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Protection of Software and Computer Implemented Inventions

By:

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Worldwide Patent

- The biggest myth in patent law
- Thank TV advertising
- Patents are territorial
- Need patent in every country you want protection

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SA Patents Act:

- Patent may be granted for
  - Any new invention which
  - Involves an inventive step
  - Capable of use/application in trade, industry of agriculture


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SA Patents Act:

- Not inventions:
  - Discovery, scientific theory, mathematical method
  - Literary, dramatic, musical or artistic work, aesthetic creation
  - Scheme, rule or method for mental act, game or doing business
  - Program for a computer
  - Presentation of information


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SA Patents Act:

- Qualification:
  - Prevents, only to extent to which a patent or an application for a patent relates to that thing as such, anything from being treated as an invention.


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SA Patents Act:

- Position in SA not tested by courts
- No Case Law
- Tend to follow British law
- British law recently (7 Feb 2008) started to follow (more liberal) European Law on the topic

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Previously: Software

- Protected by Copyright ©
- Against ‘actual’ copying
- Proof?
- Always mark
  - E.g. © *University of Cape Town, 2008*
  - Incorporate “fingerprints”
- © does not protect inventive concepts


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Business Methods

- Not Patentable
- Protected by:
  - trade secrets
  - confidential information
  - know-how
- BM implemented by means of a computer program may be patentable


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Computer Implemented Inventions

"Inventions whose implementation involves the use of a computer, computer network, or other programmable apparatus, the invention having one or more features which are realised wholly or in part by means of a computer program"

- EPO


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Examples of CIIs

- A power saving method
- Multitasking computer
- A fault tolerance scheme (e.g. in telephone comms)
- A washing machine cycle
- A car braking system
- A computer implemented method for evaluating leadership effectiveness
- A computerised method for processing of invoices
- …

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Can CIIs be patented?

- US and Japan – yes!
- Europe – Requires “technical effect”
- UK – Follow Europe
- SA – Not tested but probably follow UK


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Position in US

- CII patents previously not allowed
- Position changed 1980
  - *"patents may be obtained on anything under the sun that is made by man"* – Diamond v Chakrabarty
- 1998 – subject to same standard of patentability if software produces "…*a useful, concrete and tangible effect*"


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US Continued:

- E.g. "*software controlling a machine most probably patentable*"
- 100,000+ CII patents issued to date
- E.g. *"computer programs embodied in a tangible medium, such as floppy diskettes, are patentable subject matter*


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US Continued:

- Can Patent:
  - A game disc or computer system's memory that has software loaded on it
  - A method or process performed by a game (or program for that matter) as instructed by the object code executing on a computer or game console


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US Example:

- US 7,257,842
- Pre-approval of computer files during a malware detection
  - Claim 1 *"A computer program product carrying a computer program operable to control a computer…"*
  - Claim 15 *"A method of detecting malware within a computer file…"*
  - Claim 23 *"Apparatus for detecting malware within a computer file…"*


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Position in Europe:

- Law similar to SA law
- Numerous decided cases
- Requires "Technical Effect"
- nb: pure business methods with no computers involved are not patentable
- CIIs of technical nature may be patentable


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EP Continued:

- Requirements:
  - Inventive
  - Of a technical nature
- Problem: no definition of "technical nature"
- Claims may be in:
  - Apparatus, method, data carrier and/or computer program product form


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EP Continued:

- EPO judgments:
  - (1988) *"Contribution to the art and the effects obtained are only in the area of excluded activity…"* - Not patentable
  - (1998) *"A computer program product is not excluded from patentability... if, when it is run on a computer, it produces a further technical effect which goes beyond the "normal" physical interactions between program (software) and computer (hardware)."*


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EP judgments continued:

- (2000) *"an apparatus constituting a physical entity or concrete product, suitable for performing or supporting an economic activity, is an invention…"*
- (2002) *"An invention consisting of a mixture of technical and non-technical features and having technical character as a whole is to be assessed with respect to the requirement of inventive step by taking account of all those features which contribute to said technical character whereas features making no such contribution cannot support the presence of inventive step."*


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What is Technical…

- Processing physical data
  - Parameters or control values of an industrial process
- Processing which affects the way a computer works
  - Saving memory, increasing speed
  - Security of a process, rate of data transfer etc.
- Technical character implied by physical features
  - Memory, port etc.


