" are works, other than audiovisual works, expressed in words, numbers, or other verbal or numerical symbols or indicia, regardless of the nature of the material objects, such as books, periodicals, manuscripts, phonorecords, film, tapes, disks, or cards, in which they are embodied.

17 U.S.C. § 101. Further, the House Report for the 1976 Act explicitly includes computer programs in its definition of "literary works."

> The term "literary works" does not connote any criterion of literary merit or qualitative value: it includes . . . computer data bases, and computer programs to the extent that they incorporate authorship in the programmer's expression of original ideas, as distinguished from the ideas themselves.

H.R. Rep. No. 1476, 94th Cong., 2d Sess. 54 (1976), reprinted in 1976 U.S.C.C.A.N. 5659, 5667. As the House Report makes clear, copyright protection extends only to the expression of an idea, not to the underlying idea itself. *Id.* at 5670; *see also Mazer v. Stein*, 347 U.S. 201, 217 (1954) ("Unlike a patent, a copyright gives no exclusive right to the art disclosed; protection is given only to the expression of the idea—not the idea itself."). Thus, whether a particular component or element of a program is protected by a copyright depends on whether it qualifies as an expression of an idea, rather than the idea itself. *Gates Rubber Co. v. Bando Chem. Indus., Ltd.*, 9 F.3d 823, 836 (10th Cir. 1993) (citing *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 547 (1985)).

Additionally, other doctrines of copyright law detail what elements are not protectable, including scènes à faire elements, material in the public domain, factual material, and elements under the merger doctrine. *Computer Assocs. Int'l, Inc. v. Altai, Inc.*, 982 F.2d 693, 703, 706–10 (2d Cir. 1992); *Gates Rubber Co.*, 9 F.3d at 837.

With these doctrines in mind, the court is tasked with determining the scope of copyright protection. For computer programs, this determination often involves assessing which input and output formats of a computer program are copyrightable, and which are not. *Eng'g Dynamics, Inc. v. Structural Software, Inc.*, 26 F.3d 1335, 1347 (5th Cir. 1994). The literal elements of computer programs, for example: source and object codes, can be the subject of copyright protection. *See, e.g.*, *Altai,* 982 F.2d at 702. As a general matter, and to varying degrees, copyright protection can extend beyond literal elements to nonliteral elements. *Id*. at 701.

This appeal involves only nonliteral elements of the SAS System. The nonliteral elements of a computer program are those aspects that are not reduced to written code. *Id*. at 696, 701–703. These elements include the program architecture, structure, sequence and organization, operational modules, and user interface. *Eng'g Dynamics,* 26 F.3d at 1341. Using a literary novel as an analogy, the novel's written words would be the literal elements (e.g., code) and the organization of the chapters, characters, and plot would be the nonliteral elements. But concluding that nonliteral elements of a computer program can be protected by copyright does not end a court's analysis: it must determine the scope of such protection. *Altai*, 982 F.2d at 703. The scope of protection is "not constant" across all literary works. *Eng'g Dynamics,* 26 F.3d at 1348. Nor is it necessarily constant across all elements in a single work.

As one moves away from the literal elements to more general levels of a computer program, it becomes "more difficult" to distinguish between unprotectible ideas, processes, methods or functions, on the one hand, and copyrightable expression, on the other. *Id.* at 1341; *see also Johnson Controls, Inc. v. Phoenix Control Sys., Inc.*, 886 F.2d 1173, 1175 (9th Cir. 1989) ("Whether a particular component of a program is protected by a copyright

depends on whether it qualifies as an 'expression' of an idea, rather than the idea itself." (cleaned up)).

Court decisions vary in the methods used to identify and analyze copyrightability for nonliteral elements of computer programs. *Eng'g Dynamics*, 26 F.3d at 1341. The analytical framework utilized by the courts may vary to accommodate each case's facts. *Id.* at 1343.

Various circuits, including the Second, Fifth, and Tenth Circuits, have adopted the abstraction-filtration-comparison test, or method, to determine the scope of copyright protection for computer programs, including their nonliteral elements. *Altai*, 982 F.2d at 706–11 (2d Cir. 1992); *Eng'g Dynamics*, 26 F.3d at 1335 (5th Cir. 1994); *Gates Rubber*, 9 F.3d at 823, 834 (10th Cir. 1993); *Computer Mgmt. Assistance Co. v. Robert F. DeCastro, Inc.*, 220 F.3d 396, 399–400 (5th Cir. 2000). As the name implies, the abstraction-filtration-comparison method involves three steps. *Altai*, 982 F.2d at 706. First, a court breaks down the allegedly infringed program into its constituent structural parts—abstraction. *Id.* This step "help[s] a court separate ideas [and processes] from expression and eliminate . . . those portions of the work that are not eligible for protection." *Eng'g Dynamics*, 26 F.3d at 1343. Second, the court sifts out all non-protectable material—filtration. *Id.* at 1344–45; *see also Altai*, 982 F.2d at 707–08 (describing this step as "examining the structural components at each level of abstraction" and "defining the scope of plaintiff's copyright"). And, third, the trier of fact compares any remaining "core of protectable expression" with the allegedly infringing program to determine if there is in fact a substantial similarity—comparison. *Altai*, 982 F.2d at 710–11.

Although the underling suit is a copyright infringement action, this *appeal* does not reach the final copyright infringement analysis, or the third step of the abstraction-filtration-comparison test. Rather, the focus of the appeal

is on the question of copyrightability and, in particular, the filtration step of the abstraction-filtration-comparison test.

PROCEDURE

SAS's action initially involved multiple claims.[2] However, the claims of patent infringement, copyright

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[2] This is not the first litigation between these parties relating to the SAS System. Around September 2009, SAS filed suit against WPL in the United Kingdom and in the United States District Court for the Eastern District of North Carolina ("EDNC"). Appellee's Br. 11. In the UK litigation, SAS asserted copyright infringement. *Id.* The UK High Court determined that issues relating to the legal protection of computer programs needed interpretation of E.U. Law and sent those questions to the Court of Justice of the European Union. *SAS Inst. Inc. v. World Programming Ltd.*, 874 F.3d 370, 376 (4th Cir. 2017). The Court found that neither the functionality of a computer program nor the format of data files is copyright protectable but reproduction of a program protected by copyright is capable of constituting an infringement action. *Id.* Based on this ruling, the UK courts found that WPL did not violate European copyright law. *Id.* In the EDNC action, SAS asserted copyright infringement, breach of license agreement claims for fraudulent inducement, tortious interference with contract, tortious interference with prospective business advantage, and violation of the North Carolina Unfair and Deceptive Trade Practices Act (UDTPA). *SAS Inst. Inc. v. World Programming Ltd.*, 874 F.3d 370, 377 (4th Cir. 2017) ("*SAS I*"). The district court granted summary judgment "to WPL" on SAS's claims for copyright infringement, tortious interference with contract, and tortious interference with prospective economic advantage. *Id.* at 377; *see also* Appellee's Br. 13. At trial, on the issues related to contract and tort claims, the jury found "WPL

infringement of SAS user manuals, and copyright infringement as to the literal elements of the SAS System, were dismissed with prejudice by the parties' joint stipulation. Only SAS's claim for nonliteral copyright infringement of the SAS System remained, which is the only claim at issue on this appeal.

