Preface

The last twenty years have been exciting times for intellectual property attorneys practicing in the computer law area. Most of the jurisprudence we now take for granted evolved extensively, and often tumultuously, during this period. The "look and feel" debates and court cases attracted much attention, while patent protection for software was hotly contested. It is the opinion of the editors that both areas of law, together with trade secrets protection, have emerged in a logical and consistent manner to provide a comprehensive continuum of intellectual property protection for computer software.

Nevertheless, as attorneys practicing in this field, we are faced with a legal corollary of Moore's Law: change threatens to outpace our capacity even to acknowledge it, much less adapt to it. Keeping pace is all the more difficult without a comprehensive treatise on the practice of electronic and software patent law. What is needed is a resource that not only patent prosecutors and patent litigators can use, but one that general practitioners, corporate executives, and corporate counsel concerned with property in electronic and software technology can refer to. *Electronic and Software Patents* addresses that need.

In many respects, this treatise has its origins in the Electronic and Software Protection Committee of the American Intellectual Property Law Association (AIPLA).

Two contributors to this treatise, Rick Nydegger and Ken Nigon, have been chairs of the committee. A number of other contributors have been active and strong contributors to committee causes for almost twenty years. It was this group that inspired us to embark on the project that developed into *Electronic and Software Patents*. We believed that this group of talented and scholarly individuals was capable of producing a strong, informative, and up-to-date book that would be of great value. It is our belief that this vision has been borne out, and we think you will agree. The treatise is a calculated mix of academically oriented legal analysis and practical advice on how to draft and prosecute winning patents. If you

need a case citation to make your points, an example of how to draft a claim to a data structure, or help in protecting your client's method of doing business, you will find it in *Electronic and Software Patents*.

This treatise is organized to logically follow the steps for obtaining and managing electronic and software patents. First, corporate managers, corporate counsel, and patent attorneys must work together to decide whether or not to seek patent protection for a particular invention. If patent protection is desired for the particular invention, then a patent practitioner begins the process of drafting and filing an application, and then nurturing the application through prosecution into a patent. When this process ends with the issuance of a patent, the process of strategically managing and utilizing the patent has just begun. Whether there is just one patent or a portfolio of hundreds, several parties have a role in its management and use, including patent litigators, general practitioners dealing with intellectual property, and corporate managers and corporate counsel of electronic and software companies.

The opening chapters of this treatise provide a basic understanding of the technology and the law necessary to determine if patent protection is appropriate for a particular invention. With increasing specialization in education, many practitioners have areas of limited competence even within the confines of electronic and software technologies. Chapter 1 is aimed at nonexpert but technically minded readers and surveys the history of key electronic and software technologies. Convenient references are provided to additional in-depth information useful in preparing electronic and computer-related patent applications.

When counseling clients regarding intellectual property protection for a given software program or computer system, practitioners must keep in mind that a combination of patent, copyright, trade secret, and trademark rights is the best cumulative method of protecting the different aspects of computer software. Chapter 2 provides an overview of patent law's relationship to trade secret, trademark, and copyright law. Though each of these subjects merits its own treatise, this chapter will prime new practitioners and refresh seasoned ones.

The rapid evolution of software technology makes searching for prior art in this area potentially difficult and time consuming. In addition to highlighting the early history and problems of PTO computer art searching, Chapter 3 discusses different search strategies and describes numerous prior-art resources.

When drafting computer-related applications, one should be aware of *Alappat* and its case law progeny. Chapter 4 discusses this case law and specifically addresses the impact of the PTO's examination guidelines for computer-related inventions, the rise and fall of the *Freeman-Walter-Abele* test for determining patentable subject matter, and the Federal Circuit's return to primary authorities for

better legal footing. Further, this chapter reduces *Alappat*, its progeny, and the PTO guidelines to several succinct lessons for preparing computer-related patent applications, including insights on drafting claims and specifications in light of 35 U.S.C. Section 112, paragraph 6, and new claim formats for computer-related inventions.

The description of an invention in an electronic or software application must be carefully prepared so that it describes the system or software at a scope appropriate for the invention. The discussion in Chapter 5 centers on the best-mode, enablement, and written-description requirements of Section 112 and focuses on how they relate to software inventions.

