

Study Guidelines

by Sarah MATHESON, Reporter General
John OSHA, First Deputy Reporter General
Anne Marie VERSCHUUR, Second Deputy Reporter General
Yusuke INUI, Ari LAAKKONEN and Ralph NACK
Assistants to the Reporter General

2017 – Study Question

Protection of graphical user interfaces

Introduction

- 1) This Study Question focuses on the issue of whether and how graphical user interfaces (**GUIs**) may be protected by various intellectual property rights (**IP rights**).
- 2) GUIs are the best known and most widely used means of interaction between a user and an apparatus with any form of display. A GUI is an interface which allows users to interact with electronic devices through graphical elements (e.g. icons, menus, scroll bars, windows, transitional animations, dialogue boxes) instead of typing characters. GUIs do not require users to type complex text commands, thereby providing accessibility to a wide user population. As a business tool, GUIs enable faster and real-time interaction, resulting in higher productivity.
- 3) The history of GUIs dates back to the 1970s, when the first personal computer was released. With the evolution of personal computers, GUIs were adopted by manufacturers, such as Apple and Microsoft, to become a standard interface. In recent years, GUIs have also been adopted in other forms of terminals such as smartphones and tablets, and have contributed to the growth of the industries that have developed around these devices. Today, virtually all computer controlled processes are launched or managed by users via GUIs.

Why AIPPI considers this an important area of study

- 4) GUIs are directly connected to user experience, so can significantly impact consumers' choice of products. As a result, companies devote significant resources to the development of GUIs. This means that both appropriate IP rights protection of GUIs, and freedom to operate in the IP rights landscape, are very important economic issues for incumbent companies and new market entrants. GUIs may potentially be

protected by IP rights including patents, design rights, copyright and trademarks, as described further below.

- 5) By its nature, software is generally developed to have broad application. Computers, smartphones, tablets, gaming and other stationary and handheld machines are just some of the industries in which GUIs are relevant. These industries are highly competitive and their operations extend beyond national boundaries. Different types of IP rights protection may apply to different aspects of GUIs, leading to questions about what type, or combination of types, of protection is or should be available. Further, with variation between jurisdictions as to how and whether particular types of IP rights apply (or not) to GUIs, harmonization of the available IP rights protection in relation to GUIs is desirable.
- 6) The purpose of this Study Question is to propose a basic degree of harmonization as to how GUIs should be protected by, and by which, IP rights.

Relevant treaty provisions

- 7) There are no relevant treaty provisions specific to IP rights protection for GUIs.

Previous work of AIPPI

- 8) Although AIPPI has variously studied issues of IP protection in relation to computer software, AIPPI has not previously studied the specific issue of IP rights protection for GUIs.

Work of WIPO

- 9) On 31 August 2016, the World Intellectual Property Organization (**WIPO**) issued its "*Compilation of the Replies to the Questionnaire on Graphical User Interface (GUI), Icon and Typeface/Type Font Designs*" (SCT/36/2) (available at http://www.wipo.int/meetings/en/doc_details.jsp?doc_id=348996) (**WIPO Study**). Answers to WIPO's questionnaire regarding the current situation on IP protection (mainly protection under design patents and industrial design registrations) of GUIs, icons and typeface/type font designs were provided by 44 WIPO member countries.
- 10) The WIPO Study covers general issues such as whether each jurisdiction provides IP protection for GUIs and the protection is granted under the available law. It also focuses on more detailed aspects of protection under design rights and industrial design registrations, such as additional requirements for animated GUIs, and whether GUIs may be registered as such independently from the products incorporating the GUIs.
- 11) There is an overlap between the subject matter of this Study Question and that of the WIPO Study. However, this Study Question goes beyond the WIPO Study in the sense that the purpose of this Study Question is not merely to compile a report of the current law in various countries but also to develop proposals for harmonisation. Nevertheless, we invite the Groups to review the WIPO Study and in particular the answers of the members for their own Group's jurisdiction, when preparing the answers to this Study Question.

Scope of this Study Question

12) This Study Question mainly focuses on the issue of whether GUIs should be protected by means of what may be considered "traditional IP rights", namely:

- a) patents;
- b) design rights;
- c) copyright; and
- d) trademarks.

Some jurisdictions permit protection for GUIs by means of rights similar to various types of these traditional IP rights, such as trade dress protection. For Groups in those jurisdictions, such rights are within the scope of this Study Question.

13) On the other hand, some jurisdictions provide for broader forms of legal protection that may also have application to GUIs, such as laws relating to unfair competition, unfair business practices or general contractual principles. In general, such principles are outside the scope of this Study Question. However, in some jurisdictions (e.g. the US) non-registered trademarks and trade dress may be protected under general principles of unfair competition. For the Groups in those jurisdictions, such protection is within the scope of this Study Question.

