Mark Mangieri

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35-year aerospace/software engineer (NASA & Ford Aerospace) with deep experience in flight software verification & validation, embedded systems, and engineering team leadership at NASA/Johnson Space Center. Since retirement, independently designing, building, and publishing iOS apps as founder of MarkWare LLC — full-cycle ownership from software architecture through App Store operations and marketing.

MARKWARE LLC — INDEPENDENT IOS DEVELOPER / FOUNDER

Founder & Sole Developer **2018 – Present**

- Independently design, develop, and publish native iOS applications end-to-end: product concept, UX/UI design, Swift and Unity development, App Store Connect operations, privacy/compliance, and marketing.
- Built and maintain a personal marketing site (markmangieri.com) and cross-platform social presence (TikTok, Instagram, YouTube) to promote released titles.
- **DinePilot** — restaurant-decision app using a rule-based, live Venn-diagram engine to help groups agree on where to eat.
- **METEORIC** — classic arcade-style shoot-em-up with Bluetooth controller support.
- **AlienSwarms** — wave-based arcade combat game.
- **Defender Reborn** — modern, touch-native reimagining of the classic Defender arcade formula.

NASA / JOHNSON SPACE CENTER — ENGINEERING DIRECTORATE

Aerospace Engineer — Software, Robotics & Simulation Division, Spacecraft Software Engineering Branch **2007 – 2018**

- Kedalion System Manager, responsible for all facets of Orion system testing — test rig development, operations, subcontract management, and program-level planning and budgeting.
- Led a 4–6 person Facilities & Tools group developing CxP Orion test tools and the Kedalion oversight lab; managed mentoring, budgeting, and resource procurement.
- Orion Flight Software Verification & Validation (V&V) lead — adapted avionics-industry V&V concepts for Orion hardware/software paradigms and integrated with Constellation Program-wide V&V.

Computer Engineer — Avionics Systems Division, Flight Software Branch **1988 – 2007**

- Led the Electronics & Navigation Software System (E&NSS) group (4–6 engineers) across multiple concurrent flight software projects; owned scheduling, performance reviews, and process improvement.
- Software lead on the ARED instrumentation flight software project (Windows tablet GUI) — delivered a CMMI Level 2 product that won multiple JSC awards.
- Software lead on Space Shuttle and ISS flight experiments verifying GPS-based navigation subsystems (Shuttle, ISS, and X-38 programs); supported hardware/software integration, testing, and astronaut training.
- Led software teams through JSC's first SW-CMM Level 2 certification, and subsequently to SW-CMM Level 3 and CMMI Level 2.

Electronic Engineer, AST (1988–1994) — Project management of the Space Station Freedom Software Support Environment (SSE) project (Lockheed): task order/agreement generation, requirements and design reviews, Ada compiler evaluation.

Ford Aerospace & Communication Corp. — Programmer/Analyst & Programmer, E&S (1983–1988) — AI Lab research (expert systems, LISP), MCC Upgrade checkout software prototyping, and Calibrated Ancillary System (CAS) real-time telemetry test tools for JSC's Mission Control Center.

TECHNICAL SKILLS

Current: Swift, iOS/App Store development, Unity, C#, App Store Connect operations, product & UX design, web (HTML/CSS), AI-assisted development (Claude Code, ChatGPT)

Legacy: Microsoft Visual C++ (MFC/Windows), NI LabView, Ada, Pascal, Fortran 77, C (DOS/Unix); VAX/VMS, UNIX/Solaris, Windows

EDUCATION

B.A., Computer Information Systems — University of Houston at Clear Lake, 1982 (GPA 3.5/4.0 major)
NASA/JSC coursework: Capability Maturity Model (CMM) process training, Seminar in Leadership (SIL) project management & leadership training, Rational Environment Fundamentals, Ada Tasking for Real-Time Systems

PUBLICATIONS

- "Advanced Resistive Exercise Device (ARED) Flight Instrumentation Software (FSW): A Unique Approach to Exercise in Long Duration Habitats" — AIAA Space 2005; co-chaired Bioastronautics Exploration Technologies track
- "Orion FSW V&V and Kedalion Engineering Lab Insight" — AIAA Space 2010 Conference
- "Kedalion: NASA's Adaptable and Agile Hardware/Software Integration and Test Lab" (with J. Vice) — AIAA SPACE 2011 Conference
- "Spacecraft Avionics Software Development Then and Now: Different but the Same" (with J. Garman, J. Vice) — AIAA SPACE 2012 Conference
- "Simulation/Emulation Techniques: Compressing Schedules With Parallel (HW/SW) Development" (with J. Hoang) — AIAA SPACE 2014

AWARDS & HONORS

- 3 Space Act Awards (ARED FSW, SIGI Loader, Board Action Award)
- 3 JSC Group Achievement Awards; 1 Space Flight Awareness Award
- 12 NASA performance awards; 9 GEM/time-off awards