Proposed Computer-Implemented Invention Examination Guidelines

Department of Commerce  
U.S. Patent and Trademark Office  
[Docket No. 95053144-5144-01] RIN 0651-XX02  

Request for Comments on Proposed Examination Guidelines for Computer-Implemented Inventions

Agency: Patent and Trademark Office, Commerce

Action: Notice and request for public comments.

Summary: The Patent and Trademark Office (PTO) requests comments from any interested member of the public on proposed internal guidelines to be used by Office personnel in their review of patent applications on computer-implemented inventions. Because these guidelines govern internal practices, they are exempt from notice and comment rulemaking under 5 U.S.C. §553(b)(A).

Dates: Written comments on the proposed guidelines will be accepted by the PTO until July 31, 1995.

Addresses: Written comments should be addressed to the Commissioner of Patents and Trademarks, marked to the attention of Jeff Kushan. Comments submitted by mail should be sent to Commissioner of Patents and Trademarks, Box 4, Patent and Trademark Office, Washington, DC 20231. Comments may also be submitted by telefax at (703) 305-8885 and by electronic mail through the Internet to comments-software@uspto.gov.

Written comments should include the following information:

— name and affiliation of the individual responding;

— an indication of whether comments offered represent views of the respondent’s organization or are the respondent’s personal views; and

— if applicable, information on the respondent’s organization, including the type of organization (e.g., business, trade group, university, non-profit organization) and general areas of interest.

Parties presenting written comments who wish to have their comments included in a publicly accessible electronic database of comments must provide their comments in machine-readable format. Such submissions may be provided in the form of an electronic mail message sent through the Internet, or on a 3.5" floppy disk formatted for use in either a
Macintosh or MS-DOS based computer. Machine-readable submissions must be provided as unformatted text (e.g., ASCII or plain text).

All written comments, whether submitted on paper or in machine-readable form, will be available for public inspection no later than August 18, 1995, in Room 902 of Crystal Park Two, 2121 Crystal Drive, Arlington, Virginia. In addition, comments provided in machine-readable format will be available no later than August 18, 1995, through anonymous file transfer protocol (ftp) via the Internet (address: comments.uspto.gov) and through the World Wide Web (address: www.uspto.gov).

For Further Information Contact: Jeff Kushan by telephone at (703) 305-9300, by fax at (703) 305-8885, by electronic mail at kushan@uspto.gov, or by mail marked to his attention addressed to the Commissioner of Patents and Trademarks, Box 4, Washington, DC 20231.

Supplementary Information

I. Guidelines for Examination of Computer-Implemented Inventions

A. General Considerations

The following guidelines have been developed to assist Office personnel in their review of applications drawn to computer-implemented inventions. These guidelines respond to recent changes in the law that governs the patentability of computer-implemented inventions, and set forth the official policy of the Office regarding inventions in this field of technology.

It is essential that patent applicants obtain a prompt yet complete examination of their applications. The Office can best achieve this goal by raising any issue that may affect patentability in the initial action on the merits. Under the principles of compact prosecution, each claim should be reviewed for compliance with every statutory requirement of patentability in the initial review of the application, even if one or more claims is found to be deficient with respect to one statutory requirement. Deficiencies should be explained clearly, particularly when they serve as a basis of a rejection. Where possible, examiners should indicate how rejections may be overcome and problems resolved. A failure to follow this approach can lead to unnecessary delays in the prosecution of the application.

B. Procedures to be Followed When Evaluating Computer-Implemented Inventions

The following procedures should be used when reviewing applications drawn to computer-implemented inventions.

1. Determine what the applicant has invented by reviewing the written description and the claims.
(a) Identify any specific embodiments of the invention that have been disclosed, review the detailed description of the invention and note the specific utility that has been asserted for the invention.

(b) Analyze each claim carefully, correlating each claim element to the relevant portion of the written description that describes that element. Give claim elements their broadest reasonable interpretation that is consistent with the written description. If elements of a claimed invention are defined in means plus function format, review the written description to identify the specific structure, materials or acts that correspond to each such element.

(c) Considering each claim as a whole, classify the invention defined by each claim as to its statutory category (i.e., process, machine, manufacture or composition of matter). Rely on the following presumptions in making this classification.

(i) A computer or other programmable apparatus whose actions are directed by a computer program or other form of “software” is a statutory “machine”.

(ii) A computer-readable memory that can be used to direct a computer to function in a particular manner when used by the computer [1] is a statutory “article of manufacture”.

(iii) A series of specific operational steps to be performed on or with the aid of a computer is a statutory “process”.

A claim that clearly defines a computer-implemented process but is not cast as an element of a computer-readable memory or as implemented on a computer should be classified as a statutory “process”. [2] If an applicant responds to an action of the Office based on this classification by asserting that subject matter claimed in this format is a machine or an article of manufacture, reject the claim under 35 U.S.C. §112, second paragraph, for failing to recite at least one physical element in the claims that would otherwise place the invention in either of these two “product” categories. The Examiner should also object to the specification under 37 CFR 1.71(b) if such an assertion is made, as the complete invention contemplated by the applicant has not been cast precisely as being an invention within one of the statutory categories.

A claim that defines an invention as any of the following subject matter should be classified as non-statutory:

— a compilation or arrangement of data, independent of any physical element;

— a known machine-readable storage medium that is encoded with data representing creative or artistic expression (e.g., a work of music, art or literature) [3], [4];

— a “data structure” independent of any physical element (i.e., not as implemented on a physical component of a computer such as a computer-
readable memory to render that component capable of causing a computer to
operate in a particular manner); or

— a process that does nothing more than manipulate abstract ideas or concepts
(e.g., a process consisting solely of the steps one would follow in solving a
mathematical problem[5]).

