

**Jerry (Gerald) Isdale**  
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**GitHub: <https://github.com/MauiJerry>**  
**Hackaday: <https://hackaday.io/MauiJerry>**

**Summary:** Decades experience in leading edge software development emphasizing Tools for Artists, Human Factors in entertainment and military applications (DARPA), Graphical and 3D UI/UX, Software Engineering, and Technical/Proposal/Grant Writing.

**Education:** M.S. Computer Science, 1991, University of Southern California  
B.S. Computer Engineering, 1980, University of Bridgeport (CT)  
IEEE Certified Software Development Professional (CSDP), 2010

**Software:** Unity3d, Python, C, C++, C#, JavaScript, Node.JS/Electron, Obj-C, Wiring (Arduino), Java, PERL, HTML, XML, Smalltalk, Fortran, Lisp, OPS-5, NewtonScript, Pascal, Forth...

**Operating Systems:** Apple OS X, MS Windows, Unix/Linux, Android etc.

### **Summary Employment History:**

Sept '15- Present Chief Technologist, Maui Institute of Art and Technology, Haiku HI  
Feb '17 - May '17 Contract Software, Metamason Inc, Los Angeles CA  
Sept '12- Sept '14 USA Director SpaceGAMBIT grant program, Haiku, HI  
Sept '10- Aug '15 Founder, Maui Makers LLC (makerspace)  
Sept '10- Present Owner, Id Est LLC, Haiku HI (independent developer)  
May '07-Aug '09 Principle Software Engineer, Aerovironment Inc, Simi Valley CA  
Dec '99-May '07 Research Staff Scientist, HRL Laboratories, Malibu CA  
Apr '99-Dec '99 Contract Developer, HRL Laboratories, Malibu CA  
Jun '98-Nov '00 Technology Review Editor, VR News Magazine., London UK  
Feb '98-Apr '99 Sr. Systems Architect, ISX., Westlake Village, CA.  
Feb '94-Jan '98 Systems Engineer, Illusion Inc., Thousand Oaks, CA.  
Sep '93-Feb '94 Programmer, Dreamers Guild, Chatsworth, CA  
Feb '87-Sep '93 Owner, Isdale Engineering, Los Angeles, CA.  
Jan '85-Feb '87 R&D Programmer, Omnibus Computer Graphics, Hollywood CA  
Mar '84-Jan '85 Member Engineering Staff, Xerox Corp. El Segundo CA  
Jun '82-Feb '84 Member Technical Staff, Digital Productions, Los Angeles CA  
Feb '81-Jun '82 Technical Sales Support, Interactive Systems Corp, Santa Monica CA  
1979-1980 Co-op Software Engineer, Advanced Software Engineering Laboratory, General Electric, Bridgeport, CT

### **Patents:**

Patent # 6126548: Multi-Player Entertainment System  
Patent # 7120875: Method and Apparatus for Augmented Reality Hybrid Tracking System with Fiducial-Based Heading Correction  
Patent # 7557736 Handheld Virtual Overlay System  
Patent # 7796155 B1 Method and Apparatus for Real Time Group Interactive Augmented Reality Area Monitoring

## **Publications:**

IBM Watson-Unity ScriptableObjects <https://hackaday.io/project/91321-watson-speech-ai-meets-unity-3d-scriptableobject>

“Performance Analysis of a Cognitive Analogical Reasoner”, IEEE Aerospace Conference 2009, co authors: H. Neely, M. Daily

“Collaborative Development of large Bayesian Networks”, IEEE Autotestcon 2006, co authors: W. Przytula & T. Lu

“Introduction to Virtual Environment Technology” IEEE VR 2003, Tutorial

“Retrofitting Clusters for VE: The JCube Experience” IEEE VR 2002 Workshop

“Content Design for Virtual Environments”, Handbook of Virtual Environments, Chapter 25, 2002, co-Authors: C. Fencott, M. Heim, L. Daly

“Virtual Environment Technology Review” ACM MultiMedia 2000 Tutorial

“Technology Review” Column in VRNews Magazine June 1998-Nov 2000

“Asymetrix Multimedia Toolkit”, Aug '93, Software Development Magazine"

“Autodesk Cyberspace Toolkit”, Software Development Magazine"

