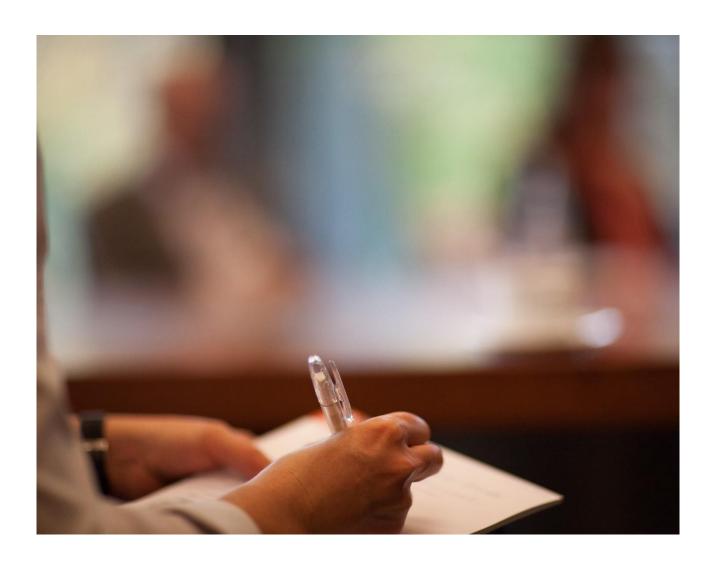# Learning path for patent examiners

Presentations of information (POI) and graphical user interfaces (GUI):
Intermediate level

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Introduction

This publication, "Presentations of information (POI) and graphical user interfaces (GUI), Intermediate level", is part of the "Learning path for patent examiners" series edited and published by the European Patent Academy. The series is intended for patent examiners at national patent offices who are taking part in training organised by the European Patent Office (EPO). It is also freely available to the public for independent learning.

Topics covered include novelty, inventive step, clarity, unity of invention, sufficiency of disclosure, amendments and search. Also addressed are patenting issues specific to certain technical fields:
- patentability exceptions and exclusions in biotechnology
- assessment of novelty, inventive step, clarity, sufficiency of disclosure and unity of invention for chemical inventions
- the patentability of computer-implemented inventions, business methods, game rules, mathematics and its applications, presentations of information, graphical user interfaces and programs for computers
- claim formulation for computer-implemented inventions

Each publication focuses on one topic at entry, intermediate or advanced level. The explanations and examples are based on the European Patent Convention, the Guidelines for Examination in the EPO and selected decisions of the EPO's boards of appeal. References are made to the Patent Cooperation Treaty and its Regulations whenever appropriate.

The series will be revised annually to ensure it remains up to date.

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All references to natural persons are to be understood as applying to all genders.

Contents

Legal references

1. Learning objectives

Participants to this course will learn:
- The definition of Presentation of Information and Graphical User Interface
- To apply the problem-solution approach for a GUI or a POI application

2. What are Presentations of Information?

Presentation of informations (POI) in the sense of Article 52(2)(d) EPC are understood as the conveying of information to a human user. The information can be presented in any form, e.g. visual, audio or haptic. POI concern both the cognitive content of the information presented and the manner in which it is presented (T 1143/06, T 1741/08).

The technical means for presenting information, such as a display or speaker, are not considered to be POI. The information can be considered a presentation of information as per Article 52(2)(d) EPC only if it is directed to a **human being**. Information directed to a machine is a **re**presentation of information, not a presentation of information as per Article 52(2)(d) EPC.

This also applies to a representation of information in the form of barcodes or QR codes since these are directed to a machine despite being perceivable by a human being.

Examples of a presentation of information:
- presenting the various menu options of a smartphone by means of a musical scale
- defining a visual layout of the menu options on a smartphone

Not a presentation of information:
- computer display
- QR code or barcode
- data encoding schemes
- data structures
- communication protocol

Legal references:
G-II, 2, G-II, 3.7, G-VII, 5.4, T 1143/06, T 1741/08

3. What are Graphical User Interfaces?

User interfaces, in particular GUIs, involve features of presenting information and receiving input in response as part of human-machine interaction.

