Patenting Computer Programs
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Computer and Internet Law Section
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What Is Patentable?

- [A]ny new and useful
  - process,
  - machine,
  - manufacture,
  - composition of matter,
  - or any new and useful improvement thereof
- 35 USC §101

Computer Program As A Process

- A computer program is a set of executable instructions, hence it is directly patentable as a process.
- There must be some physical result, but it could be as minor as reporting the results on a computer display.
- Business methods are patentable, and may use a computer program.
- Unfortunately, the ***customer*** of a direct competitor is typically the one performing the process.

Computer Program as a Machine

- A computer executing a computer program is a machine.
- In some instances the preferred implementation of an invention is as a computer program, but it could be implemented in hardware on a stand alone machine.

Machine/Jepson Claim-U.S. Patent 4,933,514

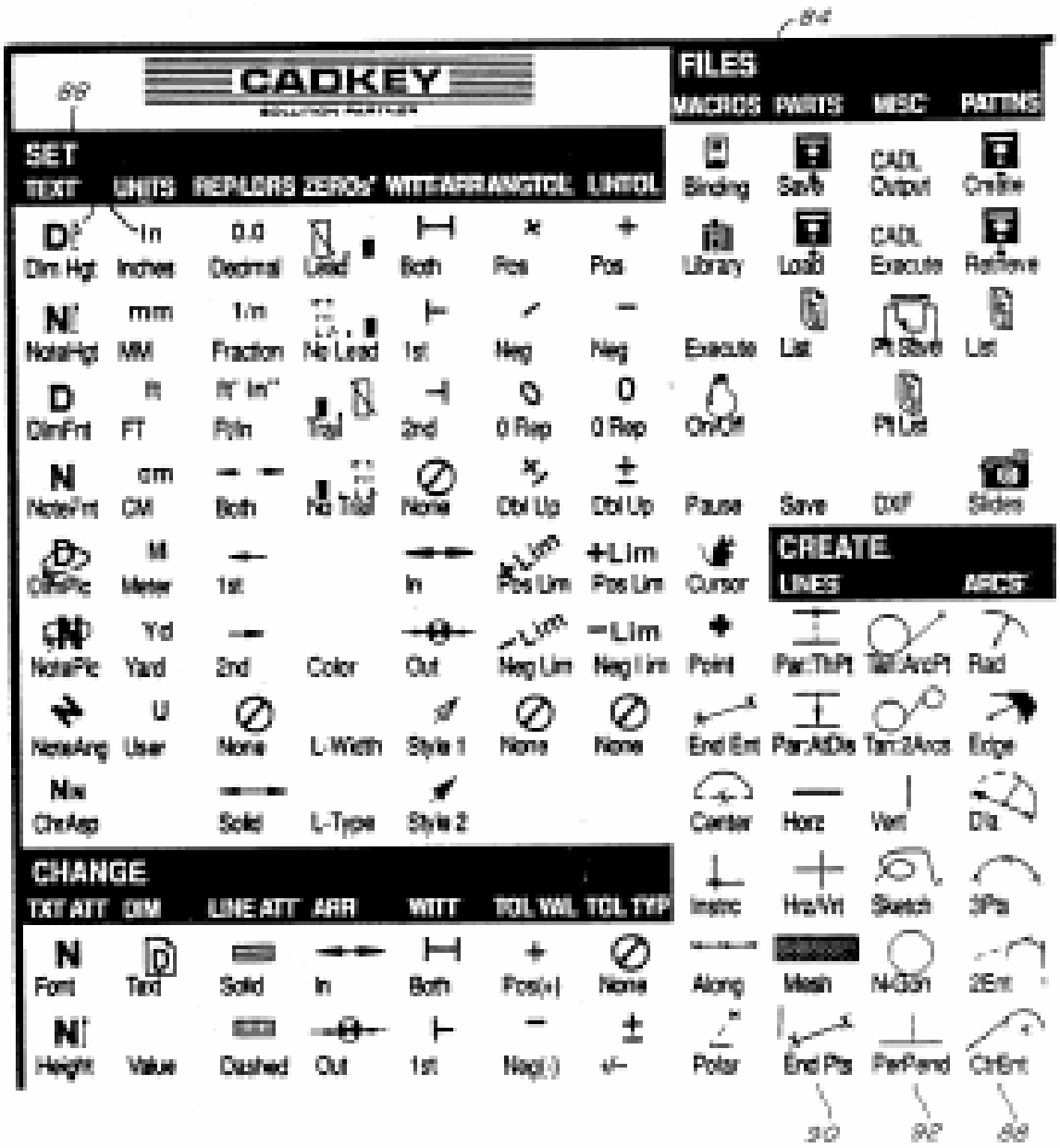
1. In a computer system including a central processing unit having a keyboard entry station with a plurality of keys for data entry and a pointing device station having a pointer with at least one pointer button for data entry and responsive to positionable movement of said pointer, and including system operating functions having successive layers of a main menu of selectable group functions and successive series of a first layer of sub-menus, and at least a second sub-layer of sub-menus having selectable group sub-functions, accessible by successive entries on said keyboard or said pointer to select an ultimate working function, the improvement comprising:

