



## Study Question

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### Protection of graphical user interfaces

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## I. Current law and practice

### Patents

**1** Can GUIs generally be protected by patents?

*If no, please answer questions 1.1, if yes, please go to question 2*

Yes

Please Explain

Denmark is a signatory to the European Patent Convention ("EPC") and has harmonized Danish laws and administrative regulations with the articles and rules of the EPC in order to ascertain that national Danish patent applications are treated on par with patent applications with validity for Denmark filed with the European Patent Office ("EPO").

Thus, similar to Art. 52(2)(b) and (d) of the EPC, Section 1(2) of the Danish Patent Act states that artistic productions per se are not considered to be inventions, and Section 1(4) of the Danish Patent Act states that presentation of information per se is not considered to be inventions. However, if the GUI has a technical aspect, this may be patented.

**1.1** If GUIs cannot be protected by patents per se, are any types or aspects of GUIs protectable by patents?

**2** If any type or aspect of GUIs are protectable by patents, under what conditions and to what extent are those types or aspects of GUIs considered to be within the scope of patentable subject matter?

There are no additional requirements for patent protection of GUIs other than the usual requirements to obtain patent protection. This means that the GUI needs to provide a solution to a *technical problem* in a novel and inventive way according to the practice of the EPO, which practice is usually followed by the Danish Patent- and Trademark Office ("DKPTO").

According to the DKPTO, the following elements indicate that the presentation of information is considered technical:

- The presentation of information relates to a current internal state of a technical system, and the information enables the user to properly operate the technical system.
- The presentation of information is shown in a way that enables or improves the perception of the information, and this effect is based on objective physiological characteristics.
- The presentation of information convincingly assists the user in performing a technical task within a continued human-machine interaction.
- Data input in response to presented information, i.e. ongoing human-computer interaction.

Furthermore, the DKPTO has stated that the following elements indicate that the presentation of information is not considered technical:

- The presentation of information relates to the state of a non-technical application run on a technical system.
- The presentation of information aims exclusively at the human mind, e.g. for assisting in taking a non-technical decision.
- The presentation of information aims at lowering the cognitive burden of the user.

**3** If yes, do the statutory provisions, case law or judicial or administrative practice require specific claim formats for any patent protection? If yes, what claim formats are available for protecting GUIs?

No

Please Explain

There are no statutory provisions, case law, or - to our knowledge - no administrative practice that require specific claim formats for any patent protections. However, it is recommended to use product claims or method claims.

**4** Is any physical feature required in a claim as a pre-requisite for patentability of a GUI?

No

Please Explain

There is no statutory provisions, case law, or - to our knowledge - no administrative practice that require a physical feature in a claim comprising a GUI. A claim comprising a GUI, however, inherently includes a physical feature, as a GUI will be connected to a screen or a device, and this could be the only physical feature available.

An invention does not have to be tangible (see the decision of 11 February 2014 from the Technical Board of Appeal (EPO) in the case T 533/09, Schiller Medical vs Paul Metz), but the invention must relate to a physical entity or physical activity (see the decision of 11 December 1989 from the Enlarged Board of Appeal (EPO) in the case G 2/88, Mobile Oil vs. Chevron Research).

**5** To what extent does involvement of the user's mental activities in a GUI process affect the patentability of the GUI?

We do not have any knowledge of decisions from the DKPTO that have established to what extent the involvement of the user's mental activities in a GUI process affects the patentability of the GUI. However, the DKPTO has pointed out, as stated above under the answer to question 2, that if the presentation of information aims at lowering the cognitive burden of the user, then it indicates that the presentation of information is not considered technical. Accordingly, the user's cognitive load is not considered a technical problem, and hence a solution aiming at the cognitive burden does not have a technical effect and is therefore not patentable. A solution that has a technical effect by providing guidance to the user is technical and hence patentable. Therefore, a feature that solely addresses a user's subjective preferences does not solve a technical problem (see the decision of 30 April 2008 from the Technical Board of Appeal (EPO) in the case T1567/05, Kabushikikaisha EnuoShioEnu vs. EPO).

## Design rights

**6** Can GUIs generally be protected by design rights?

*If no, please answer questions 6.1, if yes, please go to question 7*

Yes

Please Explain

The appearance of a GUI can be protected by design rights.

