# United States Court of Appeals for the Federal Circuit

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**INTERNATIONAL BUSINESS MACHINES CORPORATION,**
*Plaintiff-Appellant*

**v.**

**ZILLOW GROUP, INC., ZILLOW, INC.,**
*Defendants-Appellees*

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2021-2350

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Appeal from the United States District Court for the Western District of Washington in No. 2:20-cv-00851-TSZ, Senior Judge Thomas S. Zilly.

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Decided: October 17, 2022

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GOUTAM PATNAIK, Desmarais LLP, Washington, DC, argued for plaintiff-appellant. Also represented by JOHN M. DESMARAIS, WILLIAM FINDLAY, KARIM ZEDDAM OUSSAYEF, New York, NY.

KATHERINE MARIE PEASLEE, Susman Godfrey LLP, Seattle, WA, argued for defendants-appellees. Also represented by IAN B. CROSBY, DANIEL J. SHIH; SHAWN DANIEL BLACKBURN, Houston, TX.

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Before REYNA, HUGHES, and STOLL, *Circuit Judges*.

Opinion for the court filed by Circuit Judge HUGHES.

Opinion dissenting-in-part filed by Circuit Judge STOLL.

HUGHES, *Circuit Judge*.

International Business Machines Corporation sued Zillow Group, Inc. and Zillow, Inc. for infringement of several patents related to graphical display technology. The district court granted Zillow's motion for judgment on the pleadings, concluding that two of the asserted patents claimed ineligible subject matter under 35 U.S.C. § 101. Because we agree that the patents are directed to abstract ideas and lack an inventive concept, we affirm.

I

IBM owns U.S. Patent No. 9,158,789, which describes a method for "coordinated geospatial, list-based and filter-based selection." '789 patent, at title. A user draws a shape on a map to select that area of the map, and the claimed system then filters and displays data limited to that area of the map. It synchronizes which elements are shown as "selected" on the map and its associated list. Claim 8 is representative:

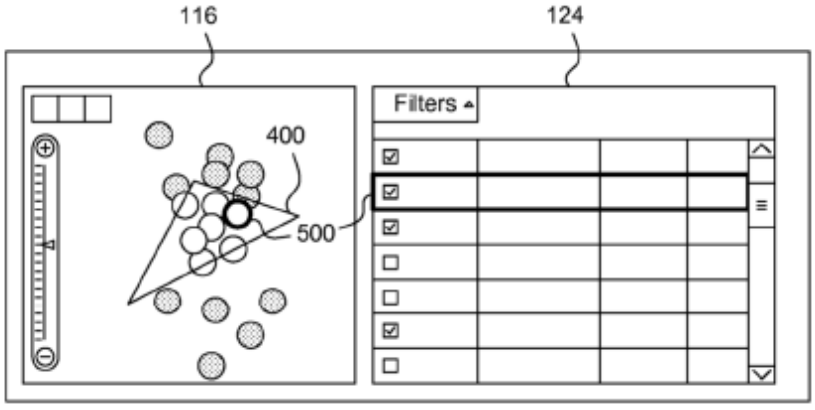
> 8. A method for coordinated geospatial and list-based mapping, the operations comprising:
>
> presenting a map display on a display device, wherein the map display comprises elements within a viewing area of the map display, wherein the elements comprise geospatial characteristics, wherein the elements comprise selected and unselected elements;
>
> presenting a list display on the display device, wherein the list display comprises a customizable list comprising the elements from the map display;

receiving a user input drawing a selection area in the viewing area of the map display, wherein the selection area is a user determined shape, wherein the selection area is smaller than the viewing area of the map display, wherein the viewing area comprises elements that are visible within the map display and are outside the selection area;

selecting any unselected elements within the selection area in response to the user input drawing the selection area and deselecting any selected elements outside the selection area in response to the user input drawing the selection area; and

synchronizing the map display and the list display to concurrently update the selection and deselection of the elements according to the user input, the selection and deselection occurring on both the map display and the list display.

'789 patent at 9:49–10:8. Figure 5 of the patent depicts an embodiment of claim 8:




'789 patent, Fig. 5.

