Beyond the Code

Protection of Non-Textual Features of Software

NOAM SHEMTOV

Beyond the Code

Protection of Non-Textual Features of Software

Noam Shemtov

Senior Lecturer in Intellectual Property
and Technology Law,
Queen Mary, University of London

OXFORD
UNIVERSITY PRESS

OXFORD
UNIVERSITY PRESS
Great Clarendon Street, Oxford, OX2 6DP,
United Kingdom

Oxford University Press is a department of the University of Oxford.
It furthers the University's objective of excellence in research, scholarship,
and education by publishing worldwide. Oxford is a registered trade mark of
Oxford University Press in the UK and in certain other countries

First Edition published in 2017

Impression: 1

Published in the United States of America by Oxford University Press
198 Madison Avenue, New York, NY 10016, United States of America

British Library Cataloguing in Publication Data
Data available

Library of Congress Control Number: 2017947641

ISBN 978-0-19-871679-2

Printed and bound by
CPI Group (UK) Ltd, Croydon, CR0 4YY

Beyond the Code

For Ino and Daphne

Foreword

Software plays a crucial role in our economy and society. It is the backbone of how we communicate, create, travel, entertain, conduct business, and provide services and, increasingly in an era of 'big data', predicts and shapes our future behaviour. The pervasiveness of software makes it easy to forget that its transformational impact has occurred in just over half a century. The history of intellectual property protection of software is also relatively short, with copyright protection being widely recognized by the early to mid 1980s and patent protection for software related inventions from the 1970s. Like the technology itself, intellectual property issues relating to software have become more complex over time. Yet core areas of contention remain, relating to the scope of copyright protection, the use of contractual and technological mechanisms to protect against copyright infringement, the permissibility of reverse engineering, and the patentability of software. Much ink has been spilled, particularly in United States law journals, about these issues. But it is rare to see a systematic, thoughtful and current account of all of them in one place. This is where Dr Noam Shemtov's book, 'Beyond Code', steps in.

'Beyond Code' is concerned with the protection of non-literal features of software, not simply the code itself, because this is where the more interesting questions arise. The analysis delves into the domains of copyright, patents, trade secrets, trade marks, designs, and contract law, according to both United States and European (Union) law. These jurisdictions are wisely chosen, not least because the United States and Europe are powerhouses of software creation.

A central analytical thread running throughout the book is how to avoid over-protection of software, to ensure vibrant, competitive software industries. As such, the book offers valuable reform proposals, including; improvements to decompilation and reverse engineering exceptions in copyright law, the judicial utilization of a 'misuse' or 'abuse of right' doctrine, and interpretations of contractual enforceability, especially when licence terms conflict with substantive norms of copyright law. Dr Shemtov is to be commended for writing a sophisticated and highly accessible exegesis on intellectual property protection of software. It is an extremely valuable addition to the literature and will make highly beneficial reading for academics, practitioners, and students alike.

Professor Tanya Aplin
July 2017

Preface

My first expression of authorial interest in the legal protectability of software took place during the years of writing my PhD thesis. Ever since, I was fascinated by software's amorphous nature as a legally protectable subject matter. Software plays a crucial role in most parts of today's society. It is now an indispensable feature of the world of business, finance, industry and manufacture, education and research, medicine, government, entertainment, law and daily life in general. Furthermore, software stands at the heart of all disruptive technologies, as predicted at present. Hence, artificial intelligence, automation and robotics, Internet of things, biometric and digital identification and virtual reality, have software at their core.

As a legally protectable subject matter, software always proved to be challenging. None of our intellectual property regimes provide a good fit, and Mr. Bumble's memorable line from Oliver Twist on the law being an 'ass' does sometimes spring to mind when we witness jurists' continuous attempts to fit software within our existing intellectual property landscape in a manner that takes account of right owners' proprietary interest, while bearing in mind broader public welfare considerations.

In light of software's prominence in all walks of life in the 21st century and its unique characteristics as a legally protectable subject matter, it is somewhat surprising that it has not been subject to more analysis as a legally protectable asset, in particular in relation to the law in the European Union, where such works are relatively few and far between.

This book attempts to address this state of affairs by analyzing software's various facets as legally protectable subject matters, with particular emphasis on non-literal software aspects. It examines the protectability of the different aspects of software products or services under various intellectual property, quasi - intellectual property and contract laws, focusing in particular on the laws of the United States and European Union. This focus is due to the fact that, to date, both jurisdictions are not only extremely significant markets for software -based products and services, but also have the most mature software-related legal ecosystems.

My intention in writing this book was to make it of interest to both legal scholars and practitioners. Therefore, it does not only survey the current legal state of affairs in relation to the different areas of coverage, it also attempts to predict how the law is likely to develop in this context. In addition, on occasions I chose to provide a critical viewpoint regarding the legal position at issue while suggesting potential fixes to address such shortcomings, irrespective of whether or not I believe that the said position is likely to change any time soon. To name just two examples in

this context, in relation to the combined effect of copyright, restrictive contractual provisions and TPMs, as well as in relation to the implications of the trade secrets regime under the newly enacted directive on software available under beta - test agreements, I provide an analysis of the present legal position and critique as to its inadequacy, but I also point out towards possible workarounds, should the courts be prepared to adopt an activist approach in this regard.

