SOFTWARE AND BUSINESS METHOD PATENTS

It was not until 1998 and case of State Street Bank v. Signature Financial Group clarified that an algorithm could be patented provided it proved it performed a useful function that was not abstract and also met the other criteria of patentability, namely, novelty or non-obviousness at the time of the invention, and produced a concrete, defined result. State Street also established that a novelty business methods could be patented if they met all other criteria of patentability. In general, a business method when patented, is generally expressed as a sequence of steps.

After the State Street decision, there is little doubt that computer software and data structures can be considered patentable subject matter in the United States. Certain steps are required to ensure that the software meets the current examination guidelines of the USPTO, such as ensuring that the software or data structure is operated upon a computer processor, or is stored on a computer readable media. However, these requirements are easy to meet when drafting the patent claims, and therefore are not a significant impediment to patentability.

MPEP (Manual of Patent Examining Procedure) 2161 AND 35 U.S.C. 112

The requirements for sufficient disclosure of inventions involving computer programming are the same as for all inventions sought to be patented. Namely, there must be an adequate written description, the original disclosure should be sufficiently enabling to allow one to make and use the invention as claimed, and there must be presentation of the best mode for carrying out the invention.

The following guidelines, while applicable to a wide range of arts, are intended to provide a guide for analyzing 35 U.S.C. 112, first paragraph, issues (adequacy of disclosure), in applications involving computer programs, software, firmware, or block diagram issues wherein one or more of the "block diagram" elements are at least partially comprised of a computer software component. It should be recognized that sufficiency of disclosure issues in computer cases necessarily will require an inquiry into both the sufficiency of the disclosed hardware as well as the disclosed software due to the inherent interrelationship and interdependence of computer hardware and software.

WRITTEN DESCRIPTION

I. The function of the written description requirement is to ensure that the inventor had possession of, as of the filing date of the application relied on, the specific subject matter later claimed by him or her; how the specification accomplishes this is not material. In *re Herchler*, 591 F.2d 693 (CCPA 1979) and further reiterated *In re Kaslow*, 707 F.2d 1366.

This requirement of course contains an assumption regarding what software even is.

Unfortunately not all agree. While there are common themes, the range of meaning covered by the term "software" is broad. For example:

In its on-line *Office 2000* dictionary, Microsoft defines software as "computer programs and applications, such as word processing or database packages, that can run on a particular computer system." This definition focused on software as a package or product.

Merriam-Webster's Collegiate Dictionary defines software as "something used or associated with, and usually contrasted with hardware as: a) the entire set of programs,

procedures, and related documentation associated with a system and especially a computer system, specifically: computer programs; b) materials for use with audiovisual equipment." This definition imposes a separation between hardware and software. But, many engineers explain that implementation in hardware versus software is largely a mater of design choice.

The American Heritage Dictionary of the English Language, Fourth Edition, defines "software" from a computer science perspective as "programs, routines, and symbolic languages that control the functioning of the hardware and direct its operation."

Cambridge University recognizes at least two definitions: The English definition: "Software: the instruction which control what a computer does; computer programs, e.g., we are writing software to analyse the text." And an American definition: "Software: The instructions that controls what a computer can do; computer programs, e.g., educational software. "

The Random House Webster's College Dictionary employs even broader definitions: "Software: 1. a. programs for directing the operation of a computer or processing electronic data (as distinguished from hardware). b. documentation; 2. any material requiring the use of mechanical or electrical equipment, esp. audiovisual material such as film, tapes, or records."

From the above, it is clear that the term "software" means different things to different people. From the Microsoft's *Office* perspective, software is a product. From Cambridge University's perspective, software is the instructions which control a computer. From the computer science perspective of the American Heritage Dictionary,

software even includes symbolic language. Most of the definitions tie the term "software" to the sphere of the computer: *computer* programs, directing the operation of a *computer;* instructions which controls what a *computer* does. However, at least one definition, the Merriam Webster definition, suggests other systems; "the entire set of programs, procedures, and related documentation associated with a system and especially a computer system." The American Heritage definition includes "symbolic languages" within the domain of software and supports the view that software is more than merely fodder for computer.

II. BEST MODE

The purpose of the best mode requirement is to "restrain inventors from applying for patents while at the same time concealing from the public the preferred embodiments of their inventions which they have in fact conceived." In *re Gay,* 309 F. 2.d 769, 772 (CCPA 1962). Only evidence of concealment, "whether accidental or intentional," is considered in judging the adequacy of the disclosure for compliance with the best mode requirement. *Spectra-Physics, Inc. v. Coherent, Inc.* , 872 F. 2d 1524, 1535 (Fed. Cir. 1987) . That evidence, to result in affirmance of a best mode rejection, must tend to show that the quality of an applicant's best mode disclosure is so poor as to effectively result in concealment." *White Consol. Indus. v. Vega Servo-Control Inc.* 713 F.2d. 788 (Fed. Cir. 1983). See MPEP §2165 - §2165.04.

