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# Interacting with devices in the digital era

Protecting IP from the EPO perspective  
*Guidelines, G-II, 3.7 and G-II, 3.7.1*



# Outline

1. Examination under Art. 56 EPC, inventive step can only be based on **technical features**.
2. An inventive step will be acknowledged if **one of the three steps** underlying the interaction between user and device comprises a technical and inventive feature:
  - a) Information from device to user – “What?” and “How?”
  - b) Effects involving user mind
  - c) Information from user to device (Mechanism for user input)

## Mix of technical and non-technical features

Once technical character of the claim as a whole is determined, and if the subject-matter of the claim is new, follow the problem-solution approach for **mixed-type inventions** (G-VII, 5.4):

Analyse distinguishing features related to presentation of information:



Do they contribute to producing a **technical effect serving a technical purpose** in the context of the invention?

**Yes:** They **must** be taken into account for assessing inventive step

**No:** They **cannot** support the presence of an inventive step

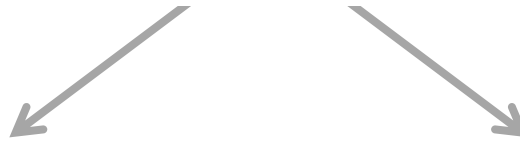
# Assessment of technical effects

A feature defining a presentation of information  
**produces a technical effect** if it:



# What and How

A feature relating to presentation of information  
may commonly be considered to specify:



The **cognitive content** of the  
presented information

→ **WHAT** is presented?

The **manner** in which the  
information is presented

→ **HOW** is the information  
presented?

# WHAT is presented?

## Is it technical?

**Yes, if** the cognitive content of the information:



relates to an **internal state prevailing in a technical system**



**enables** the user to **properly operate** this technical system



typically **prompts user interaction** (e.g. to avoid technical malfunctions)

# HOW is it presented?

## Is it technical?



Visualisation of information in a **diagram is normally not technical**, even if arguably conveys information in an appealing, lucid or logical way



May be technical if credibly assists the user in performing a technical task by means of a continued and/or guided human-machine interaction process

# Assessment of technical effects

An effect which a manner of presenting information produces in the mind of the user may be **technical** if it:

- ✓ depends on **physical** parameters based on human **physiology**
- ✓ can be **precisely defined**
- ✓ does not depend on **psychological** or other **subjective factors**



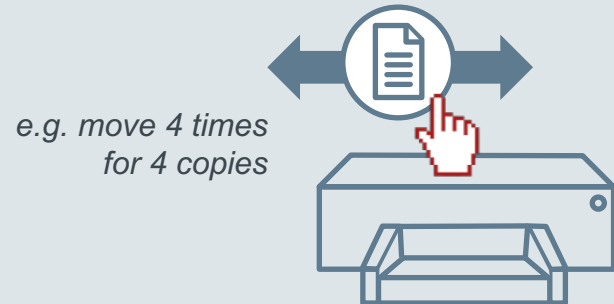
# Assessment of technical effects

Technical if  
**enabling user input** such as:

- ✓ Entering text
- ✓ Making a selection
- ✓ Submitting a command

EXAMPLE:

*A graphical shortcut allowing the user to **initiate** printing and **setting** the number of copies to be printed by a drag and reciprocated movement of a “document icon” on a “printing icon”*



**EXAMPLES**

# Examples



Protection is not possible by patents  
(and also not by design?)



Protection is not possible by patents  
(but design?)



Protection by patent **and** design.

# Claims

"A strength display device for displaying strength of a building structure, said strength display device comprising:

- *(a lot of features and calculation)*
- **and wherein said strength level display colour of each of said building structural components is a single colour and each of said building structural components is displayed wholly in its single colour**

# Claims

"A strength display device for displaying strength of a building structure, said strength display device comprising:

- *(a lot of features and calculation)*
- **and wherein said strength level display colour of each of said building structural components is a single colour and each of said building structural components is displayed wholly in its single colour**

*The alleged invention lies in the last feature, each part of the building receives a specific colour corresponding to his level of stress.*

*Very useful to recognise the weak points of a building.*

**BUT...**

## Guidelines G-II, 3.7

"A strength display device for displaying strength of a building structure, said strength display device comprising:

- *(a lot of features and calculation)*
- **and wherein said strength level display colour of each of said building structural components is a single colour and each of said building structural components is displayed wholly in its single colour**

***There is no technical problem solved by this feature***

*if the alleged effect depends on subjective interests or preferences of the user. For example, for some users it is easier to understand data when it is displayed as numerical values, whereas others might prefer a colour-coded display. The choice of the one or other manner of displaying the data is thus not considered to have a technical effect.*