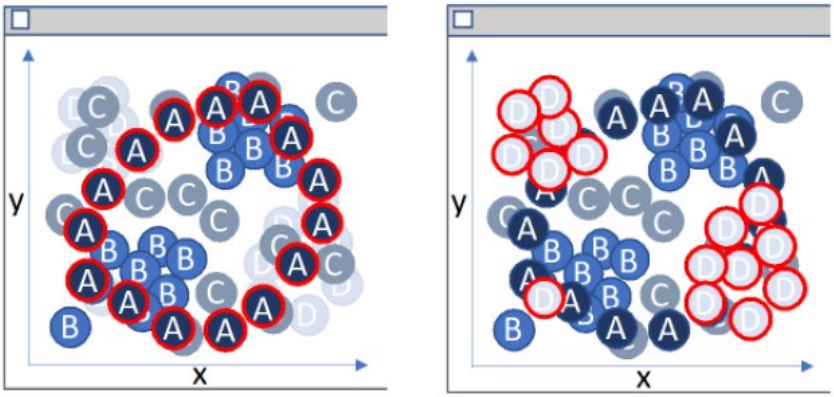
IBM also owns U.S. Patent No. 7,187,389, which describes methods of displaying layered data on a spatially oriented display (like a map), based on nonspatial display

attributes (like visual characteristics—color hues, line patterns, shapes, etc.). '389 patent at 6:5–10. Essentially, the '389 patent claims a method of displaying objects in visually distinct layers. Objects in layers of interest can be brought to and emphasized at the top of the display while other layers are deemphasized. Claim 1 is representative:

> 1. A method of displaying layered data, said method comprising:
>
> selecting one or more objects to be displayed in a plurality of layers;
>
> identifying a plurality of non-spatially distinguishable display attributes, wherein one or more of the non-spatially distinguishable display attributes corresponds to each of the layers;
>
> matching each of the objects to one of the layers;
>
> applying the non-spatially distinguishable display attributes corresponding to the layer for each of the matched objects;
>
> determining a layer order for the plurality of layers, wherein the layer order determines a display emphasis corresponding to the objects from the plurality of objects in the corresponding layers; and
>
> displaying the objects with the applied non-spatially distinguishable display attributes based upon the determination, wherein the objects in a first layer from the plurality of layers are visually distinguished from the objects in the other plurality of layers based upon the non-spatially distinguishable display attributes of the first layer.

'389 patent at 9:12–34. Dependent claim 2 adds method steps for rearranging layers and rematching objects in layers based on a user request. *Id.* at 9:35–44.

IBM's expert illustrated how the display attributes of color and opacity can be used to emphasize different layers in a data set. Darkly colored "A" objects are emphasized on the left and lightly colored "D" objects are emphasized on the right:




J.A. 20–21.

IBM filed this patent infringement suit against Zillow in 2019, alleging that Zillow infringed seven of IBM's patents. Zillow filed a motion for judgment on the pleadings, arguing that the claims of four of IBM's asserted patents were patent ineligible under § 101. The district court granted Zillow's motion as to both the '389 and '789 patents, concluding that both were "directed to abstract ideas, contain[] no inventive concept, and fail[] to recite patentable subject matter." *Int'l Bus. Machs. Corp. v. Zillow Grp., Inc.*, 549 F. Supp. 3d 1247, 1264, 1268 (W.D. Wash. 2021) (*Decision*). IBM appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

## II

We review the grant of a Rule 12 motion under the law of the regional circuit. *Cellspin Soft, Inc. v. Fitbit, Inc.*, 927 F.3d 1306, 1314 (Fed. Cir. 2019). The Ninth Circuit reviews motions granted under Rule 12(c) de novo. *Id.* (citing *Chavez v. United States*, 683 F.3d 1102, 1108 (9th Cir. 2012)). Under this standard, "we determine whether the facts alleged in the complaint, taken as true, entitle the

plaintiff to a legal remedy." *Cellspin*, 927 F.3d at 1314 (internal quotation omitted). A district court's determination of patent eligibility under § 101 is a question of law that we review de novo, applying Federal Circuit law, though the inquiry may contain underlying issues of fact. *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1365 (Fed. Cir. 2018). When considering eligibility under a Rule 12 motion, we take the facts alleged in the complaint as true. *Cellspin*, 927 F.3d at 1314.