There are two factual inquiries to be made in determining whether a specification satisfies the best mode requirement. First, there must be a subjective determination as to whether at the time the application was filed, the inventor knew of a best mode of practicing the invention. Second, if the inventor had a best mode of practicing the

invention in mind, there must be an objective determination as to whether that best mode was disclosed in sufficient detail to allow one skilled in the art to practice it. *Fonar Corp. v. General Electric Co.*, 107 F.2d 923, 927-28. (Fed. Cir. 1990). As a general rule, where software constitutes part of a best mode of carrying out an invention, description of such a best mode is satisfied by a disclosure of the functions of the software. That is because, normally , writing code for such software is within the skill of art, not requiring undue experimentation, once its functions have been disclosed. . .flow charts or source code listings are not a requirement for adequately disclosing the functions of software." *Fonar Corp.* 107 F.3d at 1549, but are helpful.

III ENABLEMENT

When basing a rejection on the failure of the applicant's disclosure to meet the enablement provisions of the first paragraph of 35 U.S.C. 112, USPTO personnel must establish on the record a reasonable basis for questioning the adequacy of the disclosure to enable a person of ordinary skill in the art to make and use the claimed invention without resorting to undue experimentation. See *In re Ghiron*, 442 F.2d 985 (CCPA 1971). Once USPTO personnel have advanced a reasonable basis for questioning the adequacy of the disclosure, it becomes incumbent on the applicant to rebut that challenge and factually demonstrate that his or her application disclosure is in fact sufficient. See In *re Doyle,* 482 F.2d 1385, 1392 (CCPA 1973).

LEVEL OF SKILL TO QUALIFY FOR PATENT

The following is an excerpt of the pertinent section of the Manual of Patent Examining Procedure, describing how the Patent Office defines the level of ordinary skill.

FACTORS TO CONSIDER IN DETERMINING LEVEL OF ORDINARY SKILL

"Factors that may be considered in determining level of ordinary skill in the art include (1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field." *Environmental Designs, Ltd. V. Union Oil co.*, 713 F.2d 693, 696 (Fed. Cir. 1983). MPEP 2143.03.

The "hypothetical 'person having ordinary skill in the art' to which the claimed subject matter pertains would, of necessity have the capability of understanding the scientific and engineering principles applicable to the pertinent art." *Ex parte Hiyamizu*, 10 U.S.P.Q.2d 1393, 1394 (Bd. Pat. App. & Inter. 1988)) (The Board disagrees with the examiner's definition of one of ordinary skill in the art (a doctorate level engineer or scientist working at least 40 hours per week in a semiconductor research or development), finding that the hypothetical person is not definable by way of credentials, and that the evidence in the application did not support the conclusion that such a person would require a doctorate or equivalent knowledge in science or engineering).

References which do not qualify as prior art because they postdate the claimed invention may be relied upon to show the level of ordinary skill in the art at or around the time the invention was made. *Ex parte Erlich*, 22 U.S.P.Q. 1463 (Bd. Pat. App. & Inter. 1992).

SPECIFYING A PARTICULAR LEVEL OF SKILL IS NOT NECESSARY WHERE THE PRIOR ART ITSELF REFLECTS AN APPROPRIATE LEVEL.

If the only facts of record pertaining to the level of skill in the art are found within the prior art of record, the court has held that an invention may be held to have been obvious without a specific finding of a particular level of skill where the prior art itself reflects an appropriate level. *Chore-Time Equipment, Inc. v. Cumberland Corp.*, 713 F.2d 774, (Fed. Cir. 1983).

ASCERTAINING LEVEL OF ORDINARY SKILL IS NECESSARY TO MAINTAIN OBJECTIVITY

"The importance of resolving the level or ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry." *Ryko Mfg. Co. v. Nu-Star, Inc.,* 950 F.2d 714 , 718, 21 U.S.P.Q.2d 1053, 1057 (Fed. Cir. 1991). The Examiner must ascertain what would have been obvious to one of ordinary skill in the art at the time the invention was made, and not to the inventor, a judge, a lay-man, those skilled in remote arts, or to geniuses in the art at hand. *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693.

