Patenting Software in the US and EUROPE

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Introduction

What you will learn about software patents in the US and Europe:

- Patent eligibility
- Enablement
- Novelty
- Nonobviousness / Inventive Step
- Examination Procedure
- Drafting Tips

Our next webinar will cover formal matters and strategy

Bios

Robert Plotkin

Patent Attorney and Co-Founder

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Software Patent Experts

For over 25 years, patent attorney Robert Plotkin has secured patents for his clients' innovative software – but he doesn't stop there. He then guides them in deploying those patents to withstand the pressures of new competitors and the world's largest tech companies – and to win historic patent sales and licenses. A lifelong AI aficionado and MIT computer science graduate, Robert possesses a unique technical background among lawyers. He secures and leverages IP to attract investment, raise funds, generate revenue, and secure successful exits on behalf of his high-tech clients.

Decades ahead of his time, Robert first shared his AI patent strategies in 2009's The Genie in the Machine: How Computer-Automated Inventing is Revolutionizing Law and Business. Now, 15 years later, amidst a global AI frenzy, Robert reveals his systematic approach for obtaining and leveraging IP protection for AI technology in his latest book, AI Armor: Securing the Future of Your AI Company With Strategic Intellectual Property.

Robert owns 25+ patents and patent applications himself, and is a National Law Journal IP Trailblazer and an IP Super Lawyer.
Robert is the co-founder of the boutique patent firm, Blueshift IP, located in Cambridge, MA. He is an alumnus of the Massachusetts Institute of Technology and the Boston University School of Law. He is licensed to practice law in Massachusetts and New York and is registered to practice at the United States Patent and Trademark Office.

Bios

Dr. Jochen Reich

Patent Attorney and Founder

As a German and European patent attorney specializing in information technology and computer science, Dr. Jochen Reich and his team represent clients in all aspects of patent law.

He holds a doctorate in computer science from the Technical University of Munich and is chairman of the patent working group of the Gesellschaft für Informatik, which represents the largest computer science community in the German-speaking world. Dr. Reich operates his law firm in Munich in close proximity to the German and European Patent Offices.

Patentable Subject Matter: Framework

US	Europe
Invention must be a process, machine, manufacture, or composition of matter. Software claims usually involve processes, machines, or manufactures.	Invention can be a method, an apparatus, a system arrangement, computer program (product) or computer readable (storage/ carrier)
Claim is patent eligible if it is not directed to a "judicial exception," such as an abstract idea, a law of nature, or a mathematical concept.	Claim is patent eligible if it is not directed to a "judicial exception," such as discoveries, scientific theories and **mathematical methods**; schemes, rules and methods for performing mental acts, playing games or doing business, and **programs for computers; presentations of information**
If claim is directed to judicial exception, it can still be patent eligible if it recites additional elements that integrate the judicial exception into a practical application	The above shall exclude the patentability of the subject-matter or activities referred to therein only to the extent to which it relates to such subject-matter or activities **as such**.
Claim can still be patent eligible if the claim as a whole incorporates an inventive concept that amounts to significantly more than the judicial exception.	Claim can still be patent eligible if the claim as a whole incorporates an inventive concept that amounts to significantly more than the judicial exception.

Patentable Subject Matter: Practical Considerations

US	Europe
Claim must be interpreted **as a whole**, not merely element-by-element	Claim must be interpreted **as a whole**, not merely element-by-element
Any rejection based on elements that are allegedly "well-understood, routine, and conventional" must be supported by facts	Just stated by the Examining Division. Prior art: common purpose computer
Mere lack of novelty or nonobviousness is not sufficient for patent-ineligibility	Any requirement must be fulfilled.
Improvement to functioning of a computer or other technology can demonstrate patent eligibility	Improvement to functioning of a computer or other technology can demonstrate patent eligibility
Use of a "particular machine" can demonstrate patent eligibility	Use of a "particular machine" can demonstrate patent eligibility
Effecting a transformation to a different state or thing can demonstrate patent eligibility	Effecting a transformation to a different state or thing can demonstrate patent eligibility
Claim elements that are necessarily rooted in computer technology can demonstrate patent eligibility	Claim elements that are necessarily rooted in computer technology can demonstrate patent eligibility

