SOFTWARE PATENTS

GREGORY A. STOBBS

Second Edition

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Harness, Dickey & Pierce, P.L.C.

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ABOUT THE AUTHOR

Gregory A. Stobbs is a principal in the patent firm of Harness, Dickey & Pierce, P.L.C., where he specializes in computers and software. He holds B.S.E.E. summa cum laude (electrical engineering) and J.D. degrees from the Ohio State University. Before joining Harness, Dickey & Pierce, he practiced as a patent attorney for Sperry Corporation (UNIVAC) and as a prosecuting attorney in Ohio, conducting first chair civil and criminal trials.

To Beth and my parents.

FOREWORD

It is indeed the right time for a book that spells out, for the legal practitioner and others, what is behind current patent law as it relates to software, how to draft patent applications, how to work with the U.S. Patent & Trademark Office (PTO) to carry them through to approval, and all the other aspects of law and procedure that are so necessary to participate in the rapidly growing software industry.

The real history of the software industry started in 1969, with the unbundling of software by IBM and others. Consumers had previously regarded application and utility programs as cost-free because they were bundled in with the hardware. With unbundling, competing software products could be put on the market because such programs were no longer included in the price of the hardware. Almost immediately, the software industry was born. On the other hand, it was quickly evident that some type of protection would be needed for this new form of intellectual property.

Unfortunately, neither copyright law nor patent law seemed ready to take on this curious hybrid of creative expression and functional utility. During the 1970s, there was total confusion as to how to protect software from piracy. A few copyrights were issued by the Copyright Office, but most were rejected. A few software patents were granted by the PTO, but most patent applications for software-related inventions were rejected. The worst effect for the new industry was the uncertainty as to how this asset could be protected.

Finally, in 1980, after an extensive review by the National Commission on New Technological Uses of Copyrighted Works (CONTU), Congress amended the Copyright Act of 1976 to cover software. It took a number of important cases to resolve most of the remaining issues in the copyright law, and there are still some issues being litigated, such as the so-called "look and feel," but it appears that this area of the law is quite well understood now.

For patents, it took a 1981 Supreme Court decision, *Diamond v. Diehr,* to bring software into the mainstream of patent law. This decision ruled that the presence of software in an otherwise patentable invention did not make that invention unpatentable. *Diamond v. Diehr* opened the door for a flood of software-related patent applications. Unfortunately, the PTO was not prepared for this new development, and in the intervening years they have issued thousands of patents that appear to be questionable to the software industry.

It took a few years after 1981 for the flow of software-related applications to increase, and then there was some delay because of the processing of those appli-

cations. Now, the number of infringement cases is on the rise. It is very important for the legal community to understand this development so that lawyers can properly write software patent applications and work with the PTO in the most effective way.

Greg Stobbs is the ideal person to write this book. His interests in software go far beyond the functional aspects that are most relevant to patents. He is genuinely interested in and knowledgeable about both copyright and patent law, and the philosophical issues in both. Given his long experience in intellectual property protection litigation, he is in a unique position to write this in-depth guide to patent law as it applies to software.

BERNARD A. GALLER
President, Software Patent Institute

PREFACE

In cosmological terms the software industry has gone supernova — the industry has exploded. If you look, and you don't have to look too closely, you will find that software has permeated our consumer products, our business systems, and our society. Software is no longer confined to the hulking mainframe computer tended by technicians in white coats, nor is it confined to the desktop computer that has all but replaced the typewriter. Software has broken free of its containment vessels and has leaked into everything: your VCR, the transmission of your car, the typesetting equipment that printed this book, and even the air traffic control system guiding your next landing.

No one can deny the importance of software. Yet there is a controversy raging. Who shall be permitted to own this important technology? Is the Patent Office equipped to decide? There are those who argue that software is so fundamental that our society should not allow anyone to own it to the exclusion of anyone else. Some are content to treat software as copyrightable literature, affording protection only to its expressive, but not its functional, aspects. Some argue strenuously that the patent system that has existed since 1790 is not equipped to handle this new technology, and that some different, *sui generis,* form of protection should be created for software. Others argue, just as strenuously, that the current patent system is working fine, and that it will adapt to this new technology, just as it has adapted to new technology many times before.

This book explores software patents in depth. It is a how-to manual, explaining how the software patent application should be drafted to maximize the likelihood of being granted a patent; exposing who holds software patents today and for what inventions; and discussing what can be done to protect software inventions in the worldwide marketplace. This book also explores the software patent controversy — what should be protected and what should not — and exposes the common thread running through all of the patentable subject matter cases. I hope you will enjoy and use this book. The following is a brief synopsis of its chapters.

Chapter 1 takes you on a journey through history of patents, computers, and software. You will discover that the arguments for and against software patents are not new arguments. They have been echoing for centuries. The next time you confront the issue of who owns an idea, find out in **Chapter 1** how Thomas Jefferson handled the question.