14) Accordingly, for the purposes of this Study Question:

- a) the term **traditional IP rights** refers to the rights listed in paragraph 12) above;
- b) the term **patents** covers utility patents and secondary patents (such as utility models, petty patents and innovation patents);
- c) the term **design rights** covers design patents;
- d) references to **protection of designs, trademarks and trade dress** cover both registered and unregistered rights (if applicable in the sense described in paragraph 13) above), and extend to protection of unregistered rights under unfair competition principles.

15) The scope of this Study Question is whether, how and under what conditions GUIs should be protected by the IP rights described above. It does not address the general conditions for IP rights protection.

16) Further, the issue of patentable subject matter eligibility of computer implemented technologies is not the focus of this Study Question. It is only within the scope of this Study Question to the extent this issue relates to possible patent protection for GUIs specifically, but not the general question of the patentability of computer implemented inventions (**CII**) more broadly. Another 2016 Study Question – "Patentability of computer implemented inventions" addresses the issue of patentability of CII per se.

Discussion

- 17) The most suitable mode of protection for the technical contributions of GUIs (e.g. improvement of usability and accessibility) may be patent protection. For the aesthetic elements of the appearance of GUIs, design protection is likely to be most relevant. GUIs may also attract copyright protection as an original expression. Further, GUIs may have the function of identifying the source of products, in which case, trademark protection is also relevant.
- 18) There may be limitations depending on the type of IP rights protection. As a matter of general principle, while a lot of GUI development and the role of GUIs relates to improvements in user perception, the aesthetic elements of GUIs are unlikely to be eligible for patent protection. Patents can however protect functional aspects of GUIs. Design rights, copyright and trademarks are limited to the extent they can protect functional features but may be able to protect particular appearances. This leads to the possibility that different aspects of a GUI may be eligible for different forms, or a combination, of IP rights protection.

Patents

- 19) As GUIs operate on electronic devices and usually by means of computer programs running on the electronic devices, patent protection of GUIs inevitably involves the issue of whether a computer program constitutes patentable subject matter. In the US, after the Supreme Court's decision in *Alice Corp. v. CLS Bank Int'l*¹, many patents relating to computer programs have been struck down for lack of patentable subject matter.
- 20) In the EU, Article 52(2) of the European Patent Convention (**EPC**) provides that "programs for computers" and "presentations of information" are not regarded as inventions that can be the subject of patent protection. (For a more detailed discussion, see the Study Guidelines for "Patentability of Computer Implemented Inventions" referred to at paragraph 16) above.) Therefore, there is a question as to whether GUIs constitute patentable subject matter at all, and if so, under what conditions GUIs are patentable. One issue is whether a claim covering a GUI requires a recitation of physical features as a pre-requisite for patentability. Another is what claim formats (e.g. process claims, use claims, product claims) are available for GUIs.
- 21) Another issue is the extent to which involvement of the user's mental activities in a GUI process affects patentability of the GUI. EPO T1741/08² involved an improved layout on a computer screen that lowers the cognitive burden of the user and enables the user to respond more quickly, thereby resulting in less resources required by the computer. The EPO Board of Appeal held that this invention does not have an additional technical effect over and above any technical effects present in the closest prior art (which is a pre-requisite for finding the subject-matter of a claim to be inventive), since there is a "broken chain", namely an involvement of a mental process of the user.

¹ 134 S. Ct. 2347 (2014).

² T 1741/08 (GUI layout/SAP) of 2 August 2012.

- 22) In contrast, EPO T0928/03³ involved a computer soccer game in which a GUI displays a pass guide mark that enables the user to know the direction to which the ball should be passed. The EPO Board of Appeal held that this GUI involves an inventive step, since it addresses the conflicting technical requirements of displaying an enlarged portion of an image (into which the user may have zoomed) and keeping an overview of a zone of interest which is larger than the display area.

