Patentability of Computer Implemented Inventions at the European Patent Office, and Referral G3/08

Chris Gabriel
Patent Examiner, Cluster Computers
European Patent Office

2 September 2010
Disclaimer

The presentation and in particular the treatment of the examples reflects the personal opinion of the author and does in no means prejudice any Examination Division or Opposition Division working on related applications.
Agenda

Introduction
The EPO

Computer-implemented Inventions -
The Procedure before the EPO
1. Legal Basis: European Patent Convention
2. Examination Practice and Case Law

Referral G3/08
The EPO
The European Patent Organisation

37 member states
3 extension states

• European Union
The European Patent Office - Locations

The EPO has offices at five different locations.

Its headquarters are in Munich.
Agenda

Introduction
The EPO

Computer-implemented Inventions -
The Procedure before the EPO
1. Legal Basis: European Patent Convention
2. Examination Practice and Case Law

Referral G3/08
EPO: Procedures

1. Instance
2. Instance (BOA)
Enlarged BOA

Grant of a European patent
Examination
Opposition
Appeal
Referral
Validation in EPO member states
National patents
National courts
National law
Nullity infringement proceedings

President
European Patent Office
National bodies

Refusal
Revocation
Maintenance
Limitation

Limitation
Revocation

Nullity
Infringement proceedings

National law
National courts
National patents

Validation in EPO member states

National bodies
Agenda

Introduction
The EPO

Computer-implemented Inventions -
The Procedure before the EPO
1. Legal Basis: European Patent Convention
2. Examination Practice and Case Law

Referral G3/08
Definitions

"Software patent"
- is a colloquial expression
- may mislead to the assumption that source/object code is patentable

"Computer-implemented invention" - CII
- an invention whose implementation involves the use of a computer, computer network or other programmable apparatus
- with features realised wholly or partly by means of a computer program

Examples:
- a program-controlled ...
- washing machine cycle
- car braking system
European Patent Convention

What is an Invention?
Art. 52(1)

Patentable Inventions

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.
European Patent Convention

What is NOT an Invention?
Art. 52(2)

The following, in particular, shall not be regarded as inventions:

a) discoveries, scientific theories, 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;

Art. 52(3)

...only to the extent to which a European patent application relates to such subject matter or activities as such.
What is an Invention?

There is no positive definition of the term "invention" in the EPC.
What is an Invention?

Non-Inventions

- Narrow Interpretation
- Activities falling within the notion of a non-invention would typically represent purely abstract concepts devoid of any technical implication.
- A non-invention has no technical character

T 258/03 (HITACHI)
Business Method - Example

"A method of promoting toy sales,
comprising the step of placing the toys on the lower shelves of the store, where they are easily accessible for children."

classified in IPC8 class G06Q
(former IPC7 G06F17/60)
~ 211,000 published applications
Method for playing games - Example

"A method of conducting a game,

comprising acts of:

- providing for an entry of a player into a plurality of game sessions;

- providing for a race between the player and one or more other players; and

- playing, by the player, in at least one of the plurality of game sessions having at least one outcome, wherein the at least one outcome of at least one of the plurality of game sessions determines an advancement of the player in the race"
Technical Character

Further requirement for patentability **implicitly** contained in the EPC:

the invention must be of "**technical character**" to the extent that it
‡ must relate to a **technical** field ‡ R.42(1)(a) EPC
‡ must concern a **technical** problem ‡ R.42(1)(c) EPC
‡ must have **technical** features in terms of which the matter for which protection is sought can be defined in the claim ‡ R.43(1) EPC

*Guidelines, C-IV 1.2*

‡ no general definition of "technical"
‡ interpret grey areas
‡ series of individual Board's of Appeal decisions
Technical is...

- processing **physical data** parameters or control values of an industrial process

- processing which **affects the way a computer operates**
  - saving memory, increasing speed
  - security of a process, rate of data transfer etc.

- the **physical features of an entity**
  - memory, port etc.
Technical character of Computer Programs

The computer program must have the potential to provide a "further technical effect" in order not to be considered a "computer program as such"

The normal technical effects like flow of electrical current are not sufficient.