Features defining a user input are more likely to have a technical character than those solely concerning data output and display. This is because input requires compatibility with a machine's predetermined protocol whereas output may be largely dictated by a user's subjective preferences.

Legal references:
G-II, 3.7.1

4. Applying the problem-solution approach (PSA) for mixed type inventions to POI and GUI

A feature defining a presentation of information produces a technical effect if the following criteria are met:
1. It assists the user in performing a technical task.
2. The assistance is credibly achieved.
3. It involves a continued and/or guided human-machine interaction process.

Meeting all three of these criteria is sufficient for establishing that a technical effect is present. That said, not meeting all the criteria does not automatically mean that a technical effect is absent.

It is generally easier to determine whether a technical task (as opposed to e.g. facilitating a business method) and a human-machine interaction process (as opposed to presenting predetermined invariable information) are involved than whether the assistance is "credible".

For this, it needs to be established that the improvement is objectively achieved and does not merely accommodate user preferences.

As mentioned above, POIs as per Article 52(2)(d) EPC concern both the cognitive content of the information presented and the manner in which it is presented (T 1143/06, T 1741/08), in other words "what" is presented and "how" it is presented, or a combination of the two.

If the cognitive content of the information presented to the user relates to an internal state prevailing in a technical system and enables the user to properly operate this technical system, it has a technical effect. Examples of internal states are an operating mode, the technical condition or events relating to the internal functioning of a system. These states are dynamic and automatically detected. When the state is conveyed to the user, it is typically aimed at a user intervention with the system, for example to repair a technical malfunction.

Features defining a visualisation of information in a particular diagram or layout are normally not considered to make a technical contribution, even if the diagram or layout arguably conveys information in a way which a viewer may intuitively regard as particularly appealing, lucid or logical.

On the other hand, if the manner of presentation credibly assists the user in performing a technical task by means of a continued and/or guided human-machine interaction process, it produces a technical effect (T 1143/06, T 1741/08, T 1802/13).

For example, displaying several images side by side in low resolution and making it possible to select and display an image at a higher resolution conveys information to the user in the form of a technical tool that allows the user to perform the technical task of interactively searching for and retrieving stored images more efficiently.

When a manner of presenting information produces in the user's mind an effect that depends not on psychological or other subjective factors but on physical parameters which are based on human physiology and can be precisely defined, that effect may qualify as a technical effect.

The manner of presenting the information then makes a technical contribution to the extent that it contributes to this technical effect. For example, the technical effect of displaying a notification on one of several computer screens near the user's current visual focus of attention is that it is more or

less guaranteed to be seen immediately (compared e.g. with an arbitrary placement on one of the screens). In contrast, the decision to show only urgent notifications (compared e.g. with all notifications) is based only on psychological factors and thus makes no technical contribution.

Minimising information overload and distraction is not per se deemed to be a technical effect (T 862/10). As another example, displaying a stream of images in which the parameters for delay and change in the content between successive images are computed on the basis of physical properties of human visual perception in order to achieve a smooth transition is considered to make a technical contribution (T 509/07).

Examples

1. Static information not making a technical contribution:
   – showing the washing machine operating instructions from the user manual on the display
   – displaying a static warning message such as: "Check if the switch on the back of the TV set is in the left position"

2. Dynamic information making a technical contribution:
   – displaying the current load or temperature of the washing machine, or operating advice based on the current conditions
   – displaying the current gear and the optimal gear of a vehicle gearbox

3. Dynamic information not making a technical contribution:
   – state of a casino game, such as the current betting and pay-out information for the casino game of roulette
   – new business opportunities on a business-to-business relationship portal
   – state of an abstract simulation model

Legal references:
G-II, 3.7