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11 *Class Counsel*

12  
 13 UNITED STATES DISTRICT COURT  
 14 NORTHERN DISTRICT OF CALIFORNIA

15 LAWRENCE OLIN, HAROLD  
 16 NYANJOM, SHERON SMITH-JACKSON,  
 17 JANICE VEGA-LATKER, MARC  
 18 BOEHM, and RAVEN WINHAM,  
 individually and on behalf of all others  
 similarly situated,

19 Plaintiffs,

20 v.

21 FACEBOOK, INC.,

22 Defendant.

Case No. 3:18-CV-01881-RS

**DECLARATION OF JASON FRANKOVITZ IN  
 SUPPORT OF PLAINTIFFS' MOTION FOR  
 FINAL APPROVAL OF CLASS ACTION  
 SETTLEMENT AND MOTION FOR AN  
 AWARD OF ATTORNEYS' FEES, COSTS,  
 AND SERVICE AWARDS**

Date: October 20, 2022  
 Time: 1:30 p.m.  
 Court: Courtroom 3, 17th Floor

Hon. Richard Seeborg

1 I, Jason Frankovitz, declare and state as follows:

2 1. I am a computer programmer and software litigation expert employed by Quandary  
3 Peak Research, Inc. As part of my duties with Quandary Peak Research, I provide software analysis  
4 services for patent, copyright, and trade secret disputes, perform forensic investigations of computer  
5 systems, including examination of digital data, and conduct source code analysis for litigation  
6 support. I have been retained as an expert by Bursor & Fisher, P.A. in this action and if called as a  
7 witness, I would competently testify to all facts and opinions set forth below.

8 **I. Qualifications**

9 2. I received a Bachelors' degree in Telecommunications with Phi Eta Sigma honors  
10 from Indiana University in 1993. I have more than 30 years of experience working as a software  
11 developer, engineering manager, and system architect in a wide variety of industries including e-  
12 commerce, digital entertainment, mobile computing, and social media. I have also launched Internet  
13 startups using technologies like cloud-based server scaling, machine learning (artificial intelligence),  
14 and personalized ad targeting.

15 3. I have been a software engineer for a variety of large and small technology companies  
16 making web-based software and backend systems. For six years I was a member of the Los Angeles  
17 CTO Forum, a group of technology executives who meet to discuss computing challenges in their  
18 companies.

19 4. Over my many years of experience in the software and Internet industry, I have  
20 developed technical expertise in a variety of Internet and website technologies such as Transmission  
21 Control Protocol/Internet Protocol (TCP/IP), Hypertext Transfer Protocol (HTTP), the Domain Name  
22 System (DNS), Secure Sockets Layer (SSL), Common Gateway Interface (CGI), proxies,  
23 client/server architectures, cloud computing, content management systems, relational databases,  
24 domain registration, and web forensics.

25 5. I am also an expert in popular technologies for building websites and web-based  
26 applications, such as Ruby, Rails, PHP, Perl, JavaScript, Hypertext Markup Language (HTML),  
27 XML, Cascading Style Sheets (CSS), and asynchronous Javascript and XML (AJAX). I have

1 technical expertise with graphic design, digital prepress, desktop publishing, raster and vector image  
2 formats, four-color process (CMYK) output, and print servers. I am also an expert in shell  
3 programming languages used on a wide variety of Unix operating systems and Linux distributions.

4         6. My experience with website administration, content management, and hosting dates  
5 back to the mid-1990s. I was the lead systems administrator for the first mailing list search engine on  
6 the Internet, Liszt.com (sold to Topica). In 1996 I designed and built the first bookmarking website  
7 in the world, itList.com. During my work for the R&D group at yellowpages.com, I wrote programs  
8 that crawled the Internet to perform content analysis of webpages. I performed platform integration  
9 work for Koders.com, a source code search engine used by software engineers. As the founder and  
10 CTO of Seethroo, my online advertising company, I created a system for monitoring user-generated  
11 content on social websites to automate personalized ad targeting.

12         7. I have performed a variety of investigations and analyses for software patent  
13 infringement, software copyright, breach of contract, and software trade secret cases. Prior to working  
14 with Quandary Peak Research, I was President of TechKnow Consulting, my intellectual property  
15 advising company providing services in software-related IP matters, including software patent  
16 licensing, brokerage and evidence-of-use. I also served as a software intellectual property consultant  
17 with Intellectual Ventures.

18         8. I was selected as Entrepreneur-in-Residence at Main Street Partners on the campus of  
19 the Massachusetts Institute of Technology from 1999 until 2000. I am the inventor of US Patent  
20 9,858,341 "Method And Apparatus For Remotely Monitoring A Social Website," issued January 2,  
21 2018.

22         9. I taught courses in programming principles, database fundamentals, Internet  
23 architecture, and computer hardware for several years at San Francisco State University, receiving  
24 the 2001 Outstanding Instructor award. I also mentored software development interns for four years  
25 from ENSEEIHT, a major engineering school within the University of Toulouse in France.

26         10. I have served as an expert in software, the Internet, and website technology in over  
27 one hundred legal matters. I have given testimony in deposition or in court twenty-six times. I am

1 also a member of the Forensic Expert Witness Association.

2 11. Attached hereto as Exhibit A is a true and correct copy of my curriculum vitae, which  
3 is current as of August 29, 2022 and accurately summarizes my background and expertise regarding  
4 the subject matter of this report.

5 12. My analysis is based on the information made available to me at the time of this report  
6 and based upon my own research. To the extent that discovery in this case is ongoing, I expect to  
7 continue my review, evaluation, and analysis of information generated during discovery. I also expect  
8 to review relevant evidence presented before and/or after trial. I also understand that additional  
9 material may be made available that is relevant to my analysis. I may amend or supplement this  
10 declaration, as necessary and as acceptable to the Court. I also may develop materials and exhibits as  
11 appropriate for use in helping to demonstrate and explain my opinions if I am asked to testify at trial.

12 13. My employer, Quandary Peak Research, is being compensated for my work on this  
13 case at the rate of \$350 per hour plus reimbursement of direct expenses. I have no personal interest  
14 in this litigation, and my personal compensation does not depend in any way on the opinions I express  
15 or outcome of this case.

16 14. I am not an attorney and nothing in this report should be considered an interpretation  
17 of any legal issue.

18 **II. Summary of Opinions**

19 **A. The change in the Android operating system would not have prevented**  
20 **Facebook from continuing its data collecting activities.**

21 15. As explained in a previous declaration filed in this matter titled “Declaration of Jason  
22 Frankovitz in Response to the Declaration of Louis Boval” (the Response Declaration), the Facebook  
23 Messenger app was installed on many millions of Android-based smartphones. These millions of  
24 devices had a security hole which allowed Facebook Messenger to download a person’s log of past  
25 phone calls, even though the user had not granted Messenger explicit permission to do so.

26 16. As described in my Response Declaration, a new version of the Android operating  
27 system called “Jelly Bean” was released that eliminated the security hole. However, the release of

1 Jelly Bean did not remedy the problem either instantly or universally. This is because Jelly Bean was  
2 not automatically installed on the millions of devices that had the security hole.

3 17. Each individual user chooses when their device will install operating system upgrades.  
4 For example, if a user has a Samsung Galaxy, and a new version of Android is released, the user  
5 needs to decide when they will upgrade their Samsung Galaxy phone to use the new Android version.  
6 This typically does not occur immediately.

7 18. This is why Facebook was still able to download call log data from devices after Jelly  
8 Bean was released: because there were millions of Android devices still using older operating systems  
9 released before Jelly Bean, including Cupcake, Donut, Éclair, Froyo, Gingerbread, Honeycomb and  
10 still others. This is because there is “lag time” between when the new operating system becomes  
11 available versus when users actually install it.

12 19. In 2018 Google updated its policies about apps on the Google Play app store, declaring  
13 that apps which accessed sensitive data, like calls and text messages, were subject to heightened  
14 scrutiny.<sup>1</sup> But Google did allow some non-Google apps to continue accessing sensitive data, as long  
15 as the user selected the non-Google app as the “default” app for that feature. For example, all Android  
16 phones have their own SMS program built-in, allowing people to send and receive text messages.  
17 Facebook published a help page titled “How do I use SMS messages in Messenger for my Android  
18 phone?” because it wanted people to know how to replace the stock Android SMS program with  
19 Messenger instead.<sup>2</sup> In a similar way, Google also allowed non-Google apps to replace the stock  
20 Android Phone app. Facebook, being a sophisticated software developer, had the capability to create  
21 such a replacement phone app.

22 20. I understand that this case was filed publicly on March 27, 2018. A month later,  
23 Google published the new developer policies above that specifically mentioned how phone data  
24 would now be handled. Google’s new policy document read, in part, “Here are some examples of  
25 common violations...An app that doesn’t treat a user’s phone or contact book data as personal or

26 <sup>1</sup> [https://storage.googleapis.com/support-kms-  
prod/vwJooSYLTMCd9cRxPeTuWODhAZYqNbUd9BBx](https://storage.googleapis.com/support-kms-prod/vwJooSYLTMCd9cRxPeTuWODhAZYqNbUd9BBx)

27 <sup>2</sup> <https://www.facebook.com/help/messenger-app/442105343709195>

1 sensitive user data and doesn't comply with the Privacy Policy, Secure Transmission, and Prominent  
2 Disclosure requirements.”<sup>3</sup>

3 21. Over time, users whose Android devices had older operating systems would eventually  
4 adopt Jelly Bean. As the number of Jelly Bean devices grew, the number of devices that had the pre-  
5 Jelly Bean security hole shrank. This was not an instantaneous process. It is typical in the mobile app  
6 industry for upgrades to be accepted by a community of users over a period of time, like a sloping  
7 line on a graph. It is exceedingly rare that upgrades are adopted by all users simultaneously; such an  
8 adoption graph would look more like a cliff wall than a sloping hill.

9 22. The gradual adoption of Jelly Bean by the Android community meant that there  
10 remained, for quite some time, millions of users whose private call log data was vulnerable to  
11 Facebook's data harvesting.

12 23. When the Android operating system was updated to close the security hole that  
13 Facebook used, that began a slow process of gradually curtailing access to users' personal  
14 information. Android's change did not suddenly solve the loophole in Android's past versions.

15 **B. Facebook's cost of storing the private data at issue in this matter is**  
16 **virtually nothing – likely between \$200 and \$2,000 given reasonable**  
17 **assumptions.**

18 24. Because Facebook has one of the largest and most sophisticated distributed  
19 applications in the world, it is highly proficient with data storage and retrieval. Early in the company's  
20 history, the engineering staff realized that the levels of growth they were experiencing would require  
21 storage solutions beyond the regular capabilities of off-the-shelf systems. Facebook then devoted  
22 considerable resources to design and deploy new hardware and software to accommodate its storage  
23 requirements.

24 25. For example, Facebook originally designed their server racks to be easily rolled around  
25 a data center. But according to a post from Engineering at Meta, "...one of our test production runs  
26 hit a complete standstill when we realized that the data center personnel simply could not move the

27 <sup>3</sup> [https://storage.googleapis.com/support-kms-  
prod/vwJooSYLTMCd9cRxPeTuWODhAZYqNbUd9BBx](https://storage.googleapis.com/support-kms-prod/vwJooSYLTMCd9cRxPeTuWODhAZYqNbUd9BBx), p.10

1 racks. Since these racks were a modification of the OpenVault system, we used the same rack castors  
2 that allowed us to easily roll the racks into place. But the inclusion of 480 4 TB drives drove the  
3 weight to over 1,100 kg, effectively crushing the rubber wheels.”<sup>4</sup>

4 26. Although the exact number is known only by Facebook engineering staff, there are  
5 various sources on the Internet claiming that Facebook’s main “Hive” storage system has about 300  
6 petabytes of data. This is a volume of storage so massive that the human mind cannot readily grasp  
7 it. For comparison, this is about 300 million gigabytes, roughly equivalent to 63,829,787 DVDs  
8 storing high-definition movies with the entirety of each disc consumed.

9 27. For nontechnical people, one byte of data (such as a single character) is easy to  
10 understand. A word such as *computer* is eight bytes of data. Paragraphs 28 and 29 of this report,  
11 immediately above, are together about 1 thousand bytes of data, or 1 kilobyte.<sup>5</sup>

12 28. In terms of the data at issue in this matter, logs of phone calls, the amount of data for  
13 such records could be even smaller than a kilobyte. For example, a single call log entry could consist  
14 of:

- 15 a. an identifier of the calling party,
- 16 b. an identifier of the called party,
- 17 c. the timestamp when the call began,
- 18 d. and the timestamp when the call ended.

19 29. The calling/called party identifiers could be the phone numbers themselves. Although  
20 phone number lengths vary around the world, the United States uses ten digits. The size needed to  
21 store a timestamp can vary depending on the system, but a 32-bit integer value would be a reasonable  
22 and common implementation, which would require 4 bytes.

23 30. Therefore the log of one phone call could theoretically consume ten bytes for the  
24 calling party, ten bytes for the called party, four bytes for the starting timestamp, and four bytes for  
25 the ending timestamp. If we add storage for likely metadata, such as a unique ID for the logged call,

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27 <sup>4</sup> <https://engineering.fb.com/2015/05/04/core-data/under-the-hood-facebook-s-cold-storage-system/>

<sup>5</sup> Traditional definitions of kilobyte were 1024 bytes. Modern definitions use 1000 bytes.

1 and timestamps for the record itself, we might add another twelve bytes. The grand total for such a  
2 call log entry might consume forty bytes in a traditional database.

3 31. But, to be as conservative as possible, let us multiply this total by a factor of ten. So  
4 we may assume that each log of a call consumes four hundred bytes. Let us further assume that each  
5 user had 100 call log entries that were uploaded by Facebook Messenger. This would result in a call  
6 log for each user of 40,000 bytes, or approximately 40 kilobytes (Kb).