Section 101 provides that a patent may be obtained for "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." 35 U.S.C. § 101. This provision contains an implicit exception: "Laws of nature, natural phenomena, and abstract ideas are not patentable." *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013) (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012)). The Supreme Court has established a two-step framework for evaluating patent eligibility under § 101. *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 217 (2014); *Mayo*, 566 U.S. at 70–73. At step one, we determine whether a patent claim is directed to an unpatentable law of nature, natural phenomena, or abstract idea. *Alice*, 573 U.S. at 217. If so, we proceed to step two and determine whether the claim nonetheless includes an "inventive concept" sufficient to "'transform the nature of the claim' into a patent-eligible application." *Id.* (quoting *Mayo*, 566 U.S. at 72, 78).

## III

### A

We first address the '789 patent, beginning with *Alice* step one. "In cases involving software innovations, [the step-one] inquiry often turns on whether the claims focus on specific asserted improvements in computer capabilities or instead on a process or system that qualifies [as] an abstract idea for which computers are invoked merely as a

tool." *TecSec, Inc. v. Adobe Inc.*, 978 F.3d 1278, 1293 (Fed. Cir. 2020) (citation omitted). Furthermore, "improving a user's experience while using a computer application is not, without more, sufficient to render the claims" patent-eligible at step one. *Customedia Techs., LLC v. Dish Network Corp.*, 951 F.3d 1359, 1365 (Fed. Cir. 2020).

The district court concluded that "the '789 Patent is directed to the abstract idea of responding to a user's selection of a portion of a displayed map by simultaneously updating the map and a co-displayed list of items on the map." *Decision*, 549 F. Supp. 3d at 1266–67. It reasoned that claim 8's method "could be performed by hand, using a printed map and related list of items on the map, a transparent overlay, a wet-erase marker, a blank sheet of opaque paper, and a knife or scissors." *Id.* at 1267. The district court explained that one could put the transparent overlay on the map, draw on it with the marker, and then block off the "unselected area" of the map and corresponding list items with the opaque paper. *Id.* To choose a different "selection area," the user would erase the previous marking, remove the paper, and start over. The district court noted that "alterations to hardcopy materials were made or auditioned in this manner" long before the invention of the computer, and thus concluded that "[t]he '789 patent merely contemplates automation using a computer." *Id.*

We agree that the claims here fail to "recite any assertedly inventive technology for improving computers as tools," *Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335, 1344 (Fed. Cir. 2018), and are instead directed to "an abstract idea for which computers are invoked merely as a tool," *TecSec*, 978 F.3d at 1293. The claims are directed to limiting and coordinating the display of information based on a user selection. IBM argues that the '789 patent is directed to patent-eligible "specific asserted improvement[s] in computer capabilities," specifically, "an improved [graphical user interface] for displaying, filtering, and

interacting with geospatial data on a map and list display." Appellant's Br. at 39–40 (first alteration in original) (quoting *CardioNet, LLC v. InfoBionic, Inc*, 955 F.3d 1358, 1367 (Fed. Cir. 2020)). In particular, IBM asserts that the patent improves "the ability of users to identify and analyze relevant data in otherwise large data sets." *Id.* at 40.[1]

Identifying, analyzing, and presenting certain data to a user is not an improvement specific to computing. "Merely requiring the selection and manipulation of information—to provide a 'humanly comprehensible' amount of information useful for users . . . —by itself does not transform the otherwise-abstract processes of information collection and analysis." *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1355 (Fed. Cir. 2016). We have repeatedly held claims "directed to collection of information, comprehending the meaning of that collected information, and indication of the results, all on a generic computer network operating in its normal, expected manner" to be abstract. *In re Killian*, 45 F.4th 1373, 1380 (Fed. Cir. 2022); *see also Intell. Ventures I LLC v. Cap. One Fin. Corp.*, 850 F.3d 1332, 1340 (Fed. Cir. 2017) (describing cases). The claims here recite similarly abstract steps: presenting a map, having a user select a portion of that map, and then synchronizing the map and its corresponding list to display a more limited data set to the user. Using a computer to

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[1] IBM also argues that the district court erred in interpreting IBM's proposed construction for the claim term "synchronizing." Appellant's Br. 34–35. IBM suggests that "synchronizing" should have been construed such that any concurrent updating of the map and the list must be done automatically, "without human involvement"—i.e., requiring the use of a computer. Because we conclude that the patent is ineligible under § 101 even if it does require the use of a computer, we do not reach that argument on appeal.

