

Opinions of UP Diliman Students on Technology Copyrights and Patents

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In this paper, the authors take a look at the popular opinion of Science and Engineering majors in the University of the Philippines Diliman Students regarding issues around technological copyrights and patents. In particular, this paper examines their opinions on the extent of influence that a particular piece of design or feature has on a whole product. This is done in the context of the Samsung vs. Apple and Oracle vs. Google trials over the infringement of intellectual property rights.

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1. INTRODUCTION

Technological patents and copyrights pose an important issue for software developers, hardware manufacturers, designers, and other stakeholders in the technology industry and those communities concerned about technological proliferation. These issues raise questions about how much control an entity should have over its creation, what protections should be afforded that entity, and how those protections should be balanced to still allow continued innovation in the field. Furthermore, how much influence does a particular piece of design or technology have over a product?

1.1 Intellectual Property Rights

Intellectual property (IP) such as art, designs, and inventions are identified as non-physical works that are the “product of original thought”. Rights can be granted to the owners of IP. These rights cover the control of the expressions of IP (such as physical expressions in the form of manufactured products, or digital copies of a work of art or piece of technology). Intellectual property rights protects the interests of the creator by giving them control over the production and distribution of expressions of their work. [Moore and Himma 2014] Protections can be granted by law in the form trademarks, trade secrets, patents, and copyrights. This paper is concerned with the latter two.

A patent is a set of rights given to the owner of an invention that prevents others from making, using, importing, or selling the invention without the owner’s permission. To be patented, an invention must be “new, an improvement over current processes or technologies, and must have practical industrial application”. [Choo 2015]

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In general, patents expire (currently, they expire after 15 years in the US), but since the allegations discussed here fall within the time frame, a description of patent time limits can be safely omitted. Most countries grant patents to several types of intellectual property. This paper is generally concerned with design and utility patents.

In the United States, where the Apple patents were filed, a design patent can be applied for the ornamental or aesthetic design of a product, including its physical properties and appearance. Patents last for 15 years in the US and allow its holder to disallow the unauthorized use, marketing, or selling of a design. [USPTO 2016]

A utility patent is one granted to a useful and novel, or previously unknown, process, machine, manufactured product, or composition of matter. These include the patent granted for Samsung's wireless technologies. [USPTO 2016]

A copyright constitutes a different set of rights granted to an intellectual property owner. They are the legal rights given to the creator of works such as writings, paintings, photographs, and computer programs—i.e. expressions of ideas. Copyright prevents others from reproducing, distributing, creating derivatives from, and displaying the work in public. Another important distinction between copyright and patents is that while patents have to be applied for, copyright automatically applies to all copy-rightable material. [Today nd]

1.2 Apple vs. Samsung

Apple vs. Samsung is a series of patent infringement lawsuits filed by Apple Inc. and Samsung Electronics Corp. against each other. As of the time of this writing, some cases are still pending in several courts. Apple has several design patents, including patents for the iPhone's shape, the colors of the graphical user interface of iOS, and the shape and design of the iPad.



Fig. 1. From the left: a) A front and side profile of Apple's iPhone according to the US patent grant for its design; b) A screenshot of the home screen of the iPhone showing the patented user interface; c) A front and side profile with the home screen of the Samsung Galaxy i9000, claimed by Apple to be an infringement of its design patents.

On April 15, 2011, Apple sued Samsung in the United States District Court for the Northern District of California, claiming that Samsung infringed on Apple's design patents. A few days later, on April 22, Samsung counter-sued Apple in the federal courts of Seoul, South Korea; Tokyo, Japan; and Mannheim, Germany, claiming that Apple infringed upon its own patents on wireless technology.

Apple cited the similarities between its own iPhone and iPad products and the Samsung Galaxy line of smartphones and tablets. In particular, Apple claimed infringement of USD593087 (for the "home button, rounded corners, and tapered edges" of the iPhone);

1.3 Oracle vs. Google

Oracle vs Google was a dispute between the owners of Java (Oracle America, Inc.) and Android (Google, Inc.). Java is a programming language and set of libraries that was created by Sun Microsystems. Included with Java was an Application Programming Interface, which is a set of software tools that are meant to be used by other software to achieve a certain functionality. [Sintes 2001] The Java API allowed programmers to simplify their code and rely on existing libraries instead.