(a) a template for use with said pointing device;

(b) indicia arranged on the template and located in a plurality of groups, one group of each corresponding to one predetermined, selectable item of said main menu and all said indicia in a respective group bearing a common group identifying characteristic;

(c) at least a second plurality of indicia, each of which corresponds to a predetermined selectable item of a sub-menu corresponding to an item of said main menu;

(d) means securing said templates in a fixed orientation to said tablet whereby said pointing device can select a working function with a single movement of the said button.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Computer Program as a Manufacture or a Composition of Matter

- A CD-ROM or a floppy disk or a tape bearing or including a computer program may be considered a manufacture of a composition of matter.
- Typically, one's direct competitors make and sell computer readable media bearing a competing computer program.

Typical C of M or Manu Claim U.S. Pat No. **6,532,346**

1. One or more ***computer-readable media*** containing computer-executable instructions that, when executed by a computer, perform the following steps:

   detecting the occurrence of an end-of-life event for a print cartridge in a printing device, the end-of-life event indicating that the print cartridge requires replacement;

   determining an appropriate recycling location to which the print cartridge should be sent for recycling based on a geographic location of the printing device; and

   initiating the printing of a shipping label that includes an address for the recycling location.

Issues in Patent Enforcement

- Tyranny of possibilities
- Direct infringement versus contributory infringement and/or inducement to infringe
  - Direct competitor may not practice the method
- Must all the parties be in this country (internet patents)
- Secret practice

Tyranny of Possibilities

- Applicant defines the invention in the claims of the patent.
- Applicant seeks to give the invention a broad definition, so that competitors cannot circumvent the claim.
- In every field it is important to claim the essence of the invention and winnow away the details.
- In computer programs this is a particular challenge because of the great flexibility permitted in computer programming, the great number of programming languages and the many new terms of art without universally accepted meanings.

U.S. Patent No. **5,369,397**

1. In a fire detector of the type having a carbon dioxide sensor that produces a concentration signal related to the concentration of carbon dioxide gas in the immediate vicinity of the carbon dioxide sensor, and that ***applies a rate signal representative of the rate of change of the concentration to a threshold*** so that an alarm signal is produced when the rate signal exceeds a threshold level, the improvement comprising:

   a microcomputer connected to the carbon dioxide sensor and responsive to the concentration signal for producing derived variables for each sampling interval, for continually monitoring the derived variables and ***for automatically altering the threshold level in relation to the derived variables***.

   2. The improvement of claim 1 wherein one of the derived variables is the average value of the concentration signal during the sampling interval.

BUT..DOES ONE REALLY NEED TO CHANGE THE THRESHOLD?

- $T - \Delta T < (X_F - X_I)/\Delta t$; where ΔT is a linear function of $\mathbf{(X_I + X_{I+1} \ldots X_{F-1} + X_F)/(F\text{-}I)}$ **and** Δt is the time interval.
- Is the same as
- $T < (X_F - X_I)/\Delta t +$
  $\mathbf{C^*(X_I + X_{I+1} \ldots X_{F-1} + X_F)/(F\text{-}I)}$

so long as C is chosen correctly.

