37:1 BERKELEY TECHNOLOGY LAW JOURNAL

2022

Pages

1

to

266

Berkeley Technology Law Journal Volume 37, Number 1 **Production:** Produced by members of the Berkeley Technology Law Journal.

All editing and layout done using Microsoft Word.

Printer: Joe Christensen, Inc., Lincoln, Nebraska.

Printed in the U.S.A.

The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences—Permanence of Paper for Library Materials, ANSI Z39.48—1984.

Copyright $\ensuremath{\mathbb{C}}$ 2022 Regents of the University of California.

All Rights Reserved.

Berkeley Technology Law Journal University of California School of Law 3 Law Building Berkeley, California 94720-7200 editor@btlj.org https://www.btlj.org



BERKELEY TECHNOLOGY LAW JOURNAL

VOLUME 37 NUMBER 1 2022

TABLE OF CONTENTS

ARTICLES

VERIFICATION DILEMMAS IN LAW AND THE PROMISE OF ZERO-KNOWLEDGE PROOFS	1
Kenneth A. Bamberger, Ran Canetti, Shafi Goldwasser, Rebecca Wexler & Evan J. Zimmerman	1
Predicting Consumer Contracts	71
POST-GRANT ADJUDICATION OF DRUG PATENTS: AGENCY AND/OR COURT?	139
CONTRACTUAL BUNDLES FOR INNOVATION Taorui Guan	171
END USER LICENSE AGREEMENT TAILORING FOR VIRTUAL ITEMS <i>Iustin Theng</i>	227

SUBSCRIBER INFORMATION

The Berkeley Technology Law Journal (ISSN1086-3818), a continuation of the High Technology Law Journal effective Volume 11, is edited by the students of the University of California, Berkeley, School of Law and is published in print three times each year (March, September, December), with a fourth issue published online only (July), by the Regents of the University of California, Berkeley. Periodicals Postage Rate Paid at Berkeley, CA 94704-9998, and at additional mailing offices. POSTMASTER: Send address changes to Journal Publications, University of California, Berkeley Law—Library, LL123 Boalt Hall—South Addition, Berkeley, CA 94720-7210.

Correspondence. Address all correspondence regarding subscriptions, address changes, claims for non-receipt, single copies, advertising, and permission to reprint to Journal Publications, University of California, Berkeley Law—Library, LL123 Boalt Hall—South Addition, Berkeley, CA 94705-7210; (510) 643-6600; JournalPublications@law.berkeley.edu. *Authors*: see section titled Information for Authors.

Subscriptions. Annual subscriptions are \$65.00 for individuals and \$85.00 for organizations. Single issues are \$30.00. Please allow two months for receipt of the first issue. Payment may be made by check, international money order, or credit card (MasterCard/Visa). Domestic claims for non-receipt of issues should be made within 90 days of the month of publication; overseas claims should be made within 180 days. Thereafter, the regular back issue rate (\$30.00) will be charged for replacement. Overseas delivery is not guaranteed.

Form. The text and citations in the *Journal* conform generally to the THE CHICAGO MANUAL OF STYLE (16th ed. 2010) and to THE BLUEBOOK: A UNIFORM SYSTEM OF CITATION (Columbia Law Review Ass'n et al. eds., 20th ed. 2015). Please cite this issue of the *Berkeley Technology Law Journal* as 37 BERKELEY TECH. L.J. ____ (2022).

BTLJ ONLINE

The full text and abstracts of many previously published *Berkeley Technology Law Journal* articles can be found at https://www.btlj.org. Our site also contains a cumulative index; general information about the *Journal*; the BTLJ Blog, a collection of short comments and updates about new developments in law and technology written by BTLJ members; and *BTLJ Commentaries*, an exclusively online publication for pieces that are especially time-sensitive and shorter than typical law review articles.

INFORMATION FOR AUTHORS

The Editorial Board of the *Berkeley Technology Law Journal* invites the submission of unsolicited manuscripts. Submissions may include previously unpublished articles, essays, book reviews, case notes, or comments concerning any aspect of the relationship between technology and the law. If any portion of a manuscript has been previously published, the author should so indicate.

Format. Submissions are accepted in electronic format through Scholastica online submission system. Authors should include a curriculum vitae and resume when submitting articles, including his or her full name, credentials, degrees earned, academic or professional affiliations, and citations to all previously published legal articles. The Scholastica submission website can be found at https://btlj.scholasticahq.com/for-authors.

Citations. All citations should conform to THE BLUEBOOK: A UNIFORM SYSTEM OF CITATION (Columbia Law Review Ass'n et al. eds., 21st ed. 2020).

Copyrighted Material. If a manuscript contains any copyrighted table, chart, graph, illustration, photograph, or more than eight lines of text, the author must obtain written permission from the copyright holder for use of the material.