Both SAS and WPL moved for summary judgment on the nonliteral copyright infringement claim. As to this claim, SAS does not contend that WPL copied any line of SAS code or any other literal element of the SAS System. *EDTX Action*, at 1022; Appellee's Br. 45. Instead, SAS contends that WPL infringes by copying the functions or results of its system. *Id.*; *see* Appellant's Br. 48. More specifically, SAS alleges WPL copied its "Input Formats," which are the fundamentals (vocabulary and syntax) used in the SAS System. *EDTX Action*, at 1022. SAS also claims WPL copied its "Output Designs," which are the result of applying Input Formats to user data. *Id.*

Addressing the parties' cross-motions for summary judgment, the district court concluded that it first needed to determine the copyrightability of the asserted materials to avoid "injecting copyrightability into the jury trial and unavoidably making it part of the jury's infringement analysis." To assist in its inquiry, the district court requested additional briefing and argument on a narrow question: what is the "core protectable expression" of the SAS System that WPL allegedly copied. To clarify this issue, the parties

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liable for fraudulent inducement and UDPTA violations" and the "total damages awarded to after trebling was $79,129,905." *SAS I*, at 377. The Fourth Circuit affirmed in part and vacated the copyrightability ruling as moot. *SAS Inst. Inc. v. World Programming Ltd.*, 952 F.3d 513, 519–520, 531 (4th Cir. 2020) ("*SAS II*"). On remand, the district court dismissed SAS's copyright claims without prejudice. Appellee's Br. 13.

were asked to put forward competing evidence directed to the abstraction and filtration steps of the abstraction-filtration-comparison test.[3]

After the parties submitted the requested briefing, the district court held a "Copyrightability Hearing." *EDTX Action*, at 1020–21. In assessing the copyrightability of the nonliteral elements of the SAS System that SAS alleges were copied, the district court concluded that there was no clear guidance in the Fifth Circuit on the "burden of proof in the filtration analysis of copyrightability." *Id.* at 1026. As a result, the district court elected to adopt the framework established by the Eleventh Circuit in *Compulife Software Inc. v. Newman*, 959 F.3d 1288 (11th Cir. 2020). *Id.* Within that framework, once a plaintiff establishes that he or she holds a "valid copyright and that the defendant engaged in factual copying," the defendant may come forward with evidence that the allegedly copied material is in fact copyright unprotectable. *Id.* at 1026–27 (citing *Compulife*, 959 F.3d at 1305–06). The defendant must identify the "species of unprotectability" alleged and present supporting evidence where appropriate. *Id.* Once done, the burden of proof shifts back to the copyright holder

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[3] The district court asked SAS to "narrow" its case regarding copyrightability, explaining that the case had "a tremendous amount of work" before it would be ready to go before the jury, because the jury would not fairly be able to compare the works. J.A. 3315–16, 13659–61; Appellee's Br. 18–19. The court also explained that a Rule 56 summary judgment motion would not be proper because, in asking whether there is a material question of fact, it needed first to address whether copyrightability exists in the asserted works as a matter of law. Because SAS did not show what identifiable protectable elements remained in the SAS System, even after the court instructed SAS to do so, the court dismissed the case. *See, e.g.*, Appellee's Br. 33–34 (collecting cases).

to establish precisely which parts of its asserted work are, in fact, protectable. *Id.* (citing *Compulife*, 959 F.3d at 1306).

Applying this framework, the district court determined that SAS satisfied its initial burden on copyrightability by presenting evidence of valid copyright registrations to the SAS System. *Id.* at 1027. Next, the district court determined that WPL satisfied its burden to show that elements of the SAS System were not protectable. *Id.*

For example, WPL established that an earlier version of the SAS System, "SAS 76," was in the public domain. *Id.*; *see also S & H Computer Sys., Inc. v. SAS Inst., Inc.*, 568 F. Supp. 416, 418–19 (M.D. Tenn. 1983). WPL also demonstrated that many of the Input Formats and Output Designs in the current SAS System are identical, or nearly identical, to those in SAS 76, and, as such, should be filtered. *EDTX Action*, at 1023. WPL demonstrated that the SAS Language should be filtered because it is open and free for public use. *Id.* at 1027–28. WPL's expert opined that the allegedly copied materials contained unprotectable open-source elements; factual and data elements; elements not original to SAS; mathematical and statistical elements; process, system, and method elements; well-known and conventional display elements, such as tables, graphs, plots, fonts, colors, and lines; material for which SAS is not the author; statistical analysis; scènes à faire elements; and short phrase elements. *Id.* at 1028. Accordingly, the district court found that WPL provided ample evidence to rebut SAS's prima facie evidence of duly issued copyright registrations and required SAS to show which specific elements of the SAS System that SAS alleged were copied are protectable. *Id.*

The district court concluded that SAS failed to show that the elements WPL pointed to as unprotectable are indeed entitled to protection or to show the existence and extent of any remaining protectable expression that WPL copied. *Id.* at 1028. The district court found that SAS

refused to engage in the filtration step and chose instead to simply argue that the SAS System was "creative." *Id.* at 1027–28. On this basis, the district court found that SAS had not met its burden to show protectability of the asserted materials. *Id.* at 1028.

The district court also excluded the opinion of SAS's expert, Dr. James Storer, as unreliable because he did not filter out any of the unprotectable elements of the SAS System. *Id.* at 1028–29. The district court reasoned that, at a minimum, Dr. Storer's failure to filter out any of the unprotectable elements resulted in an improper comparison of unprotectable elements to the accused products. *Id.* The district court dismissed the case with prejudice. *Id.* at 1029.

SAS timely appealed. This Court has jurisdiction under 28 U.S.C. § 1295(a)(1).