By expanding combining the two terms in the above equation, the case is made murkier – the rate of change need never be computed.

What to Do?

- Claim the result and the input, but, as much as possible, avoid the including the computations in the claim.
- In the example case, the drafter might have chosen “more than two time samples” as the input.
- Discuss a number of embodiments in the disclosure.

Different Types of Infringement

- Direct Infringement
  - making, using, selling or importing
- Contributory Infringement
  - *** selling or importing a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such a patent, and not a staple article of commerce suitable for substantial noninfringing use. 35 USC 271(c).
- Inducement to Infringe

Fantasy Football Case: U.S. Patent 4,918,603

1. A computer for playing football based upon actual football games, comprising:

means for setting up individual football franchises;

means for drafting actual football players into said franchises;

means for selecting starting player rosters from said actual football players;

means for trading said actual football players;

means for scoring performances of said actual football players based upon actual game scores such that franchises automatically calculate a composite win or loss score from a total of said individual actual football players' scores;

said players' scores are for quarterbacks, running backs and pass receivers in a first group and kickers in a second group; and

wherein said players in said first and second groups receive bonus points.

FANTASY FOOTBALL 287 F.3d 1108 (Fed. Cir. 2002) -Generally Upholds Broad View of Contributory Infringement

- If the software is written so as to enable a user to “activate” a patented function, without modifying the software, that counts as contributory infringement; but
- The facts of the case included a “wizard” for helping the game user set up the infringing function.
- The defendant had touted the patented function in its advertising.

More Fantasy

- In Fantasy, the “product” was judged to be the computer running the software, rather than the software itself.
- What does “modifying the code” mean?
- Would writing a “macro” modify the code?

What If The Server Is Located Outside of the U.S.?

35 USC 271(g): Whoever without authority imports into the United States or offers to sell, sells, or uses within the United States a product which is made by a process patented in the United States shall be liable as an infringer, ***

Does 271(g) Cover A Foreign Server Practicing a U.S. Patent

Example Claim From U.S. Patent 6,532,448:

1. A method for providing auction points over a computer network to a plurality of contest participants in connection with providing a contest, comprising:

   receiving a first message over a computer network, said message including a participant identifier associated with one of said plurality of contest participants and a chance identifier associated with a chance activity;

   incrementing, responsive to said participant identifier, an auction points account associated with said one of said plurality of contest participants, wherein a value of said auction points account represents a number of auction points which may be used by said one of said plurality of contest participants to bid on at least one auction item; and

   selecting at least one of said plurality of contest participants as a contest winner, wherein a probability of said one of said plurality of contest participants being selected as said contest winner is responsive, at least in part, to a value of a participant chance account associated with said one of said plurality of contest participants, and wherein said value of said participant chance account is separate from said value of said auction points account.

Apparent Lack of Authority

- Is there a product that is imported into the United States?
- There appear to be no case on point yet.
- I believe that purpose of 35 USC 271(g) and interest in protecting U.S. Patent holders will weigh heavily in causing a “product” to be defined that will bring server process patents under 35 USC 271(g).
- Until we know it may be wise to draft claims that cover what happens on the client computer, when possible.

Secret Practice

- If the computer program is one which can be practiced in secret by a competitor or large company, enforcement may be quite difficult.

Overseas Secret Process

35 U.S.C. 295 Presumption: Product made by patented process.

In actions alleging infringement of a process patent based on the importation, sale, offered for sale, or use of a product which is made from a process patented in the United States, if the court finds—

(1) that a substantial likelihood exists that the product was made by the patented process, and

(2) that the plaintiff has made a reasonable effort to determine the process actually used in the production of the product and was unable so to determine, the product shall be presumed to have been so made, and the burden of establishing that the product was not made by the process shall be on the party asserting that it was not so made.

- Appears to have been used successfully twice.