Patent applications for electronic and computer-related inventions typically cover inventions that are best claimed using a variety of claim strategies including process claims, means-plus-function claims, or other apparatus claims that include functional or structural language. Chapter 6 presents all of the fundamental electronic and software claiming styles and formats.

Because the nature of infringing devices cannot be known at the time the patent application is prepared, claims should be crafted to achieve the broadest interpretation permitted by the prior art. Chapter 7 explains how to do this, discusses the interplay between the claims and the language of the specification, and addresses the related issues of prosecution history and extrinsic evidence.

Means-plus-function claims provide patent practitioners with a way to construct precisely worded claims using only functional language. Chapter 8 traces the history of 53 U.S.C. Section 112, paragraph 6, and examines current case law relating to prosecution of applications that include means-plus-function claims. This chapter also includes a claim-drafting exercise for a typical computer software invention.

Chapter 9 continues the discussion of means-plus-function claims, examining the impact of *Donaldson* on the interpretation of such claims.

Upon receiving a First Office Action on a filed patent application, practitioners should not only begin thinking how to respond to each rejection, but should also look for clues in the Office Action as to the most effective and efficient manner to respond. Chapter 10 discusses the factors influencing the PTO Examiners responsible for examining software and computer-related patent applications. This chapter then identifies 10 prosecution types that practitioners may encounter and provides tips for dealing with each.

Practitioners must carefully counsel clients so that their inventions remain qualified for international as well as domestic patent protection. Chapter 11 describes major differences between U.S. patent laws and the laws of many other countries. Such differences include the distinction between first-to-invent and first-to-file systems, as well as differing approaches to patentable subject matter. This chapter provides a discussion of statutes, regulations, and case

law for selected individual countries in North America (other than the United States), South America, Europe, the Middle East, Africa, Asia, and Australia/New Zealand.

The next portion of the treatise addresses issues arising after patents issue, beginning with strategically managing a patent portfolio. Building and sustaining a valuable portfolio of domestic and foreign patents is a complex task. Chapter 12 describes how to establish long-term objectives for a patent portfolio and describes methods for advancing these objectives. This chapter also discusses ways to select among invention disclosures to patent, such as using a patent review committee and achieving an optimal balance of quality and quantity. In addition, it sets out procedures for eliciting software- and hardware-based invention disclosures and describes patent portfolio strategies for start-up and emerging-growth companies. Finally, strategies for effectively managing a patent budget are explored.

Practitioners are routinely asked to advise clients on the issues of patent invalidity, unenforceability, and noninfringement. Chapter 13 addresses the principal issues involved in preparing opinions and focuses on the special considerations involved in the context of electronic and software patents. This chapter provides guidance on when an opinion should be prepared, who should prepare the opinion, how to prepare a competent opinion, and what such an opinion should contain. In addition, this chapter discusses the substantive areas of law that a competent opinion should consider as well as confidentiality issues.

Designing around a patent to produce a similar product or process is legitimate competitive behavior. Chapter 14 explains how to identify a patent's broadest valid claim and either omit one of the claim's elements or substitute an appropriate component for it so that infringement can be avoided.

The nature of the software industry, the participants, the technology, and the patents involved make software litigation different in many important respects from other patent litigation and from litigation in general. Chapter 15 describes these differences and discusses specific strategies related to infringement, validity, and damages in software patent litigation.

Two developing areas of law that software patent practitioners need to be aware of are software utility patents for implementing business systems and software design patents. Chapter 16 reviews cases addressing the patentability of software for implementing business systems, concluding that the status of the method-of-doing-business exception remains unsettled but recommending that at least one claim set in a patent application be drafted to a system, including computer components, for performing the desired function. This chapter also addresses design patents for computer software, and more precisely the patenting of ornamental elements of computer software. This chapter surveys design patent law, traces the short history of design patents for computer screen displays, and summarizes the PTO guidelines for examining design patents claiming computer-generated icons shown on a display device. This chapter also explores

case law, arguments, and claim strategies for using design patents to cover ornamental features of stored software and software per se, independent of a display device.

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