**6.1** If not, are any types or aspects of GUIs protectable by design rights?

**7** If any type or aspect of GUIs are protectable by design rights, under what conditions and to what extent are those types or aspects of GUIs protectable?

The appearance of a GUI can be protected by design rights. A design must be new and have individual character in order to be protected as a design, see Section 3(1) of the Danish Design Act and Article 4(1) of Council Regulation (EC) No 7/2002 of 12 December 2001 on Community Designs ("EU Design Regulation"). A design is considered to be new if no identical design has been made available to the public, see Article 5(1) of the EU Design Regulation, and a design is considered to have individual character if the overall impression it produces on the informed user differs from the overall impression produced on such a user by any design that has been made available to the public; see Article 6(1) of the EU Design Regulation. These requirements apply both in relation to registered and unregistered design rights.

A design right protects the appearance of a product and not the technical functions of the product; see Section 8(1)(1) of the Danish Design Act and Article 8(1) of the EU Design Regulation. This means that a design right protects the appearance of the GUI, including e.g. the layout of the screen display, but the functions that are linked to the screen display, i.e. what the GUI makes the computer program do, are not as such protected by the design right.

**7.a** In particular is a GUI that temporarily appears on a screen of an electronic device considered a "design" that is protectable by design rights?

Yes

Please Explain

If the general requirements for obtaining design protection are met, including that the GUI that temporarily appears on the screen is new and has individual character, it is considered a design.

**7.b** In particular is a GUI protectable by design rights independently from the design of the electronic device itself?

Yes

Please Explain

A design right protects the appearance of a product or part of a product, but the "product" does not have to be a physical object. A screen display on a computer is also considered to be a "product".

**7.c** In particular are smaller elements included in a GUI (e.g. icons, slide buttons) protectable by design rights independently from the GUI as a whole?

Yes

Please Explain

If the icons and the slide buttons of the GUI are new and have individual character, they can be protected as designs.

**7.d** In particular are movements or screen transitions in a GUI protectable by design rights?

No

Please Explain

To our knowledge, there are no court decisions or administrative practice on this, but, in the Danish Group's view movements and screen transitions in a GUI are not as such protectable by design rights. However, it is possible to register a design that includes a series of still images from a movement or a screen transition, and such images could together provide a de facto protection of the movement or the screen transaction. But it is the appearance of the images that is protected by the design right and not the movement or screen transition itself.

**7.e** In particular are there any other types or aspects of GUIs protectable by design rights? If so, under what conditions and to what extent?

No

Please Explain

Only appearance.

## Copyright

**8** Can GUIs generally be protected by copyright?

*If no, please answer questions 8.1, if yes, please go to question 9*

Yes

Please Explain

Single elements of a GUI, such as icons, illustrations, graphical images, sounds, and text, and such elements in combination/taken as a whole, may be protected by copyright provided that the single elements, and/or such elements in combination/taken as a whole, are original in

the sense that they are the author's own intellectual creations, see Section 1 of the Danish Copyright Act.

**8.1** If not, are any types or aspects of GUIs protectable by copyright?

**9** Does the fact that GUIs shown on screens are computer-generated affect the eligibility of GUIs for copyright protection?

No

Please Explain

It is a requirement in order for a GUI to be protected by Section 1 of the Danish Copyright Act that the GUI is original in the sense that it is its author's own intellectual creation. This means that the GUI must be considered as a work of a human author for it to be protected by copyright.

The fact that GUIs shown on screens can be said to be computer-generated does not mean, in the Danish Group's view, that the GUI is not a human creation, as the algorithms, pre-defined designs, and software of the GUI have been created by one or more human beings. The fact that the GUI can be said to be computer-generated will therefore, in the Danish Group's view, in practise not affect the eligibility of the GUI's copyright protection.

**10** If any type or aspect of GUIs can be protected by copyright, under what conditions and to what extent are those types or aspects of GUIs protectable?

As stated above under our answers to questions 8) and 9), it is a requirement in order for a single element of a GUI, or the elements of the GUI in combination/taken as a whole, to be copyright protected that they are original in the sense that they are the author's own intellectual creations. The copyright will not protect the technical functions of the GUI, i.e. what the GUI makes the computer program do.

**11** Can the overall "look and feel" of GUIs be protected by copyright?

*If no, please answer questions 11.1, if yes, please go to question 12*

Yes

Please Explain

There is no Danish case law or Danish legal literature that defines the concept "look and feel", and there is no Danish case law or Danish legal literature that establishes whether the overall "look and feel" of GUIs can be protected by copyright.

