Comments on Draft Guidelines for Examination of Computer Related Inventions (CRIs):

While reviewing the draft guidelines for examination of computer related inventions, it is noted that several examples/Illustrations have used in the guidelines to exhibit approach adopted by of the patent office while examining/deciding applications related to excluded categories.

It is not clear from these examples/illustrations that how these relate to the excluded subject matter of section 3(k). No clear explanation has been provided.

In this regard, we have following suggestions:
a. All examples/illustrations should be given along with the application number/grant number/case citation.
b. It appears that except one IPAB decision, all other examples/illustrations are from the Patent Office. However, there are many cases granted by the Patent Office which are contradictory to the examples given in the guidelines. In this scenario, how the examples/illustrations given in the guidelines will guide the Examiners and the Applicants?
c. The authority deciding/granting/refusing these cases should be identified in all the examples/illustrations.
d. The explanation given by the authority while deciding/refusing/granting the cases should be incorporated along with each example/illustration given.
e. Such examples/illustrations where the Applicant opted for abandoning the application by not responding to the examination report or not attending the hearing should not be incorporated in the guidelines. Also, such examples/illustrations where the Applicant had withdrawn the claims in response to an objection from the Patent Office should not be incorporated in the guidelines. See illustration 15 and 16 on page numbers 41 and 42. In such cases the Applicant had wished not to contest the claims not because they are unpatentable. Many cases the Applicants dropped the claims/application due to various considerations such as no commercial interest, cannot incur more expenses, not well supported in the specification etc.
f. Only negative examples/illustrations are included. It is suggested to incorporate those examples/illustrations which have been contentious while being prosecuted by the patent office but later allowed/granted.
g. Matters which have been contentious in EP and other jurisdictions regarding patentability of computer programs, business methods, mathematical methods and algorithms should be included in the guidelines.

We now comment upon various definitions/contents included in the Draft Guidelines for Examination of Computer Related Inventions (CRIs):

3.7 Algorithm:
We do not agree with the definition of algorithms as given in section 3.7.

While referring to the concise oxford dictionary, it is noticed that the definition of algorithm is in the field of mathematics.
The correct way of using algorithm is mathematical algorithm.

Algorithms are abstract mathematical principles.

The word "algorithm" is derived from the name of ninth century Persian Muslim mathematician Abu Abdullah Muhammad ibn Musa Al-Khwarizmi, who was part of the royal court of Baghdad. Al-Khwarizmi wrote a treatise in 825 AD on "Calculation with Hindu numerals". The aforesaid treatise was translated into Latin in the 12th century as "*Algoritmi de numero Indorum*". Thus it can be observed that the term "algoritmi" means "calculation methods". The intrusive "th" is most likely due to a false cognate with the Greek word "arithmos" which means "numbers".

Thus, taking into consideration the aforesaid background, the term "algorithm" which is derived from the phrase "*Algoritmi de numero Indorum*" means "calculation methods involving numbers". More particularly, the term "algorithm" means a step-by-step procedure consisting of a definite number of steps, each of which is performable by a human being for solving mathematical problems in the branch of algebra and more specifically limited to mathematical operations addition, subtraction, Multiplication and division on Hindu-Arabic numerals.

Although in due course of time, the word "algorithm" has been used in various other areas, in the respective areas, it is still understood to mean step-by-step calculation method consisting of a definite number of steps, each of which is performable by a human being and that involve operations on numbers.

Thus, an algorithm must have the following characteristics:
   (a)   it is a "step-by-step'' procedure;
   (b)   the "step-by-step" procedure contains a minimum of two and a maximum of a finite number of steps, i.e. number of steps "n" satisfies the equation $2<n<\infty$;
   (c)   each step of the procedure contains unambiguous and sufficient information which can enable the step to be performed even by a person not skilled in the particular art;
   (d)   the purpose of the step-by-step procedure is to solve a mathematical problem;
   (e)   the step-by-step procedure is performable only by a human being; and
   (f)   the step-by-step procedure involves operations on numbers.