DONORS

The Berkeley Technology Law Journal and the Berkeley Center for Law & Technology acknowledge the following generous donors to Berkeley Law's Law and Technology Program:

Partners

WHITE & CASE LLP

Benefactors

BAKER BOTTS LLP	MORRISON & FOERSTER LLP
COVINGTON & BURLING LLP	Orrick Herrington & Sutcliffe LLP
FENWICK & WEST LLP	PAUL HASTINGS LLP
FISH & RICHARDSON P.C.	SIDLEY AUSTIN LLP
KIRKLAND & ELLIS LLP	WEIL, GOTSHAL & MANGES LLP
LATHAM & WATKINS LLP	WILMER CUTLER PICKERING HALE AND DORR LLP
MCDERMOTT WILL & EMERY LLP	WILSON SONSINI GOODRICH & ROSATI

WINSTON & STRAWN LLP

Corporate, Government, Individual, and Foundation Sponsors

ATLASSIAN LITINOMICS, INC.

BOIES SCHILLER & FLEXNER LLP MARKS & CLERK LLP

CISCO SYSTEMS, INC. MICROSOFT CORPORATION

THE CITIZEN LAB MOZILLA CORPORATION

COMCAST CABLE NOKIA CORPORATION

CORNERSTONE RESEARCH PALANTIR TECHNOLOGIES

DARTS IP QUALCOMM INCORPORATED

GEN LAW FIRM RLM TRIALGRAPHIX

GOODWIN PROCTER LLP STARZ

GOOGLE INC. TYSON & MENDES

INTEL CORPORATION UNIFY CONSULTING

INVENTIONSHARE INC. VIA LICENSING CORPORATION

JENNER & BLOCK VYNL

KILBURN & STRODE WESTERN DIGITAL

Members

BAKER & MCKENZIE LLP KILPATRICK TOWNSEND & STOCKTON LLP

BEIJING EAST IP KNOBBE MARTENS LLP

DESMARAIS LLP MORGAN LEWIS & BROCKIUS

DURIE TANGRI LLP ROBINS KAPLAN, MILLER & CIRESI

LLP

GREENBERG TRAURIG LLP TENSEGRITY LAW GROUP LLP

GTC LAW GROUP LLP & AFFILIATES VAN PELT, YI & JAMES LLP

HAYNES AND BOONE, LLP WANHUIDA INTELLECTUAL

PROPERTY

IRELL & MANELLA LLP WILLKIE FARR & GALLAGHER LLP

KEKER VAN NEST & PETERS LLP WOMBLE BOND DICKINSON LLP

BOARD OF EDITORS

	Executive Board			
Editors-in-Chief NATALIE T. CRAWFORD LOC HO	Senior Articles Editors Shalev Netanel Dakota Sneed	Senior Executive Editor RACHEL WILSON		
Managing Editor MIN JUNG "MJ" HAN	SOPHIA WALLACH	Senior Production Editor ROBIN CHANG		
Senior Scholarship Editor GRACE MCFEE	Senior Student Publication Editor MEET MEHTA RACHEL PAIGE THOMPSON	Karnik Hajjar		
Editorial Board				
Submissions Editors Tiffany Allen Connor Kennedy Barbara Rowinska	Production Editors KEATON BLAZER SARAH DAVIDSON JOELLE FERGUSON HANNA KIM	Technical Editors REBECCA HO JOSEPH KINGERSKI		
Member Relations Editors RYAN CAMPBELL AL MALECHA	Notes & Comments Editors PAULINE LE THOMAS MATTES	<i>Symposium Editors</i> Joanna Leung Peyten Sharp		
Web & Technology Editors HENRY METRO KATHERINE WANG	Podcast Editors SETH BERTOLUCCI ISABEL JONES	Commentaries Editors CLINTON EWELL ISABELLA PESTANA		
Student Publication Editors JOSH CAYETANO JENNIFER CHUNG CHANTEL JOHNSON	Alumni Relations Editors Chris Musachio Caressa Tsai	External Relations Editor SALMA FIKRAT LLM Editor JOSH LEE KOK THONG		
RICH ABIDOR ALLISON BLAKE JONATHAN CHACON LUCILLE DAI-HE RUTUJA DESHPANDE	Articles Editors ROBERT FAIRBANKS KURT FREDRICKSON KHASH GOSHTASBI DYLAN HOULE JESSICA LI	JUSTINE MCCARTHY POTTER BREANNA QIN EVA SPITZEN JESSICA WANG ALI ZARRABI		

MEMBERSHIP

Vol. 37 No. 1

Associate Editors

OGAN AKTOLUN HAZIM ALWAZIR AKHIL BHARDWAJ HARSH BORA ABRAHAM BRAUNER MARIANA CAMACHO SHIH-WEI CHAO ZHONGREN CHENG SURITI CHOWDHARY NOAH COHEN ZACH COUGER KAVYA DASARI Brigitte Desnoes RAPHAEL DIONIS MATHEUS DRUMMOND MARTIN FISCHER

PAYTON FONG
GAL FORER
JONATHAN GIBSON
JOYCE GUO
KIANA HARKEMA
ROGER KAI
BRITTA KAJIMURA
KEVIN KALLET
WILL KASPER
JUNG KIM
HUNTER KOLON
ALEXANDRA KUTSCHERA
JIM LISCHESKE
PRIMAVERA MARTINEZ
VASUNDHARA MAJITHIA