T1173/97 (IBM)
T0935/97 (IBM)
## Computer Programs

<table>
<thead>
<tr>
<th>further technical effect</th>
<th>no further technical effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>control of a brake in a car</td>
<td>aesthetical effects of music or a video</td>
</tr>
<tr>
<td>faster communication between mobile phones</td>
<td>new rules for an auction scheme</td>
</tr>
<tr>
<td>secure data transmission (encryption of data)</td>
<td>selling and booking sailing cruise packages</td>
</tr>
<tr>
<td>resource allocation in an operating system</td>
<td>calculation of a pension contributions</td>
</tr>
</tbody>
</table>
European Patent Law

Legal Principle:
the patent monopoly must be justified
by the *technical contribution* to the art.
Limits to exclusions under Articles 52(2),(3) EPC

If at least one feature has technical character, then the entire subject-matter has technical character.
Agenda

Introduction
The EPO

Computer-implemented Inventions -
The Procedure before the EPO
1. Legal Basis: European Patent Convention
2. Examination Practice and Case Law

Referral G3/08
Example from Business Methods

"A method of controlling payment and delivery of content"

User

Content provider

Regulation: access to content is free
- if user is from a country with GDP < limit value and
- if the requested content is scientific content
Example I: Exclusion

Non-technical aspects
A method of controlling payment and delivery of content, the method comprising:
- a provider receiving a request for content from a user;
- the provider accessing content information describing the requested content;
- the provider accessing regulation information describing at least one regulation that is related to the payment and the content information of the requested content and to geographical information of the user;
- determining the geographic location of the user;
- the provider determining whether the requested content satisfies the at least one regulation;
  – if so, delivering the requested content to the user for free;
  – if not, transmitting a payment request to the user.

Clearly Technical Aspects
none
Example I: Exclusion

The subject matter of the claim defines purely a business or administrative method and does not have a technical character.

Objection under Article 52(1) because the claim constitutes subject-matter in the sense of Article 52(2) & (3)

Search report:
Declaration under Rule 63
Example II: Computer-Implemented Business Method

A computer-implemented method of controlling payment and delivery of content within a computer system comprising a user terminal, a provider server and a database which are connected via a communication network, the method comprising:

- the provider server receiving a request for content from the user terminal;
- the provider server accessing content information in the database describing the requested content;
- the provider server accessing regulation information in the database describing at least one regulation that is related to the payment and the content information of the requested content and to geographical information of the user;
- determining the geographic location of the user;
- the provider server determining whether the requested content satisfies the at least one regulation:
  - if so, delivering the requested content to the user terminal
  - if not, transmitting a payment request to the user terminal.
Example II: Computer-Implemented Business Method

Clearly Technical Aspects

A computer implemented method comprising:
- a server receiving data from a terminal over a communication network;
- the server accessing data in a database;
- the server processing the accessed and received data;
- the server transmitting the processing result to the terminal;

Non-Technical Aspects/Process

Same business process as in Example I

The subject matter of the claim defines technical and non-technical aspects and thus has technical character.

→ assessment of inventive step
Inventive Step

**Problem Solution Approach**

- Establish closest prior art
- Determine differentiating features and their technical effects
- Formulate an objective technical problem
- Decide whether the proposed solution is obvious for the skilled person
Inventive Step

Clearly Technical Aspects

State of the art:
β state of technology

Closest prior art:
β always chosen from a field of technology

Skilled person:
β skilled in the field of information technology; has general programming skills
β aware of common general knowledge in information technology
β no knowledge of non-technical fields

T641/00 COMVIK

Non-Technical Aspects/Process

'requirements specification'
= instructions given to a programmer summarising the requirements of the customer
i.e. business or administrative process to be automated

• state of the art

T172/03 RICOH
Inventive Step

Objective technical problem:

- derived by the technical differences between the closest prior art and the claimed subject-matter,
- it must be a technical problem,
- no pointers to the technical solution
- a (non-technical) aim may appear as a constraint that has to be met.

Where a claim refers to an aim to be achieved in a non-technical field, this aim may legitimately appear in the formulation of the problem as part of the framework of the technical problem that is to be solved, in particular as a constraint that has to be met.

_T641/00 (COMVIK)_
Example II: Inventive Step

Technical character: yes
Non-technical aspects: yes
Requirements specification: = business method: "ordering content and calculating its price"

Closest prior art: computer system comprising a server, database, and a terminal which are connected via a communication network

Differences: said business method
Skilled person: data processing expert
Objective technical problem: automate said business method on said computer system
Solution: implementation/automation is considered obvious
Case Law

RICOH: T0172/03 (27.11.2003)

Where the claim differs from the closest prior art only in a **mere automation** of constraints imposed by the **purely non-technical aspects**, such automation using conventional hardware and programming methods is considered to be obvious to a skilled person.
Inventive Step

Pointers towards technical character

Does a feature which on its own is of non-technical character combine with the clearly technical aspects to cause a functional technical effect?

Is content of a cognitive nature or used for a functional technical purpose?

Are means defined by their non-technical purpose or by technical features related to their implementation?

Are features assisting in overcoming a technical hurdle or circumvention it?