Patentable Subject Matter: Examples of Eligible Claims

US	Europe
Same formats as in Europe, except that "computer program" format is not eligible.	Method for (establishing a technical effect), comprising:
See USPTO's patent-eligibility examples at: https://www.uspto.gov/patents/laws/examination-policy/subject-matter-eligibility	Apparatus for (establishing a technical effect), comprising:
Example 1:Isolating and Removing Malicious Code from Electronic Messages	System arrangement for (establishing a technical effect), comprising:
Example 2: E-Commerce Outsourcing System / Generating a Composite Web Page (*DDR Holdings*)	A computer program [product] comprising instructions which, when the program is executed by a computer, cause the computer to carry out [the steps of] the method of claim 1.
Example 3: Digital Image Processing (*Research Corporation Technologies Inc. v. Microsoft Corp.)*	A computer-readable [storage] medium comprising instructions which, when executed by a computer, cause the computer to carry out [the steps of] the method of claim 1.

Disclosure (Written Description and Enablement)

US	Europe
Must provide a written description of the enablement -- can go beyond enablement	A detailed description of at least one way of carrying out the invention must be given. (...) the application must contain, in addition to the examples, sufficient information to allow the person skilled in the art, using common general knowledge, to perform the invention over the whole area claimed without undue burden and without needing inventive skill
No best mode requirement (ever since AIA)	No best mode requirement
Do not need to enable well-known functions	Since the application is addressed to the person skilled in the art, it is **neither necessary nor desirable** that details of well-known ancillary features are given, but the description must disclose any feature essential for carrying out the invention in sufficient detail to render it apparent to the skilled person how to put the invention into practice.
Should disclose enabling details, such as implementing algorithms, for claimed functions, especially at the point of novelty	Claims directed to CII should define all the features which are essential for the technical effect of the process which the computer program is intended to carry out when it is run
For machine learning training, disclose training data, parameters, and algorithms	Depends on the invention.

Novelty

US	Europe
Publications anywhere in the world are available as prior art	Publications anywhere in the world are available as prior art Exceptions for German utility models as regards oral disclosure and prior use
Later-published, but earlier-filed, patent applications are available as prior art	Later-published, but earlier-filed, patent applications are available as prior art **regarding novelty only** (European applications!)
Beware of online sources, such as GitHub and arXiv -- include them in prior art searches	Same

Nonobviousness/ Inventive Step

US	Europe
Limiting claims to a particular application or field of use can be helpful for overcoming generic prior art	Same. Also include "Computer-implemented method" to avoid mental act as computer instructions might be performed mentally (e.g. assign a value to a parameter).
Expert declarations may be needed to attest to the level of skill in the art	Test runs and simulations
USPTO is seeking public comment on applicability of AI-generated content as prior art for novelty purposes, and its impact on the standard for nonobviousness	Similar efforts by EPO

Examination Procedure

US	Europe
Two-step process (Alice/Mayo test) (MPEP 2106)	Determine closest prior art
Step 1: Claimed invention must be in one of four statutory categories: process, machine, manufacture, or composition of matter	Identify distinguishing features to suggested invention
Step 2A: Is claimed invention "directed to" a judicial exception (e.g., a law of nature, an abstract idea, or a mathematical concept). If no, then invention is patent eligible. If yes, then...	Only technical features are considered when assessing inventiveness
Step 2B: Does the claim include additional elements that provide an inventive concept (recite "significantly more" than the judicial exception)	Would the skilled person combine a further document disclosing the distinguishing features or merely could they do so

Drafting Tips

US	Europe
Pay special attention to patent eligibility from the outset in the specification and claims	Is there a technical contribution to a technical problem?
Write specifications at low, medium, and high levels of generality to support wide range of claims and future claim amendments	Disclose a technical effect for each potential claim feature
Avoid financial language to steer applications away from being classified as “business methods”	Avoid financial/ marketing language to steer applications away from being classified as “business methods”
Avoid mathematical language to steer applications away from being classified as “mathematical concepts”	Think of the infringement: method, computer unit alone?, whole infrastructure?, single hardware component?
Focus on the real-world practical applications of the invention, not merely the algorithm	Buzzwords for influencing the IPC class in title, claim 1, ...: which Examining Division shall be in charge?