"concurrently update" the map and the list may speed up the process, but "mere automation of manual processes using generic computers does not constitute a patentable improvement in computer technology." *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1055 (Fed. Cir. 2017).

Furthermore, "a claim that merely describes an 'effect or result dissociated from any method by which [it] is accomplished'" is usually "not directed to patent-eligible subject matter." *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1244 (Fed. Cir. 2016) (alteration in original) (quoting *Internet Pats. Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1348 (Fed. Cir. 2015)). We agree with the district court that the '789 patent "is result-oriented, describing required functions (presenting, receiving, selecting, synchronizing), without explaining how to accomplish any of the tasks." *Decision*, 549 F. Supp. 3d at 1267. It is written in "result-based functional language" that "does not sufficiently describe how to achieve these results in a non-abstract way." *Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC*, 874 F.3d 1329, 1337 (Fed. Cir. 2017). The claims and specification do not disclose a technical improvement or otherwise suggest that one was achieved. We conclude that the '789 patent is directed to an ineligible abstract idea.

B

Because the '789 patent is directed to an abstract idea, we now turn to *Alice* step two. "In applying step two of the *Alice* analysis, we 'determine whether the claims do significantly more than simply describe [the] abstract method' and thus transform the abstract idea into patentable subject matter." *Intell. Ventures I*, 850 F.3d at 1341 (alteration in original) (quoting *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014)). We evaluate whether the claims disclose "additional features . . . that constitute an inventive concept" and that are "more than well-

understood, routine, conventional activity." *Id.* (internal quotations omitted).

The district court concluded that the '789 patent's inventive concepts were "just restatements of the abstract goals of the invention; they do not teach how the input is received or the map and list displays are synchronized" and that the patent "requires nothing more than generic computer technology." *Decision*, 549 F. Supp. 3d at 1268. On appeal, IBM argues that the district court erred because, under our decision in *Aatrix*, "if there are allegations that the features of a patent are inventive, the District Court *must* accept that on a Rule 12 motion and cannot weigh the evidence or make credibility determinations." Appellant's Br. 48–49 (citing *Aatrix Software Inc., v. Green Shades Software, Inc.*, 882 F.3d 1121, 1125 (Fed. Cir. 2018)). It also argues that the synchronized displays and the "user determined shape" limitations, among others, provide inventive concepts sufficient to pass muster under step two. Appellant's Br. 48.

But the district court need not accept a patent owner's conclusory allegations of inventiveness. We have said that "we do not read *Aatrix* to say that any allegation about inventiveness, wholly divorced from the claims or the specification, defeats a motion to dismiss." *Cellspin*, 927 F.3d at 1317; *see also Simio, LLC v. FlexSim Software Prods., Inc.*, 983 F.3d 1353, 1365 (Fed Cir. 2020) ("We disregard conclusory statements when evaluating a complaint under Rule 12(b)(6)."). Only "plausible and specific factual allegations that aspects of the claims are inventive are sufficient." *Cellspin*, 927 F.3d at 1317. For example, in *Cellspin*, the patentee "identif[ied] several ways in which its application of capturing, transferring, and publishing data was unconventional." *Id.* at 1316. It explained how its invention was implemented using an unconventional hardware and software structure with novel data transmittance that improved upon the prior art. *Id.* at 1316–17. This inventive "two-step, two-device structure [was] discussed throughout

the shared specification." *Id.* at 1316. Those allegations of inventiveness were enough to overcome a motion to dismiss.

IBM has not made plausible and specific allegations that any aspect of the claims is inventive. The cited "synchronizing" and "user determined shape" limitations use functional language, at a high level of generality and divorced from any computer technology, to recite the claimed functions. The limitations simply describe the abstract method without providing more. Even if they did require the use of a computer, claims to "an abstract idea implemented on generic computer components, without providing a specific technical solution beyond simply using generic computer concepts in a conventional way" do not suffice at step two. *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1352 (Fed. Cir. 2016). We have previously rejected a similar "synchronization" limitation as insignificant post-solution activity when the claims did not provide any instructions on *how* to perform the synchronization outside "the addition of conventional computer components." *Apple*, 842 F.3d at 1241–42. The same holds true here. And IBM's "user determined shape" limitation adds nothing more because, as IBM acknowledged, relying on a "user determined shape" to make selections was already known in the prior art. *See* J.A. 2240 ("Main Idea for Disclosure" from USPTO file history of the '789 patent acknowledging "[q]uite a bit of art around selecting a polygon on a map").

