DAVE HOWELL

Expert Software Analysis and Testimony

Expert Witness specializing in software patent litigation, providing code analysis, expert reports, and testimony. Digital inventor, designer, engineer. Successfully monetizing emerging technologies for 30+ years.

Infringement and Invalidity Patent Litigation ▪ Expert Testimony
Expert Reports and Rebuttals ▪ Source Code Analysis
C/C++/C# ▪ Android (Java, Kotlin) ▪ iOS (Objective-C, Swift)
SDKs and APIs ▪ Engineering Strategy ▪ App Design

CREDENTIALS

Cornell University, The Johnson School
MBA

Case Western Reserve University
MS, Computer Engineering (coursework, no thesis)
BS, Computer Science and Engineering with High Honors
BA, Music with High Honors

National Merit Scholarship, Tau Beta Pi, Phi Beta Kappa, Mortar Board, Phi Mu Alpha Sinfonia.

Patents

U.S. pending: *Accelerated secondary display system*
U.S. #10,163,422: *Accelerated secondary display system*
U.S. #9,058,759: *Virtual display device drivers compatible with Windows display driver model*
U.S. #7,643,037: *Method and apparatus for titling by applying effects to computer-generated characters*
U.S. #7,594,180: *Method and apparatus for titling by presenting computer-generated characters*
U.S. #7,199,805: *Method and apparatus for titling*
U.S. #8,694,888: *Method and apparatus for titling*
U.S. #7,483,041: *Method and apparatus for titling*

Speaker

Apple WWDC, National Association of Broadcasters, *One More Thing* Melbourne, CocoaHeads, *Voices that Matter* Philadelphia, OEN Pub Talks, OEN CEO Panel, Mosaic Vail Summit, Data Management Association, Innovations Mobile, REAP, Portland Mac Users Group, Clark County PubTalks, Mobile Portland, AltWWDC

Guest Lecturer

Portland State University Graduate School of Engineering Management, University of Phoenix

Amazon AWS Certification

Cloud Practitioner

EXPERT WITNESS

Assisting legal teams with software patent infringement and invalidity litigation (since 2017)

- Source code inspection and infringement reports
- Claim constructions and expert opinions on infringement and invalidity
- Research into prosecution history and prior art
- Expert testimony in depositions and federal court

CASES

- Perfect Company v. Adaptics Limited: Non-invalidity, Infringement
- Tyler Miller *et al*. v. Oklahoma City City of *et al*: Non-invalidity, Infringement

Avatron (2008–present)   *Founder & CEO*

Bootstrapped startup, funded entirely by app sales, developing innovative hardware and apps for iOS, Android, macOS, and Windows. Led a world-class team of 18 engineers and designers to support and sell $14M of apps to 2.5M customers, fueled by a culture of solving the harder problems, love of design elegance, geeky camaraderie, and a fierce respect for customers' time and productivity. Growing via traditional and guerrilla channel strategies.

PRODUCTS

- *Air Sharing:* document management and remote file access app. Apple's first App of the Week and #1 top-downloaded iOS app, was installed on 20% of all iPhones after a million downloads in its first 2 weeks. $4M+ sales over 5 years.
- *Air Display:* patented app that turns an iPad, Android tablet, Mac, or PC into an extra display for a host computer. #2 top-grossing iOS Utility app. $9M+ sales over 7 years.
- *True Display*: hardware adapter that turns a tablet into a Mac/PC monitor. Patent issued. Coming soon.
- *Air Connect:* tunnels to remote Mac for screen sharing or file sharing. Launched on Kickstarter.
- *Air Dictate*: enabled voice dictation on a Mac via an iPhone mic, before Apple launched Siri for Mac.
- *Print Sharing:* prints documents to shared printers, using an embedded CUPS client.
- *Avatron Publishing:* 50+ apps built with licensed media.

Negotiated and performed engineering contracts. Clients included Samsung and Intel.