## Guidelines G-II, 3.7

"A strength display device for displaying strength of a building structure, said strength display device comprising:

- *(a lot of features and calculation)*
- **and wherein said strength level display colour of each of said building structural components is a single colour and each of said building structural components is displayed wholly in its single colour**

*In this case no patent protection is possible, and as the improvement is on the choice of colours for presenting information, the protection by design is questionable*

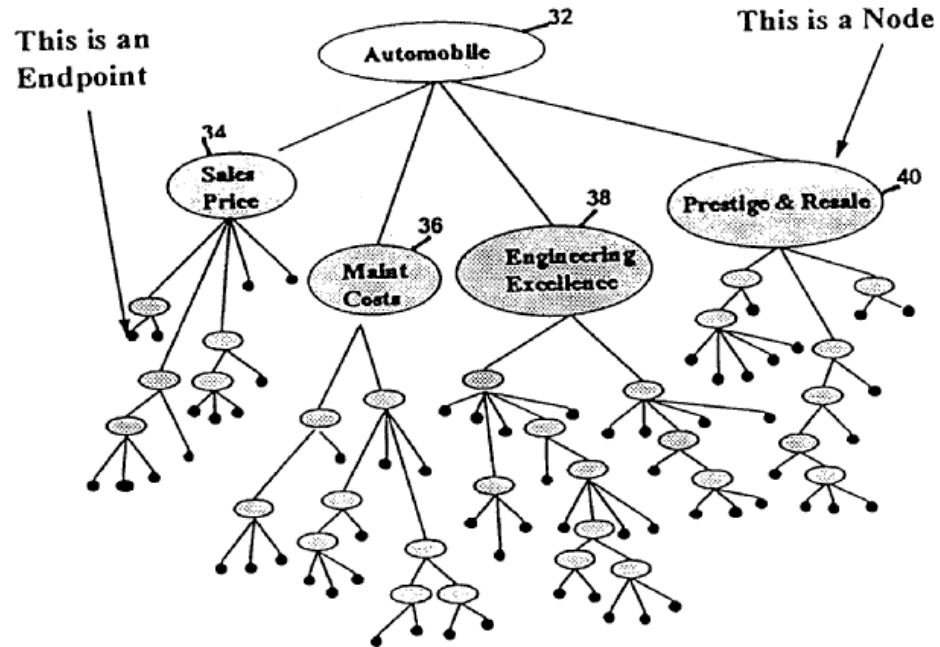
# Claims

- **A comparative visual assessment system** comprising:
  - an input device;
  - an output device;
  - a computer system, the computer system connected to the input device and the
  - output device, the computer system having a user interface connected to a
  - comparative visual assessment engine, the comparative visual assessment engine
  - comprising:
  - means realising steps a, b, ,c ..... and
- **means for displaying the vector on the output device.**



