



Europäisches  
Patentamt  
European  
Patent Office  
Office européen  
des brevets

# MoB examples Computer Implemented Inventions when they are Methods of doing Business

Alex Gardiner  
© EPO

Belgrade  
10th November 2010



# Exclusion from being "an invention"

## Article 52 EPC

- 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.
- 3) Paragraph 2 shall exclude the patentability of the subject-matter or activities referred to therein **only** to the extent to which a European patent application or European patent relates to such subject-matter or activities **as such**.

## Business Methods vs CII

- claims directed to pure business methods are excluded from patentability Art. 52(2)(3)
- computer-implemented business methods, *like any other computer implemented inventions*, are allowed if there is a solution of a technical problem (not only a business problem) by technical means (T0258/03, Hitachi)
- **prior art** is art in the field of technology, **not** art in the fields of commerce and/or business methods (T 0172/03, RICOH, order processing)
- non-technical (business or other excluded) features cannot in themselves contribute to the solution of a technical problem
- Any inconsistency in EPO practice is a normal progression of case law (G3/08)

## Methods of doing business – why the fuss?

- Internet use for business, banking & shopping increasingly popular
- Marketing planning and inventory processing becoming integrated
- Frequent use as examples of ‘bad/trivial/software, bad patents/patent examiners, bad system’ by a loud cloud culture
- Huge explosion in patent numbers
  - US patent system swinging between permissive and very permissive, at present the situation is uncertain
  - EPO; 2 files per week in 1997, 130 per week in 1998
  - US PCT retained by USPTO in 2002 (80% of EPO workload)
  - EP workload now 60 per week and rising above average
- Europe
  - Low grant %
  - Low development costs
  - High financial gains when a patent IS granted

## Again - Computer implemented inventions, OK

- A piece of software ALWAYS does something - but we need more
  - Computer programmes in isolation are excluded
  - **What they may achieve MIGHT be immaterial; i.e. there is NO further technical effect**
- Key Questions
  - **What** is done and **how**?
    - Is the operation of a machine controlled?
    - What is the **outcome** of that control?
    - Is it merely that it runs?
  - Whose knowledge is necessitated?
    - The hardware specialist
    - The programmer with knowledge of the working of the computer
    - **An accountant**
    - **A marketing specialist**

## But what if the business bit is inventive....?

- The **non-technical features** of an application may be fairly included in the statement of the problem to be solved. This does not equate to them being regarded as part of the state of the art.
- So; putting sweets on low shelves to increase sales due to small children being aware of them.
- The problem of increasing sales to children may be fairly stated as the problem handed to the person skilled in the art. It is immaterial if that sales related realisation is inventive or not.
- The fact that children are usually short and thus that the sweets should be low down is obvious.
- Accordingly the implementation of the solution - low shelves with sweets on them is not inventive.
- This does not deny the technical character of physical shelving or sweets, but does recognise the beginning of the area of competence of the skilled person.

## ...And yet... We automatically start to think ‘what if?’

- Were the shelves to **self-adjust** in height to approaching customers in order to best present their wares...
- The idea of reacting to customer height and viewing angle would be the same as before
- The **implementation of a motorised shelf height adjustment which reacts to a detector of the customer height** may possibly include a technical inventive step.
- This probably immediately went through your head if you are a technically qualified person or an IP specialist
- If it went through your head and you are a marketing specialist, it's because of this talk – standing in a shop, it would not.



# MoB Example 1

- 1. A method of scheduling tasks comprising:  
  
creating a list of activities required to accomplish the tasks;  
  
modifying selected activities into sets of smaller activities; and  
  
scheduling the activities and smaller activities based on  
discrete and continuous constraints.

## The EPO; how case law has developed

- EPO examining division
  - T959/03 (98963827) Ed Poole, refusal excluded, IS too.
  - T930/05 (02022499) refusal Article 52(2)(3), no prior art other than general knowledge for supplemental Art 56 reasoning
- EPO board of appeal
  - T959/03 not excluded, refusal IS yes
    - **computer system** is stated, its use is implied; **no exclusion**
    - provision of appropriate means (computer) having modified functionality at a general level of definition; no inventive step
  - T930/05 exclusion upheld
    - claimed subject-matter which makes use of means which **may** include a realisation which is **not necessarily technical** may be regarded as **excluded**
    - **process networks and processes, thresholds of measurable time dependent quantities may not be technical**

## Some fun; allowable or not?

- A **computer program**, which is a game 'The lost tribe of patent attorneys' with action scenes and fun images.
- A **computer program**, 'The lost tribe of patent attorneys' where the cache memory is pumped with data blocks larger than the memory itself (on the realisation that it is also emptying and so can hold more than its size).
- A **computer program** which controls a display to show only financially important trades to a trader
- A **computer program** which takes advantage of the refresh delay within financial data flows to kill power to selected parts of the computer system and thus save power and reduce overheating of the processor

