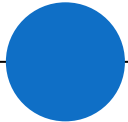


Software Patents

Subject matter eligibility

CAFC cases (2021-2022)



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2023.06.03



Software Patents
subject matter eligibility
of CAFC cases





Patent subject matter guidance

35 U.S. Code § 101 - Inventions patentable :

“Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.”

The Alice/Mayo two-part test is the only test that should be used to evaluate the eligibility of claims under examination. (MPEP § 2106)

Step 1 : Is the claim to a process, machine, manufacture or composition of matter?



Patent subject matter guidance

Step 2A: Whether a Claim is Directed to a Judicial Exception

Claims directed to nothing more than abstract ideas (such as a mathematical formula or equation), natural phenomena, and laws of nature are not eligible for patent protection.

Abstract Idea includes mathematical concepts, certain methods of organizing human activity, and mental process.

STEP 2B: Whether a Claim Amounts to Significantly More

Determine whether the claim recites additional elements that amount to significantly more than the judicial exception.



CAFC Cases

Year	Case	Asserted patent	<i>Alice/Mayo</i> two-part test
2021	Yu	digital cameras using multiple sensors with multiple lenses	directed to an abstract idea lacked an inventive concept
2021	CardioNet	improved heart monitoring device	directed to an abstract idea lacked an inventive concept
2021	CosmoKey	method for authenticating a computer user performing an online transaction	directed to an abstract idea <u>recited the inventive concept</u>
2022	Cooperative	systems and methods of structuring a peer-to-peer (P2P) dynamic network for distributing large files	directed to an abstract idea <u>recited the inventive concept</u>
2022	Weisner	ways to “digitally record a person’s physical activities” and ways to use this digital record (’ 202 patent and ’ 910 patent)	directed to an abstract idea lacked an inventive concept
		ways to “digitally record a person’s physical activities” and ways to use this digital record (’ 905 patent and ’ 911 patent)	directed to an abstract idea <u>recited the inventive concept</u>



2021 › Yu v. Apple

Four image sensors are used to convert light and shade into equivalent values, three of which are used to sense the three primary colors of light

The fourth monochrome sensor senses the full range of the visible spectrum to complement details that the primary color sensor might miss.

⦿ CAFC

Step one : claim 1 is “directed to a result or effect that itself is the abstract idea and merely invokes generic processes and machinery” rather than “a specific means or method that improves the relevant technology.”

Step two : claim 1 is recited at a high level of generality and merely invokes well-understood, routine, conventional components to apply the abstract idea.

Conclusion : the claims were directed to patent-ineligible subject matter, '289 patents are ineligible.



2021 › Yu v. Apple 289 patents

1. An improved digital camera comprising:

a first and a second image sensor closely positioned with respect to a common plane, said second image sensor sensitive to a full region of visible color spectrum;

two lenses, each being mounted in front of one of said two image sensors;

said first image sensor producing a first image and said second image sensor producing a second image;

an analog-to-digital converting circuitry coupled to said first and said second image sensor and digitizing said first and said second intensity images to produce correspondingly a first digital image and a second digital image;

an image memory, coupled to said analog-to-digital converting circuitry, for storing said first digital image and said second digital image; and

a digital image processor, coupled to said image memory and receiving said first digital image and said second digital image, producing a resultant digital image from said first digital image enhanced with said second digital image.



2021 › CardioNet v. InfoBionic

Analyze the heart signal through the monitoring system to confirm whether the patient has high T wave characteristics. If it is, the T wave filter will reduced the amplitude of the high T wave, and the amplitude of the R wave will be slightly increased at the same time.

⦿ CAFC

Step one : claim 1 is directed to the abstract idea of “filtering raw cardiogram data to optimize its output.”

Step two : claim 20 merely employs conventional computer components to carry out an abstract idea.

Conclusion : the claims were directed to patent-ineligible subject matter, '715 patents are ineligible .



2021 › CardioNet v. InfoBionic 715 patents

1. A machine-implemented method comprising:

identifying heart beats in a sensed cardiac signal;

activating a T wave filter frequency domain, used in said identifying heart beats, in response to a message from a monitoring station generated at least in part based upon discovery of a predetermined characteristic in the sensed cardiac signal; and

outputting information corresponding to the identified heart beats to a communications channel of a distributed cardiac activity monitoring system.



2021 , CosmoKey v. Duo

The authentication function is always disabled, and it is only enabled when the user's transaction starts. After the detection is completed, the authentication function will automatically change back to the disabled state. The user's mobile device does not need to set up special hardware for the authentication function, nor does it need to be connected with communicate with other devices.

● CAFC

Step one : need not answer this question, however, because even if we accept the district court's narrow characterization of the '903 patent claims, the claims satisfy Alice step two.

Step two : claims and specification recite a specific improvement to authentication that increases security, prevents unauthorized access by a third party, is easily implemented, and can advantageously be carried out with mobile devices of low complexity.