"[T]aken individually or in combination, the recited limitations neither improve the functions of the computer itself, nor provide specific programming, tailored software, or meaningful guidance for implementing the abstract concept." *Intell. Ventures I*, 850 F.3d at 1342 (citing *Alice*, 573 U.S. at 224). None of the claims recite an inventive concept sufficient to transform the claimed abstract idea into a patent-eligible application of the abstract idea. We affirm the

district court's decision holding that the '789 patent claimed ineligible subject matter under § 101.

## IV

### A

We next turn to the '389 patent, beginning with *Alice* step one.

The district court concluded that the '389 patent "is directed to the abstract ideas of categorizing and displaying information, as well as altering the manner of display upon user demand." *Decision*, 549 F. Supp. 3d at 1263. It explained that humans have long used nonspatial characteristics like shapes, colors, line patterns, and other visual markers to distinguish between visually represented items. For example, solid or dashed lines of assorted colors have been used on maps to show boundaries and roads. These were generated by hand before computers, "and the methods disclosed in Claims 1 and 2 could be similarly performed using colored pencils and translucent paper; each sheet of paper would display a 'layer' within the meaning of the '389 Patent, and the sheets could be arranged, rearranged, and perhaps redrawn as desired to highlight particular objects or groups of objects." *Id.*

IBM argues that the district court erred by oversimplifying the patent and "drawing inaccurate analogies to manual methods." Appellant's Br. 55. It contends that the patent "disclose[s] improvements to the field of [graphical user interfaces] for managing networked objects using layered and nonspatial characteristics." *Id.*

We agree with the district court that the '389 patent is directed to the abstract idea of organizing and displaying visual information. We have held that "the collection, organization, and display of two sets of information on a generic display device is abstract absent a 'specific improvement to the way computers [or other technologies] operate.'" *Interval Licensing*, 896 F.3d at 1345 (alteration

in original) (quoting *Enfish LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016)). The representative claims here merely organize and arrange sets of visual information into layers and then present said layers on a generic display device. While the claimed methods may speed up that organizational process by using a computer, they do not recite an improvement in any computing technology. Like the graphical user interface we found abstract in *Trading Technologies International, Inc. v. IBG LLC*, the '389 patent's claims "do not improve the functioning of the computer, make it operate more efficiently, or solve any technological problem. Instead, they recite a purportedly new arrangement of generic information that assists [users] in processing information more quickly." 921 F.3d 1084, 1093 (Fed. Cir. 2019).

Furthermore, like the '789 patent, the '389 patent "describe[s] various operations (selecting, identifying, matching, re-matching, applying, determining, displaying, receiving, and rearranging), without explaining how to accomplish any of the tasks." *Decision*, 549 F. Supp. 3d. at 1263. It "does not sufficiently describe how to achieve these results in a non-abstract way." *Two-Way Media*, 874 F.3d at 1337. Such functional claim language, without more, is insufficient for patentability under our law. *See Intell. Ventures I*, 850 F.3d. at 1342 ("[T]he claim language here provides only a result-oriented solution, with insufficient detail for how a computer accomplishes it. Our law demands more.").

IBM argues that its claimed invention is like one we held patentable in *Core Wireless Licensing S.A.R.L. v. LG Electronics, Inc.*, 880 F.3d 1356 (Fed. Cir. 2018), because it is "directed to particular or specific implementations of presenting information in electronic devices." Appellant's Br. 58 (citing *Core Wireless*, 880 F.3d at 1362–63). *Core Wireless* involved a patent directed to "improved display interfaces" of electronic devices that "allow a user to more quickly access desired data stored in, and functions of

applications included in, the electronic devices," particularly those with small screens like mobile telephones. *Core Wireless*, 880 F.3d at 1359. We held that the asserted claims were directed to "an improved user interface for computing devices" that was patentable because it addressed problems specific to navigating applications on small screens, as repeatedly emphasized by the patent's specification. *Id.* at 1362–63. We concluded that the specification's "language clearly indicates that the claims are directed to an improvement in the functioning of computers, particularly those with small screens." *Id.* at 1363.