Design rights

- 23) In some jurisdictions, design rights are currently one of the most important tools for protecting GUIs. The United States Patent and Trademark Office Manual of Patent Examining Procedure (*MPEP*) explicitly states that designs for computer-generated icons embodied in articles of manufacture are protectable by design patents.⁴ In the US, design patents rather than utility patents, are heavily used by relevant industries to protect GUIs. One of the IP rights that Apple asserted against Samsung in the famous dispute was a design patent covering "the ornamental design for a graphical user interface for a display screen or portion thereof", relating to the screen of an iPhone.⁵
- 24) In China, design patents are also available. Until recently, GUIs were explicitly excluded from subject matter protectable by design patents. However, in May 2014 the State Intellectual Property Office amended the Guidebook for Patent Examination to allow for design patent protection for GUIs. Since then, relevant industries have become very active in seeking protection for their GUI designs in China.
- 25) Various issues arise in relation to design protection for GUIs. First, a GUI temporarily appears on the screen of an electronic device. Once the device is switched off, the GUI disappears. GUI designs were characterised as "virtual or non-physical designs" in a recent review of the Australian designs system, highlighting the question of whether a GUI that temporarily appears on a screen of an electronic device is a "design" at all. If so, can it be protected by design rights? The traditional approach in Australia has been to draw a distinction between the visual features of a product "at rest" as opposed to "in use", with the assessment for design rights protection being based on the former. However, this was criticised in the recent review.
- 26) Secondly, there is an issue whether a GUI is protectable independently from the design of the physical electronic device itself. This can be related to the characterisation of whether the design relates to an aspect of a product "at rest" or "in use". If the assessment only takes account of the product in its unpowered state, it may be only the device itself that is the visual feature.
- 27) Thirdly, a GUI may include various smaller elements, such as icons and slide buttons. These are only a portion of the entire GUI but may nevertheless be significant design features of the GUI. Therefore, there is an issue whether such smaller elements may be protectable apart from the GUI as a whole.

³ T 0928/03 (Video game/KONAMI) of 2 June 2006.

⁴ MPEP § 1504.01(a).

⁵ U.S. Design Patent No. D604,305.

- 28) Fourthly, the user operates the electronic device using the GUI. The GUI appearing on the screen often moves or transitions. These moves and transitions can themselves serve as a significant feature of the GUI from a design perspective. Therefore, there is also an issue whether screen movements and transitions may be protectable by design rights. For example, in the US, the MPEP explicitly states that computer generated icons including images that change in appearance during viewing may be the subject of a design claim.

Copyright

- 29) It is generally considered that copyright protects original expressions, while ideas are outside the scope of copyright protection. Logically, given their nature, GUIs should fit within the scope of copyright protection. However, under the idea/expression dichotomy, there is an issue whether GUIs can be characterised as protectable expressions rather than simply as unprotectable ideas. If copyright protection is available, there may be a further question as to what elements of GUIs (the individual images of icons and other graphics, the overall "look and feel" of the GUI) can attract copyright protection.
- 30) Another issue is whether GUIs can be considered works of human authors. Usually, a GUI shown on a screen of a device is generated by a computer, based on algorithms in the underlying software and pre-defined designs. Such algorithms and pre-defined designs are likely to be human made, but there could be a point at which it becomes questionable whether a computer-created graphic is still the work of an author.
- 31) In the US, *Apple Computer, Inc. v. Microsoft Corp.*⁶ dealt with this question. In that case, the court denied the plaintiff's argument that the "total concept and feel" of its works should be compared with those of the defendants' works, and instead compared individual elements included in the GUIs. The court held that "illicit copying could occur only if the works as a whole are virtually identical" and concluded that there was no copyright infringement. According to one commentator, soon after this decision, the software industry began to rely more heavily on design patents for protection of GUIs.⁷
- 32) In the EU, the European Court of Justice (**ECJ**) in Case C-393/09⁸ dealt with the question of whether GUIs are protectable under various EU Directives. The ECJ held that GUIs do not fall under "computer programs" protectable under Article 1(2) of Directive 91/250/ECC.⁹ But the ECJ also held that a GUI could be protected by the

⁶ 35 F.3d 1435 (9th Cir. 1994).

⁷ Rachel Stigler, *Ooey GUI: The Messy Protection of Graphical User Interfaces*, 12 Nw. J. Tech. & Intell. Prop. 215 (2014).

⁸ *Bezpečnostní softwarová asociace – Svaz softwarové ochrany* (Czech BSA). Judgement of the Court dated 22 December 2010.

⁹ The Council Directive of 14 May 1991 on the legal protection of computer programs. Article 1(2) provided that protection in that Directive applied to the expression in any form of computer program. That Directive has since been repealed and replaced by Directive 2009/24/EC.

ordinary law of copyright by virtue of Directive 2001/29/EC¹⁰, if the GUI is original in the sense that it is its author's own intellectual creation.

Trademarks

- 33) GUIs may also be protectable as trademarks. Elements of GUIs such as icons identifying applications provided by specific companies may function as trademarks capable of distinguishing the goods or services of one source from those of others. However, for GUIs generally and generic icons, there are likely to be inherent limitations to such protection due to the role of a trademark being to distinguish the goods or services of one source from those of others. For example, it might be the case that only GUIs that have acquired secondary meaning through use could be protectable by trademarks.

