



Software Engineering for Medical Devices

*Genova Technologies, Inc. (Genova) has continuously enhanced its software capabilities and processes for over two decades. Genova's recent investment into the medical device industry is a direct response to a growing industry need for **real-time embedded** software engineering, **device displays** development, **mobile applications** and **web accessible** data.*

Founded in 1993, Genova has delivered real-time embedded engineering and displays development for Clients for over 20 years. We leverage our embedded controls & sensors expertise and mobile app development backgrounds in order to deliver software engineering that allows your medical device to communicate wirelessly with other medical devices and systems.



Genova's software expertise in all major programming languages and tool sets allows us deliver custom solutions using Agile, Iterative, and Waterfall software methodologies. We maintain strict adherence to CMMI and client quality processes, and have expertise with safety critical IV&V procedures.

We leverage the cloud in order to deliver embedded and mobile medical applications that have greater accessibility and reliability for our end-users. In addition to traditional multi-tiered mobile application structures, Genova has delivered mobile apps connected wirelessly to industrial vehicles.

Corporate

Founded: 1993

Headquarters: Cedar Rapids, Iowa

Additional Offices: Phoenix, Arizona

Structure: Woman-Owned Small Business

DUNS: 929852820

Cage Code: 1TBS6 (ITAR Compliant)

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Technical

Software Capabilities

Requirements analysis; embedded, application, mobile, and web software design & development; legacy software support; systems integration; software testing; verification & validation

Programming Languages

C, C#, C++, ASP.NET, CORBA, Crystal Reports, HTML5, Java/JEE, JavaScript, Objective-C, Perl, Python, Swift, Visual Basic, XML

Tools & Databases

AWS, AWS DB, ClearCase, ClearQuest, DOORS, Drupel, Eclipse, Enterprise Architect, MATLAB, MySQL, MS SQL Server, OpNet, Oracle, Rhapsody, Simulink, SQL, Subversion, Tasking, TRAC, Visual Studio, Xcode

Processes & Certifications

- Agile, Iterative, Waterfall Methodologies
- PMI Project Management Professionals
- Certified Product Owners-ScrumMasters
- CMMI ML 3 Reviewed Processes
- DO-178B/C IV&V for Avionics Software



Genova's software engineering expertise includes real-time embedded software engineering, user interface (UI) application development for device displays, mobile app development and web development, as well as independent verification and validation of safety critical software systems. Genova specializes in advanced software technologies for the entire device software stack and life cycle, engineering your systems for accuracy, robustness, security, and safety.

Embedded Application Development

Genova's embedded software engineers design software to work specifically with your selected electronics, while providing real-time operating system interfaces, drivers, and controls for your IO centric subsystems. Using Agile Scrum or traditional Waterfall requirements development and processes, your team will get complete visibility and control of every low-level element of your system.

Display/Interface Development

For embedded Linux, Windows, or proprietary OS, we engineer modern, responsive User Interfaces and front end architecture, secure communications, and a robust data set. Our solutions include built-in test capabilities.

Independent or Supported Software Verification & Validation

Genova Technologies has been providing Safety of Flight and Safety of Life DO-178B/C compliant software and V&V services to our clients for over 23 years. We are fully versed in regulatory requirements and processes.

- Our test team develops your test plans, create robust test cases, and provides a resultant report and trace matrix to meet your templates and standards.
- Genova provides test automation, fault insertion, internal data monitoring and robust component testing.
- Genova's extensive "white box" and "black box" thoroughly exercises all the edge cases on your system in the lab, so that you can be confident you will not have surprises in the field.

Cloud & Remote Services

Whether for research and analysis, data collection or remote diagnostics, we will securely connect your systems to a remote server so you can provide complete services to your clients and clinicians.

Mobile & Wireless Development

If your mobile app connects to a device, we make the user experience seamless while safe and secure. Our secure interconnectivity systems using ZigBee, Bluetooth or Wi-Fi saves you development dollars. Genova expertise is "Mobile for Devices". We are not "gamers", our mobile experience is rooted in embedded software and hardware systems integration and practical application support.

Compliant with:

21CFR 820
ISO 14971
ISO 13485
CMMI ML 3

