

Copyright Protection of Application Programme Interfaces: An Analysis of the Sri Lankan Position

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Abstract - Application program interfaces (APIs) are ubiquitous in our digital experience as they are responsible for ensuring interoperability between software. However, the applicability of copyright law to APIs has become a point of significant contention. Last year the Supreme Court of the United States granted a writ of certiorari to review the U.S. Court of Appeals' rulings on whether such software interfaces attract copyright protection and whether the use of an existing software interface in creating a new program constitutes fair use. The questions raised in these legal proceedings have far ranging implications for the practices and business models of the software industry and any other businesses that rely on APIs for network effects. This paper provides an overview of the debate surrounding copyright protection of APIs and then analyses the Sri Lankan Intellectual Property Act, No. No. 36 of 2003 and case law relating to copyright law within the country to consider the position of APIs under the existing Sri Lankan intellectual property regime. The analysis reveals that there are several ambiguities and open questions under the Sri Lankan copyright regime which create uncertainty as to whether APIs attract copyright protection. Further, it is unclear as to the applicability of the defence of fair use to allow copying of APIs in limited circumstances in the event of copyright protection. This gives rise to the same questions of law raised in the Google v Oracle proceedings. As such, it is recommended that the Legislature intervene and provide guidance to address the uncertainty created for the country's software industry and other businesses reliant on APIs.

Keywords - API, Copyright, Software, Interfaces, Fair Use

INTRODUCTION

Application Program Interfaces, more commonly referred to as APIs, have often been described as the glue that connects the digital world. A more apt description is unlikely to be found as APIs are what ensure interoperability between different systems by allowing for the seamless exchange of data between the said systems. Technological advancements that are rapidly gaining traction such as the Internet of Things are heavily reliant on APIs to achieve the level of interconnectivity required. Moreover, as of June 2020, there are over 23,100 web APIs recorded (ProgrammableWeb, 2020), a significant leap from the 2000 web APIs in January 2010 (Santos, 2017).

Considering how crucial APIs are to the digital experience, the question of copyright in APIs is swiftly becoming the centre of global debate, particularly because a longstanding legal battle over APIs between Google and Oracle has been granted certiorari by the United States Supreme Court to review questions on copyright protection of APIs and fair use in Google LLC v Oracle America, Inc. (United States Supreme Court 2020). The issues raised in this litigation are of significant relevance to other jurisdictions regarding the treatment of APIs. This paper proposes to analyse Sri Lanka's copyright regime to see whether it would raise similar questions of law as those raised in the Google v. Oracle proceedings.

II. RESEARCH METHODOLOGY

This paper provides a brief overview of the history of the API copyright debate and common arguments raised in relation thereof. Thereafter, the provisions of the Sri Lankan Intellectual Property Act, No. 36 of 2003 and case law relating to intellectual property are examined to consider whether the Sri Lankan intellectual property regime when applied to the context of APIs gives rise to the same underlying ambiguities that gave rise to the Google v. Oracle case.

AN INTRODUCTION TO APIs AND ISSUES UNDER COPYRIGHT LAW

A Brief Overview of APIs

APIs are sets of rules that allow one software to communicate with another software. APIs function in a number of contexts, including enabling internal interoperability with other software of the same ecosystem and external interoperability with software developed by third parties. In the absence of APIs, developers would have to write new code every time they wanted their software to interact with another software. To circumvent this painstaking procedure, APIs are a set of instructions for a particular software that, on a basic level, allows developers to make interoperable software. In essence, APIs ensure interoperability without software developers needing to understand how the other party's software works and obviates the need for the developer to develop new code each time she wants to interact with a software system.

In theory, APIs are purely functional as they permit communication and facilitate data exchanges between software rather than generating data of their own accord. For example, the Uber app utilises a Google Maps API to obtain location data from Google Maps. The location data is generated by Google Maps' proprietary algorithm and the API acts as a conduit for such information to be transferred to the Uber app. Thus, APIs do not

generate data by themselves but function as information pathways.

The use of APIs was initially limited to achieving functional interoperability by software industries but now there has been a growing interest by businesses in leveraging APIs to monetise data, create strategic partnerships and gain access to more data to create new products (Iyengar, Khanna, Ramdath and Stephens 2017). For example, close upon 800 of the web APIs recorded (ProgrammableWeb, 2020) are related to banks which signify a growing interest by banks to open up customer and payment data to third party providers as part of the open banking movement.