Here, representative claim 1 of the '389 patent is much broader than the asserted claims in *Core Wireless*. It is not limited to computer screens or any device at all. The method it recites (selecting, organizing, and displaying visual information based on non-spatial attributes) has long been done by cartographers creating paper maps. *See* J.A. 2230 (a 1943 U.S. government cartography guide noting that "[v]ariations of color and the use of layer coloring and shading are now playing an important part for representing different features on the map"). The specification does not discuss improvements to specific types of device screens, only generic displays and computer systems. Claims 8 and 12, which disclose an "information handling system" and a "computer program product," '389 patent at 10:4–36, 11:1–24, simply take the abstract method recited in claim 1 and add generic and conventional computer components for performing it—"the 'apply it on a computer' directive that *Alice* teaches is insufficient to convert abstract ideas into patentable subject matter," *Decision*, 549 F. Supp. 3d at 1263.

The problem the '389 patent purportedly solves—i.e., that the display of "any system that has large numbers of objects in many categories with relationships is difficult to understand," '389 patent at 2:22–24—is not specific to a computing environment. One could encounter this same occlusion problem when looking at a particularly cluttered

paper map. And the patent's solution—to visually present information in a way that "aid[s] the user in distinguishing between the various displayed layers," *id.* at 2:25–28—could be accomplished using colored pencils and translucent paper, as the district court noted, *Decision*, 549 F. Supp. 3d. at 1263. While moving objects between layers or rearranging layers may take longer using the manual method, a patent that "automate[s] 'pen and paper methodologies' to conserve human resources and minimize errors" is a "quintessential 'do it on a computer' patent" directed to an abstract idea. *Univ. of Fla. Rsch. Found., Inc. v. Gen. Elec. Co.*, 916 F.3d 1363, 1367 (Fed. Cir. 2019). So, unlike the claims in *Core Wireless*, the '389 patent does not improve any computer function or recite claim limitations specific to a computing environment; it addresses the space limitations of any finite two-dimensional display. The patent's solution of organizing and displaying information in layers is an abstract idea. We thus conclude that the '389 patent is directed to an ineligible abstract idea and proceed to *Alice* step two.

B

At *Alice* step two, the '389 patent fares no better. The district court concluded that the patent contained no inventive concept because it was not directed to a computer-specific problem and merely used well-understood, routine, or conventional technology (a general-purpose computer) to more quickly solve the problem of layering and displaying visual data. *Decision*, 549 F. Supp. 3d. at 1263–64. We agree.

IBM argues that the patent's inventiveness comes from "the improvements of *the way* a computer displays information (not necessarily the *type* of information) to a user," specifically in using "nonspatial display attributes" (i.e., color, lines, etc.), "emphasized layers," "relayering," and "rematching" elements. Appellant's Br. 60. It argues that "distinguishing data in a nonspatial manner was not

'purely conventional,'" *id.* at 61, nor was emphasizing and relayering data to bring forth the most salient information, *id.* at 63.

As discussed above, the patent's purely functional steps—of organizing information based on color, lines, or other patterns, and then layering and relayering said information—could be done using paper and ink and have long been done by cartographers. And claims 8 and 12 add generic computer components and "merely restate their individual functions"—i.e., selecting, identifying, matching, re-matching, applying, determining, displaying, receiving, and rearranging—without describing how any of those functions are performed. *Intell. Ventures I*, 850 F.3d at 1341. "[M]erely describe[ing] the functions of the abstract idea itself, without particularity[,] . . . is simply not enough under step two." *Id.*