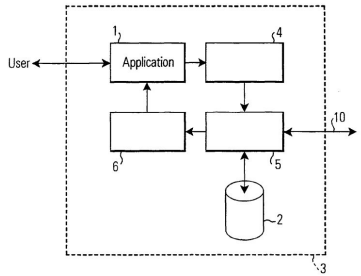
Example: European Patent Office

Patent: EP1126674B1

Claims

1. A method of presenting data that are stored in a data storage device (2) of a data server (3) to a user, said user accessing said data server over a network, where in the process between accessing the server and presenting the data, at least one data path is used over which control data associated with the selection of data is sent, said at least one data path being unidirectional.

FIG.1



History

- EP grant, validated in Germany
- Challenged through all instances by Microsoft

Result: → **The patent is fully valid**

Example: US Patent Office

Patent: US11961622B1

Application-specific processing of a disease-specific semantic model instance

1. A method performed by at least one computer processor executing computer program instructions stored on at least one non-transitory computer-readable medium, the computer program instructions being executable by the at least one computer processor to perform the method on a first instance of a first disease-specific semantic model, the method comprising:

(A) using a first instance of a data model to generate the first instance of the first disease-specific semantic model;

(B) receiving a first request;

(C) processing the first instance of the first disease-specific semantic model based on the first request to generate a first processed instance of the first disease-specific semantic model, comprising inferring a clinical interpretation of data in the first instance of the first disease-specific semantic model, wherein the first processed instance of the first disease-specific semantic model includes data representing the inferred clinical interpretation of data in the first instance of the first disease-specific semantic model;

(D) providing the first processed instance of the first disease-specific semantic model as output;

(E) after an update to the first instance of the data model which results in a second instance of the data model, using the second instance of the data model to generate a second instance of the first disease-specific semantic model;

(F) processing the second instance of the first disease-specific semantic model to generate a second processed instance of the first disease-specific semantic model; and

(G) providing the second processed instance of the first disease-specific semantic model as output.

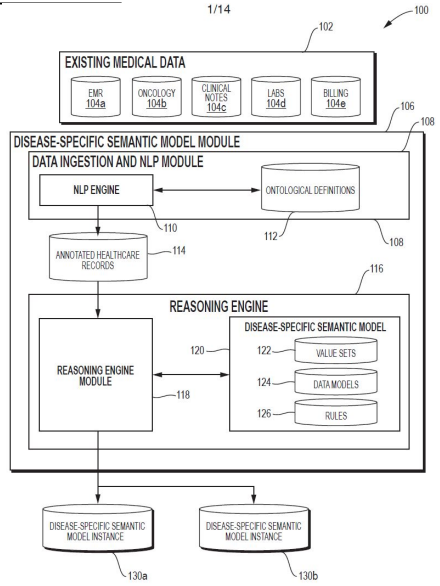


FIG. 1

Example: US Patent Office

Patent: US11663428B2

Multi-stage code scanning for data transfer

1. A method performed by at least one computer processor executing computer program instructions stored on at least one non-transitory computer-readable medium, the method comprising:

(A) receiving a first signal from a first machine-readable object;

(B) identifying, based on the first signal, a first part number of a first surgical asset;

(C) printing a label to include a first machine-readable visual indicia representing the first part number;

(D) optically reading a second signal from the first machine-readable visual indicia;

(E) identifying the first part number of the first surgical asset based on the second signal; and

(F) based on the identifying in (E), causing the first part number of the first surgical asset to be stored in a non-transitory computer-readable medium.

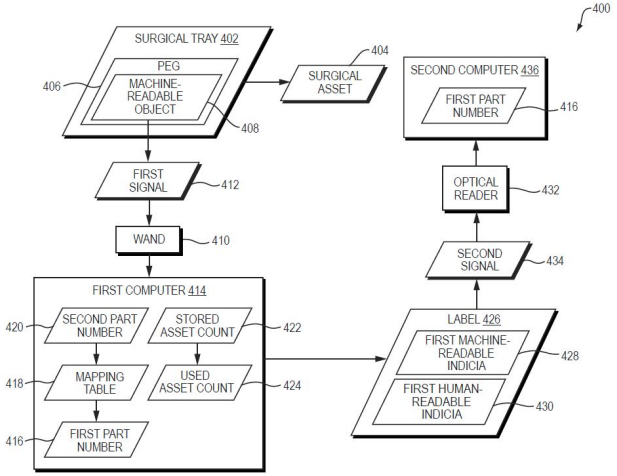


FIG. 4

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Question & Answer

Any questions?

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