7 32. According to Statista, a data research company, Facebook Messenger had 135.9  
8 million users in 2021.<sup>6</sup> If we assume that all of those users only had Android phones with Messenger  
9 installed pre-Jelly Bean, and all of those users had their call logs uploaded, that would result in a  
10 volume of data totaling 5,436,000,000,000 (five trillion, four hundred thirty six billion bytes). This  
11 would be 5.436 terabytes. This is a fairly modest amount of data by today's standards, easily managed  
12 by even consumer-grade storage hardware at trivial cost.

13 33. For example, one popular manufacturer of hard drives is Seagate, who sell a 6 TB  
14 (terabyte) external hard drive for \$199.99 on Amazon.com.<sup>7</sup> That means the cost to store the user data  
15 at issue here is \$199.99 or less on a single backup drive in "cold storage," at the low end. Naturally,  
16 Facebook does not use hobbyist hardware for their infrastructure. Facebook has built many dedicated  
17 data centers in the United States, with more underway, and has built others in Europe and Asia to  
18 handle all their computing requirements:

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<sup>6</sup> <https://www.statista.com/statistics/558283/number-of-fb-messenger-users-usa/>

<sup>7</sup> <https://www.amazon.com/Seagate-Expansion-12TB-External-Drive/dp/B093BVQYYM/>



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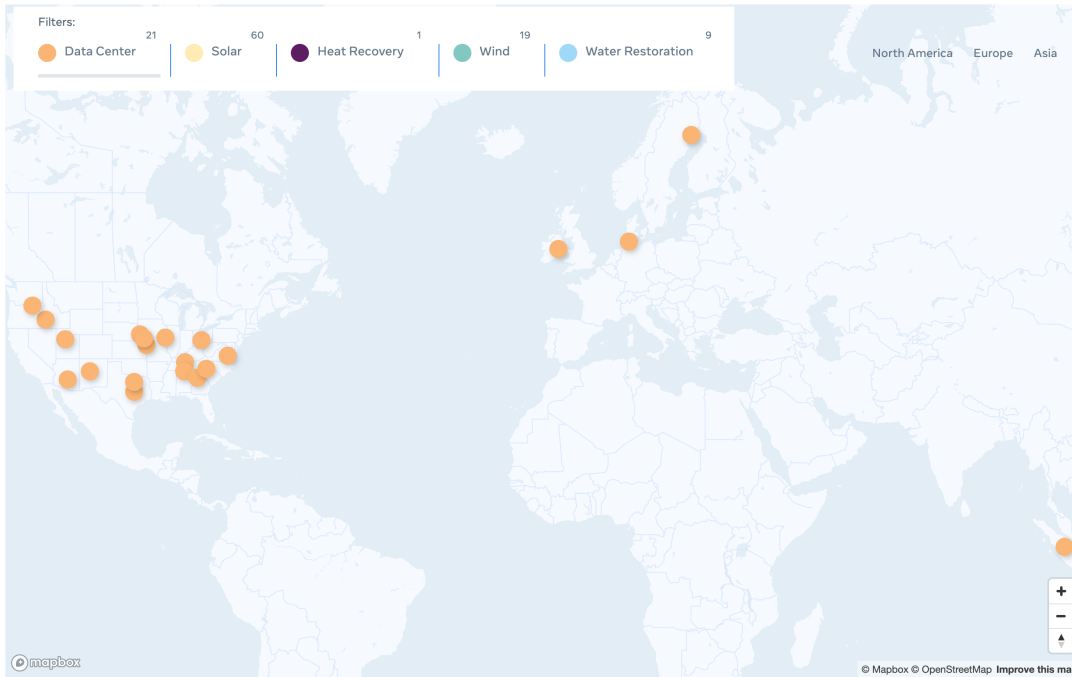


Figure 1 Map of Facebook's data center locations<sup>9</sup>

34. Each of these data centers has been specially designed to store and transfer data with maximum efficiency and reliability using the least power required.

35. Using the conservative assumptions above, it is reasonable to infer that Facebook's costs to store call log data uploaded from Android devices is insignificant in the overall context of the company's world-class computing infrastructure, the value of the data, and operating costs.

36. In order to provide a similarly-conservative estimate of the costs of storing the call log data on a modern cloud-based system (i.e. not on non-networked consumer hardware), I looked at Amazon Web Services' cloud-based data storage service called Amazon Simple Storage Service (S3). Using Amazon's online pricing calculator, I estimate that the cost of storing 5.436 terabytes of data on S3 is around \$144.73 per month, or \$1736.76 per year:

<sup>9</sup> <https://datacenters.fb.com/>

**My Estimate** [Edit](#) Export Share

**Estimate summary** [Info](#)

Upfront cost 0.00 USD	Monthly cost 144.73 USD	Total 12 months cost <b>1,736.76 USD</b> Includes upfront cost
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Figure 2 Estimate of S3 storage costs for call log data

37. Based on my assumptions above, an average consumer could store the entirety of Facebook’s call log data on a regular consumer hard drive for around \$200, or on a professional cloud-based system for well under \$2,000 per year.

38. In 2021, Meta (Facebook’s parent company) enjoyed revenue of \$117.9 billion dollars. Using the most expensive option, with the very conservative estimates of storage space required, the cost of storing the call log data for a year is about 0.0000001473 percent of Facebook’s yearly revenue.

39. In other words, there is little reason for Facebook to ever delete users’ call log data. It is useful data the company cannot obtain anywhere else, and erasing it makes no meaningful difference to reducing costs or conserving storage space.

**C. The claim that Facebook “would have” deleted user data resulting from their data collection activities is not credible.**

40. User data is the fuel that propels Facebook’s revenue. As such, they are generally loathe to reduce their consumption of it. To my knowledge, based on publicly-available information, Facebook has not ever willingly purged user data that could help them target ads or increase platform engagement.

41. The only significant incident where Facebook deleted valuable data used to increase

1 platform engagement was related to the Biometric Information Protection Act (BIPA).<sup>10</sup> After  
2 Facebook was ordered to pay a fine of \$650 million, they announced they were shutting down the  
3 facial recognition system which had spurred the lawsuit and claimed they would “delete more than a  
4 billion people’s individual facial recognition templates.”<sup>11</sup> But even in this example, which is based  
5 on the public record, the data deletion only happened after a protracted lawsuit, widespread negative  
6 publicity, and a settlement order.

7 42. I know of no instance where Facebook erased user data on their own initiative. In my  
8 opinion, the company has consistently demonstrated they only erase data when forced.

9 **D. The claim that Facebook “would have” deleted user data resulting from**  
10 **their data collection activities is not credible because it is inconsistent**  
11 **with Facebook’s prior practices regarding user data.**

12 **1. Facebook’s privacy policy provides no assurances data will be**  
13 **deleted**

14 43. Facebook’s Privacy Center (at <https://www.facebook.com/privacy/policy>) explains  
15 how the company handles the information it collects from users. At first glance the information seems  
16 very comprehensive, forthright and transparent. However, a close read of the actual language reveals  
17 many conditions and exceptions about deleting data.

18 44. For example, the section asking, “How long do we keep your information?” says:

19 a. “We keep information as long as we need it to provide our Products, comply  
20 with legal obligations or protect our or other’s interests. We decide how long  
21 we need information on a case-by-case basis.”

22 b. In my non-legal opinion, this language states Facebook will keep information  
23 as long as it needs to protect its interests, and the substance of those interests  
24 are not explained. It also suggests they lack a blanket policy about how long  
25 they retain information, saying each decision is made on a case-by-case basis.

26 45. Other sections use similar language useful for evasion. In another example at

[https://www.facebook.com/privacy/policy?annotations\[0\]=8.ex.1-IfWeNeedIt](https://www.facebook.com/privacy/policy?annotations[0]=8.ex.1-IfWeNeedIt),

27 <sup>10</sup> <https://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=3004&ChapterID=57>

28 <sup>11</sup> <https://about.fb.com/news/2021/11/update-on-use-of-face-recognition/>

1 Facebook explains:

- 2 a. "...we keep profile information, photos you've posted (and not deleted) and  
3 security information for the lifetime of your account."  
4 b. Virtually everything Facebook uses to make money is connected to a user  
5 profile; the overwhelming majority of data on the platform is "profile  
6 information." In my non-legal opinion, this broad and undefined term is meant  
7 to feel reassuring to non-technical users (i.e. most people), while being  
8 factually accurate for technical purposes.

9 46. Still another section implies that one example applies to the entirety of the platform.

10 On the page [https://www.facebook.com/privacy/policy/?annotations\[0\]=8.story.1-](https://www.facebook.com/privacy/policy/?annotations[0]=8.story.1-TheFeatureWeUse)  
11 [TheFeatureWeUse](https://www.facebook.com/privacy/policy/?annotations[0]=8.story.1-TheFeatureWeUse), Facebook gives one example of data deletion for one use case:

- 12 a. "...May is planning a surprise party for Yang. She sends Cynthia the party  
13 details in Messenger using vanish mode so that the message will disappear.  
14 The message will no longer be visible to May once she leaves the chat, and  
15 Cynthia will see the message only the first time she opens the chat thread. After  
16 Cynthia reads the message, the content is deleted after one hour. If Cynthia  
17 never reads it, it's deleted after 14 days."  
18 b. This is a solitary example of one specific circumstance under which Facebook  
19 will delete some information unprompted. However, Facebook has hundreds  
20 of features on multiple platforms; they provide this one example, and ignore  
21 all the rest.

22 47. Further down in the section asking, "How long do we keep your information?" it reads:

- 23 a. "In some instances and for specific reasons, we'll keep information for an  
24 extended period of time. Read our policy about when we may preserve your  
25 information."  
26 b. In my non-legal opinion, this language states that Facebook will keep  
27 information for any length of time, as long as they feel they have a reason.

1 48. The “Read our policy” hyperlink in the text above goes to the location  
2 [https://www.facebook.com/privacy/policy/?annotations\[0\]=8.ex.3-](https://www.facebook.com/privacy/policy/?annotations[0]=8.ex.3-WhyWeMayPreserve)  
3 [WhyWeMayPreserve](https://www.facebook.com/privacy/policy/?annotations[0]=8.ex.3-WhyWeMayPreserve) which reads in part:

4 a. “Your information, including financial transaction data related to purchases or  
5 money transfers made on our Products, may be preserved and accessed for a  
6 longer time period... [t]o protect ourselves, including our rights, property or  
7 products... we may preserve your information based on the above reasons even  
8 after you request deletion of your account or some of your content.”

9 b. In my non-legal opinion, the plain and ordinary meaning of this language states  
10 that Facebook will preserve a user’s information if it decides it is protective in  
11 some way. They will even reject a valid request for deletion if they choose.

12 49. In my non-legal opinion, Facebook uses a combination of broad, undefined terms and  
13 individual examples to *suggest* they are responsible with users’ personal data and  
14 responsive to users’ deletion requests, but the actual language does not say that. As far  
15 as Facebook is concerned, they may very well believe they have a use for such data  
16 more compelling than deletion (in their opinion.) Given their careful use of language  
17 and examples, I see no assurances in the Facebook privacy policy that user data will  
18 be deleted.

19 **2. Facebook’s business model relies on personal data**

20 50. In 1973 the artist Richard Serra produced a video titled “Television Delivers People”  
21 in which he wrote, “[i]n commercial broadcasting the viewer pays for the privilege of having himself  
22 sold. It is the consumer who is consumed.”<sup>12</sup> Although this quote is about fifty years old, it is just as  
23 true today. Facebook is an advertising platform that sells ad space to marketers. The lure by which  
24 Facebook packages and prices consumers’ attention for sale to advertisers is the social media content  
25 created by the consumers themselves.

26 51. According to Facebook’s Q2 2022 earnings slides, advertising accounts for over 98%

27 <sup>12</sup> <https://youtu.be/LvZYwaQlJsg>

1 of the company's revenue.<sup>13</sup> All of that revenue is predicated on how effectively the company can  
2 target ads. The way Facebook targets ads has similarities to past forms of mass media, but with some  
3 important differences.

4 52. Throughout the twentieth century, broadcast television was free for viewers; you did  
5 not have to pay to watch any particular program.<sup>14</sup> Instead, television networks created content which  
6 attracted an audience. Those networks then sold small slices of time during their broadcasts to  
7 advertisers who wanted to display product messages to that audience.

8 53. Facebook operates today in essentially the same manner as the broadcast networks did.  
9 People can use Facebook's platforms and apps for free. Based on the data that people share about  
10 themselves using its social media platforms, Facebook sells ads to companies that want to reach those  
11 people. However, advertising has undergone notable changes since the broadcast networks of  
12 yesterday.

13 54. First, broadcasters (both television and terrestrial radio) were creators of the content  
14 they broadcast. Broadcast networks like ABC, CBS, and NBC, as well as other companies using  
15 public spectrum produced news, sports, and entertainment programs. Audiences consumed this  
16 content by watching or listening to the broadcasts. But Facebook is a provider of social media  
17 software; it is not a creator of content. Facebook can sell an audience to advertisers using the content  
18 produced by the audience itself.

19 55. Second, because broadcasting technology was essentially receive-only/one-way,  
20 broadcasters had virtually no direct information about individuals who consumed their programs nor  
21 the advertising messages in those programs. Most networks used broad demographics to understand  
22 who watched their shows, and by extension, the products and services those people might be  
23 interested in. The *household* was the basic unit of advertising, not the individual.

24 56. By contrast, Facebook has access to personal data about each user of their platforms;

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25  
26 <sup>13</sup> [https://s21.q4cdn.com/399680738/files/doc\\_financials/2022/q2/Q2-2022\\_Earnings-  
Presentation.pdf](https://s21.q4cdn.com/399680738/files/doc_financials/2022/q2/Q2-2022_Earnings-Presentation.pdf)

27 <sup>14</sup> In the days of traditional analog broadcasting, pay-per-view programs were only feasible on cable  
28 and private satellite services.