STANDARD OF REVIEW

When addressing questions of copyright law, this court applies the law which would be applied by the relevant regional circuit—here, the Fifth Circuit. *See Oracle*, 750 F.3d at 1353 (quoting *Atari Games Corp. v. Nintendo of Am., Inc.*, 897 F.2d 1572, 1575 (Fed. Cir. 1990)). Under Fifth Circuit law, legal issues are reviewed de novo. *In re Mid-S. Towing Co.*, 418 F.3d 526, 531 (5th Cir. 2005). Copyrightability is generally treated as a legal issue, or as a legal issue that may involve subsidiary factual findings. *Oracle*, 750 F.3d at 1353 n.3 (collecting cases). Treating copyrightability as a question of law is consistent with case law. *Eng'g Dynamics*, 26 F.3d at 1340–41; *see also Oracle*, 750 F.3d at 1353 n.3; *Yankee Candle Co. v. Bridgewater Candle Co.*, 259 F.3d 25, 34 & n.5 (1st Cir. 2001); *Publications Int'l, Ltd. v. Meredith Corp.*, 88 F.3d 473, 478 (7th Cir. 1996); *EDTX Action*, at 1022 (citing NIMMER ON COPYRIGHT § 12.10). Here, neither the district court nor the parties dispute that copyrightability is resolved as a question of

law.[4] We also note that the resolution of copyrightability rests on interpretation of whether the asserted materials are expressions that fall within the scope of copyright law—matters that belong to the court. *See* NIMMER § 12.10 ("Reasoning from patent law, Judge Easterbrook opines that that [copyrightability] decision is for the judge alone . . . ") (citing *Pivot Point Int'l, Inc. v. Charlene Prods. Inc.*, 932 F. Supp. 220, 225 & n. 33 (N.D. Ill. 1996) (collecting cases)). On this basis, we hold that in this case the ultimate issue of copyrightability can be resolved as a question of law that we review under a de novo standard. *BWP Media USA, Inc. v. T & S Software Assocs., Inc.*, 852 F.3d 436, 438 (5th Cir. 2017). To be clear, whether copyright infringement has occurred is a factual determination that generally can be reached only after the legal determination of copyrightability has been made.

Rulings on expert-testimony admissibility are reviewed in the Fifth Circuit for manifest or "plain and indisputable" error. *Guy v. Crown Equip. Corp.*, 394 F.3d 320, 325 (5th Cir. 2004). Other evidentiary rulings are reviewed "for abuse of discretion." *S. Pac. Transp. Co. v. Chabert*, 973 F.2d 441, 448 (5th Cir. 1992).

DISCUSSION

SAS raises three main issues on appeal. First, SAS contends that the district court erred when it required SAS to prove that the elements it asserted were copied by WPL are entitled to copyright protection. Second, SAS argues that the district court erred when it used a

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[4] The district court treated copyrightability as "a question of law for the Court." *EDTX Action*, at 1022. SAS asserts "undisputed facts," and WPL asserts that the district court's treatment of copyrightability as a question of law for the court was proper and notes that SAS identifies "no factual disputes." Appellant's Br. 47–48; Appellee's Br. 59.

"Copyrightability Hearing" to assist it reach a copyrightability determination. Appellant's Br. 4, 43–46. Third, SAS argues that the court erred in excluding the testimony of its technical expert. We address each issue in turn.[5]

Copyrightability

SAS contends that the district court legally erred in its application of the abstraction-filtration-comparison test. According to SAS, it satisfied its evidentiary burden once it demonstrated that the SAS System was covered by registered copyrights. Further, SAS claims the district court erred when it shifted the burden to SAS to establish that its asserted elements are protected by copyright law. Appellant's Br. at 38–43. Alternatively, SAS argues that the overall selection and arrangement of the Input Format and Output Design was protectable. We disagree.

We conclude that the overall analytical framework adopted by the district court is consistent with established precedent. The plaintiff in a copyright action must respond to any proof advanced by the defendant. *EDTX Action*, at 1026. SAS's preliminary showing that it has valid, registered copyrights directed to aspects of the SAS System is not sufficient to establish that each nonliteral element of the SAS System is protectable. *See Feist Publications, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 348 (1991) ("The mere fact that a work is copyrighted does not mean that *every element* of the work may be protected." (emphasis added)). Evidence of a timely obtained copyright registration only creates a rebuttable presumption of copyrightability and validity. *Norma Ribbon & Trimming, Inc. v. Little*, 51 F.3d 45, 47 (5th Cir. 1995); *see also Gen. Universal Sys., Inc. v.*

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[5] SAS also challenges the district court's rulings on evidentiary issues relating to the testimony of its fact witness, Mr. Collins. Appellant's Br. 6–7, 59–64. In light of our decision regarding copyrightability, it is unnecessary to address these issues.

Lee, 379 F.3d 131, 141 (5th Cir. 2004) (per curiam) ("A certificate of registration, if timely obtained, is prima facie evidence both that a copyright is valid and that the registrant owns the copyright.").

The district court correctly determined that, through evidence of valid copyright registrations, SAS established a required threshold of protectability. *EDTX Action*, at 1027. Consequently, it became WPL's burden to establish what, if any, elements of the copyrighted work are not protected. WPL showed that at least a substantial portion of the allegedly infringed elements of the SAS System are not protectable by copyright. *Id.* at 1027–28. At that point, the district court correctly provided SAS with an opportunity to identify the constituent elements of the work that are protectable. *Eng'g Dynamics*, 26 F.3d at 1340; *Compulife*, 959 F.3d at 1306. But SAS apparently failed or refused to do so. *EDTX Action*, at 1027. Instead, SAS steadfastly asserted that the SAS works were creative and that it had provided "repeated evidence of factual copying," but SAS failed to rebut WPL's assertion and did not otherwise provide evidence in relation to the "filtration" step under the three-part test. *Id.* at 1027–28.

As the district court correctly explained, copyright protectability "consists of the absence of the various species of *un*protectability." *Id.* at 1027 (quoting *Compulife*, 959 F.3d at 1305). To be clear, in some instances, as in factual compilations, the selection and arrangement of unprotectable elements may exhibit creative expression and be eligible for protection. *S. Credentialing Support Servs., LLC v. Hammond Surgical Hosp., LLC*, 946 F.3d 780, 783–84 (5th Cir. 2020).[6] As the district court found, SAS did not show

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[6] The dissent faults the district court for not addressing in its decision the selection and arrangement of the program elements. Diss. Op. at 15. This point overlooks that,

that its program was eligible for protection at any level of abstraction. *See EDTX Action*, at 1028.