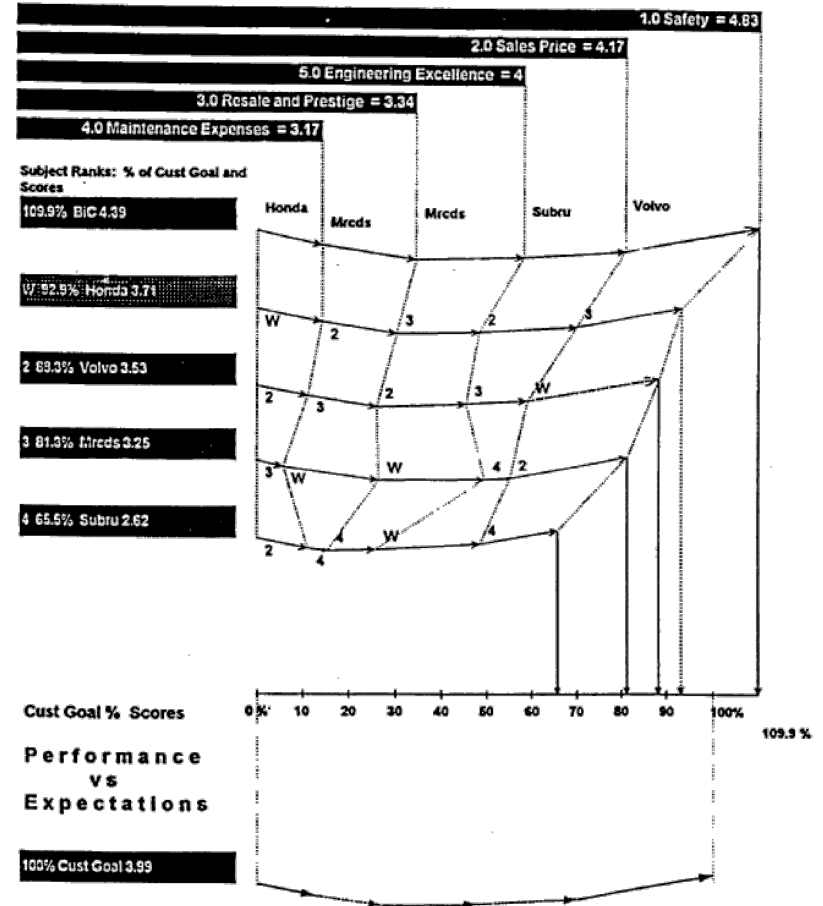
# Known presentation

...for helping an user to make a choice between different cars:



# New presentation

...for helping an user to make a choice between different cars:

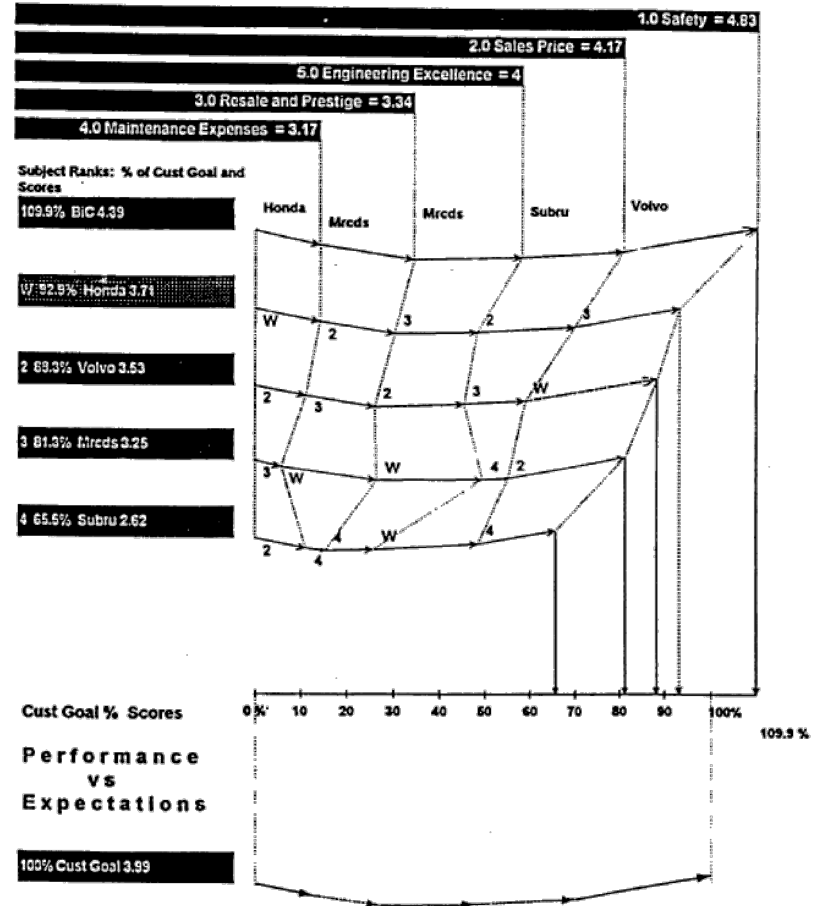


# New presentation

...for helping an user to make a choice between different cars:

*The new presentation seems to be a lot more simple, logic and intuitive.*

**BUT...**



## Guidelines G-II, 3.7

- ...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.
- If the result of the POI will depend on **subjective criteria** (i.e. a particular user but not all the users will like the way the information is presented) then **no technical contribution**.
- but the resulting diagram (or parts of the diagram) **may be protected by design**.

## Patent claim

A method of indicating a status of a resident software application in a computing environment where a graphical user interface is displayed that presents multiple icons, each icon relating to a different aspect of the same resident software application, the method comprising:

- determining when a change in the status of an aspect of said software application represented by a displayed icon occurs; and
- **updating the displayed icon so that said displayed icon presents current status information concerning the associated aspect of said software application.**

## Guidelines G-II, 3.7

- 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.
- **This is the case in this application**, the change in (the design) of the icons reflects a change in the internal state prevailing in a technical system.
- Protection by **patent is therefore possible**

*“(...)updating the displayed icon so that said displayed icon presents current status information concerning the associated aspect of said software application.”*

## Protection by design

*each icon corresponding to a particular state of a software application can be protected by design.*