1 detailed information of a scope and scale that would embarrass the most ambitious stalker. For  
2 example, in 1972, CBS aired *The Waltons* at 8:00 p.m. on Thursday nights, hoping to attract married  
3 women aged 35-55 inclined to purchase Palmolive dishwashing liquid. In 2022, Facebook can present  
4 ads targeted to women, aged 35-55, approaching her birthday, living less than 10 miles from a major  
5 urban center of more than a million people, who saw a movie last week, ate at a restaurant two days  
6 ago, played *Super Mario Kart 8* last night and who occasionally enjoy archery. Facebook can target  
7 ads in this manner 24 hours a day in virtually every inhabited spot in the world.

8        57. One of the most powerful ways that Facebook can understand individuals is by  
9 knowing their relationships to one another. This is one of the main features of Facebook’s platforms,  
10 which is known as the “social graph:” the set of connections between a person, their friends, friends  
11 of their friends, and so on.

12        58. However, the addition of a person’s address book and call log provides a powerful  
13 means of confirming Facebook’s educated guesses about the strength of two friends’ connection. For  
14 example, imagine Nadiya has a hundred Facebook friends, and one of those friends is Sharon. Nadiya  
15 shares content with Sharon and dozens of others on the platform. Now imagine that Facebook has  
16 access to Nadiya’s address book and call log history; Facebook uses such data to see that Nadiya and  
17 Sharon have daily phone calls with each other. This is extremely valuable information that tells  
18 Facebook certain relationships are special, and the system will give more weight to Nadiya and  
19 Sharon’s communications, interests and ads when they use Facebook.

20        59. In this way, a person’s address book and call log are an important way for Facebook  
21 to enhance its understanding of a person’s real-world relationships. This applies directly to how well  
22 Facebook can target ads, which is the company’s main source of revenue.

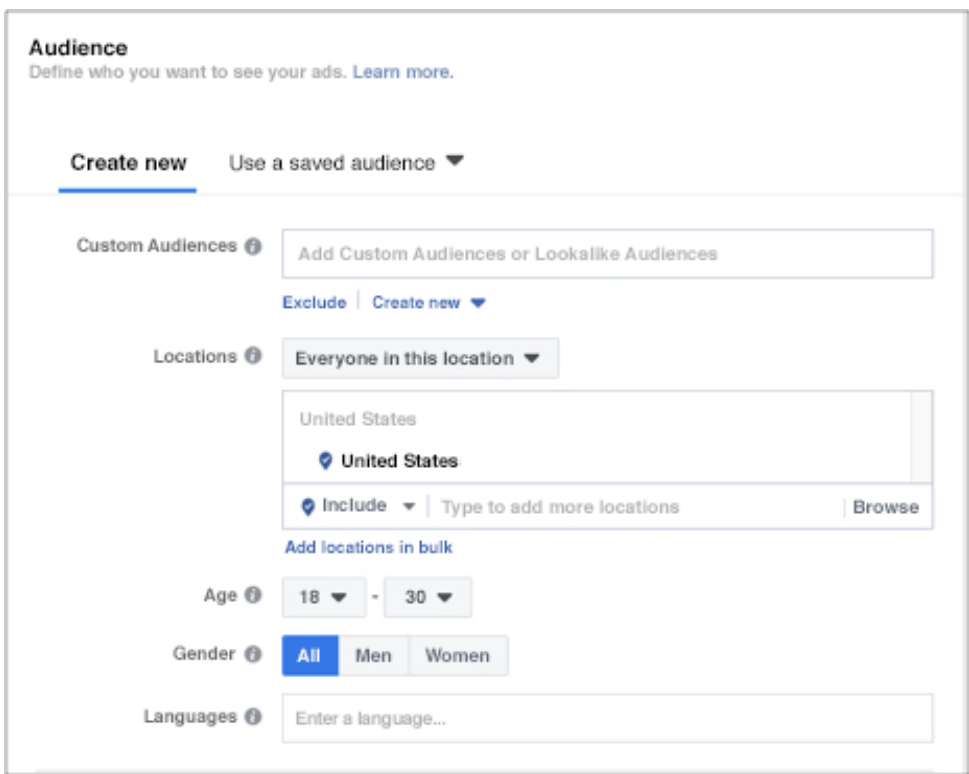
### 23                                3.        **How Facebook users’ data is monetized**

24        60. Facebook’s advertising system consists of publisher inventory, the advertisements  
25 themselves, and ad campaigns.

26        61. In traditional print advertising, newspaper and magazine publishers save space inside  
27 their publications for displaying ads. Because this space is sold to advertisers, it is often called

1 “inventory.” Because Facebook has space on users’ pages that show advertisements, Facebook is a  
 2 publisher that owns ad inventory.

3 62. Advertisers hope to create ads that attract their desired audience. They choose the text  
 4 (called “copy”) and visual elements (called “graphics”) of the ad. Facebook’s system offers a variety  
 5 of ways that an advertiser can target ads to their preferred audience. The basic targeting option<sup>15</sup> looks  
 6 like this:



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20 *Figure 3 Facebook’s basic targeting options*

21 63. The advertiser uses options such as these to pick the audience who will see the ad, and  
 22 how much the advertiser is willing to spend in the attempt. The combination of ads plus the rules  
 23 about how they’re displayed is called a “campaign.” Ad campaigns let advertisers select many  
 24 targeting criteria so the ads are viewed by consumers the advertiser wants. Facebook has a very rich  
 25 and powerful set of targeting criteria due to the abundance of personal information given by and taken  
 26

27 <sup>15</sup> <https://www.facebook.com/business/ads>



1 from its users.

2 64. In addition to the targeting criteria, the campaign also lets the advertiser control how  
 3 much money they are willing to pay Facebook to display the ads. This is an example of a budget from  
 4 a United Kingdom campaign:

5 **Budget & schedule**  
 6 Define how much you'd like to spend, and when you'd like your adverts to appear. [Learn more.](#)

7 **Budget** ⓘ **Daily budget** ▼ £11.00  
 8 £11.00 GBP

9 Actual amount spent per day may vary. ⓘ

10 **Schedule** ⓘ  Run my advert set continuously starting today  
 11  Set a start and end date

<b>Start</b>	<input type="text" value="9/1/2017"/>	<input type="text" value="08:40"/>
<b>End</b>	<input type="text" value="9/2/2017"/> <small>(London Time)</small>	<input type="text" value="08:40"/>

12  
13  
14

15 Your adverts will run for **31 days**. You'll spend no more than **£341.00**.

16 [Show advanced options](#) ▼

17

18 *Figure 4 Facebook ad campaign budgeting options*

19 65. After the advertiser decides all the campaign's details in Facebook's system, the ad is  
 20 added to a digital auction inside Facebook's system. This auction system chooses ads to show users  
 21 based on bids from the advertiser, i.e. how much each advertiser is willing to pay for the ad to be  
 22 displayed. When the advertiser's bid for their ad wins an auction, the ad is shown to the user. These  
 23 auctions are performed automatically by Facebook's system and can take less than a second to  
 24 complete.

25 66. The fuel for this entire system is personal data about Facebook's users. The company  
 26 recognizes, quite rightly, that any limit on the personal data used to help advertisers target ads could  
 27 cause a drop in Facebook's revenue. This is a key factor in understanding why Facebook is so

1 dedicated to harvesting personal data, even when such harvesting violates consumer’s expectations,  
2 Facebook’s own public policies, and governmental regulation.

3 **4. Facebook’s pattern and practice of privacy violations**

4 67. Because users’ personal data is central to Facebook’s revenue model, the company has  
5 demonstrated laserlike focus on obtaining user data and expanding its data collection practices. Some  
6 of Facebook’s data collection is transparent, overt and explicit. For one example, recent versions of  
7 the Messenger app declare that the app may collect users’ data. These data include:

- 8 a. Name, email address, user IDs and phone number,
- 9 b. Physical location, both rough and exact,
- 10 c. Home address,
- 11 d. Political beliefs,
- 12 e. Religious beliefs,
- 13 f. Sexual orientation,
- 14 g. Payment information, purchase history and credit score,
- 15 h. Health and fitness info,
- 16 i. Email messages, plain text and multimedia text messages,
- 17 j. Personal photos and videos,
- 18 k. Voice recordings and music files,
- 19 l. Data files and documents,
- 20 m. Calendar events,
- 21 n. Addressbook contacts,
- 22 o. Search history and browsing history,
- 23 p. Installed app names, and interactions with apps,
- 24 q. Device identifiers, and
- 25 r. “Other” data.

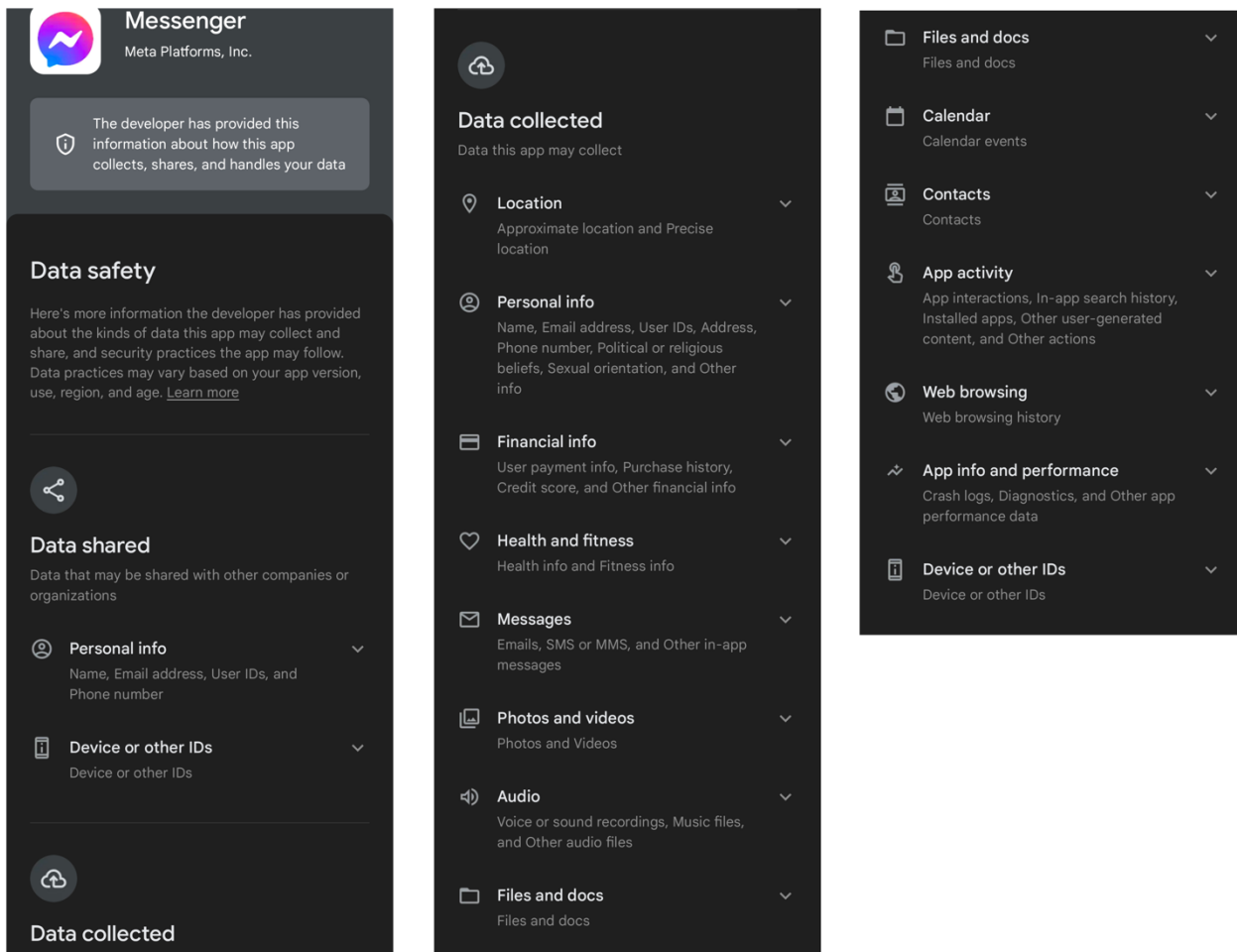


Figure 5 Facebook Messenger data collection disclosure dialog

68. In addition to its overt data collection, Facebook has a long and highly successful history of collecting personal data using opaque and covert techniques that mislead regular people into believing they are in control of their own data. Of course, at issue in this matter is data collected by Messenger without users’ knowledge or explicit consent. To understand the context of Facebook’s data collection in this action, it is essential to know Facebook’s history of similar behavior in the past.

**(a) 2009 FTC lawsuit**

69. In 2009, the Federal Trade Commission alleged Facebook was responsible for eight counts of deceptive or unfair practices related to privacy going back to 2007. The FTC complaint alleged that Facebook had a long history of misstatements regarding its data collection practices and

1 noncompliance with data protection frameworks:<sup>16</sup>

- 2 a. “In December 2009, Facebook changed its website so certain information that  
3 users may have designated as private – such as their Friends List – was made  
4 public. They didn't warn users that this change was coming, or get their  
5 approval in advance.”
- 6 b. “Facebook represented that third-party apps that users’ installed would have  
7 access only to user information that they needed to operate. In fact, the apps  
8 could access nearly all of users’ personal data – data the apps didn't need.”
- 9 c. “Facebook told users they could restrict sharing of data to limited audiences –  
10 for example with ‘Friends Only.’ In fact, selecting ‘Friends Only’ did not  
11 prevent their information from being shared with third-party applications their  
12 friends used.”
- 13 d. “Facebook had a ‘Verified Apps’ program & claimed it certified the security  
14 of participating apps. It didn’t.”
- 15 e. “Facebook promised users that it would not share their personal information  
16 with advertisers. It did.”
- 17 f. “Facebook claimed that when users deactivated or deleted their accounts, their  
18 photos and videos would be inaccessible. But Facebook allowed access to the  
19 content, even after users had deactivated or deleted their accounts.”
- 20 g. “Facebook claimed that it complied with the U.S.- EU Safe Harbor Framework  
21 that governs data transfer between the U.S. and the European Union. It didn’t.”