The dissent contends that the district court and majority erroneously import an infringement analysis to determine copyrightability. *See* Diss. Op. at 8–9. We disagree. As demonstrated in this opinion, a key step prior to engaging in an infringement analysis is to determine which elements of the asserted material are copyrightable. *See*

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in a copyright infringement action, when contrary evidence shows that not all material asserted is entitled to copyright protection, the copyright holder bears the burden to establish via evidence that such challenged material is entitled to copyright protection. This principle would apply under the abstraction-filtration-comparison test or under the selection, combination, and arrangement test. But SAS failed to proffer rebuttal copyrightability evidence respective to the selection or arrangement of the program elements. Consequently, the court's copyrightability analysis would yield the same conclusion under either test. The case cited by the dissent does not alter these circumstances. *See, e.g.*, Appellee's Br. 47. The dissent cites, *Feist*, for the "selection, combination, and arrangement" test but the court also explained that "[n]ot every selection, coordination, or arrangement will pass muster." 499 U.S. at 358. In addition, *Feist* did not involve computer code. Instead, the question there was whether a "typical telephone directory" or "white pages" was eligible for copyright protection. *Id*. at 342. The Court held that the directory was not copyright protectable, noting that "facts are not copyrightable" and the selection and arrangement of the white pages did not meet the statutory standard for copyright protection. *Id*. at 345, 362. Indeed, the Court explained that "[t]he mere fact that a work is copyrighted does not mean that every element of the work may be protected." *Id*. at 348. The principle equally applies in this case.

Eng'g Dynamics, 26 F.3d at 1340 ("To establish copyright infringement, a plaintiff must prove ownership of a valid copyright and copying of *constituent elements of the work that are copyrightable*." (emphasis added) (internal citations omitted); *see, e.g.*, 4 NIMMER § 13.03[F][1][b] ("[B]efore evaluating substantial similarity, it is necessary to eliminate from consideration those elements of a program that are not protected by copyright." (footnotes omitted)).

We hold that where the court has received persuasive evidence that the asserted elements are copyright unprotectable, SAS, as the copyright holder, was obligated to identify with specificity the elements of the SAS program that it asserts as copied and to establish that those elements fall within the scope of protection extended to such elements under copyright law. Under these circumstances, the district court correctly determined that SAS did not meet its burden.

Copyrightability Hearing

SAS contends that the district court erred by creating a novel procedure, a "Copyrightability Hearing." Appellant's Br. 4, 43–46. More precisely, SAS contends that the adopted procedure is inconsistent with at least Federal Rules of Civil Procedure ("FRCP") 52 and 56 because the district court was wrong to use the procedure as a basis to deny the cross motions for summary judgment and dismiss its case. *Id.*[7] We disagree.

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[7] Although infringement is a question of fact, it can be determined as a matter of law on summary judgment. Indeed, SAS filed a motion for summary judgment on infringement. In some cases, the court makes this determination when the similarity between the works only pertains to non-copyrightable elements. *Lee*, 379 F.3d at

The Copyrightability Hearing took the form of a pre-trial conference, where the district court provided the parties notice and opportunity to brief, argue, and present evidence on the legal question of copyrightability. *See Celotex Corp. v. Catrett*, 477 U.S. 317, 326 (1986). Such procedures are well-supported by the Federal Rules of Civil Procedure and within the district courts' discretion to manage pre-trial matters under Fifth Circuit case law. *See* Fed. R. Civ. P. 16(c)(2)(L); *see also Acuna v. Brown & Root Inc.*, 200 F.3d 335, 340 (5th Cir. 2000).[8] Fifth Circuit law on this

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142 n.18 (citing *Herzog v. Castle Rock Ent.*, 193 F.3d 1241, 1247 (11th Cir. 1999)).

[8] Consider that district courts in the Fifth Circuit have invoked FRCP 16(c)(2)(L) to support pre-discovery identification in trade secret cases. *StoneEagle Servs., Inc. v. Valentine*, No. 3:12-cv-1687, 2013 WL 9554563, at *3 (N.D. Tex. June 5, 2013) (citing *United Servs. Auto. Ass'n v. Mitek Sys., Inc.*, 289 F.R.D. 244, 248 (W.D. Tex. 2013)); *see also Bell Atlantic Corp. v. Twombly*, 550 U.S. 544, 593 n.13 (2007) (Stevens, J., dissenting). Under the guidelines of the Sedona Conference, parties must identify the asserted secret "at a level of particularity that is reasonable under the circumstances." Principle No. 3 & Guideline 2, *The Sedona Conference Commentary on the Proper Identification of Asserted Trade Secrets in Misappropriation Cases*, 22 SEDONA CONF. J. 236–41 (2021). Relatedly, in patent cases before the District Court of Delaware, "Section 101 Days" and "omnibus" hearings are held, both of which are special procedures designed to increase efficiency in patent litigation for Rule 12 motions by weeding out infirm cases. *Order*, *Arendi S.A.R.L. v. HTC Corp.*, C.A. 12-1600 (D. Del. Dec. 15, 2020). Other courts, like the Northern District of California and Western District of Tennessee, have held special hearings and conferences to assist with understanding the technology at issue and narrowing the

point is consistent with the FRCP, which explicitly authorizes district courts to adopt mechanisms such as the procedure implemented in this case. Fed. R. Civ. P. 16(c)(2)(L).

Appellate courts have long held that district courts have discretion to conduct reasonable pretrial procedures and case management to narrow the issues and "simplify the mechanics." *Pac. Indem. Co. v. Broward Cnty.*, 465 F.2d 99, 103 (5th Cir. 1972); *Rosario-Diaz v. Gonzalez*, 140 F.3d 312, 315 (1st Cir. 1998). This would include where "the issue of protectability can be more efficiently addressed" before determining copying. *Gates Rubber Co.*, 9 F.3d at 833. Since SAS failed to provide evidence on which of the challenged elements of the SAS System were copyrightable, the district court correctly found that a jury would be unable to conduct a proper infringement analysis. *EDTX Action*, at 1027–28; Appellee's Br. 18 (citing Conf. J.A. 13659–60). Accordingly, we discern no abuse of discretion in the procedural mechanism it used to understand and manage the copyrightability issue prior to trial.[9]

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number of patent claim terms for construction. *See generally* N.D. Cal. LPR 4 & LR 16-10; Tenn. LPR 2 & LR 16.1.

[9] Similarly, in patent law, it "has long been understood that a patent must describe the exact scope of an invention and its manufacture to 'secure to [the patentee] all to which he is entitled, [and] to apprise the public of what is still open to them.'" *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 373 (1996) (citations omitted). We have thus recognized dismissal of an action when a party fails to present claim construction or infringement theories. *See Traxcell Techs., LLC v. Sprint Commc'ns Co.*, 15 F.4th 1121, 1130 (Fed. Cir. 2021) (affirming summary judgment because Appellant didn't explain how its "listing of accused elements" met the court's claim construction and its

Expert Testimony

SAS contends that the district court erred in excluding its experts' testimony. Appellant's Br. 9, 35, 59–64.

An expert report that is unreliable or unhelpful to the jury may be excluded under Federal Rule of Evidence 702(a). We review a district court's exclusion of an expert report for abuse of discretion. *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 141–42 (1999). Similarly, we review a district court's dismissal of a case based on a party's failure to obey court orders or discovery rules—including FRCP 26, 37, and 41—for abuse of discretion. *United States v. Reyes*, 307 F.3d 451, 458 (6th Cir. 2002). District courts have the inherent power to control the disposition of litigation. *Landis v. North Am. Co.*, 299 U.S. 248, 254 (1936).