Android was created by Android, Inc. and was later bought and further developed by Google. At an early stage of development, it was announced that it would use Java technologies. At the time, Sun Microsystems publicly praised the decision, with then CEO Jonathan Schwartz "offering my heartfelt congratulations to Google on the announcement of their new Java/Linux phone platform, Android." [Schwartz 2007] Google's own implementation of Java APIs were included in the Android Software Development Kit, which was an instrumental tool in allowing developers to write apps that would extend the functionality of Android.

Sun Microsystems was bought by Oracle in 2010, while Android became one of the most used operating systems in the world. In August 2010, Oracle sued Google, claiming that Google violated infringed on its intellectual property when it created its own version of the Java API and demanded payment for damages. In its initial complaint, Oracle accused Google of "knowingly, willingly, and unlawfully" copying, using, and redistributing its IP without express permission. [Bangeman 2010].

Oracle demanded financial compensation for Google's alleged violations, seeking up to US 9.3 billion dollars during its second trial. This was close to 4 billion dollars more than Oracle had paid for Sun Microsystems, and was at the time the largest amount demanded for an IP settlement. Oracle claimed that it deserved all of the profits made from Android because if it wasn't for Java, Android could not have competed during the early days of its depolyment. It cited how Google capitalized upon the wide market share of Java and used it to attract developers their then-fledgling platform. [Mullin 2016]

There were several stages of the litigation process, characterized by three major decisions subsequently handed down by different courts. These decisions and the reasons for them are presented in Figure 2.

Ruling	Winner	Notes
The APIs that Google "copied" were not protected by copyright	Google	The court reasoned that if there is only one way to declare a given method functionality, [so that] everyone using that function must write that specific line of code in the same way".
A higher court reversed the ruling; the Java APIs are protected by copyright	Oracle	
Google's use of them was under the terms of fair use	Google	The ruling that the Java APIs are protected by copyright still stands

Fig. 2. Listing of subsequent rulings at different stages of the litigation process between Oracle and Google. Google's defense was originally based on the triviality of the parts that were copied from the Java APIs, then the uncopyrightability of APIs, but in the end were forced to retreat and use a fair use defense.

Google had used the defense that the parts of the Java APIs that were copied were trivial or inconsequential to the overall sequence, structure, and functionality of the Android operating system. When the second ruling was handed down,

In an amicus brief filed by the Electronic Frontier Foundation on behalf of computer scientists, they petitioned the court to favor protected by copyright. Many in the software industry agree with the fair use ruling, but still believe that APIs should not be copyright protected in the first place. Do you agree with them. [Samuels 2013]

2. OBJECTIVES

This survey is undertaken with the objectives

- to determine the familiarity of UP Diliman Engineering and Science undergraduates with the patent and copyright infringement lawsuits between Apple & Samsung; and Oracle & Google, respectively;
- to determine the prevailing opinion of UP Diliman Engineering and Science undergraduates about the validity of Apple's infringement claims against Samsung;
- to determine the prevailing opinion of UP Diliman Engineering and Science undergraduates about the validity of Oracle's infringement claims against Google;
- to determine the likely response of UP Diliman Engineering and Science undergraduates to an infringement of their own intellectual property;

3. METHODOLOGY

The survey was carried out over a sample of undergraduate students in the University of the Philippines Diliman campus pursuing engineering and science degrees. Opportunistic sampling was used to select participants. Respondents were asked to answer thirteen (13) Yes/No questions, and 2 other multiple choice questions; the questionnaire pertained to their familiarity with the Apple vs. Samsung and Oracle vs. Google cases, the products (namely, the iPhone, iPad, Galaxy phones and tablets, Java and Android), perceptions about the correctness of major court decisions handed down during the course of the litigation processes, and what they would do in the case of their own intellectual property being infringed upon and used for profitable purposes. Regarding that same situation, they were asked if they would demand a stop to distribution/manufacture of the infringing product and what amount of the violators' profits they would demand as compensation (none, some or all).

The questionnaires were administered either online or via paper forms, and also included briefing information about the cases, images of the products in question (where relevant), and definition of

legal and technical terms pertaining to the cases. The entire questionnaire is available at the project site (please see the footnotes in the first page of this paper).

4. RESULTS AND DISCUSSION

5. CONCLUSION

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