22 70. The FTC’s complaint resulted in a settlement with Facebook, creating a consent decree  
23 in 2011.

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27 <sup>16</sup> <https://www.ftc.gov/news-events/news/press-releases/2011/11/facebook-settles-ftc-charges-it-deceived-consumers-failing-keep-privacy-promises>

**(b) 2011 Consent Decree<sup>17</sup>**

1 71. Under the terms of the 2011 Consent Decree, Facebook was:

- 2 a. “[B]arred from making misrepresentations about the privacy or security of  
3 consumers’ personal information;”  
4 b. “[R]equired to obtain consumers’ affirmative express consent before enacting  
5 changes that override their privacy preferences;”  
6 c. “[R]equired to prevent anyone from accessing a user’s material more than 30  
7 days after the user has deleted his or her account;”  
8 d. “[R]equired to establish and maintain a comprehensive privacy program  
9 designed to address privacy risks associated with the development and  
10 management of new and existing products and services, and to protect the  
11 privacy and confidentiality of consumers’ information; and”  
12 e. “[R]equired, within 180 days, and every two years after that for the next 20  
13 years, to obtain independent, third-party audits certifying that it has a privacy  
14 program in place that meets or exceeds the requirements of the FTC order, and  
15 to ensure that the privacy of consumers’ information is protected.”<sup>18</sup>  
16

17 72. From 2012 through 2018, a period of time during which Facebook was believed to be  
18 complying with the consent decree, it in fact was not. Starting in 2013, and continuing through the  
19 2016 presidential election, Facebook was engaged in widespread privacy violations that had far-  
20 reaching consequences. Of particular note is the Cambridge Analytica scandal.

**(c) Cambridge Analytica**

21 73. In 2013, an academic researcher named Aleksandr Kogan deployed a quiz on  
22 Facebook called “thisisyourdigitallife.” Although the quiz represented itself as benign entertainment,  
23 it was in fact a data gathering program that took advantage of users’ social networks. Essentially, any  
24 user who took the “thisisyourdigitallife” quiz gave Kogan access to the data in that user’s Facebook  
25

26 <sup>17</sup> The 2011 Consent Decree is sometimes referred to in other documents as the 2012 Consent  
27 Decree. This is because the settlement which produced the Consent Decree happened November 29,  
2011 but the FTC adopted the Final Order on August 10, 2012.

<sup>18</sup> Ibid.

1 profile; more importantly, Kogan’s program was also given access to the data of that user’s friends  
2 (even though no friends had taken the quiz themselves.) The quiz did not explicitly warn users that  
3 this access would be granted, and the friends of the user who granted the access were not notified the  
4 access was granted.

5 74. Kogan had a relationship with Cambridge Analytica, a political consulting firm based  
6 in the United Kingdom. Cambridge Analytica paid 270,000 people to install the thisisyourdigitallife  
7 app in their Facebook accounts. The app then spread to the friends of those users, eventually siphoning  
8 personal data from tens of millions of Facebook users; numbers ranged from a low of 30 million users  
9 up to 87 million users.

10 75. Cambridge Analytica used the data from these tens of millions of Facebook users to  
11 build psychological profiles and ad audiences. Senator Ted Cruz and Donald Trump used the resulting  
12 profiles and audience information to spend heavily on Facebook ads in their respective 2016  
13 presidential campaigns. Although Facebook learned of the transfer of its users’ data to Cambridge  
14 Analytica in 2015, it failed to notify the affected users. When the scandal became public in 2018,  
15 Facebook maintained that its system, from an operational point of view, was not at fault and no actual  
16 breach had occurred.

17 76. In the wake of the revelations about the Cambridge Analytica scandal, David Vladeck,  
18 a former director of FTC’s Bureau of Consumer Protection wrote a blog post in the Harvard Law  
19 Review.<sup>19</sup> Professor Vladeck said,

- 20 a. “Facebook’s apparent violations ... of the [2011 consent] decree are troubling  
21 ....”
- 22 b. “[Facebook] plainly violated the Federal Trade Commission Act’s prohibition  
23 against ‘deceptive acts or practices.’”
- 24 c. “It doesn’t appear that Facebook had even the most basic compliance  
25 framework to safeguard access to user data.”

26  
27 <sup>19</sup> <https://blog.harvardlawreview.org/facebook-cambridge-analytica-and-the-regulators-dilemma-clueless-or-venal/>

1 d. “I didn’t think that Facebook fell into the ‘venal’ category when the FTC first  
2 investigated the company eight years ago. ... But Facebook’s enabling of the  
3 Cambridge Analytica campaign suggests that I may have been wrong.  
4 Facebook is now a serial offender.”

5 77. A researcher named Ashkan Soltani worked on the Facebook investigation from 2010  
6 to 2011; he later became the FTC’s Chief Technologist in 2014. He commented, “I found that time  
7 and time again Facebook allows developers to access personal information of users and their friends,  
8 *in contrast to their privacy settings and their policy statements.*” (emphasis added)

9 78. In 2018, the FTC began an investigation to determine if Facebook had violated the  
10 terms of the consent decree.

11 **(d) House of Commons Disinformation and ‘fake news’: Final**  
12 **Report**

13 79. At roughly the same time Facebook was being investigated by the FTC, Facebook was  
14 under investigation by the UK government, via two bodies: the Information Commissioner’s Office  
15 (ICO) and the House of Commons Digital, Culture, Media, and Sport (DCMS) Committee. According  
16 to ICO’s 2018-2019 annual report, “The investigation eventually broadened [to] become the largest  
17 investigation of its type by any data protection authority.” Based on its investigation, ICO levied a  
18 fine of £500,000 against Facebook, the largest fine legally allowed under UK law, and the largest fine  
19 of its type in the nation’s history.<sup>20</sup>

20 80. Meanwhile, transcripts of hearings held by the DCMS Committee revealed “[i]t is  
21 evident that Facebook intentionally and knowingly violated both data privacy and anti-competition  
22 laws.” According to the Committee’s report, *Disinformation and ‘fake news’: Final Report; Eighth*  
23 *Report of Session 2017–19:*<sup>21</sup>

24 a. “[UK Information Commissioner Elizabeth Denham] said that Facebook does  
25 not view the rulings from the federal privacy commissioner in Canada or the  
26 Irish ICO as anything more than advice. She said that, from the evidence that

27 <sup>20</sup> <https://ico.org.uk/media/about-the-ico/documents/2615262/annual-report-201819.pdf>, p.25

28 <sup>21</sup> <https://publications.parliament.uk/pa/cm201719/cmselect/cmcmds/1791/1791.pdf>

1 Richard Allan, Vice President of Policy Solutions at Facebook, had given, she  
2 thought ‘that unless there is a legal order compelling a change in their business  
3 model and their practice, they are not going to do it.’”

4 81. Ms. Denham’s comment is quite telling, as she not only represents the top UK office  
5 for data privacy, but she is also remarking about findings from privacy commissions in two other  
6 countries. She is, in effect, opining that Facebook only acts when they are forced to. This is consistent  
7 with my own opinion.

8 82. In his testimony before the DCMS Committee, Mr. Soltani had some pointed words  
9 for the reliability of claims and statements made by Facebook:

10 a. “At the very beginning of the hearing, around 11 minutes in, [Facebook  
11 Executive Richard Allen] corrected one of the comments from you all,  
12 specifically that apps in version 1 of the API did not have unfiltered access to  
13 personal information. In fact, that is false. In the 2011 FTC settlement, the FTC  
14 alleged that if a user had an app installed, it had access to nearly all of the user’s  
15 profile information, *even if that information was set to private.*” (emphasis  
16 added)

17 b. “Facebook misrepresented their claims regarding their app oversight  
18 programme, specifically Facebook’s verified apps programme, which was a  
19 detailed review designed to offer extra assurances to help users identify  
20 applications they can trust. The FTC found that that *review was actually non-*  
21 *existent and [Facebook] was not doing anything to oversee those apps.*”  
22 (emphasis added)

23 c. “I helped The New York Times in their investigation and verification of the  
24 whitelisted apps programme and I have some tweets in that regard that show  
25 the screenshots of this access. Specifically, *apps were able to circumvent*  
26 *users’ privacy settings or platform settings*, and access friends’ information as  
27 well as users’ information, such as birthday and political affiliation, *even when*



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*the user disabled the platform.” (emphasis added)*

- d. “[T]hrough a Facebook programme called instant personalisation, some apps such as Yelp and Rotten Tomatoes would automatically get access to users’ personal information, even without the user installing them.”
- e. “[T]ime and time again *Facebook allows developers to access personal information of users and their friends, in contrast to their privacy settings and their policy statements.* ... Facebook prioritises these developers over their users.” (emphasis added)

83. During the same hearing, the Committee chair commented:

- a. “[I]t sounds pretty clear that what Facebook said to the Committee—what Richard Allan said to the Committee—was not true, and that users had no real control at this time over how their data was being used, and even when they tried to enable their privacy settings to protect their data, developers were able to get around that without the user knowing.”
- b. “The fact that [Facebook’s] senior representatives spoke to a parliamentary Committee—which I believe, as we have it in Canada, is testifying as under oath— and misrepresented basic facts is a contempt of our legal parliamentary system.”

84. Facebook has consistently demonstrated that monetizing user’s personal data is more valuable than any other consideration.

I declare under penalty of perjury under the laws of the state of California that the foregoing is true and correct. Executed in Los Angeles, California on September 2, 2022.

///

**Jason Frankovitz**

Digitally signed by Jason Frankovitz  
DN: cn=Jason Frankovitz,  
o=Quandary Peak Research,  
email=jason@quandarypeak.com,  
c=US  
Date: 2022.09.02 09:21:58 -07'00'  
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\_\_\_\_\_  
Jason Frankovitz



**EXHIBIT A: CURRICULUM VITAE OF JASON FRANKOVITZ**

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# JASON FRANKOVITZ

## Director of Software Class Actions

### Senior Testifying Expert

Quandary Peak Research  
205 S Broadway, Suite 300  
Los Angeles, CA 90012  
Phone: 323.545.3660  
Email: jason@quandarypeak.com

## PROFESSIONAL ACCOMPLISHMENTS

- Expert in software programming and Internet technologies with over **25 years of experience**.
- Software inventor of **US patent 9,858,341**, "Method and apparatus for remotely monitoring a social website".
- **Testified 28 times** as an expert in the US and Canada.
- Reviewed code, authored affidavits, declarations and expert reports for **over 100 cases**.
- Consulting on **multiple class actions** for social media & e-commerce technologies.
- Built **the Web's first social bookmarking site** in 1996, cited as prior art for multiple patent matters.
- Selected as **Entrepreneur-in-Residence** at Main Street Partners on MIT campus.
- Extensive **software intellectual property** experience focusing on **software patents & trade secrets, Web and social media** technologies, software development **best-practices**, and digital **copyright/code theft**.

## EMPLOYMENT

- **Computer Scientist** **Apr 2014 – present**  
*Quandary Peak Research, Los Angeles, CA*
  - Providing software analysis services for patent infringement and trade secret disputes.
  - Performing forensic investigations of computer systems, including examination of digital data.
  - Installing, configuring and using source code analysis tools for litigation support.
  - Creating claim charts for patent infringement and invalidity analysis.
- **Intellectual Property and Technology Advisor** **Jun 2013 – Apr 2014**  
*TechKnow Consulting, Los Angeles, CA*
  - Provided consulting for a range of software-related matters including patent licensing, infringement, brokerage, and general software IP advising.
  - Researched products and companies for similarities to patents being sold to maximize buyer interest.
  - Interviewed inventors to help brokers understand a patent's potential sale value.
- **Software IP Consultant** **Mar 2011 – May 2013**  
*Intellectual Ventures, Bellevue, WA*
  - Provided technical analysis for patent licensing negotiations related to cloud computing, social networking, ecommerce, mobile, video games, operating systems, electronic gambling, travel, and imaging.
  - Examined and investigated a variety of software technologies for potential patent infringement.

- Reverse-engineered numerous software systems to document system operations and services.
- Evaluated patent claims for likelihood of infringement and licensing potential.
- Scored patent portfolios for prioritizing licensing efforts.

- **Founder & CTO**

**Feb 2006 – Feb 2011**

*Seethroo.us*, Los Angeles, CA

- Launched online advertising and marketing startup specializing in social media.
- Created scalable cloud-based Ruby on Rails application for ad networks and publishers to manage advertising campaigns.
- Designed proprietary jQuery-based publisher integration system.
- Managed software engineering and used agile practices to drive test-driven development.
- Developed internal tool “brainiac” for creating and managing machine learning models for a natural language processing (NLP) system that analyzed user-generated content for targeted ads.

- **Software Engineer**

**Aug 2008 – Dec 2009**

*AT&T Interactive*, Glendale, CA

- As a member of the R&D department, worked on various experimental/exploratory projects for AT&T Interactive’s Social Services team.
- Used Ruby and jQuery to co-develop an internal QA tool measuring relevancy of search results for yp.com.
- Wrote a large-scale web ad scraping system using Ruby and nokogiri, an XML parsing library.
- Contributed to the development and use of a REST-oriented framework written in Ruby.
- Wrote backend code powering an iOS/mobile application for reserving products from brick-&-mortar retailers.

- **Software Engineer**

**May 2007 – Jun 2008**

*DialedIn.com*, Los Angeles, CA

- Developed Ruby on Rails applications for mobile event management product.
- Implemented group messaging features for email, Web, and SMS.
- Built multiple-stage development environment enabling uninterrupted service for end users.
- Wrote unit and functional tests and installed continuous integration services to find bugs faster.

- **Segment Producer**

**Apr 2002 – Feb 2006**

*TechTV, G4, and g-NET*, San Francisco, CA and Los Angeles, CA

- Produced technology television segments for cable and online distribution covering consumer electronics product reviews, interviews with notable software leaders, and industry commentary and analysis.
- Pitched concepts, wrote scripts, booked talent, and shot and edited packages between 2 minutes and 9 minutes total running time.
- Coordinated with software companies to acquire demo products to meet production schedule.
- Maintained, administered, and upgraded lab hardware and content library.

