IAN FISCHER

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EDUCATION

U.C. Berkeley　　　　　　　　　　　　　　　Berkeley, CA　　　2011 – 2012
Ph.D. Candidate in Computer Science
* GPA: 4.0
* Left the program to found Apportable

Harvard University　　　　　　　　　　　　Cambridge, MA　　　2003 – 2007
M.S. in Computer Science, 2007
* GPA: 4.0

College of Charleston　　　　　　　　　　　Charleston, SC　　　1996 – 2000
B.A. in Music Theory/Composition and French, 2000
* Graduated Summa Cum Laude

PUBLICATIONS

Conference Proceedings:
* Fischer, I. T., Kuo, C., Huang, L., Frank, M. (2012, October). Short paper: Smartphones: Not smart enough?. In Proceedings of the second ACM workshop on Security and privacy in smartphones and mobile devices (pp. 27-32). ACM.
* Schecter, S., Dhamija, R., Ozment, A., Fischer, I. The Emperor's New Security Indicators. IEEE Symposium on Security and Privacy, 2007.
* Fischer, I., Gotsman, C. Drawing Depth Contours with Graphics Hardware. Proceedings of the 18th Canadian Conference on Computational Geometry, 2006. 177-180.

Journal Publications:
* Song, D., Shi, E., Fischer, I., Shankar, U. (2012). Cloud data protection for the masses. Computer, (1), 39-45.
* Fischer, I., Gotsman, C. Fast Approximation of High Order Voronoi Diagrams and Distance Transforms on the GPU. Journal of Graphics Tools. Volume 11, Number 3, January 2007.

WORK EXPERIENCE

Apportable　　　　　　　　　　　　　　San Francisco, CA　　　2011 - present
Cofounder and CTO
* My cofounder Collin Jackson and I started Apportable to help developers bring their apps from iOS to Android as efficiently as possible. Our technology powers some of the highest grossing Android and iOS apps. Over 50,000 developers use our technology, generating millions in annual revenue for Apportable. In addition to contributing substantially to the code base, I also hired most of the 60 person team and managed most of the 35 person engineering organization. The Selected Projects section describes the technology in more detail.

Webroot　　　　　　　　　　　　　　　San Mateo, CA　　　2010 - 2011
Researcher
* After Webroot's acquisition of Usable, I worked first as a software engineer, and then as a researcher in Webroot's research group. In addition to ongoing work developing UsableLogin (see below), I also researched new directions for security products, particularly focusing on new possibilities for authentication offered by smart phones.

Usable Security Systems   San Francisco, CA   *2008 - 2010*
Founding Engineer
  * I founded Usable Security Systems with Rachna Dhamija and Allan Schiffman. I
    worked on developing UsableLogin, the primary product of Usable, writing and edit-
    ing product and architecture specifications and patent applications, and managing
    and coordinating the technical output of a total of ten other developers. I was also
    responsible for nearly everything technical, including most of our technology choices
    and infrastructure setup. Additionally, I was responsible for production and staging
    operations, which included managing servers and other infrastructure on Amazon
    Web Services. Usable was acquired by Webroot in August, 2010.

CommerceNet   Palo Alto, CA   *2007*
Visiting Researcher
  * I came to CommerceNet, a startup incubator, to start a startup in the area of Web
    Security Usability with Rachna Dhamija. Initially, I worked on defining the goals and
    the details of the system we would build, as well as brainstorming about the business
    model. Once we had a sufficient understanding of what we would build, I worked on
    designing interactions and building the prototype. We subsequently founded Usable
    with Allan Schiffman, the executive director of CommerceNet.

IBM Advanced Internet Technologies Group   Cambridge, MA   *2004 - 2007*
Intern
  * I worked as an intern for IBM's Advanced Internet Technologies Group over three
    summers and during one school year. I worked on a Semantic Web project that was
    subsequently spun off as a startup. My work resulted in two patent applications.

Harvard   Cambridge, MA   *2003 - 2006*
Teaching Fellow
  * I was a teaching assistant for seven computer science courses at Harvard, including in-
    troductory courses on programming, an introductory computer graphics course, and
    an advanced graphics course on visualization. These appointments involved teaching
    weekly sections, creating assignments and tests, and other teaching tasks.

Apportable Platform   Commercial Product   *2011 - present*
  * The Apportable Platform is a cross-compiler and a set of library implementations
    that allows apps written for iOS to run natively on Android. It compiles the origi-
    nal Objective-C and Swift code of the iOS app to native Android machine code, rather
    than attempting to translate to Java or compile to the JVM. We implemented the core
    iOS APIs in Objective-C, including Core Foundation, Foundation, UIKit, Core Data,
    Store Kit, Game Kit, and others. Some of my core contributions include the first im-
    plementation of Core Data, as well as fundamental OpenGL work to minimize in-
    compatibilities between iOS OpenGL drivers and the wide variety of OpenGL drivers
    available on Android. I also lead and manage the engineering team responsible for
    ongoing work on the platform.

UsableLogin   Commercial Product   *2007 - 2011*
  * I was the technical lead for UsableLogin, the product we designed and built at Usable
    Security Systems. It is a cloud-based password manager that emphasizes usability
    while maintaining the user's security. The system design allows us to not explicitly
    store the users' passwords anywhere. Instead, they are computed on the fly when
    the user logs in to a website. We filed a patent application on our system design.
    We released UsableLogin in private beta. It is in daily use by our beta testers. The
    service is built on top of Amazon's AWS infrastructure, with a significant focus on
    the scalability, reliability, and security of the platform. UsableLogin was incorporated
    into Webroot's consumer security suite.

Taboo   Open Source Project   *2007 - 2008*

* Taboo was a novel bookmarking system that incorporated graphical bookmarks and Firefox's built in Session Manager. It allowed for rapid bookmarking and retrieval of pages of interest. It quickly became one of the more popular Firefox extensions, with over 300,000 downloads and almost 100,000 active daily users. Taboo was an open source project developed with two other contributors.

Fully-Distributed MapReduce   Research Project   *Fall 2006*

* In this project, I explored a method to make Google's MapReduce algorithm fully distributed. The original algorithm relies on a central master node to coordinate the efforts of the other nodes. I designed a system that relied on local self-organization for coordination. I simulated the system with thousands of nodes and successfully demonstrated that the nodes could self-organize using my design, resulting in a fully-distributed MapReduce.

Antiphishing Firefox Plugin   Research Project   *Spring 2006*

* I designed and developed a Firefox extension whose purpose was to mitigate phishing attacks that use form submissions as the attack vector. The goal was to provide an indicator that would help users decide whether or not filling out a particular form was prudent.

* I also designed and completed a user study that evaluated the effectiveness of the extension, controlled against no extension. I found that users were significantly less likely to fall victim to a phishing attack with the extension.

Music

* For the past 15 years, I have been active as a professional musician. My compositions have been performed under my direction in front of hundreds of people, and I have sung in front of tens of thousands. I have performed in a handful of musical theatre productions, and more recently have sung in three professional opera productions.