Storms Ahead: The Oracle v Google Saga

The European approach to copyright in functional aspects was established in the case of SAS Institute Inc v World Programming Limited (2012), wherein the Court of Justice of the European Union case held that Article 1(2) of the Council Directive 91/250/EEC of 14 May 1991 must be interpreted to mean that the functionality of a computer program did not constitute a form of expression and was therefore not protectable by copyright.

Meanwhile, across the pond, copyright jurisprudence in the United States had largely stabilised on the idea that features that were commonly deemed functional or network aspects of software were not subject to copyright protection after initial copyright battles addressing the same in the United States in the early 1990s (Menell, 2018). However, the question was once again raised when Oracle America, Inc filed a case against Google, Inc (now Google LLC) in 2010 over 37 packages of code. Oracle America alleged that Google used Oracle's JAVA APIs without authorisation in its Android operating system and claimed approximately \$9 billion in damages for lost revenue.

The trial court initially ruled that APIs did not attract copyright protection. In 2014, the

Court of Appeals for the Federal Circuit overruled the trial court's ruling on the basis that the JAVA API declarations attracted copyright protection due to the creativity involved in their creation.

Once again at the trial level, Google's defence of fair use prevailed and the judgment was once again appealed to the Court of Appeals. The Court of Appeals for the Federal Circuit held that the said use by Google did not constitute fair use and remanded the case to the trial circuit for trial on damages.

Google subsequently appealed the case to the Supreme Court to review the copyright and fair use rulings of the Court of Appeal and certiorari was granted last year. The outcome of this case is touted to have lasting ramifications on the software industry and future technological innovation.

Common Arguments Regarding the Copyright Protection of APIs

The position of APIs under copyright law has been a point of contention. One school of thought argues that APIs cannot attract copyright protection due to their functional nature. In the United States, copyright protection of certain aspects of software has historically revolved around the question of functionality. In the United States case of *Lotus Development Corporation v Borland International Inc* (1995), the Court held that the menu command hierarchy of a software cannot attract copyright as it merely allowed users to control and use software without requiring access to the underlying code. In reaching this decision, the Court considered that if the menu command hierarchy received copyright protection, the same operation would have to be expressed in a different manner in every program. Therefore, by extension of this principle, APIs cannot attract copyright as they serve a functional purpose.

A collateral argument is that APIs can only be expressed in a standard manner and such

expression constitutes necessary expression; therefore, such APIs cannot be subject to copyright protection (Balganesh, S., Nimmer, D. and Menell, P., 2020).

Further, it has been argued that a ruling that APIs attract copyright protection would have a stifling effect as it would confer on copyright holders "a patent like veto power...the ability of a copyright holder to control the operations of others' products merely because they use its programming interface as a method for communicating or interoperating with the copyright holder's product" (*Red Hat, Inc. Brief in Google v. Oracle*, 2019). Moreover, a lack of copyright protection would enable a more efficient development process as programmers can copy and reimplement existing APIs without fear of claims of copyright infringement (*Electronic Frontier Foundation Brief in Google v. Oracle*, 2014). However, it must be noted that the force of the interoperability argument greatly diminishes when APIs are copied for the purpose of creating software that is deliberately not incompatible as specifically argued in *Google v. Oracle* (*Brief for SAS Institute Inc*, 2020).

From a theoretical perspective, it has also been posited that API developers cannot be included in the same category of creators of creative works as APIs are developed due to necessity rather than due to seeking a specific reward for creative endeavour; therefore, copyright protection is not necessary to incentivise innovation (Sagdeo, 2018, p.255).

An alternative school of thought believes that APIs should be afforded the same level of copyright protection as other software products. This is because it has been argued that there many different ways of expressing an API and the significant creative choices taken by developers that amount to protectable expression under copyright law (*Brief for the United States in Google v. Oracle*, 2019).

Further, failing to confer copyright protection on APIs has been argued as undermining the efforts and investments of proprietary software companies. (Brief for SAS Institute Inc, 2020). It has been contended that if APIs are protected by copyright, such a position expands the opportunities for software companies to recoup their investments through a variety of licensing options and they should be free to make such choices (Brief for SAS Institute Inc, 2020).

IV. THE POSITION OF APIs UNDER SRI LANKAN COPYRIGHT LAW

The outcome of *Google v. Oracle* would have far reaching implications globally and should make academics and practitioners to look at their own legislation to see whether APIs attract copyright protection under their law. At this juncture, it necessitates the review of the Sri Lankan position on APIs and to consider if the existing intellectual property regime gives rise to similar legal issues as those encountered in *Google v. Oracle*.

Exploring the Question of Copyright Protection of APIs under Sri Lankan Law

Under the Sri Lankan Intellectual Property Act, No. 36 of 2003 (hereinafter ‘the Intellectual Property Act’), original computer programs are specifically protected as works in terms of Section 6(1)(a).