- **Founder & CTO**

**Apr 1996 – Apr 2002**

*itList.com*, Cambridge, MA

- Created the first online bookmark site in the world.
- Developed a complete suite of online tools to enable bookmark submission, sharing, storage, organization, searching, and user account management.

- Programmed a custom perl API to Mysql databases on Linux.
- Installed, configured, and customized Apache httpd with mod\_perl.
- Developed an infrastructure to rapidly deploy (<1 hour) partner sites for itList service.
- Handled technical support needs for 30,000 users.

- **Systems Administrator**

**Feb 1997 – Apr 1999**

*Liszt.com, Sebastopol, CA*

- Provided Linux systems administration to major online search engine.
- Debugged Apache, perl, and mod\_perl issues and monitored traffic and local CPU load.
- Implemented performance and security enhancements involving httpd, sendmail, pop3, telnet, ssh, and ftp.
- Performed automated backups nightly and scheduled downtimes for upgrades.

- **Certified ClearCase/Software Configuration Management Specialist** **Sep 1996 – Dec 1998**

*Pencom Systems, Boston, MA*

- Provided software configuration management (SCM) expertise in heterogeneous development environments (SunOS/Solaris, SCO, HP-UX, Windows NT.)
- Performed administration and configuration of ClearCase, CVS, RCS, and Visual SourceSafe systems.
- Gathered requirements, designed, deployed, and administered distributed development environments
- Implemented automated build systems for C, Java, and perl.
- Instituted code branching and version labeling policies.
- Audited software engineering to identify technical and procedural problems in development efforts.
- Wrote and taught ClearCase courses to development teams in the USA and United Kingdom.
- Coded programs for system monitoring and automatic backups.
- Designed and installed new server room layout, specified and purchased hardware and component storage.

- **Network Administrator**

**May 1995 – Aug 1996**

*Interart/Sunrise Publications, Bloomington, IN*

- Managed Mac network for design department of the third largest greeting card company in North America.
- Implemented revrdist file synchronization software for automatic administration of Macs.
- Programmed custom image processing system using AppleScript, Solaris and Helios Universal File Server.

- **Support Engineer**

**Nov 1992 – May 1995**

*University Computing Services, Bloomington, IN*

- Provided technical support via email and telephone for students, faculty, and staff.
- Wrote technical articles for the UCS Knowledge Base, one of the first Web-based helpdesk systems.
- Performed data recoveries and backups for corrupted thesis files.
- Conducted technical trainings for various campus systems.
- Diagnosed, repaired and upgraded on-site hardware.

## EDUCATION

- **B.A. in Telecommunications** with Minor in Biology, *Indiana University* **Dec 1993**  
Coursework included:

W350 Advanced Expository Writing  
S404 Honors Semester in Telecom

X395 Minds, Brains, and Computers  
R322 Telephony History & Technology

#### TECHNICAL DILIGENCE

- **Class pre-certification** **Jan-July 2021**  
- Technical analysis of mobile apps for video viewing information
- **Class pre-certification** **Jan-July 2021**  
- Technical analysis of mobile apps for incognito mode
- **Class pre-certification** **Mar 2021**  
- Technical analysis of mobile apps for pasteboard sharing
- **Confidential Public Company, Fortune 500** **Sep-Oct 2018**  
- Source code review of startup for possible acquisition
- **Greenheart International** **Jan 2017 – Feb 2017**  
- Code quality audit of outsourced software project
- **Confidential/US Department of Health & Human Services** **Nov 2016 – Nov 2017**  
- Safety-related audit of source code for EMR system
- **Confidential Public Company, Mkt Cap \$200M** **Jan 2015**  
- Source code review of startup for possible acquisition

#### CLASS ACTION & GOVERNMENT LITIGATION CONSULTING (ONGOING)

- **Stark et al. v. Patreon, Inc.** **Jul 2022 – present**  
Counsel: Girard Sharp LLP  
Nature of Suit: Video privacy  
Jurisdiction: Federal  
Services Provided: Consulting
- **Svoboda v. Amazon.com Inc.** **May 2022 – present**  
Counsel: Keogh Law LTD  
Nature of Suit: Biometric privacy  
Jurisdiction: State  
Services Provided: Consulting
- **Confidential v. Confidential** **Mar 2022 – present**  
Counsel: Keller Lenkner  
Nature of Suit: Biometric privacy  
Jurisdiction: State  
Services Provided: Consulting

- **Alexander, et al. v. Hall, et al.** **Feb 2022 – present**  
 Counsel: Oliver Law Group  
 Nature of Suit: Civil rights  
 Jurisdiction: Federal  
 Services Provided: Consulting
- **Hoffard v. Cochise County** **Feb 2022 – present**  
 Counsel: Arizona Center for Disability Law  
 Nature of Suit: Voting rights  
 Jurisdiction: State  
 Services Provided: Consulting, Expert Report
- **Cleaver v. Cadillac Fairview Corp.** **Nov 2021 – present**  
 Counsel: Charney Lawyers  
 Nature of Suit: Biometric privacy  
 Jurisdiction: Canada  
 Services Provided: Consulting, Expert Report
- **Confidential v. Confidential** **Sep 2021 – present**  
 Counsel: Confidential  
 Nature of Suit: Regulatory  
 Jurisdiction: Australia  
 Services Provided: Consulting
- **Olin et al. v Facebook, Inc.** **May 2019 – present**  
 Counsel: Bursor & Fisher PA  
 Nature of Suit: Data privacy  
 Jurisdiction: Federal  
 Services Provided: Consulting, Code Review, Declaration
- **O'Hara v Facebook, Inc, Cambridge Analytica, LLC, Kogan, Bannon** **May 2018 – present**  
 Counsel: Coast Law Group LLP  
 Nature of Suit: Data privacy  
 Jurisdiction: Federal  
 Services Provided: Consulting, Declaration

PRIVATE LITIGATION CONSULTING (ONGOING)

- **Confidential v. Confidential** **Apr 2022 – present**  
 Counsel: Confidential  
 Nature of Suit: Cryptocurrency/Fraud  
 Jurisdiction: Federal  
 Services Provided: Consulting, Code Review

- **Confidential v. Confidential**

Counsel: Mayer Brown LLP  
Nature of Suit: Prelitigation  
Jurisdiction: State  
Services Provided: Consulting

**Mar 2022 – present**
- **D&D Greek Restaurant, Inc v. Great Greek Franchising, LLC**

Counsel: Lewitt Hackman Shapiro Marshall Harlan  
Nature of Suit: Trademark infringement  
Jurisdiction: Federal  
Services Provided: Consulting, Declaration, Testimony (Deposition)

**Jan 2022 – present**
- **Sean Wilson v. PTT, LLC d/b/a High 5 Games, LLC**

Counsel: Holland & Hart LLP  
Nature of Suit: Gaming/geolocation  
Jurisdiction: State  
Services Provided: Consulting

**Nov 2021 – present**
- **Wave Plastic Surgery v. Venus Plastic Surgery**

Counsel: Commerce Law Group  
Nature of Suit: Social media  
Jurisdiction: State  
Services Provided: Consulting

**Dec 2021 – present**
- **Wild Bill's Franchising, LLC V. Wild Wild West Tobacco Wholesale**

Counsel: Gordon E. R. Troy, PC  
Nature of Suit: Intellectual Property - Trademark  
Jurisdiction: Federal  
Services Provided: Consulting, Expert Report

**Oct 2021 – present**
- **Wykeya Williams, et al. v. First Student, Inc.**

Counsel: Landman Corsi Ballaine & Ford P. C.  
Nature of Suit: Social media  
Jurisdiction: Federal  
Services Provided: Consulting, Declaration

**Sep 2021 – present**
- **Liquid Video Technologies, Inc. v. Dynamic KanBan, Inc. & Josette Russell**

Counsel: Cranfill Sumner LLP  
Nature of Suit: Breach-of-contract  
Jurisdiction: State  
Services Provided: Consulting, Code Review

**Jun 2021 – present**
- **ReactX LLC v. Google LLC**

Counsel: Confidential  
Nature of Suit: Intellectual Property – Trade secret  
Jurisdiction: State  
Services Provided: Consulting, Code Review, Declaration

**Dec 2020 – present**



- **Confidential v. Confidential** **Nov 2020 – present**  
 Counsel: Confidential  
 Nature of Suit: Criminal Fraud  
 Jurisdiction: Australia  
 Services Provided: Consulting, Expert Report
- **FinancialApps, LLC v. Envestnet, Inc. and Yodlee, Inc.** **Aug 2020 – present**  
 Counsel: Kasowitz Benson Torres  
 Nature of Suit: Intellectual Property – Trade secret  
 Jurisdiction: State  
 Services Provided: Consulting, Code Review
- **Nokia v. Motorola** **Aug 2020 – present**  
 Counsel: Sheppard Mullin  
 Nature of Suit: Intellectual Property – Patent  
 Jurisdiction: Federal  
 Services Provided: Consulting
- **Los Angeles County Sherriff's Department v Orrego** **Aug 2020 – present**  
 Counsel: Stone Busailah, LLP  
 Nature of Suit: Internal Affairs  
 Jurisdiction: County  
 Services Provided: Consulting, Declaration
- **Tenstreet, LLC v. Driverreach, LLC** **Jul 2019 – present**  
 Counsel: Faegre Baker Daniels LL  
 Nature of Suit: Intellectual Property – Trade Secret  
 Jurisdiction: Federal  
 Services Provided: Consulting, Code Review
- **Confidential v Confidential** **Jul 2019 – present**  
 Counsel: Confidential  
 Nature of Suit: Breach of Contract  
 Jurisdiction: Federal  
 Services Provided: Consulting, Code Review
- **Calendar Research LLC v Stubhub, Inc. and eBay Inc.** **Jan 2019 – present**  
 Counsel: Quinn Emanuel Urquhart & Sullivan LLP  
 Nature of Suit: Intellectual Property – Copyright  
 Jurisdiction: Federal  
 Services Provided: Consulting, Expert Report
- **Sound View Innovations, LLC v Hulu, LLC** **Nov 2017 – present**  
 Counsel: Desmarais LLP  
 Nature of Suit: Intellectual Property - Patent  
 Jurisdiction: Federal

- Services Provided: Consulting, Code Review
- **Beard v Gerdau S.A.** **May 2017 – present**  
 Counsel: Reaud Morgan and Quinn LLP  
 Nature of Suit: Breach of Contract  
 Jurisdiction: Federal  
 Services Provided: Consulting
  - **Softech USA d/b/a Gemfind v Chasin** **Feb 2017 – present**  
 Counsel: Robinson & Robinson  
 Nature of Suit: Intellectual Property – Trade Secret  
 Jurisdiction: Federal  
 Services Provided: Code Review & Consulting
  - **Hull et al v Marriott International, Inc.** **Mar 2015 – present**  
 Counsel: Conn Maciel & Carey PLLC  
 Nature of Suit: Software Accessibility/ADA  
 Jurisdiction: Federal  
 Services Provided: Consulting
  - **Copart, Inc. v Lightmaker USA, Inc.** **Mar 2015 – present**  
 Counsel: Porter Scott LLP  
 Nature of Suit: Breach of Contract  
 Jurisdiction: State  
 Services Provided: Consulting
  - **Smarty Had a Party LLC v Barrett Brothers, Inc.** **Jan 2015 – present**  
 Counsel: Capes, Sokol, Goodman & Sarachan, P.C.  
 Nature of Suit: Trade Name Infringement  
 Jurisdiction: Federal  
 Services Provided: Consulting
  - **Hablian, et al. v Zurich U.S., et al.** **Jan 2015 – present**  
 Counsel: Marlin & Saltzman LLP  
 Nature of Suit: Source Code Verification  
 Jurisdiction: State  
 Services Provided: Code Review, Consulting, Expert Report & Testimony (deposition)
  - **Mass Appeal Media, Inc. v Davina Douthard, Inc.** **Oct 2014 – present**  
 Counsel: Krakowsky Michel  
 Nature of Suit: Intellectual Property - Trademark  
 Jurisdiction: Federal  
 Services Provided: Consulting & Declaration

- **Dual Diagnosis Treatment Center, Inc., et al. v. Health Net, Inc., et al.** **Apr 2022 – May 2022**  
 Counsel: Kantor & Kantor LLP  
 Nature of Suit: Social Media Defamation  
 Jurisdiction: State  
 Services Provided: Consulting, Testimony (Evidentiary Hearing)
- **Kaiser v. Gilliam** **Nov 2021 – May 2022**  
 Counsel: Arnold & Porter LLP  
 Nature of Suit: Graphic design  
 Jurisdiction: State  
 Services Provided: Consulting, Declaration
- **Muzeit Limited v. Bytedance, Ltd.** **Aug 2021 – May 2022**  
 Counsel: Knobbe Martens  
 Nature of Suit: Intellectual Property – Trademark  
 Jurisdiction: Federal  
 Services Provided: Consulting, Expert Report, Testimony (Deposition)
- **Vargas et al. v Facebook, Inc.** **Dec 2019 – Sep 2021**  
 Counsel: Mantese Honigman, PC  
 Nature of Suit: Class action  
 Jurisdiction: Federal  
 Services Provided: Consulting
- **Los Angeles County Sherriff’s Department v Rodriguez** **Jun 2019 – Dec 2021**  
 Counsel: Stone Busailah, LLP  
 Nature of Suit: Internal Affairs  
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 Services Provided: Consulting, Testimony (Skelly hearing)
- **Hertz Corporation v Accenture LLP** **Jul 2019 – Dec 2021**  
 Counsel: Wiggin Dana LLP  
 Nature of Suit: Breach of Contract  
 Jurisdiction: Federal  
 Services Provided: Consulting, Code Review
- **Kilterly v. SolutionStream, LLC** **Nov 2020 – Dec 2021**  
 Counsel: Hopkins & Huebner, PC  
 Nature of Suit: Breach-of-contract  
 Jurisdiction: State  
 Services Provided: Consulting, Expert Report
- **Kemps v. Stephenson** **Oct 2021**  
 Counsel: The Family Law Office of Sonoma County  
 Nature of Suit: Social media  
 Jurisdiction: State  
 Services Provided: Consulting