Chapter 2 is a software primer for lawyers. Use it to fill in the gaps in your knowledge of how software is created, what object-oriented programming is about, how client-server techniques are applied in software systems, what the

Internet protocol involves, how Microsoft Windows™ works, and more. **Chapter 2** also teaches you about software agent technology. If you have ever used a search engine to locate information on the Internet, you have seen a little of what software agents can do.

Chapter 3 is for the software professional. It explains some of the basics about the legal system and the courts and familiarizes the layperson with the concepts that lawyers take for granted. **Chapter 3** places special emphasis on property law, explaining important concepts underlying all intellectual property law and its keystone, patent law. For the layperson and the general practitioner, the chapter ends with a concise treatment of patent law, a discussion of the patent office, and an explanation of how to read and understand patents.

Chapter 4 addresses the important 35 U.S.C. § 101, patentable subject matter, issue that is often critical to the patentability of a software invention. Many attorneys fear the § 101 patent application rejection because this is one of the most confusing issues in patent law today. This chapter seeks to clear away the confusion by tracing the origins of the § 101 rejection through the last century of Supreme Court decisions. Included in this chapter is a convenient gazette of reported decisions ruling for and against patentability. The cases are arranged by inventive subject matter, so you can easily find the reported decision on point. The chapter also includes a full discussion of the important Federal Circuit Court of Appeals in *State Street Bank & Trust Co. v. Signature Financial Group.*

Chapter 5 is about prior art. One of the principal objections to the current software patent system is that it is difficult to find the most pertinent prior art. This chapter explains how to find software prior art. It explains how the Patent Office Classification System works and how to use on-line database services such as DIALOG and LEXIS and the CASSIS CD-ROM database to find that "needle in a haystack" prior art reference. If you do not use these services often, it is easy to forget the search technique details.

Chapter 6 explains how to draft a software patent specification that meets all of the requirements of 35 U.S.C. § 112. The chapter discusses each of the leading cases concerning adequacy of the disclosure in software patent applications. You will learn how to avoid having your application rejected by the Patent Office and how to immunize your patents from being invalidated by the courts. The chapter includes a handy checklist of topics to cover with the inventor when meeting prior to drafting and filing the application.

Chapter 7 is about patent drawings. In this chapter you will learn about a number of different ways to illustrate software inventions through drawings. You will improve your patent applications by selecting drawings that clearly explain abstract software concepts.

Chapter 8 discusses the mechanics and strategy of claim drafting. You will learn what patent examiners are looking for when they examine your claims. For the beginning patent attorney struggling to master this difficult subject, this chap-

ter provides a step-by-step analysis technique to help find the invention and draft claims of proper scope.

Chapter 9 deals with the patent application examination. It takes you from the Patent Office mail room to the examiner's desk, describing what happens to your patent application as it is examined. You will find this chapter a convenient reference for questions often asked during patent prosecution, such as how to get the application on file more quickly by taking advantage of "missing parts" practice, and how to expedite prosecution through a petition to make special. This chapter places special emphasis on the duty of disclosure and on how to cite prior art in software patent applications.

Chapter 10 discusses the software patent worldwide. Principal emphasis is on practice in the European Patent Office (EPO) and the Japanese Patent Office (JPO). The chapter gives the salient features of the European and Japanese patent systems and includes a full discussion of what kinds of software may be patentable in these important jurisdictions.

Chapter 11 is a software patent sampler, giving summaries of each of the software patents owned by some of the software industry leaders, including Microsoft, WordPerfect, Borland International, and Lotus Development Corporation. The patent sampler also summarizes several software patents on various "pure software" components such as the data structure, the algorithm, the user interface, the business method, and more.

Chapter 12 explains the strategic patent portfolio. It describes powerful portfolio analytic techniques to analyze the patent holdings of your client and your client's competitors. Once you have analyzed your client's position, this chapter gives you a roadmap for developing a software patent protection strategy to enhance your client's position.

Chapter 13 is all about software beta testing. You will learn how to develop a beta testing plan that avoids having your client's patents later declared invalid under the onsale and public use bars. This chapter also contains an extensive checklist of what to include in your beta testing license agreement. A section devoted to documenting beta testing results shows software developers how, and how not, to document their work.

Chapter 14 is about Internet and e-commerce patents. This chapter will teach you about internet technology as well as provide you with the latest information on legal issues concerning internet patents, such as patent infringement and territorial issues. The chapter also provides some specific examples of internet patents.

I certainly welcome your comments, suggestions, and criticisms. You may address them to me at Harness, Dickey & Pierce, P.L.C., 5445 Corporate Drive, Troy, Michigan 48098; phone (248) 641-1600.

GREGORY STOBBS
Troy, Michigan
June 2000

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