"unexplained listing of accused elements that purportedly [infringe]. . . is insufficient to create a genuine issue of material fact"); *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1337 (Fed. Cir. 2010) (finding that nonmovant must set forth specific facts to survive summary judgment, and conclusory allegations or denials in its pleadings are insufficient); *Novartis Corp. v. Ben Venue Lab'ys, Inc.*, 271 F.3d 1043, 1054 (Fed. Cir. 2001) (affirming summary judgment of noninfringement because "it was Novartis's obligation to set forth the detailed basis of its evidence" and "without such basis in the record, we must regard [the expert's] opinion as no more than theoretical speculation raising, at best, a metaphysical doubt as to the material facts" (citation omitted)). In copyright cases, other circuits have affirmed the district court's grant of summary judgment to the defendant where the copyright holder failed to present a filtration analysis or meet its burden. *See generally R. C. Olmstead, Inc. v. CU Interface, LLC*, 606 F.3d 262, 272, 275–76 (6th Cir. 2010).

Throughout this case, the district court insisted that SAS identify its infringement theory with specificity. *See, e.g.*, J.A. 3316. Instead of identifying and asserting specific protectable elements of the SAS System, SAS relied on abstract definitions of Input Formats and Output Designs. In addition, SAS's expert's analysis also included clearly unprotectable elements. *EDTX Action*, 1028–29.

SAS does not appear to dispute that its expert did not conduct the filtration analysis that the district court adopted. Appellant's Br. 35, 59–60. Indeed, SAS's expert either refused or was unable to assist the court in clarifying the core of protectable expression that SAS believed was entitled to copyright protection. SAS's repeated claims that the asserted elements were creative were insufficient.

It is not enough to simply point to asserted elements and declare them protectable because they are creative or because other choices exist. Such an interpretation turns the Copyright Act on its head because it renders superfluous the requirement to prove that material a defendant is alleged to have copied constitutes protected expression. *Guzman v. Hacienda Records & Recording Studio*, 808 F.3d 1031, 1037 (5th Cir. 2015). It ignores that the Act protects "original works of authorship fixed in any tangible medium of expression." 17 U.S.C. § 102(a).

Courts typically receive guidance from the parties' experts on the application of the abstraction-filtration-comparison test to the relevant computer programs. *Gates Rubber Co.*, 9 F.3d at 834–35. A court may reasonably adopt an analysis to determine what the "core of protectable expression" is to provide the jury with accurate elements to compare in its role of determining whether infringement has occurred. *Oracle*, 750 F.3d at 1358. Here, the district court appropriately exercised its authority and discretion in finding that SAS's expert engaged in "egregious conduct" and his report was unreliable because it failed to filter out unprotectable elements as ordered by the court, thereby rendering the opinion "unhelpful" to the

jury. *EDTX Action*, at 1028. Under these circumstances, as to the issue of copyrightability, the expert opinion amounted to no more than theoretical speculation.

The district court was correct to exercise its authority and require SAS to articulate a legally viable theory on which it expected to base its copyright infringement claims. Conversely, it would be improper for a district court to permit a matter to proceed to trial on the basis of vague and unidentified theories. *See Novartis Corp. v. Ben Venue Laboratories, Inc.*, 271 F.3d 1043, 1054 (Fed. Cir. 2001). Thus, when SAS declined to make any further showing on copyrightability, the district court properly dismissed SAS's claims. We see no basis to conclude that the district court's decision to strike the expert report was manifest or "plain and indisputable" error.

CONCLUSION

The district court correctly determined as a matter of law that SAS failed to establish that the elements it asserted to have been infringed were copyrightable expressions. The district court acted within its authority and discretion in its reliance on the abstraction-filtration-comparison test and Copyrightability Hearing to assist it in its analysis of the scope of copyright protection. The district court did not abuse its discretion in its rejection of SAS's expert. Accordingly, the judgment of the district court is affirmed.

AFFIRMED

COSTS

No costs.

United States Court of Appeals for the Federal Circuit

SAS INSTITUTE, INC.,
Plaintiff-Appellant

v.

WORLD PROGRAMMING LIMITED,
Defendant-Appellee

2021-1542

Appeal from the United States District Court for the Eastern District of Texas in No. 2:18-cv-00295-JRG, Chief Judge J. Rodney Gilstrap.

NEWMAN, *Circuit Judge,* dissenting.

SAS Institute's computer programs, entitled "SAS System" and "SAS Language," are software-implemented programs for data and statistical analysis. SAS has several registered copyrights on these programs. The court today holds that these software programs are not copyrightable. This is a far-reaching change. I respectfully dissent.

SAS sued World Programming Limited ("WPL") for patent and copyright infringement (and other counts). Only copyright issues were decided and are the subject of this appeal; these counts were decided after a "Copyrightability Hearing" in the district court. The court held the SAS

computer programs uncopyrightable, for the reason that they contain "nonliteral elements" that SAS had not shown to be separately copyrightable.[1] The district court identified the nonliteral elements as "unprotectable open source elements; factual and data elements; elements not original to SAS; mathematical and statistical elements; process, system, and method elements; well-known and conventional display elements, such as tables, graphs, plots, fonts, colors, and lines; material for which SAS Institute Inc. is not the author; merged elements; statistical analysis; *scènes à faire* elements; and short phrase elements." Dist. Ct. Op. at 1028 (citations omitted). The court held that SAS did not meet its burden of "establishing which parts of its asserted work are, in fact, properly entitled to protection," and therefore that the SAS System and SAS Language programs "have not been shown to be copyrightable." *Id.* at 1027, 1029.

This holding contravenes law and precedent. The Fifth Circuit, whose law governs this case, wrote concerning copyright protection for computer programs:

> Most courts confronted with the issue have determined that copyright protection extends not only to the literal elements of a program, *i.e.*, its source code and object code, but also to its "nonliteral" elements, such as the program architecture, "structure, sequence and organization," operational modules, and computer-user interface.

Eng'g Dynamics, Inc. v. Structural Software, Inc., 26 F.3d 1335, 1341 (5th Cir. 1994) (referring to *Comput. Assocs. Int'l, Inc. v. Altai, Inc.*, 982 F.2d 693 (2d Cir. 1992) and *Gates Rubber Co. v. Bando Chem. Indus.*, 9 F.3d 823 (10th Cir. 1993)).

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[1] *SAS Inst. Inc. v. World Programming Ltd.*, 496 F. Supp. 3d 1019 (E.D. Tex. 2020) ("Dist. Ct. Op.").

The district court invalidated the SAS copyrights on these computer programs, and the panel majority agrees. I respectfully dissent, for this ruling contravenes the Copyright Act and departs from the long-established precedent and practice of copyrightability of computer programs.