Claims in this form are indistinguishable from abstract ideas, laws of nature
and natural phenomena and may not be patented. Non-statutory claims
should be handled in the manner described in section (2)(c) below.

2. Analyze each claim to determine if it complies with §112, second paragraph, and
with §112, first paragraph.

(a) Determine if the claims particularly point out and distinctly claim the
invention. To do this, compare the invention as claimed to the invention as it has been described in the
specification. Pay particular attention to the specific utility contemplated for the invention—
features or elements of the invention that are necessary to provide the specific utility
contemplated for that invention must be reflected in the claims. If the claims fail to
accurately define the invention, they should be rejected under §112, second paragraph. A
failure to limit the claim to reflect features of the invention that are necessary to impart the
specific utility contemplated may also create a deficiency under §112, first paragraph.

If elements of a claimed invention are defined using “means plus function”
language, but it is unclear what structure, materials or acts are intended to correspond to
those elements, reject the claim under §112, second paragraph. A rejection imposed on this
basis shifts the burden to the applicant to describe the specific structure, material or acts that
correspond to the means element in question, and to identify the precise location in the
specification where a description of that means element can be found. Interpretation of
means elements for §112, second paragraph purposes must be consistent with interpretation
of such elements for §§102 and 103 purposes.

Computer program-related elements of a computer-implemented [6] invention may
serve as the specific structure, material or acts that correspond to an element of an invention
defined using a means plus function limitation. For example, a series of operations
performed by a computer under the direction of a computer program may serve as “specific
acts” that correspond to a means element. Similarly, a computer-readable memory encoded
with data representing a computer program that can cause a computer to function in a
particular fashion, or a component of a computer that has been reconfigured with a computer
program to operate in a particular fashion, can serve as the “specific structure”
corresponding to a means element.

Claims must be defined using the English language. See, 37 CFR 1.52(a). A
computer programming language is not the English language, despite the fact that English
words may be used in that language. Thus, an applicant may not use computer program
code, in either source object format, to define the metes and bounds of a claim. A claim
which attempts to define elements of an invention using computer program code, rather than the functional steps which are to be performed, should be rejected under §112, second paragraph, and should be objected to under 37 CFR 1.52(a).

(b) Construe the scope of the claimed invention to determine if it is adequately supported by an enabling disclosure. Construe any element defined in means plus function language to encompass all reasonable equivalents of the specific structure, material or acts disclosed in the specification corresponding to that means element. Special care should be taken to ensure that each claim complies with the written description and enablement requirements of 15 U.S.C. §112.

(c) A claim as a whole that defines non-statutory subject matter is deficient under §101, and under §112, second paragraph. Determining the scope of a claim as a whole requires a clear understanding of what the applicant regards as the invention. The review performed in step 1 should be used to gain this understanding.

(i) If the invention as disclosed in the written description is statutory, but the claims define subject matter that is not, the deficiency can be corrected by an appropriate claim amendment. Therefore, reject the claims under §§101 and 112, second paragraph, but identify the features of the invention that, if recited in the claim, would render the claimed subject matter statutory.

(ii) If the invention, both as disclosed and as claimed, is not statutory subject matter, reject the claims under §101 for being drawn to non-statutory subject matter, and under §112, second paragraph, for failing to particularly point out and distinctly claim an invention entitled to protection under U.S. patent law.

An invention is not statutory if it falls within any of the non-statutory claim categories outlined in section (1)(c) above. Also, in rare situations, a claim classified as a statutory machine or article of manufacture may define non-statutory subject matter. Non-statutory subject matter (i.e., abstract ideas, laws of nature and natural phenomena) does not become statutory merely through a different form of claim presentation.

Such a claim will (a) define the “invention” not through characteristics of the machine or article of manufacture claimed but exclusively in terms of a non-statutory process that is to be performed on or using that machine or article of manufacture, and (b) encompass any product in the stated class (e.g., computer, computer-readable memory) configured in any manner to perform that process.

3. Determine if the claimed invention is novel and nonobvious under §§102 and 103. When evaluating claims defined using “means plus function” language, refer to the specific guidance provided in the In re Donaldson guidelines [1162 OG 59] and section (2)(a) above.

C. Notes on the Guidelines
[1] Articles of manufacture encompassed by this definition consist of two elements: (1) a computer-readable storage medium, such as a memory device, a company disc or a floppy disk, and (2) the specific physical configuration of the substrate of the computer-readable storage medium that represents data (e.g., a computer program), where the storage medium so configured causes a computer to operate in a specific and predefined manner. The composite of the two elements is a storage medium with a particular physical structure and function (e.g., one that will impart the functionality represented by the data onto a computer).

[2] For example, a claim that is cast as “a computer program” but which then recites specific steps to be implemented on or using a computer should be classified as a “process.” A claim to simply a “computer program” that does not define the invention in terms of specific steps to be performed on or using a computer should not be classified as a statutory process.

[3] The specific words or symbols that constitute a computer program represent the expression of the computer program and as such are a literary creation.

[4] A claim in this format should also be rejected under §103, as being obvious over the known machine-readable storage medium standing alone.

[5] A claim to a method consisting solely of the steps necessary to converting one set of numbers to another set of numbers without reciting any computer-implemented steps would be a non-statutory claim under this definition.

[6] This includes the software and any associated computer hardware that is necessary to perform the functions directed by the software.

II. Additional Information

An analysis of the law supporting the examination guidelines for computer-implemented inventions is being prepared. Interested members of the public are invited to comment on this legal analysis. Copies of the legal analysis can be obtained from Jeff Kushan on or after June 23, 1995, who can be reached using the information indicated above.

BRUCE A. LEHMAN
Assistant Secretary of Commerce and
Commissioner of Patents and Trademarks