If a procedure does not have all of the aforesaid characteristics, the same cannot be and is not considered as algorithm and is referred to as a method. Thus, it can be said that an algorithm is a subset of the term "method" and a method qualifies to be called an algorithm only when the same satisfies all of the aforesaid criteria. On the other hand, if a procedure does not qualify each of the aforesaid criteria, the said though remains as a "method" but not as algorithm.

Thus, by way of example, if the problem is not mathematical in nature, a procedure to solve the

same cannot be considered as an algorithm. Alternatively, if at least one step in a sequence of steps is performed by a machine, the sequence of steps cannot be considered to mean "algorithm". Alternatively, if none of the steps in a sequence of steps involves operations on numbers, the sequence of steps cannot be considered to mean "algorithm".

Further, example 4 on page 15 cannot be considered to be algorithm. An example of algorithm can be: "an algorithm to convert <u>binary-coded decimal numbers</u> into pure <u>binary numbers</u>".

3.10 Computer Program:

The definition of computer programme defined under the Copyrights Act 1957 under section 2 (ffc) cannot be applied to the Patents Act. The basics and the intentions of these two legislations (i.e. Copyright Act of 1957 and Patents Act of 1970) are entirely different.

A bare reading of the definition relied upon in the guidelines could show that computer program should also include "computer readable medium". Such definition would lead to an absurdity under the Patent laws. Because a program cannot be equated with a medium which is meant to store such program.

We should provide a different definition from the technical dictionary for application of Patents.

3.15 Technical Effect:

It is suggested to include following more examples of technical effect:
- Better resource utilization;
- Better communication;
- Cost saving;
- Time saving;
- Higher efficiency; and
- Better quality.

Further, it is suggested to include such examples/illustrations where the patent office/IPAB allowed patents for inventions on the basis of technical effect.

3.16 Technical advancement

Technical advancement is not a criterion for patentability of computer related inventions (CRIs). What is needed is the technical effect. So long the new/improved/better technical effect is shown, the computer program should be patentable. The computer program in this case is not a computer program per se.

3.17 Mathematical methods:

We do not agree with the definition of mathematical methods as given in section 3.17.

The claims cannot be termed as mathematical method merely because of the reason that the method involves operation of numbers.

While deciding whether the claims fall within the scope of mathematical method, the following factors may be considered:

a. the purpose of the method claimed is technical then that method cannot be considered as mathematical method for the reason that the method is for that technical purpose only;

   For e.g.: A computer implemented method with mathematical steps for simulating the performance of a circuit subject to 1/f noise constitutes an adequately defined technical purpose and cannot be simply termed as mathematical method. (T 1227/05- 3.5.01)

b. the method shows any technical advancement; and

c. the method shows any real word application - Output in numbers which are not further utilized to manifest change in the real world.

In case, the method shows any of the above factors, it should not be considered as mathematical method.

Further, in the application number 1503/MUMNP/2007, the Controller has granted the following claim:

1. A wireless device connection quality determination apparatus, comprising:
   a user manager operable to receive a plurality of communications messages as recorded by the wireless device, where the plurality of communications messages comprise transmitted messages sent from the wireless device over a wireless communications network; and
   a connection quality module operable to generate a connection quality record comprising a connection quality characteristic based on a detection of a predetermined sequence of communications messages within the plurality of communications messages, wherein the plurality of communications messages comprise messages in a Universal Mobile Telephone System ("UMTS") protocol, wherein the connection quality characteristic comprises an access failure, and wherein the connection quality module determines the access failure as:
   number of access failures = ∑ access attempts — ∑ access successes
   where:
   ∑ access attempts =
   a sum of the number of unique RRC_Connection_Request Messages of a first type with an ESTABLISHMENT CAUSE comprising one of an ORIGINATING_CONVERSATIONAL_CALL, a
   TERMINATING_CONVERSATIONAL_CALL, and an EMERGENCY_CALL;
   plus
   a sum of the number of unique RRC_Connection_Request Messages of a second type with the ESTABLISHMENTCAUSE = REGISTRATION followed by either a CM_SERVICE_REQUEST_NAS_Signaling with SERV_TYPE =1, or a SETUP_NAS_Signaling message; and
   ∑ access successes =
   a sum of the number of ALERTING_NAS_Signaling messages associated with ones of the first type and the second type of the unique RRC_Connection_Request messages, respectively;
   plus