DISCUSSION

This appeal solely concerns the question of copyrightability. Copying is conceded, and the district court observed that "WPL's business was to 'clone' the SAS Software." Dist. Ct. Op. at 1023. However, the court held, and my colleagues agree, that the programs are not subject to copyright.

I

Copyrightability of Computer Programs

The question of copyright protection of computer programs came to legislative attention some fifty years ago, as new technologies were producing new forms of expression, and achieving economic and societal importance. In 1974, Congress established the National Commission on New Technological Uses of Copyrighted Works ("CONTU") to study and inform national policy, for "the universe of works protectible by statutory copyright has expanded along with the imagination, communications media, and technical capabilities of society." CONTU Final Report (July 31, 1978), at 11.

The CONTU considered the public and private interests in computer programs, in light of the constitutional purpose of copyright to foster creative activity and commerce. The CONTU observed that computer programs are "the product of great intellectual effort and their utility is unquestionable," and concluded that protection from copying is "necessary to encourage the creation and broad distribution of computer programs in a competitive market." *Id*.

In 1976 the Copyright Act was amended to enlarge the definition of "literary works" to include new forms and media of expression. The following definition was enacted:

> 17 U.S.C. § 101. Definitions . . .
>
> "Literary works" are works, other than audiovisual works, expressed in words, numbers, or other verbal or numerical symbols or indicia, regardless of the nature of the material objects, such as books, periodicals, manuscripts, phonorecords, film, tapes, disks, or cards, in which they are embodied.

The accompanying House Report explained:

> The term "literary works" does not connote any criterion of literary merit or qualitative value: it includes . . . computer data bases, and computer programs to the extent that they incorporate authorship in the programmer's expression of original ideas, as distinguished from the ideas themselves.

H.R. Rep. No. 94-1476, at 54 (1976), *reprinted in* 1976 U.S.C.C.A.N. 5659, 5667. The House Report stated that the purpose of the amendment was to assure that new forms of works of authorship are subject to the laws of copyright. *Id*. at 51–52.

In 1980 the Copyright Act was again amended, to "eliminate[] confusion about the legal status of computer software" and to assure protection of computer programs in the same way as literary works are protected. Statement of House Judiciary Subcommittee Chairman Kastenmeier, 126 Cong. Rec. H10767 (daily ed. Nov. 17, 1980). The definition of "computer program" was added to the statute:

> 17 U.S.C. § 101. Definitions . . .
>
> A "computer program" is a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result.

Other relevant provisions include:

> 17 U.S.C. § 102(a). Copyright protection subsists . . . in original works of authorship fixed in any tangible medium of expression . . . from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device.

The distinction between copyrightable and patentable subject matter was recited in § 102(b), for this topic had received considerable discussion in view of the functional purposes served by computer programs:

> 17 U.S.C. § 102(b). In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.

The Supreme Court referred to this distinction in *Google LLC v. Oracle America, Inc.*, 141 S. Ct. 1183 (2021), stating that "unlike patents, which protect novel and useful ideas, copyrights protect 'expression' but not the 'ideas' that lie behind it." *Id.* at 1196. The Court observed that "Congress expanded the reach of the Copyright Act to include computer programs," *id.*, and explained that computer programs, like other literary works, are subject to "the ordinary application of copyright's limiting doctrines," *id.* at 1199, in that case the doctrine of fair use.

Other provisions of the Copyright Act were also amended in light of perceived issues related to computer programs, for example: 17 U.S.C. § 109(b)(1)(A) ("transfer of possession of a lawfully made copy of a computer program"); 17 U.S.C. § 110(11) (private home viewing of portions of a motion picture); 17 U.S.C. § 117 ("Limitations on exclusive rights: Computer programs"); 17 U.S.C. § 121(b)(2) (an exception for computer programs); and 17

U.S.C. § 506(a)(3)(A) (criminal infringement of computer programs). *See generally Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1519 (9th Cir. 1993) ("As recommended by [the CONTU], the 1980 amendments to the Copyright Act unambiguously extended copyright protection to computer programs."). The Nimmer treatise summarizes:

> The Computer Software Copyright Act of 1980 adds to the Copyright Act an explicit definition for "computer program." Its legislative history specifies that the amendment "has the effect of clearly applying the 1976 law to computer programs . . . ." That amendment dispels any lingering doubts as to the copyrightability of computer programs. It is therefore now firmly established that computer programs qualify as work of authorship in the form of literary works, subject to full copyright protection.

1 NIMMER ON COPYRIGHT § 2A.10(B) (2022 ed.).
However, the district court held that the SAS computer programs are not copyrightable, because they contain non-literal elements that were generally known and inadequately distinguished. That is not the law. As explained in *Feist Publications, Inc. v. Rural Telephone Service Co.,* 499 U.S. 340, 348 (1991), the "selection and arrangement" of known elements is protectable by copyright.

Precedent has reinforced the copyrightability of computer programs that combine known elements in new arrangements. In *Atari Games Corp. v. Oman*, the D.C. Circuit held that the creative "choice and ordering" of known elements is copyrightable. 979 F.2d 242, 245 (D.C. Cir. 1992). In *Engineering Dynamics*, the Fifth Circuit explained that the "input formats" and "output reports" there at issue are copyrightable. 26 F.3d at 1346. In *Altai* the Second Circuit stated:

> [I]f the non-literal structures of literary works are protected by copyright; and if computer programs

> are literary works, as we are told by the legislature; then the non-literal structures of computer programs are protected by copyright.

982 F.2d at 702 (citation omitted).
In *General Universal Systems, Inc. v. Lee*, 379 F.3d 131 (5th Cir. 2004) the court reiterated that copyright protection applies to all the elements of a computer program, literal and nonliteral:

> It is settled that computer programs are entitled to copyright protection. This protection extends not only to the "literal" elements of computer software—the source code and object code—but also to a program's nonliteral elements, including its structure, sequence, organization, user interface, screen displays, and menu structures.

Id. at 142. The Fifth Circuit again referred to the "selection and arrangement of information" in *Southern Credentialing Support Services, L.L.C. v. Hammond Surgical Hospital, L.L.C.*, 946 F.3d 780 (5th Cir. 2020), stating that "[a]lthough laws and hospital policies dictate the contents of the credentialing forms, Southern Credentialing's unique selection and arrangement of information exhibit creative expression." *Id.* at 784.