## MoB example 2

1. A computer system for electronically assisting in a transaction, comprising a terminal means arranged:
  - to accept
  - a) a language input from a customer selecting a language in which to view catalogue information on products;
  - b) a currency input from the customer selecting a currency in which to obtain a price of the products;
  - c) one or more inputs from the customer selecting one or more products to be purchased and a destination for said selected products to be purchased, and on receipt of the inputs to trigger the calculation of costs involved in moving said selected products,
  - including the cost of selected products; and
  - c) order input from the customer to order said selected products,
  - characterized by
    - a means for calculating all costs involved in moving said selected products, including the cost of the selected products and payment of international taxes and duties, to an international destination, and
    - a means for generating an electronic title including the content of a commercial invoice for goods subject to said transaction

## How we examine CII of any kind - 1

- Identify definitely **technical features**
  - the computer system/network or parts thereof
- Identify definitely **non-technical features which in no way effect the function of the system**
  - a) the naming of data processed
  - b) rules applied being e.g. financial market modelling algorithms
- Identify those features which **may directly or indirectly effect** the function of the system
  - c) the timing (in machine system terms) of data flowing
  - d) the integrity of sequencing (in machine terms) to reflect specifics of integrity of sequencing (even e.g. in market terms)
- A **computer program** which exhibits a **further technical effect** (for example control of c) or d) above, but not normally a) or b)) is considered to possess technical character

## How we examine CII of any kind - 2

- If there are **only non-technical features** which in no way effect the function of the system and no technical means adequately specified in the claim, this is considered **pure excluded matter**
  - Declaration that 'no meaningful search is possible' probable
  - **Article 52(2)&(3) exclusion from patentability** objection
- If there are a few notoriously **well known technical features**
  - Either the search report will contain a statement that no documentary evidence of the general knowledge of the skilled person was needed or will cite evidence of appropriate technical knowledge
  - **Inventive step** objection on basis of general knowledge of the notoriously known technical features
- If there are **technical features** and/or interaction between these and other **features indirectly or directly effecting the function** of the technical features
  - These form part of the basis of the search
  - **Article 54 or 56 EPC**

## First Step - Technical Character, Art 52(2)&(3)

- Exclusion under Art. 52(2)(3) EPC
  - computer programs have always *a certain* technical character since there are physical interactions (flow of electrical current) in the computer; a **further technical effect** is necessary which is more than the normal technical effect (T1173/97)
  - *general* technical considerations are not sufficient (T914/02- nuclear reactor fuel bundles)
  - no technical character if there are no technical means (T0388/04- undeliverable mail)
  - cannot be considered to be fulfilled by an invention, as claimed, which, although *possibly encompassing* technical embodiments, also encompasses ways of implementing it that do not qualify as technical (T0619/02 - odour selection)

## Second Step - Technical contribution, Art 56

- T959/03 - Electronic version **of paper bill of lading, interaction with databases** of authorities. **Mere automation** of a paper administration without any technical detail.
  - Confirmation of refusal **Article 56 EPC Inventive Step**
- T1284/04 - **Financial instrument and administering a loan system.** Only **storing and adjusting data is technical**, the rest business. Mere naming of a processor doesn't make it special.
  - Confirmation of refusal **Article 56 EPC**
- T1161/04 - Nasdaq, **rebalancing a stock index** with calculation by **an apparatus**
  - Confirmation to refusal under **Article 56 EPC**
- 97952310 - Cantor Fitzgerald, automated auction protocol processor
  - Started as a **structured trading environment**
  - Ended with characterising features being a **customised keypad**
  - Summons to oral proceedings. Application withdrawn.

## Latest case law - T154/04, referred to by G 3/08

- Sets out the requirement for **technical character**
- Sets out the manner of analysis of **inventive step of computer implemented inventions**
- Examines the consistency of EP case law and the development of such case law over time
- Considers recent national case law and its basis
- Finds no inconsistency in EP practice
- Noted that no referral by the Board of Appeal to the Enlarged Board is necessary; in coming to the same conclusion, the Enlarged Board referred back to T154/04 as a practical approach

## The EPO; how case law has developed

- EPO examining division T258/03, Hitachi, a) refused - excluded, as the presence of any generally defined technical means was insufficient to establish technical character b) refused - not inventive as whilst a technical contribution might be provided by technical features...the automation by a program is obvious
  - T172/03, Ricoh
  - T1161/04, Nasdaq
  - EPO board of appeal; three refusals upheld - but
  - not Article 52(2) and (3) because that would include 'remnants of the contribution approach'
  - Article 56 if there is any technical-character-giving means at all present;
  - Inventive step can only lie in these, not elsewhere
  - General knowledge of the technically skilled person is a valid objection
  - Balance 'functional data' against 'cognitive content'

