

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SUPERCELL OY,  
Petitioner

v.

GREE, INC.,  
Patent Owner

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Case: PGR2018-00047  
U.S. Patent No. 9,770,659

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**DECLARATION OF DAVID CRANE**

**I. Qualifications & Background.**

1. My name is David Crane, and I reside in California. I am an independent consultant. I am over eighteen years of age, and I would otherwise be competent to testify as to the matters set forth herein if I am called upon to do so.

2. I submit this Declaration at the request of GREE, Inc., for consideration by the Patent Trial and Appeal Board in the post-grant review of U.S. Patent No. 9,770,659 (“the ’659 patent”). I have previously submitted a Declaration at the request of GREE, Inc. in the post-grant review of U.S. Patent No. 9,636,583, of which the ’659 patent is a continuation.

3. In forming my opinions, I rely on my 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.

4. 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.

5. 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.

6. 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.

7. 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.

8. 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 publishers 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.

9. 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.

10. 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.

11. 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, T\*O\*Y\*S, Transformers, the computer game, David Crane's Amazing Tennis, Bart Simpson's Escape from Camp Deadly, CHOMP, Arcade Bowling, Ten Pin Championship Bowling, Stellar Blast, Arcade Hoops, 3 Point Hoops, QB Pass Attack, Field Goal Frenzy, Lotto Letters, Super Swish, Stellar Blast, Mariner Hybrid Infomercial, Lacrosse, Beach Volleyball, Spiderman Climbing game, Miller Seat Salsa, Super Cocoa Man, Break the Rules Hoops, Downfield Strike, Mini Motocross, Robopup Run, Toyota 4runner Challenge, Tyco RC Speed Wrench, Vertical Jam, E.T.'s Adventure, Bubble Yum Home Run Derby, Bubble Yum Bullpen Blast, Gummi Savers Egg Hunt, Foul Shot Shootout, Life Savers Water Park Pinball, Field Goal Challenge, Crème Savers Bowling, Golf Solitaire, Skyworks Lanes Bowling, Carefree on Ice, Gummi Savers Rock-N-Skate, YIPES! Photo Safari, Ice Breakers Slap Shot Shootout, Southpark Pinball, Breath Savers Road Rally, Ford NASCAR racing challenge, MTv Cranks Dirt Bike Game, Ice Breakers Ultimate Bobsled, Breath Savers Billiards, Snackwells Chocolate Factory Pinball, Snowboard Big Air, Skate Rage Inline Skating, Candystand Miniature

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