The district court, and now my colleagues, did not apply the correct law. The existence of possible infringement defenses based on the extent of copying does not negate copyrightability of the work. As stated in *Feist*, "a work formed by the collection and assembling of preexisting materials or of data *that* are selected, coordinated, or arranged *in such a way* that the resulting work as a whole constitutes an original work" is protectable by copyright. 499 U.S. at 356 (quoting 17 U.S.C. § 101) (emphasis in original). *See also Softel, Inc. v. Dragon Med. & Sci. Commc'ns, Inc.*, 118 F.3d 955, 964 (2d Cir. 1997) ("[T]aken individually, the words that constitute a literary work are not

copyrightable, yet this fact does not prevent a literary text, i.e., a collection of words, from enjoying copyright protection.").

"[C]opyrighted works have a certain synergy in that the sum of their unprotected elements may be a protectible whole." *GNU Bus. Info. Sys., Inc. v. The Soc. Sec'y, Ltd.*, 1993 WL 469919, at *2 (N.D. Ill. Nov. 12, 1993) (citing *Brown Bag Software v. Symantec Corp.*, 960 F.2d 1465, 1476 n.4 (9th Cir. 1992)). In *Feist*, the Court held that when the selection and arrangement of individually unprotectable elements "entail a minimal degree of creativity," the work is copyrightable although the separate elements are not, and that "even a directory that contains absolutely no protectible written expression, only facts, meets the constitutional minimum for copyright protection if it features an original selection or arrangement." 499 U.S. at 348.

It is beyond debate that the inclusion of nonliteral elements does not negate copyrightability of the work. Here, the district court acknowledged that "copyrightable works may contain both protectible and unprotectible elements." Dist. Ct. Op. at 1021 (referencing *Feist*, 499 U.S. at 344). However, the district court applied a 3-phase "abstraction-filtration-comparison" test that had been developed for determinations of infringement and held that the SAS computer programs are not protectable by copyright because they contain nonliteral elements that should be "filtered."

Copyrightability is a different question from infringement and is determined on different legal principles. The presence of nonliteral elements in a computer program may be relevant to determining infringement, and indeed the district court recognized filtration as "assessing infringement of non-literal elements," Dist. Ct. Op. at 1022, citing the Fifth Circuit's observation that the purpose of filtering out unprotectable elements of the program is "to determine whether the defendants have misappropriated substantial elements of the plaintiff's program," *Eng'g*

Dynamics, 26 F.3d at 1343 (quoting *Gates Rubber*, 9 F.3d at 834).

Nonetheless, the district court and the panel majority apply the filtration analysis to determine copyrightability. This is error, for as the Second Circuit stated, the filtration analysis serves "to determine whether the non-literal elements of two or more computer programs are substantially similar." *Altai,* 982 F.2d at 706; s*ee also Gates Rubber*, 9 F.3d at 830 (infringement requires "a determination of whether there was copying and a determination of whether the copying constitutes actionable infringement through application of the abstraction-filtration-comparison test").

Only copyrightability was at issue in the Copyrightability Hearing. At the hearing, WPL stated that the presence of nonliteral elements negated copyrightability of the entire program unless each nonliteral element is separately copyrightable. The district court asked the SAS expert to "identify the constituent elements of the work that are protectable." Maj. Op. at 17. The SAS expert declined to distinguish the program elements on this ground, stating that copyrighted programs can include both literal and nonliteral elements and do not require showing separate distinctiveness of the nonliteral elements in order to achieve copyrightability of the entire program.

The district court disagreed with this position and held that SAS's "failure to filter out unprotectable elements resulted in an improper comparison of unprotectable elements to the accused products," and that "SAS has not shown the existence and extent of any remaining protectable work." Dist. Ct. Op. at 1028. The district court called the nonliteral elements "species of unprotectability," and held that the presence of such elements negated copyrightability of the program as a whole, requiring the copyright holder to sort out which separate elements are protectable. *Id.* Precedent is contrary. See *Apple Barrel Prods., Inc. v. Beard*, 730 F.2d 384, 388 (5th Cir. 1984) ("The mere fact

that component parts of a collective work are neither original to the plaintiff nor copyrightable by the plaintiff does not preclude a determination that the combination of such component parts as a separate entity is both original and copyrightable.").

SAS states that its programs include the selection and assembly of literal and nonliteral elements, and that there are "a large number of choices among" possible Input Formats and "an infinite number of" possible Output Designs. SAS Br. 48. SAS compares this to the "multitude of different ways to generate a data stream" in *Atari Games Corp. v. Nintendo of America Inc.*, 975 F.2d 832, 840 (Fed. Cir. 1992). SAS Br. 49 (also citing *Compaq Comput. Corp. v. Procom Tech. Inc.*, 908 F. Supp. 1409, 1418 (S.D. Tex. 1995) (discussing "the requisite degree of creativity and judgment necessary to protect [a] compilation")). In *Engineering Dynamics*, the Fifth Circuit concluded that "[t]he creativity inherent in EDI's program is proved by the existence [of] other, dissimilar structural engineering programs available in the market." 26 F.3d at 1346.

The Federal Circuit applied this rule in *Oracle America, Inc. v. Google, Inc.*:

> Because Oracle "exercised creativity in the selection and arrangement" of the method declarations when it created the API packages and wrote the relevant declaring code, they contain protectable expression that is entitled to copyright protection.

750 F.3d 1339, 1363 (Fed. Cir. 2014) (citing *Atari*, 975 F.2d at 840).

Only copyrightability is before us on this appeal. Based on statute and clear precedent the SAS programs are copyrightable as a matter of law. The district court appears to have inappropriately relied on issues of the burden of proof, as I next discuss.

II

The Burden of Proof

The Copyright Act provides that timely registration is *prima facie* evidence of a valid copyright:

> 17 U.S.C. § 410(c). In any judicial proceedings the certificate of a registration made before or within five years after first publication of the work shall constitute prima facie evidence of the validity of the copyright and of the facts stated in the certificate.

The accompanying House Report explains that the statute's *prima facie* validity "orders the burdens of proof." H.R. Rep. No. 94-1476, at 157. *See Compulife Software Inc. v. Newman*, 959 F.3d 1288, 1305 (11th Cir. 2020) ("[P]lacing the burden to prove protectability on the infringement plaintiff would unfairly require him to prove a negative."). The court in *Compulife* observed that the "mere failure of the plaintiff to present evidence of protectability—assuming that a valid copyright and factual copying have already been established—isn't a sufficient reason to give judgment to the defendant." *Id.* at 1306. The district court took the contrary position, and held that SAS's failure to present evidence of protectability required judgment in favor of WPL, Dist. Ct. Op. at 1028–29, even as the district court acknowledged that "SAS showed that it holds a registered copyright, amply argued that its asserted works are creative, and presented repeated evidence of factual copying. Accordingly, SAS shifted the burden to WPL." *Id.* at 1027.