a sum of the number of CONNECT_NAS_Signaling messages associated with ones of the first type and the second type of the unique RRC_Connection_Request messages, respectively, that do not have an associated ALERTING_NAS_Signaling message;
plus
a sum of the number of CONNECT_ACK_NAS_Signaling messages associated with ones of the first type and the second type of the unique RRC_Connection_Request messages, respectively, that do not have an associated ALERTING_NAS_Signaling message or an associated CONNECT_NAS_Signaling message.

3.18 Business Methods:
The claims cannot be termed as business method merely considering the parameters defined in section 3.18.

Instead, it is also required to consider the application or use of the method. If the application or use of the method is technical and involves technical advancement, it cannot be considered as business method. Further, while reviewing/examining the claims, it is necessary to review the invention as a whole and determine the essence of the invention. If the essence of the invention is in the technical means/method then it cannot be considered as business method.

The business method should clearly reflect the commercial and business aspects.

For e.g.
(EP 1301912)

The subject of this claim is execution of authorized online transaction, by performing the communication in two different paths.

The claim:
1. A method of operating a transaction processing system enabling users to authorize transactions, said system comprising a central transaction processing system (19) having at least a first data communications interface and a second data communications interface, comprising the following steps carried out by said central transaction processing system (19):
receiving transaction data from an offering party, relating to a specific transaction to be authorized by a user, and receiving a first transaction reference (TRN) relating to and uniquely identifying said specific transaction, via a first data communication path (16), at said first data communications interface;
generating a second transaction reference (TRR) which is different to the first transaction reference (TRN) and which uniquely identifies the transaction within the central transaction processing system (19);
sending said second transaction reference (TRR) to the offering party;
after receiving said transaction data, conducting communications over a second data communication path (22), different to said first data communication path, with said user over said second data communications interface;

using said second path, conducting a secure access procedure in which authentication data is received and said authentication data is verified;
using said second path, receiving said first transaction reference (TRN) relating to and uniquely identifying said specific transaction from said user, said transaction reference not being previously transmitted to said user in said second communication path (22);
using said second path, receiving confirmation from said user; and in response to said confirmation, transmitting an authorization signal to authorize said transaction,
said authorization signal including said second transaction reference (TRR), wherein said second transaction reference (TRR) is not known to said user.

In this case, the essence of the invention does not reside in the business process as such, but rather in the communication means being used. Hence, the contribution of the invention is brought about in the communication infrastructure, as taught in a unique manner from the features of the invention (such the type communication that is required between two paths).

3.20 A mere scheme or rule or method of performing mental act or method of playing game:
It is suggested to include the following case law from UK which defines Mental act.

Halliburton Energy Services v Comptroller [2011] EWHC 2508: UK Patents Court decides (again) between UK and EPO approaches to patentable subject-matter issues.

Mental act – a broad or narrow exclusion?
The court was asked to decide between two possible interpretations of this exclusion. A wide construction was that a method was "a scheme, rule or method for performing a mental act" if it was capable of being performed mentally regardless of whether, as claimed, it was in fact performed mentally. Read this way a claim to a computer programmed to carry out a method of performing a calculation (say a square root) would not only be caught by the computer program and mathematical method exclusions but would also be covered by the mental act exclusion because calculations are the kind of thing that can be performed by the human mind. A narrow construction was that the exclusion only excluded acts carried out by the human mind, so that a claim to a calculation carried out on a computer could never be caught by the mental act exclusion. The fact that calculations in general were the kinds of thing which were capable of being performed as mental acts was irrelevant.

Judge Birss concluded that the balance of authority in England was in favour of the narrow approach to the mental act exclusion. Its purpose was to make sure that patent claims cannot be performed by purely mental means and that was all. The exclusion would not apply if there were appropriate non-mental limitations in the claim.