IBM asserts that, in the computer context, "dynamically altering visual characteristics to improve salience and reduce the effect of a cluttered screen" is inventive. Appellant's Br. 63. First, it argues that "relayering allows 'users to dynamically manipulate the visualization to better their ability to scrutinize and review the data' and emphasizes objects of interest in a small, cluttered display." *Id.* at 64 (quoting IBM's expert's declaration). Second, it argues that rematching objects to specific layers "increases the efficiency of visually analyzing data because objects can be iteratively added to a 'hot list' for 'special scrutiny' without starting the method over." *Id.* at 65. But that dynamic relayering or rematching could also be performed by hand, though more slowly—one would have to shuffle paper layers or erase and redraw objects on new layers, but it could be done. Any of the patent's improved efficiency comes not from an improvement in the computer but from applying the claimed abstract idea to a computer display. "If a claim's only 'inventive concept' is the application of an abstract idea using conventional and well-understood techniques, the claim has not been transformed into a patent-

eligible application of an abstract idea." *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1290–91 (Fed. Cir. 2018).

We see no inventive concept that transforms the abstract idea of organizing and displaying visual information into a patent-eligible application of that abstract idea. We affirm the district court's conclusion that the '389 patent is invalid under § 101.

V

We have considered IBM's remaining arguments but find them unpersuasive. The district court correctly concluded that the '789 and '389 patents are directed to ineligible subject matter. We affirm.

**AFFIRMED**

# United States Court of Appeals for the Federal Circuit

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**INTERNATIONAL BUSINESS MACHINES CORPORATION,**
*Plaintiff-Appellant*

**v.**

**ZILLOW GROUP, INC., ZILLOW, INC.,**
*Defendants-Appellees*

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2021-2350

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Appeal from the United States District Court for the Western District of Washington in No. 2:20-cv-00851-TSZ, Senior Judge Thomas S. Zilly.

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STOLL, *Circuit Judge*, dissenting-in-part.

I respectfully dissent-in-part. I agree with the majority that the district court properly entered judgment under Federal Rule of Civil Procedure 12(c) holding the '789 patent claims and several of the '389 patent claims ineligible under 35 U.S.C. § 101. I would, however, reverse the district court's judgment of patent ineligibility for claims 9 and 13 of the '389 patent. The complaint and IBM's expert declaration attached to the complaint contain numerous plausible factual allegations that, when accepted as true, together with all reasonable inferences, state a plausible basis for eligibility. The district court erred by ignoring

these plausible factual allegations and the majority's affirmance repeats this error. Dismissal was improper.

Dependent claims 9 and 13 are directed to the same subject matter. In particular, both claims recite the same alleged technical improvement to the graphical user interface recited in the independent claims: a layered data display tool that allows a user to re-layer and re-match the objects in a given layer to emphasize or de-emphasize different objects displayed to the user. Claim 9, shown with its dependency from claim 8, recites:

> 8. An information handling system comprising:
>
> one or more processors;
>
> a memory accessible by the processors;
>
> a nonvolatile storage area accessible by the processors;
>
> a display screen accessible by the processors; and
>
> a layered data display tool to display layered data on the display screen, the layered data display tool including:
>
> > logic for selecting one or more objects to be displayed in a plurality of layers;
> >
> > identification logic to identify a plurality of non-spatially distinguishable
> >
> > display attributes, wherein one or more of the non-spatially distinguishable display attributes corresponds to each of the layers;
> >
> > matching logic for matching each of the objects to one of the layers;
> >
> > applicator logic to apply the non-spatially distinguishable display attributes

corresponding to the layer for each of the matched objects;

determination logic for determining a layer order for the plurality of layers, wherein the layer order determines a display emphasis corresponding to the objects from the plurality of objects in the corresponding layers; and

display control logic to display the objects with the applied non-spatially distinguishable display attributes, wherein the objects in a first layer from the plurality of layers are visually distinguished from the objects in the other plurality of layers based upon the non-spatially distinguishable display attributes of the first layer.

9. The information handling system as described in claim 8 further comprising:

a rearranging request received from a user;

*rearranging logic* to rearrange the displayed layers, the rearranging logic including:

*re-matching logic* to re-match one or more objects to a different layer from the plurality of layers;

application logic to apply the non-spatially distinguishable display attributes corresponding to the different layer to the one or more re-matched objects; and

display logic to display the one or more re-matched objects.

'389 patent col. 10 ll. 4–49 (emphasis added to key limitations).