- **Jesus Gonzalez and Vigen Megerdichian v. 4Over, LLC** **Aug 2021 – Oct 2021**  
 Counsel: Law Offices of Diane B. Sherman  
 Nature of Suit: Employment law  
 Jurisdiction: Federal  
 Services Provided: Consulting, Code Review
- **AdQuadrant v. Nanigans** **May 2021 – Aug 2021**  
 Counsel: Jacobsen & McElroy PC  
 Nature of Suit: Breach-of-contract  
 Jurisdiction: State  
 Services Provided: Consulting, Expert Report
- **Porchlight LLC v Ventive LLC** **Dec 2020 – Feb 2021**  
 Counsel: Mooney Wieland  
 Nature of Suit: Breach-of-contract  
 Jurisdiction: State  
 Services Provided: Consulting, Expert Report
- **Express Lien, Inc. v. Handle, Inc** **Sep 2020 – Jun 2021**  
 Counsel: Bowie Jensen LLP  
 Nature of Suit: Intellectual Property – Copyright  
 Jurisdiction: State  
 Services Provided: Consulting, Expert Report, Testimony (remote deposition)
- **Oliver Bassil v. Jacques Webster** **Aug 2020 – May 2021**  
 Counsel: McPherson LLP  
 Nature of Suit: Intellectual Property – Copyright  
 Jurisdiction: State  
 Services Provided: Consulting, Expert Report
- **Social Equity Owners & Workers Association, Inc v City of LA** **Jun 2020 – Aug 2020**  
 Counsel: Ivie, McNeill Wyatt Purcell & Diggs  
 Nature of Suit: Regulatory failure  
 Jurisdiction: State  
 Services Provided: Consulting, Declaration
- **Impact Engine, Inc. v. Google LLC** **Jan 2020 – Aug 2020**  
 Counsel: Kirkland & Ellis  
 Nature of Suit: Intellectual Property – Patent  
 Jurisdiction: Federal  
 Services Provided: Consulting
- **Robillard v Opal Labs, Inc.** **Jan 2020 – Mar 2021**  
 Counsel: Angeli Law Group  
 Nature of Suit: Intellectual Property – Trade Secret  
 Jurisdiction: Federal

- Services Provided: Consulting
- **BrandRep Holdings v Employer Advertising LLC & Business Solutions LLC** **May 2019 – Apr 2020**  
 Counsel: Benesch, Friedlander, Coplan & Aronoff LLP  
 Nature of Suit: Intellectual Property – Trade Secret  
 Jurisdiction: Federal  
 Services Provided: Consulting, Code Review
  - **Shaghal, Ltd. v Children’s Network LLC d/b/a Sprout** **May 2019 – Dec 2019**  
 Counsel: Fox Rothschild LLP  
 Nature of Suit: Breach of Contract  
 Jurisdiction: State  
 Services Provided: Consulting, Testimony (arbitration)
  - **OnSors LLC v Sabrina Schueppl dba NuMe, ABV Group, Inc.** **May 2019 – Sep 2019**  
 Counsel: Ulich Balmuth Fisher LLP  
 Nature of Suit: Breach of Contract  
 Jurisdiction: State  
 Services Provided: Consulting, Code Review, and Testimony (deposition & bench trial)
  - **Coulter Ventures, LLC, d/b/a Rogue Fitness v Titan Fitness** **Apr 2019 – Feb 2020**  
 Counsel: Banner & Witcoff, Ltd.  
 Nature of Suit: Intellectual Property – Trademark  
 Jurisdiction: Federal  
 Services Provided: Consulting
  - **Christopher Hayden d/b/a Cgraydesign v Eagles Nest Outfitters, Inc.** **Mar 2019 – Apr 2019**  
 Counsel: Ward and Smith P. A.  
 Nature of Suit: Intellectual Property – Trade Secret  
 Jurisdiction: Federal  
 Services Provided: Consulting
  - **M. A. Mobile Ltd. v Indian Institute of Technology Kharagpur et al** **Feb 2019 – Jun 2019**  
 Counsel: Sanjiv N. Singh  
 Nature of Suit: Intellectual Property – Trade Secret  
 Jurisdiction: Federal  
 Services Provided: Consulting, Code Review, Expert Report, Declaration, Testimony (deposition)
  - **Really Big Coloring Books, Inc. v Delta Dental Insurance Company** **Jan 2019 – May 2019**  
 Counsel: Troutman Sanders LLP  
 Nature of Suit: Intellectual Property – Copyright  
 Jurisdiction: Federal  
 Services Provided: Consulting, Expert Report
  - **irth Solutions LLC v Apex Data Solutions d/b/a DigTix** **Dec 2018 – Jan 2019**  
 Counsel: Boylan Code  
 Nature of Suit: Intellectual Property – Trade Secret

- Jurisdiction: Federal  
Services Provided: Consulting
- **Cohen v Ramirez** **Dec 2018 – Oct 2019**  
 Counsel: Colman Law Group  
 Nature of Suit: Personal Injury  
 Jurisdiction: State  
 Services Provided: Consulting
  - **Ensource Investments LLC v Tatham et al** **Nov 2018 – Feb 2020**  
 Counsel: Panakos Law  
 Nature of Suit: Fraud  
 Jurisdiction: Federal  
 Services Provided: Consulting, Code Review, Report, Testimony (jury trial)
  - **Flying Nurses International LLC v FlyingNurse.com** **Sep 2018 – Dec 2018**  
 Counsel: Dale Jensen, PLC  
 Nature of Suit: Fraud  
 Jurisdiction: Federal  
 Services Provided: Consulting, Declaration
  - **Cornerstone OnDemand, Inc. v Modular Mining Systems, Inc.** **Jan 2018 – Mar 2018**  
 Counsel: Gordon Rees Scully Mansukhani, LLP  
 Nature of Suit: Breach of Contract  
 Jurisdiction: Federal  
 Services Provided: Consulting
  - **Liberi v Taitz** **Dec 2017 – Oct 2018**  
 Counsel: Schumann Rosenberg  
 Nature of Suit: Fraud/Defamation/Embezzlement  
 Jurisdiction: Federal  
 Services Provided: Consulting, Code Review, Declaration
  - **Peri Domante v Dish Network, L.L.C.** **Sep 2017 – Nov 2017**  
 Counsel: Law Office of Michael A. Ziegler, P.L.  
 Nature of Suit: Breach of Contract  
 Jurisdiction: Federal  
 Services Provided: Consulting
  - **Applied Business Software Inc. v Citadel Servicing Corporation** **Sep 2017 – Mar 2019**  
 Counsel: Law Office of David Richman  
 Nature of Suit: Intellectual Property – Copyright  
 Jurisdiction: Federal  
 Services Provided: Consulting
  - **Integrated Dynamic Solutions, Inc. N. Gashtili v VitaVet Labs, Inc.** **Jul 2017 – Oct 2017**  
 Counsel: Westlake Legal Services

- Nature of Suit: Breach of Contract  
 Jurisdiction: State  
 Services Provided: Consulting & Testimony (deposition & arbitration)
- **Liang v AWG Remarketing, Inc., Group 3 Auctions, LLC** **Jun 2017 – Sep 2017**  
 Counsel: WHGC, P.L.C.  
 Nature of Suit: Intellectual Property – Copyright  
 Jurisdiction: Federal  
 Services Provided: Consulting
  - **Lexxiom Inc. v Converze Interactive Inc., Lido Labs Llc, et al** **May 2017 – Mar 2018**  
 Counsel: Foundation Law Group  
 Nature of Suit: Intellectual Property – Copyright  
 Jurisdiction: Federal  
 Services Provided: Consulting & Code Review
  - **Turkey v Ali Çihan** **May 2017 – Nov 2017**  
 Counsel: Akkoç Law Group  
 Nature of Suit: Criminal  
 Jurisdiction: Republic of Turkey  
 Services Provided: Code Review, Consulting & Expert Report
  - **Aquilina v Wriggelsworth et al.** **Apr 2017 – Nov 2017**  
 Counsel: Bostic & Associates  
 Nature of Suit: Civil Rights  
 Jurisdiction: Federal  
 Services Provided: Consulting
  - **Rogue Wave Software Inc. v BTI Systems Inc. & Juniper Networks Inc.** **Feb 2017 – Jan 2018**  
 Counsel: Snell & Wilmer LLP  
 Nature of Suit: Intellectual Property - Copyright  
 Jurisdiction: Federal  
 Services Provided: Code Review, Expert Report, Consulting & Testimony (deposition)
  - **Confidential v Confidential** **Feb 2017 – Jun 2017**  
 Counsel: Confidential  
 Nature of Suit: Intellectual Property - Copyright  
 Jurisdiction: Federal  
 Services Provided: Consulting, Code Review, Expert Report & Testimony (deposition)
  - **Krubim 26 Intl Inc / Woofers Etc v Golden Communications, Inc.** **Jan 2017 – Oct 2018**  
 Counsel: Law Offices of P. Paul Aghaballa  
 Nature of Suit: Breach of Contract  
 Jurisdiction: State (ID BC555618)  
 Services Provided: Consulting & Testimony (deposition)

- **Patel v Facebook, Inc. (State of Illinois/biometric privacy)** **Nov 2016 – Jan 2020**  
 Counsel: Robbins Geller Rudman & Dowd, Labaton Sucharow, Edelson  
 Nature of Suit: Class action  
 Jurisdiction: State  
 Services Provided: Consulting, Code Review
- **Fox Television Stations, Inc. v FilmOn X, LLC** **Nov 2016 – Mar 2017**  
 Counsel: Baker Marquart LLP  
 Nature of Suit: Intellectual Property - Copyright  
 Jurisdiction: Federal  
 Services Provided: Consulting
- **Securus Technologies, Inc. v Public Communication Services Inc.** **Oct 2016 – Feb 2018**  
 Counsel: Grubel Elrod Johansen Hail Shank  
 Nature of Suit: Breach of Contract  
 Jurisdiction: Federal  
 Services Provided: Consulting
- **Expo Ed Inc. v Anaca Technologies Ltd.** **Oct 2016 – Sep 2017**  
 Counsel: Norton Rose Fulbright Canada LLP  
 Nature of Suit: Breach of Contract  
 Jurisdiction: Ontario Superior Court Of Justice, Canada  
 Services Provided: Consulting, Expert Report & Testimony (bench trial)
- **Chrome Systems, Inc. v Autodata Solutions, Inc.** **Jun 2016 – Dec 2016**  
 Counsel: Wachtell, Lipton, Rosen & Katz  
 Nature of Suit: Breach of Contract  
 Jurisdiction: Federal  
 Services Provided: Code Review & Consulting
- **Zaghi dba Angel Dental Care v Salama** **May 2016 – Sep 2017**  
 Counsel: Jalilvand Law APC  
 Nature of Suit: Online Defamation  
 Jurisdiction: State  
 Services Provided: Consulting & Testimony (deposition)
- **Level One Technologies, Inc. v Penske Truck Leasing Co.** **Apr 2016 – Aug 2017**  
 Counsel: Riezman Berger, P.C.  
 Nature of Suit: Intellectual Property – Trade Secrets  
 Jurisdiction: Federal  
 Services Provided: Consulting
- **Core Wireless Licensing S.A.R.L. v LG Electronics, Inc.** **Jan 2015 – Sep 2016**  
 Counsel: Bunsow de Mory Smith & Allison LLP  
 Nature of Suit: Intellectual Property - Patent  
 Jurisdiction: Federal  
 Services Provided: Code Review & Consulting



- **Deal Segments, Inc. v Dream Warrior Group, Inc.** **Jan 2016 – Jul 2016**  
 Counsel: Law Office of Parag L. Amin  
 Nature of Suit: Breach of Contract  
 Jurisdiction: State  
 Services Provided: Consulting
- **Alertus Technologies, LLC v Blake Robertson** **Jan 2016 – Oct 2016**  
 Counsel: Joseph, Greenwald & Laake, P.A.  
 Nature of Suit: Intellectual Property – Trade Secrets  
 Jurisdiction: State  
 Services Provided: Code Review & Consulting
- **Alertus Technologies, LLC v Callinize, Inc.** **Jan 2016 – Oct 2016**  
 Counsel: Bowie & Jensen, LLC  
 Nature of Suit: Intellectual Property – Trade Secrets  
 Jurisdiction: Federal  
 Services Provided: Code Review, Consulting & Expert Report
- **BeUbiq, Inc. v Curtis Consulting Group, Inc.** **Dec 2015 – May 2016**  
 Counsel: Farbstein & Blackman  
 Nature of Suit: Breach of Contract  
 Jurisdiction: State  
 Services Provided: Consulting & Testimony (two depositions & jury trial)
- **Vincent Wellrich v Dream Warrior Group, Inc.** **Dec 2015 – Feb 2016**  
 Counsel: Wolke & Levine LLP  
 Nature of Suit: Breach of Contract  
 Jurisdiction: State  
 Services Provided: Consulting
- **ABS, Inc. v FCI, Inc.** **Nov 2015 – Feb 2016**  
 Counsel: Law Office of David Richman  
 Nature of Suit: Intellectual Property – Trade Secrets  
 Jurisdiction: Federal  
 Services Provided: Consulting
- **Trichel v Union Pacific Railroad** **Nov 2015 – May 2016**  
 Counsel: VB Attorneys  
 Nature of Suit: Digital Forensic Investigation  
 Jurisdiction: State  
 Services Provided: Consulting
- **Nicole, Inc. v BLK International and Sanjay Khullar** **Sep 2015 – Mar 2016**  
 Counsel: Greenberg & Bass LLP  
 Nature of Suit: Intellectual Property – Copyright  
 Jurisdiction: Federal