It is the Danish Group's opinion that the overall "look and feel" can be protected by copyright if the overall "look and feel" of a GUI is the same as the elements of the GUI in combination/taken as a whole.

Also, the overall "look and feel" of a GUI is protected by Section 1 of the Danish Marketing Practices Act, which provides protection against unfair competition.

**11.1** If not, can individual elements included in a GUI be protected?

## Trademarks

**12** Can GUIs generally be protected as trademarks?

*If no, please answer questions 12.1, if yes, please go to question 13*

Yes

Please Explain

It follows from Section 2(1) of the Danish Trade Marks Act and Article 4 of Regulation (EU) 2015/2424 of the European Parliament and of the Council of 16 December 2015 amending Council Regulation (EC) No 207/2009 on the Community trade mark ("Community Trade Mark Regulation") that a trademark may consist of any sign capable of distinguishing the goods or services of one enterprise from those of other enterprises and capable of being represented graphically.

**2.1** If not, are any types or aspects of GUIs protectable by trademarks?

**13** If any type or aspect of GUIs are protectable as trademarks, under what conditions and to what extent can those types or aspects of GUIs protectable?

In order for a GUI to be protectable as a trademark it must have a distinctive character, which means that the GUI is capable of distinguishing the goods or services of one enterprise from those of other enterprises; see Article 4(1)(a) of the Community Trade Mark Regulation and Section 2(1) of the Danish Trade Marks Act.

Furthermore, it is a requirement that the sign is represented in a manner that enables the competent authorities and the public to determine the clear and precise subject matter of the protection afforded to its proprietor; see Article 4(1)(b) of the Community Trade Mark Regulation and Section 2(1) of the Danish Trade Marks Act.

In Denmark, it is also possible to obtain a trademark right through use if the trademark is distinctive; see Section 3(1)(2) of the Danish Trade Marks Act.

The GUI taken as a whole might be protected as a trademark as such. The single elements of the GUI, e.g. the logos and icons, can also be protected individually as a trademark.

If the GUI consists exclusively of a shape that results from the nature of the GUI itself, if the shape of the GUI is necessary to obtain a technical result, or if the shape of the GUI gives substantial value to the GUI, it cannot be protected as a trademark; see Article 7(2)(e) of the Community Trade Mark Regulation and Section 2(2) of the Danish Trade Marks Act.

**3.1** For example, is a screen movement or transition in a GUI protectable as a trademark?

No

Please Explain

The term "sign" is interpreted widely, but a screen movement or transition as such in a GUI is presumably not protectable as trademarks, as the screen movement itself or transition in a GUI will usually be necessary to obtain a technical result.

**14 Does a GUI need to acquire secondary meaning through use in order to be protected as a trademark?**

No

Please Explain

It is not a general requirement that a sign needs to acquire secondary meaning through use to obtain trademark protection. However, in practice it is often necessary for the GUI to acquire secondary meaning through use in order to be protected as a trademark, as the relevant consumers will usually not associate a GUI with a specific company until the GUI has been used in such a way that the GUI has acquired secondary meaning.

## Other forms of protection

**15 Does your Group's current law provide any other means for protecting GUIs that are similar in nature to traditional IP rights?**

No

Please Explain

The Danish Group is aware that laws relating to unfair competition and unfair business practices are outside the scope of this Study Question.

However, we note that if a third party copies either (specific elements of) a GUI or the overall "look and feel" of the GUI, such behaviour may be contrary to Section 1 of the Danish Marketing Practices Act on good marketing practices.

**16 If yes, what forms of protection are available, and under what conditions, and to what extent, are such other forms of protection available?**

## II. Policy considerations and proposals for improvements of your Group's current law

**17 Does your law provide sufficient IP rights protection for GUIs? If yes, is that by means of any one or more types of IP rights protection (and if so, which), or by means of combination of those types of IP rights protection?**

*If no, please answer questions 18, if yes, please go to question 19*

Yes

Please Explain

The Danish Group is of the opinion that Danish law provides sufficient IP protection for GUIs, since GUIs can be protected by either patent rights, design rights or trademark rights alone or in combination.