Conclusion : '903 patents are eligible .



2021 , CosmoKey v. Duo 903 patents

1. A method of authenticating a user to a transaction at a terminal, comprising the steps of:

transmitting a user identification from the **terminal** to a **transaction partner** via a first communication channel,

providing an authentication step in which an authentication device uses a second communication channel for checking an authentication function that is implemented in a mobile device of the user,

as a criterion for deciding whether the authentication to the transaction shall be granted or denied, having the authentication device check whether a predetermined time relation exists between the transmission of the user identification and a response from the second communication channel,

ensuring that the authentication function is normally inactive and is activated by the user only preliminarily for the transaction,

ensuring that said response from the second communication channel includes **information that the authentication function is active**, and

thereafter ensuring that **the authentication function is automatically deactivated**.



2021 , Cooperative v. Kollektive

The patent delivers or shares data between nodes by placing network nodes outside of controlled networks and/or content delivery networks (CDNs), peer-to-peer nodes are created to consume and receive common content

CAFC

Step one : need not address the parties' dispute regarding the application of Alice step one because, as explained below, the claims contain alleged inventive concepts not limited to the abstract idea.

Step two : There are at least two alleged inventive concepts in claim 1 which should have precluded the district court's holding on ineligibility. The first is the required dynamic P2P network wherein multiple peer nodes consume the same content and are configured to communicate outside the CDNs. The second requires trace routes be used in content segmentation.

Conclusion : '452 patents are eligible .



2021 › Cooperative v. Kollektive 452 patents

1. A system for virtualized computing peer-based content sharing comprising:
 - at least one **content delivery server computer** constructed and configured for electrical connection and communication via at least one communications network; and
 - at least one peer-to-peer (P2P) dynamic network including a multiplicity of peer nodes, wherein the multiplicity of peer nodes consume the same content within a predetermined time, wherein the multiplicity of peer nodes are constructed and configured for electronic communication over the at least one P2P dynamic network, wherein the at least one P2P dynamic network is based on at least one trace route;
 - wherein the multiplicity of peer nodes is distributed outside controlled networks and/or content distribution networks (CDNs) that are included within the at least one communications network;



2021 › Cooperative v. Kollektive 452 patents

wherein the at least one **content delivery server computer** is operable to store viewer information, check content request, use the trace route to segment requested content, find peers, and return client-block pairs;

wherein distribution of P2P content delivery over the at least one P2P dynamic network is based on content segmentation;

wherein content segmentation is based on CDN address resolution, trace route to CDN and P2P server manager, dynamic feedback from peers reporting traffic rates between individual peer and its neighbors, round-robin and other server side scheduling/resource allocation techniques.



2021 , Weisner v. Google (905 、 911 patent)

The patent installed the special software in the user's electronic device, the footprint history records that can be viewed and updated are continuously accumulated, and the user can be provided with more personalized results when using the search engine.

◎ CAFC

Step one : claims of the '905 and '911 patents are directed to an abstract idea to creating and using travel histories to improve computerized search results.

Step two : '905 patent and claim 1 of the '911 patent plausibly recite inventive concepts that add significantly more to the abstract idea of using travel histories to improve computerized search results.

Conclusion : '905 and '911 patents are eligible .



2021 › Weisner v. Google (911 patent)

1. A computer-implemented method of enhancing digital search results for a business in a target geographic area using URLs of location histories, comprising:

providing, by at least one **processing system** in communication with a positioning system, an account to (i) an individual member and (ii) a stationary vendor member, of a member network, the account associated with a URL, the individual member's account associated with a mobile communication device or multiple mobile communication devices,

maintaining a communication link between the mobile communication device and the at least one processing system or the positioning system such that the mobile communication device is configured to accumulate a location history on a database maintained by the at least one processing system from physical encounters by the individual member at multiple stationary vendor members upon the mobile communication device being set to enter instances of a physical encounter between the individual member carrying the mobile communication device and the stationary vendor member at a physical premises of the stationary vendor member, the positioning system determining a location of the individual member at the physical premises;



2021 › Weisner v. Google (911 patent)

for each individual member having a location history who **sends a search query to a search engine** of the at least one processing system, the search query targeting a geographic area:

(1) searching, by the search engine, the database for URLs of stationary vendor members in the location history, the location history also **identifying time and geographic place of the physical encounters therein**, and

(2) **assigning a priority**, by the at least one processing system, in a search result ranking based on an appearance of one of the stationary vendor member URLs in the location history of the individual member, wherein that one of the URLs is of a particular stationary vendor member located in the target geographic area.

Summary

- ① A patent incorporated into a device does not necessarily have patent Subject matter eligibility.
- ① In the two-step test, CAFC focuses more on the step two, judging whether there is an inventive concept.
- ① The inventive concept should be which provides a specific and clear technical improvement plan through unknown technical means.



THANKS