SAMI MOACDIEH CHRIS MUSACHIO CAIO NUNES DANI O'DONNELL ELIZABETH OH SUBASH RENGASAMY NIKKI SEICHEPINE Anuja Shah PEYTEN SHARP ANDREA SOTELO GASPERI YUNG WAN YUHAN WU MENGTING XU CASSIE YIN ROBERT ZHU

Members

Vrinda Agarwal NATASYA AMALIA RAIVO ANDRIAN JOHN BATOHA BEN BROKESH HANNAH BROWN EMMA BURKE JOSHUA CAYETANO MATTHEW CHA **JAEYOUNG CHOI** Nuttanid CHOKRUNGVARANON GABBY CIRELLI MACKENZIE CONCEPCION BRANDON DAILEY LIVIA DOMENIG MADELINE ELKINS SUMMER ELLIOT JACOBO ENRIQUE RUEDA FERNANDEZ JUSTIN FAN CITRA FATIHAH KAYLA FEDLER Kaesha FREYALDENHOVEN MARIANA GARCIA BARRAGAN

ADRIAN GEILEN MATTHEW GEORGY VARTIKA GOYAL BELINDA GRUNFELD JENNIFER JEONG VINCENT JORALEMON ABHA KASHYAP AROHI KASHYAP NATHANIEL KELLERER SONALI KHANNA HUNTER KOLON THANAVIT KOOCHINGCHAI MARIAN LEE CAROLINE LESTER SHUANG LIU MATTHEW LUEVANO CHIAGOZIEM MARK ANEKE GARRETH MCCRUDDEN ROSS MOODY KOJI MORIKAWA DYLAN MOSES LAWRENCE MYUNG MIRANDA PAEZ CHLOE PAN GAYATRI PARANJAPE

DEVANSHI PATEL MAXIME PEREZ ADNAN PERWEZ **DUSTIN POORE** Maya Prasad ADAM PUKIER RAKSHITH RAJESH DARSHINI RAMIAH SUMEDH RISHI KERMIT RODRIGUEZ IAN SMITH ALI SUEBERT MEGHAN SULLIVAN AISHWARYA TODALBAGI CARESSA TSAI JOHNATHAN VAKNIN NICK VESCIO-FRANZ RUCHIKA WADHAWAN RAGHAV WADHWA DANIELLA WENGER TED WESENBERG MENGTING XU Ruikai Yan JI YU ANDY ZACHRICH JIAWEI ZHANG

BTLJ Advisory Board

JIM DEMPSEY
Executive Director of the
Berkeley Center for Law & Technology
U.C. Berkeley School of Law

ROBERT C. BERRING, JR.

Walter Perry Johnson Professor of Law, Emeritus
U.C. Berkeley School of Law

MATTHEW D. POWERS Tensegrity Law Group, LLP

JESSE H. CHOPER

Earl Warren Professor of Public Law

U.C. Berkeley School of Law

PAMELA SAMUELSON
Richard M. Sherman Distinguished Professor of
Law & Information and Faculty Director of the
Berkeley Center for Law & Technology
U.C. Berkeley School of Law

REGIS MCKENNA Chairman and CEO Regis McKenna, Inc. LIONEL S. SOBEL

Professor of Law, Emeritus and Director of the
International Entertainment & Media Law
Summer Program in London

Southwestern University School of Law

Koret Professor of Law and Faculty Director of the Berkeley Center for Law & Technology U.C. Berkeley School of Law

PETER S. MENELL

LARRY W. SONSINI Wilson Sonsini Goodrich & Rosati

ROBERT P. MERGES

Wilson Sonsini Goodrich & Rosati Professor of
Law and Faculty
Director of the Berkeley Center
for Law & Technology
U.C. Berkeley School of Law

MICHAEL STERN Cooley LLP

DEIRDRE K. MULLIGAN
Assistant Professor and Faculty Director of the
Berkeley Center for Law and Technology
U.C. Berkeley School of Information

MICHAEL TRAYNOR Cobalt LLP

JAMES POOLEY James Pooley, PLC THOMAS F. VILLENEUVE Gunderson Dettmer Stough Villeneuve Franklin & Hachigian LLP

BERKELEY CENTER FOR LAW & TECHNOLOGY 2021-2022

	• т	· ·
Executi	me I)nrector
$\perp \sim c c c c c c c c c c c c c c c c c c $	vu L	11100101

WAYNE STACY

Faculty Directors

PAUL SCHWARTZ KENNETH A. BAMBERGER PETER S. MENELL

CATHERINE CRUMP ROBERT P. MERGES ERIK STALLMAN

Deirdre K. CATHERINE FISK JENNIFER M. URBAN MULLIGAN

MOLLY S. VAN TEJAS N. NARECHANIA

HOUWELING

SONIA KATYAL Andrea Roth REBECCA WEXLER

PAMELA ORIN KERR SAMUELSON

CHRIS HOOFNAGLE

Fellow

ROBERT BARR RAMYA CHANDRASEKHAR KATHRYN HASHIMOTO YUAN HAO

Staff

MARK COHEN RICHARD FISK NATALIE COLETTA IRYS SCHENKER JANN DUDLEY ALLISON SCHMITT