## **Professional Activities:**

Co-Founder MauiVR group, Co-organizer Maui Techies meetup

Founder Maui Makers, makerspace 2010-Present

Founding Member Crashspace, Los Angeles makerspace 2009

IEEE Computer Society Buenaventura Chapter, Officer 2009-2010

IEEE VR Conference Publicity Co-Chair 2003, 2004

Paper Reviewer: Young Investigator’s Forum in Virtual Reality 2001, 2003, ACM Advances in Computer Entertainment (ACE) 2006

Mentor, King Kekaulike High School Robotics Club 2010-2013

## **Professional Development:**

IEEE Certified Software Development Professional (2010)

IEEE Professional Development Seminars: Java for the Enterprise, Java Programming Introduction (1997), Introduction to C++ for C Programmers (1989), Object Oriented Software Design (1989)

Rational Rose for C++, Rational Corp. 1998

Dale Carnegie Course, 1995

## **Detailed Job Experience and Responsibilities:**

Sept '15-Present, Chief Technologist, Maui Institute of Art and Technology

Technology lead (owner) for organization providing community development, project development and cross cultural connection making across the spectrum of arts and technologies.

- Grant and Proposal writing (under contract)
- VR Hackathons (VR Wellness, Br41n.IO, Create Reality LA, NASA App Challenge)
  - IBM Watson-Unity <https://hackaday.io/project/91321-watson-speech-ai-meets-unity-3d-scriptableobject>
  - Immersive Exoplanet Telescope <https://www.facebook.com/ImmersiveExoplanetTelescope/> (Education and Community Outreach Award )

- AW Wings: Raspberry Pi Zero with private wifi network, video image recognition, servos, LED and buttons for Anouk Wipprech project in process.
- LED Pole Packs for Burning Man. ESP run wifi mesh of 20 backpacks with LED+ audio
- Arduino Game Show System: Two player game show button with LEDs and sound
- Raspberry Pi kiln controller for precision glass slumping
- Mentoring electronics and programmers at Maui Makers.
- Teaching Arduino and Soft Circuit classes

Feb '17 – May '17, Contract Software Development, Metamason Inc  
Interfacing Intel Realsense 3D Scanner to JavaScript/Node.js applications

Sept '12 – Sept '14, Director, SpaceGAMBIT Program

Directed \$500,000 program funding international makerspace projects that promote humanity's long term survivability and expansion into space. Funded by USDoD (DARPA) and operated with no-cost NASA Space Act Agreement.

Sept '10-Sept'15 Founder, Maui Makers LLC, Haiku HI (part time)

Created Hawaii's first makerspace Maui Makers is a Maker Space or community workshop on Maui, providing training and access to electronics and 21<sup>st</sup> century manufacturing such as 3d printing, CNC work, etc. to members and public. Company became 501(c3) non-profit MauiMakers Inc in 2015. Jerry remains an active member of the board of directors. <http://MauiMakers.com>

Sept '10-Present Owner, Id Est LLC, Haiku HI, Haiku HI

Independent Developer, prototype microcontroller applications, contract laser etching, grant writing.

May '07-Aug '09 Principle Software Engineer, Aerovironment Inc, Simi Valley CA

Systems and Software Engineering for Apple OS X based ground control system and UDP communications protocol for Global Observer UAV.

Dec'99-May '07 Research Staff Scientist, HRL Laboratories, Malibu CA

Proposals, software development and integration for advanced government and industrial research projects. Sample topics include:

- PyroDelta: UAV simulator combining Open Source Simulator Delta3d and Pyro – Python based robotics/ AI tool. Provided basis for multi-agent collaborative testbed.
- Geo-spatial: map based GUIs for path planning, sensor fusion, threat monitoring, battlespace planning and terrain visualization systems in Python, Java and C++.
- Distributed Sensor Fusion: Integrated several different sensor fusion, communication modeling and visualization techniques into a common 3d simulation environment.
- Gnosis: Developed Java GUI and XML data storage for Bayesian diagnosis/prognosis model editor. Wrote user and programmer documentation, including tutorial videos highly praised by clients.
- SAGE: an analogical reasoning system – refined system for Cognitive Computing, identifying critical aspects, extending integration capabilities for parallel implementation. (DARPA ACIP)
- Augmented Reality: developed virtual polygon occlusion, integration with USGS terrain data for occlusions and targeting. (DARPA GRIDS)

- JCube: Retrofitted cluster of commodity PCs to a reconfigurable projection VR system
- Collaborative web surfing: tracking and matching users by sites visited
- Systems Technical Focus Group: led group developing shared software, project repositories, and discussing systems integration topics.