The definition of originality has differing standards globally and it has yet to gain extensive judicial consideration in the Sri Lankan courts on that specific question. Under the *Feist Publications Inc v Rural Telephone Service Co* (1991) standard of the United States, a minimal level of creativity is needed for a work to constitute copyrightable material. However, under the approach of the courts of the United Kingdom, even matters that do not involve creative expression and simply involve the compilation of data may constitute copyrightable material (Cornish, T. William, L. Aplin, D., 2013), often referred to as the sweat of the brow doctrine. The

question was addressed by the Sri Lankan Supreme Court in *Director, Department of Fisheries v. C. Aloy Fernando* (2018) wherein the Court had to make a finding of originality to see if a disputed work attracted copyright prior to the proof of infringement. In coming to its finding, the Court held that the preparation of the work involved skill, choice of language and style, composition and intellectual effort. This definition does not necessarily preclude works made involving the sweat of the brow doctrine and leaves the position open ended. As the lower threshold of the sweat of the brow doctrine is still open under Sri Lankan law, the likelihood of APIs attracting copyright under Sri Lankan law is significantly higher.

The definition of a computer program is set out under Section 5 of the Intellectual Property Act as a “set of instructions expressed in words, codes, schemes or in any other form, which is capable, when incorporated in a medium that the computer can read, of causing a computer to perform or achieve a particular task or result”. The term computer is also defined under Section 5 of the Intellectual Property Act to mean “an electronic or similar device having information processing capabilities”. It is also interesting to note that these definitions reflect the same wording used in the Code of Intellectual Property (Amendment) Act, No. 40 of 2000 which initially introduced copyright protection for software under Sri Lankan law. While the first API was developed in 2000, APIs only began to gain traction several years later.

As APIs are a set of instructions on how to communicate with software, they can, for the purposes of the Intellectual Property Act, be deemed to cause a computer to “achieve a particular task or result” by transferring information. Returning to the Uber example, when the app requires location data, it is one of Google Maps’ APIs which achieves this by facilitating the transfer of data from Google

Maps. Thus, prima facie, APIs are protected under Sri Lankan copyright law as they fall within the definition of a computer program under the Intellectual Property Act.

However, it should be noted that on a strict construction of the definition of a computer program, certain types of APIs may potentially be excluded from copyright protection as the API does not always make a “computer” perform or achieve a particular result. The definition of a computer under the Intellectual Property Act seems to impose an implied restriction of the applicability of the Intellectual Property Act to scenarios involving physical devices with information processing capabilities.

Further, in terms of Section 8(a) of the Intellectual Property Act, copyright protection will not be extended to “any idea, procedure, system, method of operation, concept, principle, discovery or mere data, even if expressed, described, explained, illustrated or embodied in a work”. This express removal of copyright protection for such matters is a new inclusion to Sri Lankan intellectual property law as a comparative provision was not included in the Code of Intellectual Property Act, No. 52 of 1979 as amended (‘Code of Intellectual Property’). The Code of Intellectual Property was based on the World Intellectual Property Organisation’s model law for developing countries (Cabral, 2004) and the said model law also did not include such a provision.

While the wording of Section 8(a) of the Intellectual Property Act has yet to receive judicial consideration in Sri Lanka, APIs have the potential to fall within the wording ‘method of operation’ in the aforementioned section due to their utilitarian nature. As per the United States case of *Lotus Development Corporation v Borland International Inc* (1995), ‘a method of operation’ refers to a means by which a person operates something and therefore, the menu command hierarchy of software is uncopyrightable because,

without it, users would be unable to access or control the software’s functional capabilities. Therefore, in theory, APIs can be deemed to fall within the category of a method of operation as they set out a method to allow interoperability between software systems.

Further, Section 8(a) of the Intellectual Property Act may also be interpreted to allow for a single work to be separated into copyright protected and non-copyright protected elements as Section 8(a) specifically notes that the exempted categories do not obtain copyright protection “even if expressed, described, explained, illustrated or embodied in a work”. In light of this, APIs may potentially be split into segments attracting copyright and purely utilitarian segments which do not attract copyright.

