



Federal Circuit Affirms Dismissal of Patent Claims Directed to Visualization of Medical Scans as Ineligible Subject Matter Under 35 U.S.C. § 101

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The Federal Circuit recently affirmed a Rule 12(b)(6) dismissal of patent claims directed to infrastructure for receiving, storing, processing and viewing large three-dimensional (3D) medical scans via a low-bandwidth web portal, concluding that the asserted claims are patent-ineligible subject matter under 35 U.S.C. § 101. The court found that converting data and using computers to collect, manipulate and display the data is an abstract idea and that the claims fail to transform this abstract idea into patent-eligible subject matter.

AI Visualize, Inc. v. Nuance Communications, Inc., No. 2022-2109 (Fed. Cir. Apr. 4, 2024).

AI Visualize sued Nuance Communications in the District of Delaware, alleging infringement of four related patents—U.S. Patent Nos. 8,701,167, 9,106,609, 9,438,667 and 10,930,397—that share substantially the same specification. The patents describe complications in the prior art with attempts to display large 3D images at a client computer, which requires sufficient processing power and a high-speed communication link for access to the 2D scans used to create the 3D images. The patents overcome this limitation by teaching “a method and system of a common and centralized infrastructure, for receiving, storing, processing and viewing large medical scans via a low-bandwidth portal.”

The parties agreed that, for purposes of a § 101 analysis, the asserted claims could be sorted into three groups, and each group could be represented by one claim of the '609 patent. The claims in group 1 are represented by claim 1 which involves “systems where a web application determines which frames of a virtual view, if any, are already stored locally on a user’s device; directs the server to create any necessary, additional frames for transmission to the user’s

device; compiles at the user's device the locally-stored and newly-received frames to create the desired virtual view; and displays the user's requested virtual view." Claim 1 recites (simplified):

1. A system for viewing three-dimensional virtual views over the Internet comprising:
at least one transmitter for accepting volume visualization dataset (VVD) and transmitting it securely to the centralized database;
at least one central data storage medium containing the VVD;
servers capable of processing the VVD to create virtual views based on client request;
a resource manager device for load balancing the servers;
a security device controlling the communications between a client device and the server; including resource manager and central storage medium;
at least one physically secured site for housing the centralized database, servers, resource manager, and security device;
a web application adapted to satisfy a user's request by: a) accepting a user request for a series of virtual views of the VVD, b) determining if any frame of the requested views is stored on the local data storage medium, c) transmitting to the servers a request for any frame not stored on the local data storage medium, d) the servers creating the requested frames from the VVD, e) transmitting the created frames to the client device, f) receiving and displaying to the user at the remote location the requested series of three-dimensional virtual views by sequentially displaying frames transmitted from the servers along with any frames stored on the local data storage medium.

The claims in group 2 are represented by claim 19, which depends from claim 1 and further requires that if a virtual view has been previously requested, it is assigned a "unique identifiable key." The claims in group 3 are represented by claim 22, which does not include the step of checking to see whether any frames for the requested view are stored locally. Instead, the web application requests all frames from the server, which transmits lower-quality frames for immediate viewing and then higher-quality versions.

The court analyzed eligibility using the Supreme Court's two-step *Alice* framework. In step one, a court determines whether the claims are "directed to a patent-ineligible concept," such as an abstract idea. *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 217 (2014). If they are, the court proceeds to step two—the search for an "inventive concept"—and considers "the elements of each claim both individually and 'as an ordered combination' to determine

whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Id.* (quoting *Mayo Collaborative Servs. v. Prometheus Lab’s, Inc.*, 566 U.S. 66, 78-79 (2012)). An inventive concept is more than merely implementing an abstract idea using “well-understood, routine, conventional” activities previously known to the industry. *Id.* at 225.

1. *Alice* Step One

Addressing *Alice* step one, the Federal Circuit decided that the claims are directed to the abstract idea of obtaining, manipulating and displaying data. The Federal Circuit described the claims as reciting a system that includes the “functionally-oriented steps” of: storing data (VVD); accepting user requests; checking for the location of data needed for the virtual view; creating image frames from non-locally stored data; transmitting non-locally-stored data; compiling image frames; and displaying the image frames. According to the court, the claims are directed to “converting data and using computers to collect, manipulate, and display the data.” The court likened the claims to those in *Hawk Technology Systems, LLC, v. Castle Retail, LLC*, 60 F.4th 1349 (Fed. Cir. 2023), involving “viewing multiple simultaneously displayed and stored video images on a remote viewing device of a video surveillance system.”

The patent owner argued that the claims are not directed to an abstract idea because they require the creation of “on the fly” virtual views. The court, however, found that, as in *Hawk*, the creation of a virtual view from the VVD, recited in general terms, is abstract data manipulation. The patent owner pointed to passages from the specification, but the court refused to import details from the specification where those details are not recited in the claims. The court also noted that there is “no recitation in the claim about **how** to create frames or virtual views, much less in a manner that would meaningfully support a technical solution to a technical problem in the prior art.”

2. *Alice* Step Two

Addressing *Alice* step two, the court agreed with the district court that the asserted claims “involved nothing more than the abstract idea itself or conventional computer functions or components.” The patent owner argued that the creation of virtual views sufficiently transforms the claims, but the court stated that creating a virtual view is an abstract idea and the abstract idea itself cannot transform the invention. The patent owner also argued that the creation of virtual views “on demand” or in “real-time” transforms the claims. The court, however, found that the complaint has not made “sufficient factual allegations to support

that the claims involve unconventional technology or a concrete application of the abstract idea of virtual view ‘creation.’” The court also found inadequate allegations of an inventive concept in the ordered combination of claim limitations, because merely reciting an abstract idea performed on a set of generic computer components does not contain an inventive concept.

Practice Tip: In the computer arts, patent owners should avoid claiming merely the use of generic computer components or systems as a tool to perform general processes of collecting, manipulating and displaying data. Instead, patent owners should describe in the specification and recite in the claims a concrete embodiment or specific implementation in a manner that meaningfully supports a technical solution to a technical problem in the prior art.

Categories

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