

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

SUPERCELL OY,  
Petitioner

v.

GREE, INC.,  
Patent Owner

---

Case: PGR2018-00036  
U.S. Patent No. 9,662,580

---

**DECLARATION OF DAVID CRANE**

## **I. Introduction**

1. I, David Crane, state that I am over the age of eighteen (18) and am otherwise competent to make this declaration.

2. I have been retained as an expert witness on behalf of GREE, Inc. (“Patent Owner”) in connection with the above-identified proceeding. I submit this declaration at the request of Patent Owner for consideration by the Patent Trial and Appeal Board in the post-grant review (“PGR”) of U.S. Patent Number 9,662,580 (“the ‘580 Patent”). I have been retained to provide my independent, technical opinion regarding the ‘580 Patent with respect to the challenges set forth in the accompanying Petition for Post-Grant Review of the ‘580 Patent.

3. I am being compensated for my time in connection with this matter at my standard consulting rate of \$450/hour. I have no personal stake nor interest in the outcome of the present proceeding.

4. In formulating my opinions, I rely on my personal knowledge and experience in the field and on documents and information referenced in this declaration. No part of my compensation in this matter is dependent upon the outcome of this proceeding or any issue in this proceeding. If called to testify about this declaration, I could and would do so competently and truthfully.

## II. My Background and Qualifications

5. I am a known video game designer, video game industry pioneer, and expert with close to four decades of experience at the forefront of video game design and development. Of particular relevance, I have co-founded several game companies, valued today in the billions of dollars. I have also designed and programmed over 80 commercial game products generating over \$400 million in revenues. I have developed games on a large percentage of video game systems invented, from the early days of Atari and Magnavox through to present-day systems.

6. I built my first computer – an unbeatable Tic-Tac-Toe computer – at the age of 14, and graduated high school with the ability to program IBM mainframe computers in 3 languages.

7. I earned a Bachelor of Science in Electronic Engineering Technology from DeVry Institute of Technology in Phoenix, Arizona (“DeVry”) in 1975. While in college, I was the lead hardware designer and project leader on a fully digital Tic-Tac-Toe playing custom hardware project. This design featured 72 discrete integrated circuits and an innovative display using polarized light to separate light output into Xs and Os. In the same timeframe, I designed the first programmable electronic drum machine, and a digital clock that never needed setting, designed to receive a time standard over the AC power line.

8. I began my professional engineering career at National Semiconductor in 1975 developing integrated circuits and working with early analog-to-digital and digital-to-analog converters.

9. In 1977, I began my career in the video game industry when I joined Nolan Bushnell's Atari Inc., ("Atari"), where I designed and developed games that generated approximately \$15 million in sales revenues for the company. In 1979, I co-founded Activision, Inc. ("Activision"), the first third-party developer and publisher of video game cartridges.

10. Activision grew to over \$300 million in value in three years, and is now one of the largest, if not the largest, third party video game publisher in the world, with a market capitalization of over \$15 billion. During my tenure at Activision, I designed and programmed many hit games with unit sales over 500,000. One such example is the game Pitfall!™ which sold over 3,500,000 copies, and held the #1 spot on the Billboard Charts for 64 consecutive weeks. Pitfall!™ generated over \$50 million in wholesale revenues and spawned numerous other products including many sequels, toys, and a Saturday morning cartoon.

11. After leaving Activision in 1987, I founded a series of small game publishing companies, performing the same two main functions: First become the company's hardware expert on a particular game console, then design and program award-winning games. Throughout this process I have developed expertise in over

20 video game consoles or systems, including the Atari 2600, Atari 5200, Atari 7800, Atari 400, Atari 800, Magnavox Odyssey II, Mattel Intellivision, Colecovision, Apple II, MS-DOS, Commodore C64, Commodore C128, Nintendo NES, Nintendo SNES, Nintendo Game Boy, Nintendo DS, Sega Master System, Sega Genesis, Sega CD, Sony Playstation, Microsoft Xbox, Microsoft Xbox 360, Nokia Series 60 feature phones, LG VX4400, LG VX6000, Apple iPhone, Apple iPod touch, and Apple iPad.

12. As game consoles evolved, so did computer programming languages. My expertise includes work in over 20 computer languages: FORTRAN, RPG, COBOL, BASIC; Microprocessor Assembly Languages: 6502, Intel 8080, National Semiconductor PACE 16 bit, National Semiconductor SC/MP 8 bit, GI-1610, Zilog Z80, 65816, Intel 8048, 8086, 80286; Microprocessor Programming Languages: C, C++, Objective C, J2ME, Brew; NEC microcontroller assembly language; Scripting Languages: Lingo, Actionscript, Lua, Javascript, HTML-5; Engineering Languages: SPICE, and VHDL.

13. A partial list of the published game titles for which I am responsible for the game design and/or programming includes: Canyon Bomber, Outlaw, Slot Machine, Pitfall!, Pitfall II, Lost Caverns, Freeway, Laser Blast, Fishing Derby, Dragster, Grand Prix, A Boy and His Blob, The Rescue of Princess Blobette, Ghostbusters, Skateboardin', Super Skateboardin', The Activision Decathlon,

# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.