Where any aspect contributes to technical character it must be included it in the assessment of inventive step.
Case Law

**HITACHI: T0258/03 (21.04.2004)**

- Circumventing a technical problem rather than solving it by technical means cannot contribute to the technical character of the subject-matter claimed.

- **Technical Problem**
  - delays in propagation of information between bidders and a server

- **Solution**
  - adapt auction method such that any data transmission delays become irrelevant

- Not a technical solution since it only concerns modification to the rules of the auction.
Example III: Computer-Implemented Business Method

A computer-implemented method of controlling payment and delivery of content within a computer system comprising a user terminal, a provider server and a database which are connected via a communication network, the method comprising:

- the provider server receiving a request for content from the user terminal;
- the provider server accessing in the database content information describing the requested content;
- the provider server accessing regulation information in the database describing at least one regulation that is related to the payment and the content information of the requested content and to geographical information of the user;
- determining the geographic location of the user;
- the provider server determining whether the requested content satisfies the at least one regulation;
  - if so, delivering the requested content to the user terminal;
  - if not, transmitting a payment request to the user terminal.

wherein the geographic location of the user is determined by the IP address of the user terminal using method steps x, y, z.
Example III: Inventive Step

Technical character: yes
Non-technical aspects: yes
Requirements specification: = business method: ordering content and calculating its price
Closest prior art: computer system comprising a server, database, and a terminal which are connected via a communications network capable of determining the location of user.
Non-technical differences: said business method
Technical differences: method steps x, y, z
Skilled person: data processing expert
Objective technical problem: 1. automate said business method
2. find alternative method for determining geographic location of use
Solution: 1. automation is obvious
2. obvious?
Agenda

Introduction
The EPO

Computer-implemented Inventions -
The Procedure before the EPO
1. Legal Basis: European Patent Convention
2. Examination Practice and Case Law

Referral G3/08
Referral G3/08 - Short summary

Questions forwarded by the then president of the EPO (Ms. Brimelow) to the Enlarged Board of Appeal concerning different decisions of Boards of Appeal about the manner in which Computer Implemented Inventions are treated.

Conclusion by the Enlarged Board of Appeal: The decisions cited by the president were not conflicting, but rather showed a steady development of case-law, hence the referral was not admitted.
Impact of G3/08 - The term technical

- Reasons 9.2: "...the Enlarged Board only makes the assertions that "a computer-readable data storage medium" and a cup have technical character and that designing a bicycle involves technical considerations..."

- Reasons 13.3: "Designing a bicycle clearly involves technical considerations ... but it is a process which at least initially can take place in the designer's mind, i.e. it can be a mental act and to the extend that it is a mental act would be excluded from patentability"

- Reasons 13.5, with reference to T769/92 "Sohei" and T1173/97 "IBM": "...although it may be said that all computer programming involves technical considerations since it is concerned with defining a method which can be carried out by a machine, that in itself is not enough to demonstrate that the program which results from the programming has technical character; the programmer must have had technical considerations beyond "merely" finding a computer algorithm to carry out some procedure."
Impact of G3/08 - the term technical

Reasons 13.5.1: "It was apparently the intention of the writers of the EPC... to consider the abstract formulation of algorithms as not belonging to a technical field". This leads to the conclusion that the writing of a software program should involve "further technical considerations" to guarantee that the program has technical character.
Impact of G3/08 - Questions not asked but answered anyhow

Reasons 10.13.2: "We note, in passing, that it is somewhat surprising that the referral does not address any of its questions to the validity of this way of judging an inventive step, an issue which is surely of general interest (and on which Lord Justice Jacob proposed should be put to the Enlarged Board - "How should those elements of a claim that relate to excluded subject matter be treated when assessing whether an invention is novel and inventive under Art. 54 and 56 ?")"

"The Board can only speculate that the president could not identify any divergence in the case law on this issue, ... Nor is the Enlarged Board aware of any divergence in this case law."

"It would appear that the case law... has created a practicable system for delimiting the innovations for which a patent may be granted."
Impact of G3/08 - We are no politicians

Reasons 7.2.7: "Even the essentially commendable desire for harmonisation expressed by Lord Justice Jacob in the Aerotel/Macrossan judgement can be taken up by the Enlarged Board only to the extent possible under the EPC, even if this suggestion might significantly advance the cause of legal uniformity in Europe. When judiciary-driven legal development meets its limits, it is time for the legislator to take over."
G3/08 Conclusion

Although the referral by the president was not admitted, G3/08 in essence confirms the approach developed by the Boards of Appeal for Computer Implemented Inventions.
Thank you for your attention!