**18 If no, how is your law deficient?**

**19** Is your law sufficiently clear on whether and to what extent GUIs are protected by various IP rights?

*If no, please answer questions 20, if yes, please go to question 21*

Yes

Please Explain

The Danish Group is of the opinion that Danish law is sufficiently clear on whether and to what extent GUIs are protected by patent rights, design rights or trademark rights alone or in combination.

**20** If no, how is your law deficient in this regard?

**21** Are there any aspects of your law that could be improved (for example, by strengthening or reducing the extent to which GUIs may be protected)?

No

Please Explain

The Danish Group is of the opinion that Danish law does not need to be improved.

### III. Proposals for harmonisation

**22** Does your Group consider that harmonisation in this area is desirable?  
*If yes, please respond to the following questions without regard to your Group's current law.  
Even if no, please address the following questions to the extent your Group considers your Group's laws could be improved.*

Yes

Please Explain

#### Patents

**23** Should GUIs generally be capable of protection by patents?  
*If no, please answer questions 23.1, if yes, please go to question 23.2*

Yes

Please Explain

See our answer to question 23.2.

**23.1** If not, should at least some types or aspects of GUIs be protectable by patents?

**23.2 Please explain your reasons.**

If the GUIs fulfill the general criteria for patentability; i.e. they provide a technical solution as is the general basis for patents. GUIs provide technical solutions to many problems. A good GUI is a key feature of many products today, whereby GUIs become an important economic factor in many industries.

**24 Under what conditions, and to what extent, should GUIs fall within the scope of patentable subject matter?**

A GUI should be patentable as long as it provides a technical solution to a technical problem. The Danish Group is of the opinion that the guidelines provided by the EPO today, which are usually followed by the DKPTO, provide a good tradeoff where solutions having a technical effect are patentable, whereas solutions based on the user's subjective preferences are non-technical; i.e. there needs to be a further technical effect in order to make the solution technical. If a solution is non-technical, it may be protected using e.g. design rights instead of patents. Patents should only be available for protecting solutions that have a technical effect.

**24.1 For example, should involvement of user's mental activities in a GUI process affect the patentability of the GUI?**

Yes

If so, to what extent?

A solution aiming at the cognitive burden does not have a technical effect and is therefore not patentable. A solution that has a technical effect by providing guidance to the user is technical and hence patentable. Therefore, a feature that solely addresses a user's subjective preferences does not solve a technical problem.

**24.2 Please explain your reasons.**

The DKPTO has pointed out, as stated above under the answer to question 2, that if the presentation of information aims at lowering the cognitive burden of the user, then it indicates that the presentation of information is not considered technical. This rationale seems reasonable.

**25 Should a physical feature be required in a claim as a pre-requisite for patentability of GUIs?**

No

Please explain your reasons

The wording "GUI" inherently provides a physical feature. The recitation of e.g. "a display" does not provide any further technical effect. The specific technology displaying the GUI is not relevant, and the physical feature therefore does not need to be mentioned in the claims.

**26 What claim formats should be available for protecting GUIs?**

Product claims and method claims.

## Design rights

**27** Should GUIs generally be capable of protection by design rights?

*If no, please answer questions 27.1, if yes, please go to question 27.2*

Yes

Please Explain

Please see our answer to question 27.2.

**27.1** If not, should at least some types or aspects of GUIs be protectable by design rights?

**27.2** Please explain your reasons.

The Danish Group is of the opinion that the appearance of GUIs, including independent elements and the elements in combination/taken as a whole, should generally be capable of protection by design rights. The Danish Group sees no reason to exclude GUIs from the design protection afforded to other types of products.

**28** Under what conditions, and to what extent, should GUIs be protectable by design rights?

The Danish Group is of the opinion that the current protection of GUIs as a design is sufficient; including the conditions that the design must be new and have individual character in order to obtain design protection.

**28.1** For example, should screen movements or transitions in a GUI be protectable by design rights?

No

Please explain your reasons.

Design rights protect the appearance of a product and not the movement. Accordingly, screen movements and screen transition should not be protectable by design right.

**29** Should a GUI be protectable by design rights independently from the design of the electronic device itself?

Yes

Please explain your reasons.

The GUI should be protectable by design rights independently from the design of the electronic device, as the design of the GUI may be used

on several different electronic devices.

## Copyright

**30** Should GUIs generally be capable of protection by copyright?

*If no, please answer questions 30.1, if yes, please go to question 30.2*

Yes

Please Explain

Please see our answer to question 30.2.