Other forms of protection

- 34) Different jurisdictions may provide other protection for GUIs. For example, in those jurisdictions which provide protection for trade dress, this may be a means for protecting GUIs. There are however limitations as to trade dress or trade dress protection. For example, in the US, trade dress is protected only if: (a) it has acquired secondary meaning; and (b) is non-functional. Given the nature of GUIs, such protection could be very limited.
- 35) There have also been calls for a *sui generis* right specifically tailored to protect GUIs. The commentator referred to in paragraph 31) above has proposed a hybrid regime that is specifically tailored for GUIs should draw from the best-suited features of design patent, trade dress, and copyright law.¹¹

You are invited to submit a Report addressing the questions below. Please refer to the 'Protocol for the preparation of Reports'.

Questions

Please answer all questions in Part I on the basis of your Group's current law.

I. Current law and practice

Patents

- 1) Can GUIs generally be protected by patents? If GUIs cannot be protected by patents per se, are any types or aspects of GUIs protectable by patents? If so, which?
- 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?

¹⁰ Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society.

¹¹ Stigler, *Ooey GUI: The Messy Protection of Graphical User Interfaces*, *supra* footnote 7.

- 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?
- 4) Is any physical feature required in a claim as a pre-requisite for patentability of a GUI?
- 5) To what extent does involvement of the user's mental activities in a GUI process affect the patentability of the GUI?

Design rights

- 6) Can GUIs generally be protected by design rights? If not, are any types or aspects of GUIs protectable by design rights? If so, which?
- 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? In particular:
 - a) is a GUI that temporarily appears on a screen of an electronic device considered a "design" that is protectable by design rights?
 - b) is a GUI protectable by design rights independently from the design of the electronic device itself?
 - c) are smaller elements included in a GUI (e.g. icons, slide buttons) protectable by design rights independently from the GUI as a whole?
 - d) are movements or screen transitions in a GUI protectable by design rights?
 - e) are there any other types or aspects of GUIs protectable by design rights? If so, under what conditions and to what extent?

Copyright

- 8) Can GUIs generally be protected by copyright? If not, are any types or aspects of GUIs protectable by copyright? If so, which?
- 9) Does the fact that GUIs shown on screens are computer-generated affect the eligibility of GUIs for 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?
- 11) Can the overall "look and feel" of GUIs be protected by copyright? If not, can individual elements included in a GUI be protected?

Trademarks

- 12) Can GUIs generally be protected as trademarks? If not, are any types or aspects of GUIs protectable by trademarks? If so, which?
- 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? For example, is a screen movement or transition in a GUI protectable as a trademark?

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

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?
- 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?
- 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?
- 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)?

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.

Patents

- 23) Should GUIs generally be capable of protection by patents? If not, should at least some types or aspects of GUIs be protectable by patents? If so, which? Please explain your reasons.
- 24) Under what conditions, and to what extent, should GUIs fall within the scope of patentable subject matter? For example, should involvement of user's mental activities in a GUI process affect the patentability of the GUI? If so, to what extent? Please explain your reasons.
- 25) Should a physical feature be required in a claim as a pre-requisite for patentability of GUIs? Please explain your reasons.
- 26) What claim formats should be available for protecting GUIs?

Design rights

- 27) Should GUIs generally be capable of protection by design rights? If not, should at least some types or aspects of GUIs be protectable by design rights? If so, which? Please explain your reasons.
- 28) Under what conditions, and to what extent, should GUIs be protectable by design rights? For example, should screen movements or transitions in a GUI be protectable by design rights? Please explain your reasons.
- 29) Should a GUI be protectable by design rights independently from the design of the electronic device itself? Please explain your reasons.

Copyright

- 30) Should GUIs generally be capable of protection by copyright? If not, should at least some types or aspects of GUIs be protectable by copyright? If so, which? Please explain your reasons.
- 31) Should the fact that GUIs shown on screens are computer-generated affect the eligibility of GUIs for copyright protection? Please explain your reasons.
- 32) Under what conditions, and to what extent, should GUIs protectable by copyright? For example, should the overall "look and feel" of a GUI be protectable by copyright? Please explain your reasons.

Trademarks

- 33) Should GUIs generally be capable of protection as trademarks? If not, should at least some types or aspects of GUIs be protectable as trademarks? If so, which? Please explain your reasons.
- 34) Under what conditions, and to what extent, should GUIs be protectable as trademarks? For example:
 - a) should screen movements or transitions in a GUI be protectable as trademarks?
 - b) should a GUI be required to acquire secondary meaning through use, in order to be protected as a trademark?

Please explain your reasons.

Other forms of protection

- 35) Should there be other forms of protection for GUIs? If so, what forms of protection should there be? Please explain your reasons.
- 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?
- 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.