Perfect Company (since 2019)   *Vice President of Engineering*

Startup dedicated to reimagining kitchen workflows

- Perfect Bake, Perfect Drink: Patented consumer apps that control a connected digital scale, for precise baking and cocktail mixing
- NutriBullet: App that controls a patented connected blender, available from Costco
- AIM: Advanced ingredient management system to forecast ingredient preparation requirements and guide kitchen staff through recipe completion, including control of connected appliances, with a focus on data reporting and analytics
- PUC: App, web API for point-of-sale integration, and connected cabinets of lockers for secure food delivery

Apple (6 years)   *Senior Engineering Manager, Applications*

Tech giant focused on transforming the mundane into something delightful

Managed the *FxPlug* plug-in architecture for visual effects in professional film & video production apps.
- Developed and documented the FxPlug framework and SDK.
- Supported third-party and internal FxPlug developers. Hosted developer kitchens.
- Guided internal Apple teams to integrate FxPlug, Core Image, and After Effects plug-in support into Pro Apps suite, including Final Cut Pro and Motion.

Managed and led the *LiveType* engineering team.
- Led engineering team to turn my India Pro animated-fonts technology into an Apple app.
- Coordinated the human and visual interface teams with engineering to refine user experience.
- Invented and implemented support for animated vector-based LiveFonts.
- Worked with Apple Legal to patent LiveFonts, LiveType, and LiveType Effects titling technology.

Contributed to engineering on *Final Cut Pro, Motion*, *LiveType*, *Keynote*, *Pages*, *iWeb*, *Numbers*, and *Aperture*.

Pablo Media (8 years)   *Founder & Principal Engineer*

Boutique software engineering firm with 20+ clients, specializing in making games and tools for creative users

Negotiated 30+ software development contracts. Led a network of engineers to fulfill the contracts, while building a platform for media-creation and image-processing apps. IP acquired by Apple in 2002.

SELECTED CLIENTS

Prismo Graphics: Co-designed and wrote *India Pro Special Effects Titler* (predecessor of Apple's LiveType), an animated titling app for film and video, with animated fonts, scripted special effects, live video preview, and movie compositing. Helped prepare for Apple acquisition. Wrote all code for macOS and Windows.

Sarnoff Corporation: Developed *VideoBrush Panorama*, a macOS app that seamlessly tiled panoramic images from live video capture, using advanced pixel-flow algorithms.

Lucasfilm, *Iomega*, *Videonics*, *Xaos Tools, DigiEffects, Burnett Group, Stomper, AVerMedia, PicoStar:* Developed serial and USB drivers, image-processing plug-ins and components for QuickTime, Director, Photoshop, and After Effects. Designed and developed video capture, playback, and editing tools.

Hasbro, Zombie, Westwood Studios, Realtime Associates: Ported games to macOS and Sony Playstation. Titles: *Candy Land Adventure*, *Tonka Construction Site*, *Locus*, *Young Blood*, and *Legends of Kyrandia.*

New Video, MetaCreations, Passport Designs, Digitalk   *Lead Software Engineer*
Developed tools for composers, video producers, and developers, on the bleeding edge of digital technology.
- Led a software engineering team at the first joint venture funded by Apple and Intel, to create the *EyeQ* hardware and software for full-screen 30-fps video playback, before Apple launched QuickTime.
- Ported Intel's *Indeo* video codec to macOS, under contract to Intel.
- Wrote music composition apps for macOS and Apple *II*gs when MIDI was exciting and new, and received *Electronic Musician*'s Most Innovative Software Product award for *Master Tracks Pro 4*.
- Led macOS engineering for the *Smalltalk/V Mac* development environment.

A V O C A T I O N S

Mentor, *Basalt Fiber*

Advisory Board Member, *Swag'r Digital Media*

Advisory Board Member, *Bizmati*

Board Member, Chair of Entrepreneur Services committee, *Oregon Entrepreneurs Network*

Licensed Real Estate Broker, *Oregon First, Realtors®*

Board Secretary and Co-founder, *Jazz Society of Santa Cruz County*
Helped achieve non-profit 501(c)(3) status, performed as house pianist for a weekly jam session.

Jazz Pianist, *quartets, trios, big bands*