Services Provided: Consulting & Declaration

- **Chipp'd Ltd. v Crush & Lovely LLC** **Jul 2015 – Sep 2015**  
 Counsel: White and Williams LLP  
 Nature of Suit: Breach of Contract  
 Jurisdiction: State  
 Services Provided: Consulting
- **Johnson v Storix, Inc.** **Jun 2015 – Jan 2016**  
 Counsel: Eastman & McCartney LLP  
 Nature of Suit: Intellectual Property – Copyright  
 Jurisdiction: Federal  
 Services Provided: Code Review & Consulting
- **Learning Technology Partners LLC v University of the Incarnate Word** **Apr 2015 – Mar 2016**  
 Counsel: Glynn & Finley, LLP  
 Nature of Suit: Breach of Contract  
 Jurisdiction: Federal  
 Services Provided: Consulting, Expert Report & Testimony (deposition & jury trial)
- **Nomadix, Inc. v Hospitality Core Services LLC** **Apr 2015 – Jul 2015**  
 Counsel: Mehrman Law Office, PC  
 Nature of Suit: *Inter Partes* Review - Patent  
 Jurisdiction: Federal  
 Services Provided: Consulting
- **Arrazate V H&B Group, INC., dba Nissan of Bakersfield** **Apr 2015 – Jun 2015**  
 Counsel: Rodriguez Law Firm  
 Nature of Suit: Social Media Investigation  
 Jurisdiction: State  
 Services Provided: Consulting & Declaration
- **SecureAuth Corporation v miniOrange Inc.** **Mar 2015 – Apr 2015**  
 Counsel: Abelman, Frayne & Schwab  
 Nature of Suit: Intellectual Property – Copyright  
 Jurisdiction: Federal  
 Services Provided: Code Review, Consulting & Declaration
- **Jonathan Demichael v Peak Franchising, Inc.** **Mar 2015 – Apr 2015**  
 Counsel: Lee, Hong, Degerman, Kang & Waimey  
 Nature of Suit: Product Liability Tort  
 Jurisdiction: State  
 Services Provided: Consulting & Declaration
- **Mad River Community Hospital v CPSI, Inc.** **Jan 2015 – Mar 2015**  
 Counsel: Janssen Malloy LLP  
 Nature of Suit: Breach of Contract

- Jurisdiction: State  
Services Provided: Consulting
- **Confidential v Vantage Point Technology, Inc.** **Jan 2015**  
 Counsel: Winston & Strawn LLP  
 Nature of Suit: *Inter Partes* Review - Patent  
 Jurisdiction: Federal  
 Services Provided: Consulting
  - **Tool Circle Inc. v Nulinx International, Inc.** **Dec 2014**  
 Counsel: Humphrey + Law  
 Nature of Suit: Breach of Fiduciary Duty  
 Jurisdiction: State  
 Services Provided: Consulting
  - **Verso Paper LLC v Go2Paper, Inc.** **Nov 2014**  
 Counsel: Bass Berry & Sims PLC  
 Nature of Suit: Intellectual Property - Patent  
 Jurisdiction: State  
 Services Provided: Consulting
  - **Next Gear IP LLC v Capstone BPO and Rajesh Wadhwa** **Sep 2014 – Sep 2015**  
 Counsel: Wayne Wisong, Esq.  
 Nature of Suit: Breach of Contract  
 Jurisdiction: State  
 Services Provided: Consulting
  - **Nutri-Vet, LLC v Dykas Shaver & Nipper, LLP** **Aug 2014 – Dec 2014**  
 Counsel: Hawley Troxell Ennis & Hawley, LLP  
 Nature of Suit: Malpractice  
 Jurisdiction: Federal  
 Services Provided: Consulting & Expert Report
  - **Breeze Ventures Management, LLC v The Evans School, Inc.** **Aug 2014 – Oct 2014**  
 Counsel: Peretz & Associates  
 Nature of Suit: Breach of Contract  
 Jurisdiction: State  
 Services Provided: Consulting & Testimony (deposition & jury trial)
  - **Golden Best Plumbing, Inc. v Baghdasarian** **Jul 2014 – Sep 2014**  
 Counsel: Dack Marasigan LLP  
 Nature of Suit: Trade Name Infringement  
 Jurisdiction: State  
 Services Provided: Code Review, Consulting, Declaration & Testimony (bench trial)
  - **Hill-Rom Company, Inc. v General Electric Company** **Jul 2014 – Aug 2014**  
 Counsel: Schiff Hardin LLP

- Nature of Suit: Intellectual Property - Patent  
 Jurisdiction: Federal  
 Services Provided: Code Review & Consulting
- **Dealercentric Solutions, Inc. v Market Scan Information Systems, Inc.** **Jun 2014 – Jul 2016**  
 Counsel: Burkhalter Kessler Clement & George LLP  
 Nature of Suit: Intellectual Property – Trade Secrets  
 Jurisdiction: State  
 Services Provided: Code Review, Consulting & Testimony (deposition)
  - **YPP, Inc. v Supermedia LLC** **Jun 2014**  
 Counsel: Kirkland & Ellis LLP  
 Nature of Suit: Intellectual Property – Copyright  
 Jurisdiction: Federal  
 Services Provided: Consulting & Expert Report
  - **AgJunction LLC v Agrian Inc., et al.** **May 2014 – Feb 2015**  
 Counsel: Husch Blackwell LLP  
 Nature of Suit: Intellectual Property – Trade Secrets  
 Jurisdiction: Federal  
 Services Provided: Code Review, Consulting & Expert Report
  - **Patent Infringement Action** **Mar 2005 – Apr 2005**  
 Counsel: Bingham McCutchen LLP  
 Nature of Suit: Intellectual Property – Patent  
 Jurisdiction: Federal  
 Services Provided: Consulting

#### PATENT LICENSE CONSULTING

- **U.S. Cl. 235 Patents**  
 Technology: Registers  
 No. of Patents: 4
- **U.S. Cl. 345 Patents**  
 Technology: Computer graphics processing and selective visual display systems  
 No. of Patents: 1
- **U.S. Cl. 370 Patents**  
 Technology: Multiplex communications  
 No. of Patents: 4
- **U.S. Cl. 273 & 463 Patents**  
 Technology: Amusement devices: games  
 No. of Patents: 2

- **U.S. Cl. 455 Patents**

Technology: Telecommunications

No. of Patents: 4

- **U.S. Cl. 705 Patents**

Technology: Data processing: financial, business practice, management, or cost/price determination

No. of Patents: 3

- **U.S. Cl. 706 Patents**

Technology: Data processing: artificial intelligence

No. of Patents: 1

- **U.S. Cl. 707 Patents**

Technology: Data processing: database and file management or data structures

No. of Patents: 12

- **U.S. Cl. 709 Patents**

Technology: Electrical computers and digital processing systems: multicomputer data transferring

No. of Patents: 5

#### PATENT BROKERAGE CONSULTING

- **Global Intellectual Strategies**

**Mar 2014**

Technology: Virtualized computing

No. of Patents: 1

- Created claim chart showing infringement by major virtualized computing platform.

- **Quinn Pacific**

**Oct 2013**

Technology: 2D/3D image processing

No. of Patents: 13

- Researched portfolio and documented potential infringement by a Fortune 1000 software company.

- **Red Chalk Group**

**May 2013**

Technology: Wireless data processing

No. of Patents: 85

- Evaluated patent portfolio for licensing opportunities.

- **Prodigy IP**

**May 2013**

Technology: Online video streaming

No. of Patents: 8

- Evaluated patent portfolio for licensing opportunities.

- **Prodigy IP**

**Feb 2013**

Technology: Digital video recording

No. of Patents: 2

- Prepared pre-sale research for small digital media portfolio.

- Conducted inventor interviews.
- Created materials explaining the invention and its potential value in the market.

- **Open Invention Network**

**May 2008**

Technology: Operating systems

No. of Patents: 1

- Researched a patent for similarity to my prior art from 1996.
- Advised on acquisition/licensing of patent.

## NON-IP CONSULTING

- **Software Development Manager**

**Jan 2007 – Apr 2007**

*RealTalk LA, Los Angeles, CA*

- Launched community-news website in Debian/Ubuntu environment.
- Audited Ruby on Rails environment and performed triage on broken development components.
- Integrated Trac defect tracking software with Subversion source code control.
- Installed Capistrano for automated application deployments.
- Wrote unit, functional and integration tests, and provided group instruction for test writing.

- **Software Integration Engineer**

**Sep 2006 – Dec 2006**

*Koders.com, Santa Monica, CA*

- Integrated Ruby on Rails web services on VMWare Linux into existing Windows/MSSQL architecture.
- Installed and customized Beast discussion forums and Radiant content-management system.
- Ran httpperf benchmarks and configured application servers using mongrel\_cluster load balancing
- Provided general Ruby on Rails expertise.

- **Software Developer**

**Mar 2006 – Sep 2006**

*YouMee.com, Los Angeles, CA*

- Ruby on Rails programming for social chat site YouMee.com
- Developed features from specs, performed unit tests, and promoted code into main development line.
- Fixed bugs and updated bug tickets.

- **Entrepreneur-in-Residence**

**Aug 1999 – May 2000**

*Main Street Partners, Cambridge, MA*

- Provided technology advising to investment and patent consulting firm on the MIT campus.
- Received entrepreneur pitches, developed business plans, and performed technology vetting.

- **Technical Advisor**

**Jun 2001**

*Hummer Winblad Venture Partners, San Francisco, CA*

- Provided technology advising to leading VC firm for potential investment in software testing startup.
- Delivered presentations to partners and associates.

- **Build Manager**

**Apr 2001 – May 2001**

*Informix, Oakland, CA*

- Implemented cross-platform build automation systems for C and Java codebases on Unix, NT, and Macintosh.

- Integrated CodeWarrior (Mac) and Microsoft Visual Studio (NT) compiles into Unix make.
- Wrote integration code using Applescript, shell, and perl.
- Reduced package construction from 8-plus hours to less than 1 hour.

- **Release Manager**

**Jan 2001 – Feb 2001**

*Vodafone, Walnut Creek, CA*

- Release manager for Vodafone Internet Platform (VIP) project, a web services portal.
- Coordinated development, outsourcers, operations, and QA to design flow of code through the release process.
- Established baselines for development efforts.
- Drove CM requirements, internal standards and conventions.
- Performed training for developers on system usage and architecture.

- **Software Configuration Manager/System Administrator**

**Apr 2000 – Dec 2000**

*Wind River Systems, Alameda, CA*

- Performed infrastructure planning, purchasing recommendations, and technical support for worldwide rollout of Clearcase/Multisite to 17 international locations.
- Wrote Web-based tools in perl for monitoring sync state of network.
- Performed on-site installation and configuration.
- Conducted staff training and Q&A follow-up.

- **Build Engineer**

**Sep 1999 – Oct 1999**

*CMGi, Andover, MA*

- Organized development tree using CVS for CMGI business unit.
- Provided technical assistance and mentoring about sound software configuration management practices.
- Initiated transition from legacy shell script-based build system to recursive make.
- Worked with QA to provide testable builds of daily development efforts.
- Documented new procedures for project managers.

- **Software Configuration Manager/System Administrator**

**May 1998 – Dec 1998**

*GTE Internetworking, Cambridge, MA*

- Administered Unix/NT ClearCase environment for Web-based perl development project.
- Installed ClearCase clients, recommended optimal system configurations, performed client upgrades, and coordinated with lead administrators to ensure a productive environment.
- Established automated build environment and build records archive.
- Performed technical support and training for developers in use of the system.

- **Systems Administrator**

**Jan 1998 – May 1998**

*Pencom Systems, Boston, MA*

- Provided Unix and Windows desktop support for technical recruitment firm.
- Diagnosed and repaired Solaris, SunOS, SCO printing/web/mail/file access problems.
- Designed and installed new server room layout, specified and purchased hardware and component storage.

- **Systems & Process Auditor**

**Nov 1997 – Dec 1997**

*Simon & Schuster Interactive, Boston, MA*

- Audited software development system and identified problems in Java development efforts.
- Interviewed staff and vendor technical support, and investigated system architecture.
- Gathered technical metrics on servers, client workstations, and network performance.
- Prepared a final report detailing problems, investigative methodologies, and improvements to staff and management.

• **Software Configuration Manager/System Administrator** **Aug 1997 – Nov 1997**

*Eaton Corporation, Cleveland, OH & Glasgow, United Kingdom*

- Implemented ClearCase and Attache rollout on HP-UX for Oracle developers at international diversified parts manufacturer.
- Studied site requirements, recommended ClearCase configuration and implementation.
- Coordinated with Unix staff to make needed changes to development, QA, and production systems.
- Designed and taught a class about the use of ClearCase and Attache for developers, and presented it in several day-long sessions in Cleveland and Glasgow.

• **Software Configuration Manager/System Administrator** **Apr 1997 – Aug 1997**

*Shiva Networking, Burlington, MA*

- Provided ClearCase and Unix support for embedded systems developers at network hardware company.
- Implemented perl scripts for system monitoring.
- Coordinated MultiSite rollout with Edinburgh, Scotland, and Cupertino, California.
- Migrated source code repositories from old hardware to new Ultra Enterprise servers.
- Provided training and mentoring for internal Shiva staff.

• **Software Configuration Manager** **Jan 1997 – Apr 1997**

*Ascom-Nexion, Acton, MA*

- Provided ClearCase and SunOS/Solaris support for large telecom hardware manufacturer.
- Wrote shell and perl scripts to monitor ClearCase and nightly backup system.
- Implemented NTP across 300 Unix nodes.
- Configured Web server logging software and analyzed traffic.
- Provided ClearCase mentoring and training for internal staff.

• **Support Engineer** **Sep 1996 – Dec 1996**

*Atria Software, Lexington, MA*

- Completed certification in ClearCase, a distributed software configuration management (SCM) and build system.
- Provided telephone and email support for ClearCase customers, often involving elaborate remote debugging.
- Participated in weekly "hot ticket" support sessions to solve difficult customer issues.