4.1 Method/process:
As regards the example 1 on page 13 for mathematical method, please refer to our comments on mathematical method.

As regards the example 2 on page 14 for business method, please refer to our comments on business method.

The example 3 on page 15 cannot be considered as computer program **per se**. To decide whether the claims fall within the scope of computer program per se, the following practice may be considered:

a) Technical advancement (since the computer program per se is not technical in nature, it is essential that the invention provides a technical advancement over the prior art); or
b) Necessary transformation between system components; or
c) Real world application.
d) In the invention including a computer program has industrial utility, it should not be considered as computer program per se.

4.2 Apparatus/system:

It is not agreeable that the apparatus claims should always define inventive constructional hardware feature. The Patent Act does not prescribe that the apparatus should have an inventive constructional hardware feature.

An apparatus should have constructional features. The constructional features can be as simple as a processor. If an apparatus having constructional features and performs a novel, improved, better function than the prior art, apparatus performing such novel, improved, better function should be patentable.

In order to examine whether the invention is a product or process in a technological field, the invention should be examined as a whole without dissecting it into components, and without focusing on a single component or a single subgroup of components.

The apparatus claims may be amended to show interconnectivity between various components and sub-components claimed.

In application number 1695/DLENP/2005 the Controller had suggested to amend the principal claim to clarify the inbuilt or associated technical features of the "device" (10) e.g. server, processor, memories etc. together with their couplings so as to provide for the workability of the inventive device. The Controller contended that the non-patentability on ground of section 3(k) of the Patents Act, 1970 needs to be viewed objectively. The Controller further suggested that after such amendment claim 1 will not fall under any of the excluded categories i.e. mathematical method, business method, computer program per se or algorithm under section 3(k). **This remark applies to section 6.2 as well.**

On page 20, serial number 5.4.5 and 5.4.6 it is mentioned that a computer programme loaded on a general purpose known computer or related devices can be held as not patentable. However, if the computer programme provides a technical advance over the prior art, it can be held as patentable. The criteria that the computer programme is loaded on to a general

purpose known computer cannot be considered for considering whether the claims are patentable or not.

Further, after all examination, if the Controller is of the opinion that the apparatus does not have any structural inventive features than at least one utility claim should be allowed.

7. Means plus Function

The explanation given for means plus function is incorrect and not acceptable.

The means claims may be allowed if there is support in the specification. Further, if the means claims are amended to include reference numerals they may be allowed since the reference numerals would clearly identify the related structural feature to which the means relate to.

All means plus function claims cannot be considered to be falling within the scope of computer program per se. The intention of the drafter while drafting such claims is to include all possible alternative structural/non-structural limitations to which a potential infringer might resort to in absence of them being exclusively claimed in the patent.

In other words, if the specification describes means claimed as software tools/hardware/firmware, a person skilled in the art may be able to realize the invention. Thus, such means claims having such support should be allowed as they may be clear to a person skilled in the art.

Illustration 14

The rejection of the method claim in illustration 14 is not correct. It is not correct to specify any hardware components in a method claim or in steps of the method. Method should define the steps of performing the method and it is not correct to incorporate any hardware components to limit the method or steps. In a method what is required is the steps of the method and not the means or hardware which will perform the method, so long a person skilled in the art will be able to identify or select the relevant means/hardware. Therefore, this illustration cannot be taken to guide the Examiners.

8. Patentability of Computer Readable Medium claims:

While determining the patentability of computer readable medium claims, it has to be determined if the computer readable medium claims have constructional novelty or not.

Further, it is important to note that the computer software is commonly marketed, sold or licensed, in the form of computer readable media, for example, diskettes, CD-ROMs, memory cards etc. Thus, a potential infringer who tries to make and sell copies of patented product might sell it using computer readable medium. In such circumstances, it will be easier for a court to order cease and desist of such copies of computer readable medium in case the patent has at least a few claims of the software being present inside the computer readable medium.

In view of this, the claims in illustrations 15, 16 and 17 should have been allowed under section 3(k). The Applicants have deleted the claims due to various other reasons.