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- Technical
  - Control of a brake in a car
  - Faster communications between mobile phones
  - Secure data transmission (encryption of data)
  - Resource allocation in an operating system
- Not Technical
  - Calculation of a pension
  - New rules of an auction
  - Selling and booking sailing cruise packages
  - Aesthetic effects of music or of a video


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Judging Technical Effect

- Step 1 – Compare claim to prior art
- Step 2 – Is there a contribution in comparison to prior art?
- Step 3 – Is contribution related to controlling a process in natural world? (if “yes” go to step 6)
  - E.g. robot in industrial environment
  - Aircraft navigation system
  - DVD recording process


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Technical Effect Continued:

- Step 4 – Does the data processing represent a physical/chemical/biological (or other natural) process or entity? (if “yes”, go to step 6)
  - Not controlling process in natural world
  - Deals with data processing
  - Data represents natural processes
  - E.g. Physical, chemical, biological process or another process in nature
  - E.g. Whether condition data, congestion in telecom network, calculation of DNA profile.


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Technical Effect Continued:

- Step 5 – Is that data processing accepted by the EPO as having a technical effect (if “yes”, go to step 6)
  - E.g. security (encryption), data reduction (compression), user interfacing, error correction, authenticity (digital signatures), improved user interfaces (GUI)

- Step 6 – Is the contribution inventive in light of the prior art?
- If answer at steps 2 or 6 in negative, invention is not patentable for lack of novelty or inventiveness.
- If answer at step 5 in negative, invention is not technical.


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Technical Effect Continued:

- To be patentable, CII must still provide a technical solution to a technical problem to be viewed as inventive.
- Examples
  - Automatic translation
  - Encoding of data
  - Windows™


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Position in UK

- 2006
  - Claims to software or software incorporated on a computer readable carrier were not allowed.
- 2008
  - Where claims to a method performed by running a suitably programmed computer or to a computer programmed to carry out the method are allowable then, in principle, a claim to the program itself should also be allowable.
  - Claim to computer program must be drawn to reflect features of the invention which would ensure the patentability of the method which the program is intended to carry out when it is run.


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UK Continued:

- 2008
  - Where, but only where, these conditions are met, examiners will no longer object to claims to a computer program or a program on a carrier.

- In other words, software is patentable.
- Change to be effected immediately!


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Are software patents evil?

- File patents when the inventive concept merits it
- When operating in the US patents are very important
  - Defensive tool
- More patents are being granted than should be
  - Often inventions are obvious
- Technology changes quickly, government changes slowly


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Evil patents Continued:

- Big companies will rather buy you than sue you
- Amazon “one-click” patent was probably obvious
- Microsoft has numerous patents
  - Kept mostly for defensive strategies?
- In the US patents are part of the game
  - Ice Hockey “Check”
- Big corporates don’t win with lawsuits
  - They lock out competitors


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Evil patents Continued:

- Don’t file patents to sue
- File patents to:
  - Create shareholder interest
  - Do “mating dance” with acquirers
  - Build up patent portfolio to keep peace with competitors
  - Persuade competitors to rather buy you than replicate your competencies in-house
- Clever programming protects small players against large corporations, not only patents.


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Evil patents Continued:

- Do patents stifle innovation?
- Whether they do or don't, they are at least intended to encourage innovation
- Patents are being abused, but the alternative may be much worse
- Even "trolls" may encourage innovation as they do pay, in some cases handsomely, for acquiring patents.


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The South African Position

- Too much effort into development to refuse software patents outright
- Not tested in our courts
- Will probably follow UK approach
  - "technical effect"
- No examination
  - Will get "program for computer" patent
- Inexpensive to "gamble" with a first application


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SA Position Continued:

- Look at patents strategically
- Let patents work in your favour
  - Marketing
  - Attract investors
  - License technology - IBM $US 2 billion p.a.
- Patents are part of the game
- Do not leave your competition un-checked!

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"Let Intellectual Property work in your favour"

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