• **Network Administrator** **Aug 1996**

*Security Dynamics/RSA, Bedford, MA*

- Co-managed heterogeneous network for large engineering department.

TEACHING

• **Programming Instructor** **Mar 2003 – Apr 2003**



*Bay Area Video Coalition*, San Francisco, CA

- Designed and taught Applescript programming course for educational technology nonprofit.

• **Technology Instructor in Continuing Education**

**Aug 2000 – May 2003**

*San Francisco State University*, San Francisco, CA

- Designed and taught technology courses for Information Technology and Multimedia Studies certificate programs:

- Principles of Programming
- Mac OS X
- Programming in AppleScript
- PC Hardware
- Internet Architecture
- Database Design

- Received "Outstanding Instructor Award" for Fall 2001.

• **Technology Instructor**

**Aug 1997 – Nov 1997**

*Eaton Corporation*, Cleveland, OH & Glasgow, United Kingdom

- Designed and taught a class about the use of ClearCase and Attache for developers, presented in several day-long sessions.

PATENTS

• **Method and Apparatus for Remotely Monitoring a Social Website**, U.S. Patent 9,858,341

- The invention consists of a method for monitoring the creation of user-generated content on one website, and duplicating that content at a second, remote website. The duplicated content can be used for a variety of purposes such as trend analysis or individualized advertising.

• **Behaviorally-Targeted Ad Serving**, filed Aug 3, 2006

- Provisional filing for 11/833,018.

• **Bayesian-Guided Metadata Classification**, filed Jun 5, 2006

- The invention was a method for using metadata associated with curated content to classify new content. (abandoned provisional)

• **Bookmark Search Engine**, filed Mar 10, 2000

- The invention was an apparatus and method for compiling Web bookmarks across an audience of users and providing a means to search the bookmarks and their content. (abandoned provisional)

PROFESSIONAL ASSOCIATIONS

- Forensic Expert Witness Association
- IEEE Computer Society
- Application Developers Alliance

PRESS

- The Capital Forum (<https://thecapitolforum.com/>)

- Social Equity: Up in Smoke (Episode 2)
- This is LA (KCBS)
- Adult Ed with Jake and Amir
- Samsung Battery Recall (KABC)

## HONORS AND AWARDS

- **Outstanding Instructor Award**, Fall 2001  
Awarded each semester for exceptional teaching by a continuing education instructor at San Francisco State University.
- **Phi Eta Sigma National Honor Society**, Fall 1993  
National academic fraternity.
- **USC Dean's List**, Spring 1990  
Awarded for GPA of 3.8 or higher.
- **National Merit Scholarship Semifinalist**, Spring 1988  
Awarded for academic achievement to 16,000 high school students each year out of 1.5 million entrants.

## TECHNICAL EXPERTISE

- **Web Technologies**  
HTTP, AJAX, REST, SSL (secure sockets), proxies, Amazon Web Services, cloud computing, PaaS, SaaS, web forensics, content management, client/server computing
- **Programming Languages**  
Ruby, Rails, PHP, perl, python, Java, JavaScript, HTML, XML, Shell
- **Operating Systems**  
Linux, Unix, Mac OS X, iOS, Windows, file systems
- **Databases**  
MySQL, mSQL, Sqlite, Memcached, Cassandra, MongoDB
- **Development and Version Control**  
Git, Github, Bitbucket, JIRA, ClearCase, Subversion, CVS, RCS, make, gmake
- **Other**  
Agile development standards and practices, academic plagiarism analysis using MOSS (Measure of Software Similarity), natural language processing (NLP), machine learning, authentication/authorization, encryption, mobile development, performance tuning, scalability, network performance

#	Litigation	Side	Type of Consulting	Code Review	Report	Testimony
104	Stark v. Patreon	Plaintiff	Video viewing class action			
103	Svoboda v. Amazon.com Inc.	Plaintiff	Biometric class action			
102	Dual Diagnosis v Health Net	Plaintiff	Social media			evidentiary hearing
101	Confidential v Confidential					
100	Alexander, et al. v Hall, et al.	Plaintiff	Digital recordkeeping			
99	Hoffard v Cochise County	Plaintiff	Network analysis		X	
98	Kaiser v Gilliam	Plaintiff	Graphic design	X	X	
97	Sean Wilson v. PTT, LLC d/b/a High 5 Games, LLC	Defendant	Mobile gaming			
96	Confidential v Confidential		Network analysis			
95	D&D Greek Restaurant, Inc. v Great Greek Franchising	Plaintiff	IP trademark		X	deposition
94	Cleaver v. Cadillac Fairview Corp. (Canada)	Plaintiff	Regulatory Class Action		X	
<b>2022 ↑</b>						
93	Wave Plastic Surgery v. Venus Cosmetic Surgery	Plaintiff	Social media			
92	Confidential v Confidential (Australia)		Regulatory Class Action			
91	Wild Bill's Franchising v Wild Wild West Tobacco	Defendant	Social media		X	
90	Kemps v Stephenson	Defendant	Social media			
89	Confidential v Confidential (Australia)		Criminal fraud			
88	Muzeit Limited v Bytedance, Ltd	Defendant	IP trademark		X	deposition
87	Liquid Video Technologies v Dynamic KanBan	Defendant	Breach of contract	X		
<b>2021 ↑</b>						
86	Gonzalez and Megerdichian v 4Over, LLC	Plaintiff	Employment law	X		
85	AdQuadrant v Nangians	Defendant	Breach of contract			
84	Porchlight LLC v Ventive LLC	Plaintiff	Breach of contract		X	arbitration
83	FinApps v Yodlee	Plaintiff	IP trade secret	X	X	
82	ReactX LLC v. Google LLC	Plaintiff	IP trade secret	X	X	
81	Kilterly v. SolutionStream, LLC	Defendant	Breach of contract		X	
80	Express Lien, Inc. v. Handle, Inc	Defendant	IP trade secret		X	deposition
79	Oliver Bassil v. Jacques Webster	Defendant	Social media/IP copyright		X	
78	Robillard v Opal Labs	Plaintiff	IP trade secret	X	X	
77	Nokia v Motorola	Defendant	IP patent			
75	Los Angeles County Sherriff's Department v Orrego	Defendant	Internal affairs		X	
<b>2020 ↑</b>						
74	Impact Engine v Google	Plaintiff	IP patent			
73	Social Equity Owners and Workers Association, Inc v Los Angeles	Plaintiff	Regulatory failure		X	
72	Vargas et al. v Facebook, Inc.	Plaintiff	Social media class action			
71	Tenstreet, LLC v. Driverreach, LLC	Defendant	IP patent	X		
70	Confidential v Confidential					
69	Los Angeles County Sherriff's Department v Rodriguez	Defendant	Internal affairs			Skelly hearing
68	Shaghal, Ltd. v Children's Network LLC d/b/a Sprout	Defendant	Breach of contract		X	arbitration
67	Olin et al. v Facebook, Inc	Plaintiff	Social media class action	X	X	
66	OnSors LLC v Sabrina Schueppl dba NuMe, ABV Gro	Plaintiff	Breach of contract	X		depo & bench trial
65	BrandRep Holdings v Employer Advertising LLC	Plaintiff	IP trade secret	X		
64	Coulter Ventures, LLC, d/b/a Rogue Fitness v Titan	Plaintiff	IP trademark			
63	Cgraydesign v Eagles Nest Outfitters, Inc.	Defendant	IP trade secret			
62	Calendar Research LLC v Stubhub, Inc. and eBay Inc.	Defendant	IP copyright	X	X	
<b>2019 ↑</b>						
61	Really Big Coloring Books, Inc. v Delta Dental Insuran	Defendant	IP copyright		X	
60	M. A. Mobile Ltd. v Indian Institute of Technology	Plaintiff	IP trade secrets	X	X	deposition
59	irth Solutions LLC v Apex Data Solutions d/b/a DigTi	Defendant	IP trade secrets			
58	Cohen v Ramirez	Defendant	Personal injury			

57	Ensource Investments LLC v Tatham et al	Plaintiff	IP trade secrets	X	X	jury trial
56	O'Hara v Facebook, Inc, Cambridge Analytica	Plaintiff	Social media class action			
55	Sound View Innovations, LLC v Hulu, LLC	Plaintiff	IP patent	X		
54	Liberi v Taitz	Defendant	Defamation	X	X	
53	Aquilina v Wriggelsworth et al.	Plaintiff	Civil rights			
52	Cornerstone, Inc. v Modular Mining Systems, Inc.	Plaintiff	Breach of contract			
<b>2018 ↑</b>						
51	Liang v AWG Remarketing, Inc., Group 3 Auctions, LL	Plaintiff	IP copyright			
50	Peri Domante v Dish Network, L.L.C.	Plaintiff	Breach of contract			
49	Applied Business Software Inc. v Citadel Servicing Co	Plaintiff	IP copyright			
48	Expo Ed Inc. v Anaca Technologies Ltd.	Defendant	IP copyright		X	bench trial (Canada)
47	Integrated Dynamic Solutions, Inc. N. Gashtili v VitaV Inc.	Plaintiff	Standards & practices			depo & arbitration
46	Lexxiom Inc. v Converze/Lido Labs Llc	Plaintiff	IP copyright	X		
45	Turkey v Ali Çihan	Defendant	Criminal	X	X	
44	Beard v Gerdau S.A.	Plaintiff	Breach of contract		X	
43	Softech USA d/b/a/ Gemfind v Chasin	Plaintiff	IP trade secrets	X		
42	Krubim 26 Intl Inc v Golden Communications, Inc. & Inc.	Plaintiff	Standards & practices	X		depo & jury trial
<b>2017 ↑</b>						
41	Rogue Wave Software Inc v BTI Systems Inc	Plaintiff	IP copyright	X	X	deposition
40	Confidential v Confidential	Plaintiff	IP copyright	X		deposition
39	Patel v Facebook, Inc.	Plaintiff	Social media class action	X		
38	Fox Television Stations, Inc. v FilmOn X, LLC	Defendant	IP copyright			
37	Securus Technologies, Inc. v Public Communication S Inc.	Plaintiff	Breach of contract			
36	Zaghi dba Angel Dental Care v Salama	Defendant	Social media			deposition
35	Level One Technologies, Inc. v Penske Truck Leasing	Plaintiff	IP trade secrets	X		
34	Chrome Systems, Inc. v Autodata Solutions, Inc.	Plaintiff	IP copyright	X		
33	Deal Segments, Inc. v Dream Warrior Group, Inc.	Plaintiff	Standards & practices			
32	Alertus Technologies, LLC v Blake Robertson	Defendant	IP trade secrets	X	X	
31	Alertus Technologies, LLC v Callinize, Inc.	Defendant	IP trade secrets	X	X	
<b>2016 ↑</b>						
30	ABS, Inc. v FCI, Inc.	Plaintiff	IP trade secrets			
29	Trichel v Union Pacific Railroad	Plaintiff	Digital forensics		X	
28	BeUbiq, Inc. v Curtis Consulting Group, Inc.	Defendant	Standards & practices	X	X	2 depos & jury trial
27	Vincent Wellrich v Dream Warrior Group, Inc.	Plaintiff	Standards & practices			
26	Nicole, Inc. v BLK International	Plaintiff	IP copyright			
25	Chipp'd Ltd. v Crush & Lovely LLC	Plaintiff	Breach of contract	X		
24	Johnson v Storix, Inc.	Plaintiff	IP copyright	X	X	
23	Learning Technology Partners LLC v U. of the Incarna	Plaintiff	Breach of contract	X	X	depo & jury trial
22	Nomadix, Inc. v Hospitality Core Services LLC	Plaintiff	IP Inter partes review			
21	Hull et al v Marriott International, Inc.	Defendant	ADA accomodation	X		
20	Copart, Inc. v Lightmaker USA, Inc.	Plaintiff	Breach of contract			
19	Arrazate V H&B Group, INC., dba Nissan of Bakersfie	Defendant	Social media		X	
18	SecureAuth Corporation v miniOrange Inc.	Neutral	IP copyright	X	X	
17	Jonathan Demichael v Peak Franchising, Inc.	Defendant	Product liability tort		X	
16	Mad River Community Hospital v CPSI, Inc.	Plaintiff	Breach of contract			
15	Smarty Had a Party LLC v Barrett Brothers, Inc.	Plaintiff	IP trademark	X		
14	Core Wireless Licensing S.A.R.L. v LG Electronics, Inc.	Plaintiff	IP patent	X	X	
13	Hablian, et al. v Zurich U.S., et al.	Plaintiff	Source code verification	X	X	deposition
<b>2015 ↑</b>						
12	Confidential v Vantage Point Technology, Inc.	Plaintiff	IP Inter partes review			
11	Tool Circle Inc. v Nulinx International, Inc.	Plaintiff	Breach of fiduciary duty			
10	Verso Paper LLC v Go2Paper, Inc.	Plaintiff	IP patent			
9	Next Gear IP LLC v Capstone BPO and Rajesh Wadhw	Defendant	Breach of contract			

8	Nutri-Vet, LLC v Dykas Shaver & Nipper, LLP	Defendant	IP copyright	X	X	
7	Breeze Ventures Management, LLC v The Evans Scho	Defendant	Standards & practices		X	jury trial
6	Golden Best Plumbing, Inc. v Baghdasarian	Plaintiff	IP copyright	X		bench trial
5	Hill-Rom Company, Inc. v General Electric Company	Plaintiff	IP patent	X		
4	Dealercentric Solutions, Inc. v Market Scan, Inc.	Plaintiff	IP trade secrets			deposition
3	YPP, Inc. v Supermedia LLC	Defendant	IP copyright		X	
2	AgJunction LLC v Agrian Inc., et al.	Defendant	IP trade secrets	X	X	
<b>2014 ↑</b>						
1	(Patent Infringement Action)	Plaintiff	IP patent			