Precedent illustrates the statutory placement on the accused infringer of the burden of negating copyrightability. *See, e.g.*, *Brocade Commc'ns Sys. Inc. v. A10 Networks Inc.*, 2011 WL 7563043, at *2 (N.D. Cal. Aug. 16, 2011) (The § 410 presumption "shifts the burden to [defendant] to rebut that the allegedly copied elements are not protectable expression."); *see Norma Ribbon & Trimming, Inc. v. Little*, 51 F.3d 45, 47 (5th Cir. 1995) (copyright registration creates a rebuttable presumption of copyright validity).

For the SAS programs, the district court found that SAS "amply argued that its asserted works are creative," Dist. Ct. Op. at 1027, and the court acknowledged that the copyright statute provides a rebuttable presumption of copyrightability. However, the court found the presumption was rebutted by WPL identifying the nonliteral elements as including all the program elements except the codes, and the court shifted to SAS the burden to come forward with evidence that the nonliteral elements are independently copyrightable. The district court rejected the SAS expert's advice that such analysis does not comport with statute and copyright principles, and excluded the SAS expert's testimony.

SAS states that this exclusion prejudiced its ability to respond to WPL's arguments. For example, WPL stated that the SAS Language program is in the public domain, and the district court held that SAS did not meet its burden of establishing otherwise. SAS states in its appellate brief, without contradiction from WPL, that "WPL did not copy the 1976 version of the SAS System. . . . [I]t copied all of the enhancements and new material that SAS spent 45 years developing up to the present day." SAS Br. 51. SAS cites 17 U.S.C. § 103(b) for the principle that "copyright in a derivative work extends 'to the material contributed by the author of such work, as distinguished from the preexisting material employed in the work,' and is 'independent of . . . any copyright protection in the preexisting material.'" SAS Br. 51. SAS also points out that WPL's expert on cross-examination supported the SAS position, for the WPL expert conceded that the "actual Input Formats, including the complex hierarchies discussed above, had 'all changed, at least the ones [he] examined.'" *Id.* at 52 (quoting Appx602:5–10).

Similarly for nonliteral elements that are "*scènes à faire*:" this distinction "den[ies] protection to those expressions that are standard, stock, or common to a particular topic or that necessarily follow from a common theme or

setting," *Gates Rubber*, 9 F.3d at 838, or elements that are "dictated by external factors" such as "hardware standards and mechanical specifications, . . . software standards and compatibility requirements, . . . computer manufacturer design standards, target industry practices and demands, . . . and computer industry programming practices." *Id.*

The WPL expert conceded that he did not attempt to "provide a list of all *scènes à faire* elements that are in the SAS System." SAS Br. 57 (quoting Appx3514:18–20). SAS argues that WPL's expert was unable "to show that the entirety of any Input Format or Output Design was nothing but a stock element," *id.*, and that the WPL expert testimony again supported the SAS position. However, the district court cited the WPL expert's testimony as establishing uncopyrightability because it was unrebutted by SAS—although the SAS expert's testimony was excluded by the court. The panel majority accepts this strained conclusion, without analysis.

Similarly for WPL's reliance on "merger" to establish unprotectable program elements: "Under the merger doctrine, copyright protection is denied to expression that is inseparable from or merged with the ideas, processes, or discoveries underlying the expression." *Gates Rubber*, 9 F.3d at 838. However, as stated in *Atari*, if "alternate expressions are available" merger does not apply. 975 F.2d at 840. WPL does not contradict the SAS position that "countless options were available." SAS Br. 58 (citing competing commercial programs). Nonetheless the district court, and now my colleagues, accept that "merger" negates copyrightability of the entirety of the SAS System and SAS Language programs.

Similar flaws accompany the references to the "short phrases doctrine" as negating copyrightability. "Copyright does not protect individual words and 'fragmentary' phrases when removed from their form of presentation and

compilation." *Hutchins v. Zoll Med. Corp.*, 492 F.3d 1377, 1385 (Fed. Cir. 2007). "Although the compilation of public information may be subject to copyright in the form in which it is presented, the copyright does not bar use by others of the information in the compilation." *Id.* (citation omitted). The right of others to use nonliteral elements in other contexts and other combinations does not negate copyrightability of the programs of which they are elements.

Similarly, for the mathematical formulas and statistical methods included in the SAS programs, copyrightability of the programs is not concerned with whether the mathematical formulas and analytic methods are original, but with their inclusion in the combination and arrangement as components of the programs.

SAS states that its responses on these aspects were not considered because the district court excluded the SAS expert's testimony, as "the district court acknowledged that excluding SAS's 'only technical expert' devastated SAS's case." SAS Br. 64 (citing Dist. Ct. Op. at 1029 n.11 ("[H]is exclusion has the practical effect of leaving SAS without any supportable copyright claims.")). SAS states that the district court "made no effort to apply [the limiting] doctrines to the law or facts of this case, nor to decide whether WPL's assertions about them were correct." SAS Br. 51.

WPL defends the district court's analysis, and also states that it is an "open question whether copyright in a computer program reaches outputs." WPL Br. 52. That statement does not match precedent. *See Eng'g Dynamics*, 26 F.3d at 1342 ("There is no intuitive reason why the analysis should be any different for output formats."); *Johnson Controls, Inc. v. Phoenix Control Sys., Inc.*, 886 F.2d 1173, 1175 & n.3 (9th Cir. 1989) ("A computer program is made up of several different components, including . . . the user interface," which "is generally the design of the video screen and the manner in which information is presented to the user.").

The panel majority does not discuss the selection, combination, and arrangement of the program elements, although this is a foundation of software copyrightability, as illustrated in precedent, policy, and public understanding.[2] Nor does the panel majority resolve the issues raised with respect to the burden of proof. The legal and policy premises of copyrightability of computer programs have heretofore been settled; there is no cause for judicial initiative to disrupt this important area of commercial and societal interest. I respectfully dissent.

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[2] Numerous *amici curiae* contributed briefs, whose positions reflect the difference between proponents of creators' rights and of copiers' rights. *Amici* in support of SAS are: (1) American Photographic Artists, American Society of Media Photographers, Authors Guild, Inc., Digital Media Licensing Association, Dramatists Guild of America, Romance Writers of America, Songwriters Guild of America, Textbook & Academic Authors Association; (2) The Copyright Alliance; (3) Scholars of Copyright Law (Arts & Entertainment Advocacy Clinic, Antonin Scalia Law School, George Mason University); (4) The Mathworks, Inc. and Oracle Corporation; (5) Ralph Oman, former Register of Copyrights; and (6) Computer Scientists (Williams, Layman, Sheriff). *Amici* in support of WPL are: (1) Electronic Frontier Foundation; (2) The Computer & Communications Industry Association; (3) 54 Computer Scientists (Intellectual Property & Technology Law Clinic, Gould School of Law); (4) Samuelson Law, Technology & Public Policy Clinic, Berkeley School of Law; and (5) Github, Inc. As the *amici* reflect, the case herein raises basic policy issues.