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Features and Requirements for Software-based Patents

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Introduction:

Art. 52 EPC: Patentable inventions

(1) European patents shall be granted for any inventions, in all fields of technology, provided that they are new, involve an inventive step and are susceptible of industrial application.

(2) The following in particular shall not be regarded as inventions within the meaning of paragraph 1:

(a) discoveries, scientific theories and mathematical methods;

(b) aesthetic creations;

(c) schemes, rules and methods for performing mental acts, playing games or doing business, and **programs for computers**;

(d) presentations of information

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Introduction:

It is possible to protect a software by a patent?

Yes, but…

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Introduction:

According to the EPO:

- Computer programs are not excluded from patentability if they have a **technical character**.
- In order to have a technical character, and thus not be excluded from patentability, a computer program must produce a "**further technical effect**" when run on a computer.
- A "further technical effect" is a technical effect going beyond the "normal" physical interactions between the program (software) and the computer (hardware) on which it is run.

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Introduction:

According to the EPO:

- For patent eligible, a single differential technical feature in the claim is enough
- The differential technical feature(s) must be inventive (i.e. not obvious).

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Introduction:

According to the USPTO:

- Software patent applications are patent eligible if they meet one of the following requirements:
  - the invention is more than an "**abstract idea**," or
  - the invention is directed to an "abstract idea," but it includes/claims additional elements that "**transform**" the abstract idea into a patent-eligible application.

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Examples

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Example 1: Patentable or not?

Method for the management and protection of electoral processes associated with an electronic voting terminal

The method comprises:

a) receiving digital data relating to one or more selected voting option/options;

b) providing an interface so that a voter can verify said one or more previously selected voting option/options;

c) providing confirmation means; and

d) in the event that said one or more voting options have been accepted by said voter, generating a digital registry to protect the integrity of said digital data by means of said conformation means, so that through a single audit of said verification module an audit of the whole electoral process associated with said voting terminal can be obtained.

PATENTABLE

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Example 2: Patentable or not?

A computer implemented method for calculating values indicative for the local spatial structure of conducting properties of heart muscle tissue, comprises:

a) spanning a plurality of rays within a ROI in multiple 3-D directions;

b) defining a sequence of sampling points on each ray;

c) mapping the value of the spatial distribution on each defined sampling point of each ray of the structure;

d) classifying each ray of the structure by assigning to each ray a single value based; and

e) reducing each structure to a single point value in view of the geometry of the rays and their associated ray value.

PATENTABLE

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Example 3: Patentable or not?

Method of conducting an automated ticket auction by receiving bids from auction participants located at a plurality of remote terminals, the method comprising :

a) providing a central computer including a seating database having a predetermined preferential rank for each seat;

b) receiving bid records at the central computer from the plurality of remote terminals through a communication system, the bid records including information concerning bidder identification, section identification and bid amount;

c) determining a lowest acceptable bid amount corresponding to the received section identification and determining acceptable bid records based on the lowest acceptable bid amount;

d) storing acceptable bid records in an auction database of the central computer;

e) assigning a rank to each acceptable bid record stored in the auction database based on the bid amount;

f) associating each acceptable bid record stored in the central computer with at least one seat in the venue based on the rank assigned to the bid record, the section identification and the predetermined preferential rank of the at least one seat;

g) determining a ticket price for the at least one seat in the venue based on the bid amount in the bid record associated with the at least one seat in the venue; and

h) monitoring the rate of bidding activity;

i) using the monitored rate of bidding activity to generate data comprising the bidding activity, said data further comprising a pre-determined low threshold value,

j) outputting the generated data comprising the bidding activity to the plurality of remote terminals such that the data is displayed,

k) closing the auction to prevent the central computer from accepting bids when the rate of bidding activity reaches a pre-determined low threshold following a minimum amount of time; and

l) terminating the receipt of bid records at the central computer.

NOT PATENTABLE

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Example 4: Patentable or not?

A computer-implemented method for the measurement of human emotion of a subject.

The method comprises:

- filtering an EDA signal via wavelet and further modelling detail coefficients of said wavelet using a Laplace distribution,
- obtaining a denoised EDA signal;
- normalizing said denoised EDA signal using baseline values of the subject's EDA signal;
- calculating a set of feature values from the normalized EDA signal; and
- classifying a subject's arousal and/or stress level as a component of a human emotion based on the calculated set of feature values.

PATENTABLE

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Example 5: Patentable or not?

A computerized method for classifying objects in a malware system,

The method comprises:
- receiving, by a malicious content detection (MCD) system, an object to be classified;
- detecting behaviors of the received object, wherein the behaviors are detected after processing the received object;
- generating a fuzzy hash for the received object based on the detected behaviors;
- comparing the fuzzy hash for the received object with a fuzzy hash of an object in a preexisting cluster to generate a similarity measure;
- associating the received object with the preexisting cluster in response to determining that the similarity measure is above a predefined threshold value; and
- reporting, via a communications interface, results of the association to a client device.

PATENTABLE,

BUT…

Example 5: Patentable or not?

The claims as granted reads:

1. A computerized method for classifying objects in a malware system, comprising:

receiving, by a malicious content detection (MCD) system from a client device, an object to be classified;

detecting behaviors of the received object, wherein the behaviors are detected after processing the received object;

generating a fuzzy hash for the received object based on the detected behaviors, ***the generating of the fuzzy hash comprises (i) obtaining a reduced amount of data associated with the detected behaviors by retaining a portion of the data associated with the detected behaviors that corresponds to one or more operations conducted during processing of the received object, and removing metadata associated with the one or more operations conducted during the processing of the received object, the metadata including at least one or more identifiers of processes called during the processing of the received object, and (ii) performing a hash operation on the reduced amount of data associated with the detected behaviors****;*

comparing the fuzzy hash for the received object with a fuzzy hash of an object in a preexisting cluster to generate a similarity measure;

associating the received object with the preexisting cluster in response to determining that the similarity measure is above a predefined threshold value;

creating a new cluster for the received object in response to determining that the similarity measure is below the predefined threshold value*; and*

reporting, by the MCD system, ***results of either (i) the associating of the received object with the preexisting cluster or (ii) the creating of the new cluster****.*

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Example 6: Patentable or not?

A computer implemented method for generating a mold model for production predictive control.

The method comprises:

receiving a first group of parameters from a plurality of injection molding machine sensors about performance of a plurality of injection cycles of a first injection molding machine, and a second group of parameters from a plurality of mold sensors relating to a mold cavity shaped for molding an injected given part in said first injection molding machine;

classifying each injection cycle of said plurality of injection cycles considering at least the received first and/or second group of parameters and quality or characteristics of the injected given parts;

processing the received first and second group of parameters by implementing therein one or more algorithms to remove undesired or irregular data values in said parameters;

merging the processed first group of parameters with the processed second group of parameters providing a global group of processed parameters;

executing a machine learning algorithm on the global group of processed parameters generating an extended mold model; and

using said generated extended mold model for further monitoring and control of the mold in further injection processes in the first injection molding machine and/or for optimizing a production process of the mold in the first molding machine.

PATENTABLE

Thank you!

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