PTO Flowchart for Subject Matter of Eligibility

DETERMINE WHAT APPLICANT HAS INVENTED AND IS SEEKING TO PATENT

- Identify and understand any utility and/or practical application asserted for the invention.
- Review the detailed disclosure and specific embodiments of the invention
- Review the claims

↓

CONDUCT A THOROUGH SEARCH OF THE PRIOR ART

↓

DETERMINE WHETHER THE CLAIMED INVENTION COMPLIES WITH THE SUBJECT MATTER ELIGIBILITY REQUIREMENT OF 35 U.S.C. §101

- Does the claimed invention fall within an enumerated statutory category?
- Does the claimed invention fall within a §101 judicial exception (law of nature, natural phenomena, or abstract idea)?
- Does the claimed invention cover a §101 Judicial exception, or a practical application of a §101 judicial exception
  - Practical application by physical transformation?
  - Practical application that produces a useful (35 USC 101 utility), tangible concrete result?
  - Does the claimed invention preempt an abstract idea, law or nature, or natural phenomenon (§101 judicial exception)?
  - Establish on the record a prima facie case

↓

EVALUATE APPLICATION FOR COMPLIANCE WITH 35 U.S.C. §112

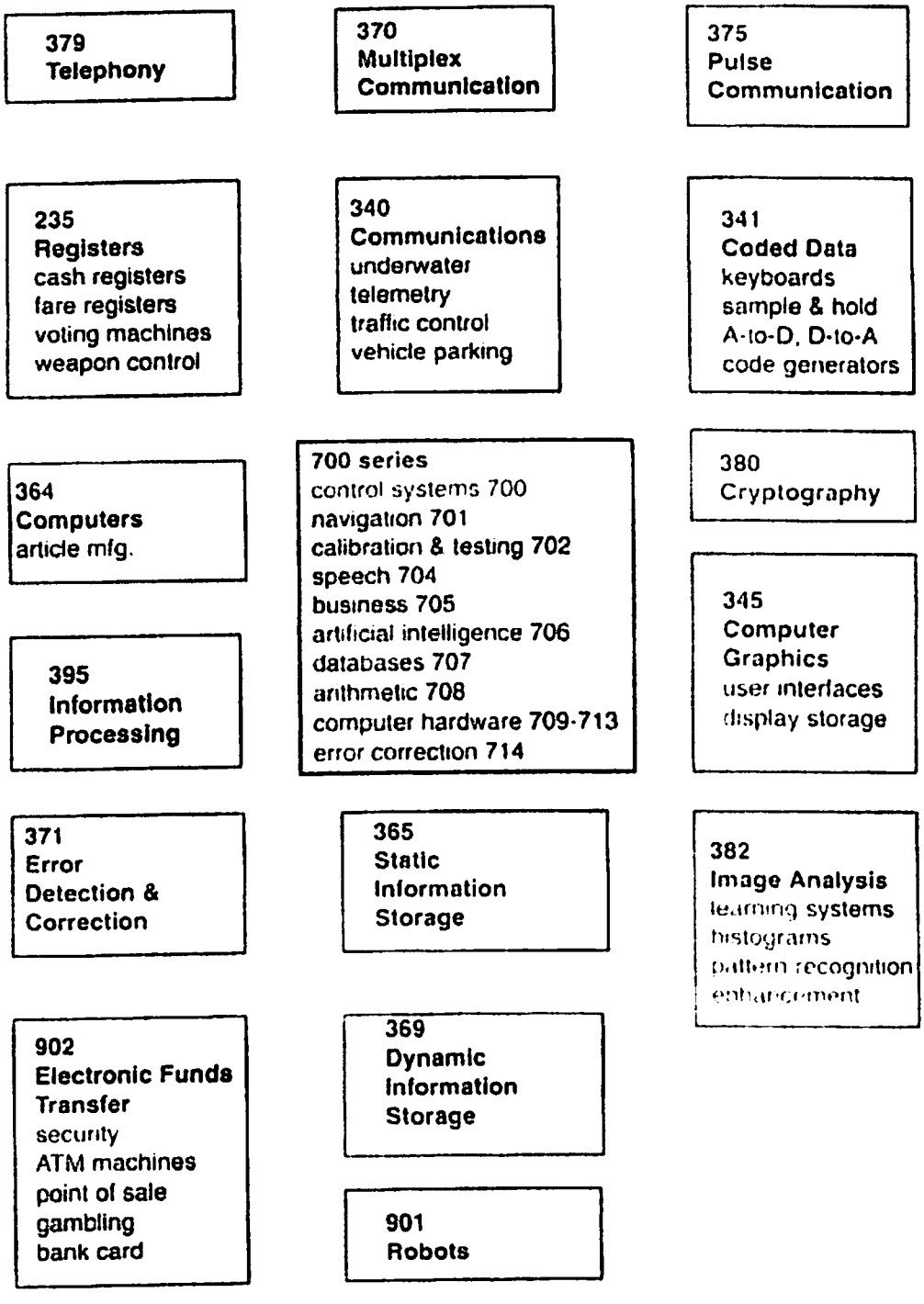
↓

DETERMINE WHETHER THE CLAIMED INVENTION COMPLIES WITH 35 U.S.C. §§102 & 103

CLEARLY COMMUNICATE FINDINGS, CONCLUSION AND THEIR BASES

- Review all the proposed rejections and their bases to confirm any prima facie determination of unpatentability.

SOFTWARE PATENT CLASSIFICATION



As may be noted, business method patents are classified in the 700, typically in Subclass 705.

For further questions on software and business method patents, email M. K. Silverman at mkspc.com.