While it is an established principle of copyright law that an idea is not protected by copyright but the expression thereof can attract copyright, it should also be noted that Section 8(a) allows for instances where the expression of an idea may, in certain instances, not be subject to copyright. The wording of Section 8(a) may open the door for the entry of an equivalent of the merger doctrine, a judicial construct of U.S. copyright law. Expounded in the United States Court of Appeals case of *Morrisey v Procter & Gamble Co* (1967), the merger doctrine prevents courts from deeming a work as attracting copyright protection if there is only one or limited means of expressing the said works. This recognises that the idea and expression have merged to the extent that they are indivisible and, by virtue of such merger, copyright protection cannot be afforded to the work. However, whether Sri Lankan courts would accept such an interpretation or reject the doctrine like their counterparts in the U.K. as in *Ibcos Computers v Barclays Mercantile* (1994) is to be seen.

Thus, it is difficult to ascertain how the question of copyright protection of APIs

would be treated judicially in the event of a legal dispute under Sri Lankan law.

B. The Potential Defence of Fair Use under Sri Lankan Law

In the event of a finding of copyright protection, standard industry practices such as copying common elements would now be a violation of the economic rights of the copyright holder of the API. It is now necessary to consider if the statutory formulation of the defence of fair use under Section 11 of the Intellectual Property Act can be used to allow the industry to continue such practices.

Section 11(1) of the Intellectual Property Act gives examples of purposes that constitute fair use which include criticism, comment, news reporting, teaching, scholarship and research. It should be noted that Section 11 is a non-exhaustive provision and can be interpreted to include similar purposes.

Further, Section 11(2) sets out four factors to be considered; namely, the purpose and character of the use, the nature of the copyrighted work, amount and substantiality of the portion used and the effect of the use upon the potential market for or value of the copyrighted work. It is interesting to note that these factors reflect the same four factors that are used in § 107 of the U.S. Copyright Act and the outcome of the *Google v Oracle* saga could potentially be influential in future interpretations of this section.

On a first reading, of Section 11(2), it can be argued that since APIs are used solely to achieve interoperability, there is no inherent commercial value in copying the API itself. However, if under judicial consideration, the assessment of commercial use includes the ancillary benefits that arise from the use of the API i.e. the ability to interoperate software due to the API and thereby improving the commercial viability of the new software, it is likely to fail to satisfy Section 11(2)(a).

The utilitarian nature of APIs may support a finding of fair use in terms of Section 11(2)(b) as APIs involve more than a series of creative choices.

Further, as per Section 11(2)(c), the degree of copying is relevant. If the API is copied verbatim, it is unlikely to amount to fair use. However, if only features are copied and improved upon, there is a likelihood of coming to a finding of fair use.

Finally, assessing the market value and the effect of use for the potential market or value of the copyrighted API in terms of Section 11(2)(d) is heavily contextual. For example, if a monetised API is copied, there would be a market available for it.

Thus, a finding of fair use in terms of Section 11 is heavily contextual and there is no clear indication under the Intellectual Property Act that the copying of APIs would, in general, attract the defence of fair use under Sri Lankan law.

Implications of the Issues Pertaining to the Copyright Protection of APIs under Sri Lankan Law

The wording of the Intellectual Property Act and existing case law on intellectual property do not give rise to a clear stance on copyright on APIs. As noted in the *Red Hat, Inc Brief in Oracle v Google* (2019), technological innovation is likely to be disrupted if the software industry is not certain as to where it stands. In the event APIs constitute copyrightable works, players in the software industry may find that they are liable for inadvertent copying or they may find themselves reinventing the wheel by constantly having to create new APIs to avoid copyright infringement.

Further, the impact of such ambiguity may also be extended to businesses outside of the software industry that are relying on APIs as a cornerstone for strategic expansions as it opens the said businesses up to hitherto

unconsidered claims of copyright infringement.

V. CONCLUSION

APIs are often unconsidered and unseen essentials in our digital lives. A determination on the question of copyright protection of APIs would have far reaching ramifications not only for the practices in the software industry but also other businesses that rely on APIs to facilitate growth via network effects.

Under the Sri Lankan Intellectual Property Act, it is difficult to predict how APIs could be treated. Whether APIs attract copyright, or only aspects thereof would attract copyright and whether the fair use can be raised as a successful defence against infringement of potential copyright in APIs are just some of the questions that arise under our copyright regime within the context of APIs.

The circumstances are such that it behoves the Legislature to consider and provide guidelines as to how APIs should be treated under the law. In the interim, one of the options available to the software industry to safeguard themselves at this juncture would be to focus on the development of APIs that involve less creative choices and thereby reducing the chances of attracting copyright protection. Failure by the Legislature to provide clarification would result in the Sri Lankan software industry and all other industries that are looking to APIs for strategic purposes to be left mired in uncertainty and, in a worst case scenario, potentially subject to long drawn out legal battles such as that of the proceedings between Google and Oracle.

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