Our precedent in *Aatrix Software, Inc. v. Green Shades Software, Inc.*, requires that we accept the plausible factual allegations in IBM's second amended complaint and the expert declaration attached to that complaint as true, and that we draw all reasonable inferences in IBM's favor. 882 F.3d 1121, 1126–28 (Fed. Cir. 2018); *see also, e.g.*, *Nat. Alts. Int'l, Inc. v. Creative Compounds, LLC*, 918 F.3d 1338, 1349 (Fed. Cir. 2019); *Cooperative Ent., Inc. v. Kollective Tech., Inc.*, No. 21-2167, slip op. at 5 (Fed. Cir. Sept. 28, 2022) ("[P]atent eligibility may be resolved at the Rule 12 stage only if there are no plausible factual disputes after drawing all reasonable inferences from the intrinsic and Rule 12 record in favor of the non-movant." (collecting cases)). Here, there are numerous factual impediments to resolving the eligibility question for claims 9 and 13 at this stage.

First, IBM's second amended complaint describes the development of the claimed invention, including problems with prior art approaches to displaying objects on a computer's two-dimensional display. For example, the complaint alleges that, as data systems became larger and more complex, prior art methods for displaying objects to a user on a two-dimensional computer screen "resulted in an overly cluttered display with various objects overlapping each other. This made it difficult, if not impossible, to determine the relevant details of and relationships between the information that a user was attempting to view." J.A. 112–13 (Compl. ¶ 86). Indeed, the '389 patent itself acknowledges that it was "difficult to conceptually understand" systems with "large numbers of objects" using the tools available at the time of the invention. '389 patent col. 2 ll. 22–24.

Likewise, the expert declaration attached to the complaint explains that prior art methods for displaying large amounts of "densely packed" data on a computer screen rendered the displayed data "incomprehensible." J.A. 198 (Cockburn Decl. ¶ 19); *see generally* J.A. 201–11 (Cockburn

Decl. ¶¶ 26–51). IBM's technical expert further explains how the use of layers in the claimed invention solved "the important problem of occlusion" resulting from the densely packed data. J.A. 219 ¶ 78. The expert also provides specific factual details related to how the claim limitations of re-layering and rematching "allows users to dynamically manipulate the visualization" of data on the computer display "to better support their ability to scrutinize and review the data." J.A. 221 ¶ 83.

Taking the above factual allegations in the complaint and attached expert declaration as true, together with all reasonable inferences, establishes that the claimed re-layering and re-matching system recited in claims 9 and 13 is directed to a technical improvement in how a user interacts with a computer via the graphical user interface, not an abstract idea. And we have held inventions directed to improvements to a graphical user interface patent eligible. *See, e.g.*, *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1362–63 (Fed. Cir. 2018); *Data Engine Techs. LLC v. Google LLC*, 906 F.3d 999, 1007–11 (Fed. Cir. 2018).

The majority asserts that "[t]he problem the '389 patent purportedly solves . . . is not specific to a computing environment" and that claim 1, broadly drafted, likewise is not "limited to computer screens or any device at all." Maj. Op. at 14. From there, the majority concludes that all of the '389 patent claims are directed to an abstract idea. *Id.* at 14–15. In my view, the majority views claims 9 and 13 at too high a level of abstraction. While I agree that claim 1 and its dependent claims are broadly drafted, claims 9 and 13 are not so broad; instead, they are directed to a specific improvement in a computer's graphical user interface, much like the claims we held eligible in *Core Wireless*. The majority also analogizes the claimed invention to techniques allegedly used by cartographers when making "cluttered paper map[s]." *Id.* But unlike paper maps, computer displays are limited in size and can be interacted with by a

user to repeatedly and variously alter the display using the specific reordering technique recited in claims 9 and 13. When taking the assertions in the complaint and attached expert declaration as true, a plausible conclusion can be made that claims 9 and 13 are not simply directed to a system that automates a "pen and paper" method; rather, they recite a specific technique to solve a specific technical problem that existed in graphical user interfaces at the time of the invention.

In sum, the district court did not accept the complaint's well-pled facts relevant to the eligibility inquiry as true. Instead, it wholesale ignored these factual allegations in holding claims 9 and 13 of the '389 patent ineligible. This is legal error under our precedent, and we should reverse.

For these reasons, I respectfully dissent-in-part.