In terms of scoping, the book is intellectual property focused. However, I am of the view that no meaningful discussion could take place, especially with regard to the scope of protection of software under copyright law, without considering the implications of licensing provisions that seek to broaden the protection granted under the former. It is for this reason that the discussion in this book commences with an examination of such restrictive licensing provisions prevalent in the software industry, their origin, purpose and impact, as well as the juridical tools that are currently at the courts' disposal for mitigating the effect of such provisions. From this point onwards the discussion focuses purely on intellectual property law. Copyright law still being the main vehicle for protecting software's 'non-literal' elements is discussed in greater detail, with reference to exceptions and limitation applicable to such scenarios. The discussion then moves to protection available under patent law, trade marks and trade dress law, registered designs and design patents and, finally, trade secrets law.

I decided to include a separate chapter dealing with graphical user interfaces (GUIs). This feature of a software product or service's get-up is decisive to its success, while its legal protectability might be determined with reference to a wide tapestry of intellectual property rights. Questions of GUIs protectability are becoming even more important nowadays, where many software offerings are available as a service over the internet, without any possibility to access its code or architecture. While it is true that some may argue that a GUI includes 'literal' elements and thus, as a whole, might not be considered as non-literal stricto sensu, it is nevertheless discussed here in detail since its protectability is non-code related.

Finally, one could not conclude a personal note written at the first part of 2017 without referring to the looming departure of the United Kingdom from the European Union. By the time that the British public voted to leave the European Union, the vast majority of this book was already written. But even if it were not the case and I would have written the whole book at this very moment, there is little more that I would have done differently as the terms of such departure are far from clear. Hence, subject to a few explanatory comments, rather than enter the realm of political speculation, I opted to address the relevant issues on the basis of the political and legal state of affairs at the time of writing: The United Kingdom being a member state of the European Union.

Noam Shemtov

List of Abbreviations

ABC	Hypothetical developer
AFC	Abstraction-filtration-comparison
AG	Attorney General
API	Application programming interfaces
BASCOM	*BASCOM Global Internet Services, Inc. v. AT&T Mobility LLC*, No. 2015-1763, 2016 WL 3514158 (Fed. Cir. June 27, 2016)
BnetD	*Davidson & Associates DBA Blizzard Entertainment, Inc.; Vivendi Universal Inc. v. Jung et al.* 422 F.3d 630 (8th Cir. 2005)
BSA	*Bezpečnostní softwarová asociace - Svaz softwarové ochrany v. Ministerstvo kultury*, C-393/09
CAFC	Court of Appeal for the Federal Court
CCPA	Court of Custom and Patent Appeal
CDR	Council Regulation (EC) No.6/2002 of 21 December 2001, on Community design (consolidated version)
CFI	Court of first instance
CLS	*Alice Corp. Pty. V CLS Bank Int'l* 134 S. Ct. 2347 (2014)
CUTSA	California Uniform Trade Secrets Act
DDR	*DDR Holdings, LLC v. Hotels.com, L.P.* 773 F.3d 1245 (Fed. Cir. 2014)
DMCA	Digital Millennium Copyright Act
DTSA	Defend Trade Secrets Act
ECJ	European Court of Justice
EPC	European Patent Convention
EPO	European Patent Office
EULA	End user license agreement
FOSS	Free and open source software
FSF	Free Software Foundation
GUI	Graphic user interface
HULU	Premium online streaming service
IEEE	Institute of Electrical and Electronics Engineers
IMS	*IMS Health GmbH & Co. OHG v. NDC Health GmbH & Co. KG.*, (C-418/01) [2004] E.C.R. I-503.
IPR	Intellectual property right

ISP	Internet service provider
IT	Information technology
LJ	Lord Justice
MDY	*MDY Industries v. Blizzard Entertainment* 629 F.3d 928 (9th Cir. 2010) (14 December 2010) 2013
MPEP	The Manual of Patent Examining Procedure
OHIM	The Office of Harmonization in the Internal Market
OPEL	Case C-48/05 *Adam Opel AG v. Autec AG* [2007] E.C.R. I-1017
OSI	Open Source Initiative
PRC	*PRC Realty Sys., Inc. v. Nat'l. Ass'n. of Realtors*, Nos 91-1125, 91-1143, 1992 U.S. App. LEXIS 18017, at 38 (4th Cir. 4 Aug. 1992)
ProCD	*ProCD, Inc. v. Zeidenberg* 86 F.3d 1447 (7th Cir. 1996)
PTAB	Patent Trial and Appeal Board
PTO	Patent and Trademark Office
QC	Queen's Counsel
SAAS	Software-as-a-service
SSO	Structure, sequence and organization
SST	*Secure Services Technology v. Time and Space Processing* 722 F.Supp.1354 (E.D. Va. 1989)
TDS	Trade Secrets Directive
TFEU	Treaty on the Functioning of the European Union
TM	Trademark
TPM	Technological protection measures
TRIPS	The Agreement on Trade Related Aspects of Intellectual Property Rights
TSD	Trade Secrets Directive
UCITA	Uniform Computer Information Transactions Act
USPTO	United States Patent and Trademark Office
UTSA	Uniform Trade Secrets Act
VGS	Virtual game solution
VOIP	Voice over Internet Protocol
WPL	*SAS Institute, Inc. v. World Programming Ltd* [2010] EWHC 1829 (Ch)

Table of Contents

Table of Cases

United Kingdom

European Union

European Commission

General Court

Court of Justice