**30.1** If not, should at least some types or aspects of GUIs be protectable by copyright?

**30.2** Please explain your reasons.

Single elements of a GUI, such as icons, illustrations, graphical images, sounds, and text, and such elements in combination/taken as a whole, should be eligible for copyright protection, provided that the single elements, and/or such elements in combination/taken as a whole, are original in the sense that they are the author's own intellectual creations. The Danish Group sees no reason to exclude GUIs from the copyright protection afforded to other types of works.

**31** Should the fact that GUIs shown on screens are computer-generated affect the eligibility of GUIs for copyright protection?

No

Please explain your reasons.

The fact that GUIs shown on screens can be said to be computer-generated does not mean, in the Danish Group's view, that the GUI is not a human creation, as the algorithms, pre-defined designs, and software of the GUI have been created by one or more human beings. The Danish Group sees no reason to exclude GUIs from copyright protection because the author has used a computer to create his work.

**32** Under what conditions, and to what extent, should GUIs protectable by copyright?

If the GUI is an expression of the author's own intellectual creation, the GUI should be able to obtain copyright protection as any other work.

**32.1** For example, should the overall "look and feel" of a GUI be protectable by copyright?

Yes

Please explain your reasons.

The Danish Group is of the opinion that the overall "look and feel" of a GUI should enjoy copyright protection, if the overall "look and feel" of a GUI is to be understood as the elements of the GUI in combination/taken as a whole. If the elements of the GUI in combination/taken as a whole can be said to be an expression of an author's own intellectual creation, the Danish Group sees no reason to exclude the overall "look and feel" from copyright protection.

## Trademarks

**33** Should GUIs generally be capable of protection as trademarks?

*If no, please answer questions 33.1, if yes, please go to question 33.2*

Yes

Please Explain

Please see our answer to question 33.2.

**33.1** If not, should at least some types or aspects of GUIs be protectable as trademarks?

**33.2** Please explain your reasons

The Danish Groups sees no reason to treat GUIs differently than any other signs eligible for trademark protection, as long as the GUI is capable of distinguishing the goods or services of one undertaking from those of other undertakings.

**34** Under what conditions, and to what extent, should GUIs be protectable as trademarks?

The Danish Group is of the opinion that the current protection of GUIs as a trademark is sufficient; including the requirement that the trademark must be distinctive in order to obtain trademark protection.

**34.a** For example should screen movements or transitions in a GUI be protectable as trademarks?

No

Please Explain

The Danish Group does not find that these should be able to be protected as trademarks as they are necessary to obtain a technical result.

**34.b** For example should a GUI be required to acquire secondary meaning through use, in order to be protected as a trademark?

No

Please Explain

The Danish Group sees no reason that it should be a general requirement in order for a GUI to obtain trademark protection that the GUI has acquired secondary meaning through use. However, the relevant consumers will usually not associate a GUI with a specific company, and the GUI will therefore not have inherent distinctiveness; which means that in practice a GUI will normally need to acquire secondary meaning through use in order to function as a trademark.

## Other forms of protection

35

**Should there be other forms of protection for GUIs? If so, what forms of protection should there be?**

No

Please explain your reasons

The Danish Group is of the opinion that the present protection of GUIs provided by traditional IP rights as well as Section 1 of the Danish Marketing Practices Act on good marketing practices must be considered to be appropriate and comprehensive.

36

**Should there be a sui generis right for protection of GUIs? If so, what aspects of GUIs should be protected by such a right, to what extent, and under what conditions?**

*If yes, please answer questions 37, if no, please go to question 38*

No

Please Explain

The Danish Group is of the opinion that a sui generis right for protection of GUIs is considered to be superfluous.

37

**Should there be any exceptions or limitations to a sui generis right in order to ensure an innovative and competitive market? If so, what exceptions and limitations should there be and why?**

38

**Please comment on any additional issues concerning protection of GUIs that your Group considers relevant to this Study Question**

N/A.

**Please indicate which industry sector views are included in part "III. Proposals of harmonization" on this form:**

The legal sector.

Please enter the name of your nominee for Study Committee representative for this Question (see Rule 12.8, Regulations of AIPPI). Study Committee leadership is chosen from amongst the nominated Study Committee representatives. Thus, persons not nominated as a Study Committee representative cannot be in the Study Committee leadership.

Johnny Petersen