## The EPO; how case law has developed

- EPO examining division
  - T959/03 (98963827) Ed Poole, refusal excluded, IS too.
  - T930/05 (02022499) refusal Article 52(2)(3), no prior art other than general knowledge for supplemental Art 56 reasoning
- EPO board of appeal
  - T959/03 not excluded, refusal IS yes
    - **computer system** is stated, its use is implied; **no exclusion**
    - provision of appropriate means (computer) having modified functionality at a general level of definition; no inventive step
  - T930/05 exclusion upheld
    - claimed subject-matter which makes use of means which **may** include a realisation which is **not necessarily technical** may be regarded as **excluded**
    - **process networks and processes, thresholds of measurable time dependent quantities may not be technical**

## ...on the computer program 'as such'

- T1173/97

A computer program which is a mere abstract creation which does not provide a further technical effect

- T0424/03 Microsoft, clipboard

The claim category 'computer implemented method' cannot relate to a computer program as such.

A method implemented in a computer system represents a sequence of steps actually performed and achieving an effect, and not a sequence of computer-executable instructions (i.e. a computer program) which just have the potential of achieving such an effect when loaded into, and run on, a computer.

## ...on presentations of Information

different positions of different Boards of Appeal

- T0049/04 Walker text processor  
improved text which **increases readability of text** contributes to a **technical** solution to a technical problem
- T0125/04 designing diagrams for comparative visual assessment, non-technical image features do not contribute to inventive step
- T 1194/97 Philips, data structure  
distinction between **cognitive** and **functional** data;  
functional data includes *data structure defined in terms (here coded picture line synchronisations, line numbers, and addresses) which inherently comprise the technical features of the system (here read device plus record carrier) in which the record carrier is operative*
- T0928/03, Konami, visibility of football game on a display  
computer game

## ...on simulation and modelling of things

- T0049/99 object-oriented model of a physical system  
Information modelling is an intellectual activity is, as such, not an invention for the purposes of Article 52(1) EPC. Only the purposive use of information modelling in the context of a solution to a technical problem may contribute to the technical character of an invention.
- T0471/05 - design of an optical system  
series of mathematical and optical abstract concepts without properly requiring a physical, technical implementation - excluded under 52(2)(3) EPC
- T1227/05 - computer implemented simulation of an integrated circuit is now a step in the production of an integrated circuit
  - no mental act, no mathematical method as such
  - in-depth knowledge of technical functioning required

## What if the business bit is inventive....?

- The **non-technical features** of an application may be fairly included in the statement of the problem to be solved. This does not equate to them being regarded as part of the state of the art.
- So; putting sweets on low shelves to increase sales due to small children being aware of them.
- The problem of increasing sales to children may be fairly stated as the problem handed to the person skilled in the art. It is immaterial if that sales avenue realisation is inventive or not.
- The fact that children are usually short and thus that the sweets should be low down is obvious.
- Accordingly the implementation of the solution - low shelves with sweets on them is not inventive.
- This does not deny the technical character of physical shelving or sweets, but does recognise the beginning of the area of competence of the skilled person.

## ...And yet...

- Were the shelves to **self-adjust** in height to approaching customers in order to best present their wares...
- The idea of reacting to customer height and viewing angle would be the same as before
- The **implementation of a motorised shelf height adjustment which reacts to a detector of the customer height** may possibly include a technical inventive step.



## Some fun; allowable or not?

- A **computer program**, 'The lost tribe of patent attorneys' with action scenes and fun images.
- A **computer program**, 'The lost tribe of patent attorneys' where the cache memory is pumped with data blocks larger than the memory itself (on the realisation that it is also emptying and so can hold more than its size).
- A **computer program** which controls a display to show only financially important trades to a trader
- A **computer program** which takes advantage of the refresh delay within financial data flows to kill power to selected parts of the computer system and thus save power and reduce overheating of the processor

## MoB Example 3

1. A transaction system for providing a financial transaction service to a subscriber, said transaction system comprising:
  - (a) a service control unit which processes financial transaction services for the subscriber;
  - (b) a subscriber service interface for providing a service menu to a mobile terminal of the subscriber through a communication network and for outputting a corresponding charging or realization service request message to said service control unit to provide a corresponding financial transaction service when an item of said service menu is selected;
  - (c) a transaction service interface connecting said service control unit by means of a financial network to at least one bank settlement system which upon a settlement request message transmitted by said service control unit by means of said financial network to said bank settlement system processes a first transfer of money between a bank account of the juridical body providing the financial transaction service opened in said bank settlement system and a bank account of the subscriber; and
  - (d) a database for storing data processed in said service control unit,, said database including a service account of the juridical
  - body providing the financial transaction service and a mobile account granted to a cellular phone number of a mobile terminal of the subscriber,
  - wherein the service control unit processes a second transfer of a corresponding amount of money between the service account of the juridical body providing the financial transaction service and the mobile account of the subscriber.



**Thank You**

**Questions?**