April '99-Dec-99 Contract Developer, HRL Laboratories, Malibu CA

Full time contract development of advanced technology applications including virtual reality systems, spatialized audio, military C4I, proposal preparation.

June '98- Dec '00 Technology Review Editor, VR News Magazine., London UK

Part time position as author of Technology Review section in leading Virtual Reality industry magazine. Responsible for 10 columns per year that survey commercially available technology related to Virtual Reality.

Feb '98-April '99 Sr. Systems Architect, ISX., Westlake Village, CA.

Visualization Tools: System Architect and technology consultant on variety of visualization tools, DoD proposal writing

ACME/WIP Projects: Developed 'Package Editor', a Java based application/applet for creation, editing and review of specialized information data structures utilizing RMI, CORBA, and OEM.

Feb '94-Jan '98 Systems Engineer, Illusion Inc., Thousand Oaks, CA.

Provided technical direction for all software design and implementation efforts in the Company. Technical expert and writer on numerous Government (DARPA) proposals. Provided technical recommendation and/or specification of computer equipment and software purchases for proposals, projects and in-house use.

- E-Team Project: Developed initial systems architecture and internet component framework for Emergency Management applications. Assisted in requirements gathering with City of LA.
- Speed Sports Virtual Race Car: Software Lead providing technical recommendation and/or specification for selection of computer equipment and software purchases, day-to-day technical direction to team of in-house and subcontract developers. Project was \$10+Mil network of 24 Indy Car simulators for the Sahara Hotel in Las Vegas using PC hardware and DIS networking.
- Pencil Project: Project Engineer providing technical direction for this \$3Mil DARPA project to field a C4I training device based on COTS software and a pen-notebook computer to the US Army National Guard. Specified hardware, software, developed architecture & worked with contract developers.

Sept '93-Feb 94 Programmer, Dreamers Guild, Chatsworth, CA

Designed and implemented "Classic Cards" for Apple Newton: set of four card games (Klondike, Blackjack, Poker, Baccarat). A Roulette game was also implemented but not released.

Feb '87-Sept '93 Principle, Isdale Engineering, Los Angeles, CA.

- Consumer Hypermedia CD-ROM applications: Software architect for development of CD-ROM hypermedia titles for Apple MacIntosh, MS-DOS, Commodore CDTV and Tandy VIS

systems. Designed and implemented a GUI application framework and hypermedia database engine to support rapid development of titles.

- Kinematics Motion Demonstration Program: Developed demonstration program for Sun 4 workstation with the GP-2 graphic processor that included 3D motion simulation.
- Developed Object Modeling Tools for use with 3D Animation systems. The "iegeom" package was later placed in the public domain and distributed via CompuServe and on CD-ROM collections.
- Designed and Developed Graphical User Interface for Electronic Yellow Pages system utilizing a Personal Computer and Remote Host Mainframe.
- Treatment Planning System for MaxioFacial (Oral) Surgeons and Orthodontists using a PC, graphics tablet, plotter, and high resolution color display.
- Technical Editor: "Adventures in Virtual Reality" (Que Corp.), "Virtual Reality Creations"(The Waite Group), "Virtual Reality and The Exploration of Cyberspace" (Sams).
- Author "Software Development Magazine" product reviews of Asymetrix Multimedia Toolbook, (Aug '93), and Autodesk Cyberspace

Jan '85-Feb '87 R&D Programmer, Omnibus Computer Graphics, Hollywood CA

PRISMS 3D Graphics System: Designed and implemented system of reusable modeling tools and function library based on a modeling pipeline. Supported animation staff with custom programming, technical assistance and system administration.

Mar '84-Jan '85 Member Engineering Staff, Electronics Division, Xerox Corp. El Segundo CA

Supported ECAD development and user community on Star/XDE and Alto/Smalltalk systems.

Jun '82-Feb '84 Member Technical Operations Staff, Digital Productions, Los Angeles CA

Systems Operations and programming for 3D animation systems on VAX/VMS, CRAY XMP, IMI 500/UNIX and E&S PS300 systems.

Feb '81-Jun '82 Technical Sales Support, Interactive Systems Corp, Santa Monica CA

Created Technical Sales Support position for the original commercial UNIX vendor.

1979-1980 Co-op Software Engineer, Advanced Software Engineering Laboratory, General Electric, Bridgeport, CT

UNIX/C programming, 3D graphics projects. Audited GE's Software Engineering training for new hires.