



G3 Systems, Inc. Capabilities Overview

Updated: January 1, 2013

Subject: G3 Systems, Inc. Capabilities Statement

Reference: FAR 6.205 Set-asides for HUBZone Small Business Concerns.
(a) To fulfill the statutory requirements relating to the HUBZone Act of 1997 (15 U.S.C. 631 note), contracting officers in participating agencies (see 19.1302) may set aside solicitations to allow only qualified HUBZone small business concerns to compete (see 19.1305).

(b) No separate justification or determination and findings is required under this part to set aside a contract action for qualified HUBZone small business concerns.

EIN Number: 54-1734756

D&B Number: 008189404

CAGE Code: 1BAJ7

Company Size: Small Business, Certified HUBZone Company

Size Standard: Under \$7 Million, Under 100 Employees

NAICS Codes:

334111 - Electronic Computer Manufacturing

421430 - Computer and Computer Peripheral Equipment and Software Wholesalers

514210 - Data Processing Services

541330 - Engineering Services

541420 - Industrial Design Services

541430 - Graphic Design Services

541511 - Custom Computer Programming Services

541512 - Computer Systems Design Services

541519 - Other Computer Related Services

541690 - Other Scientific and Technical Consulting Services

541710 - Research and Development in the Physical, Engineering, and Life Sciences

611420 - Computer Training

611710 - Educational Support Services

Certifications and Awards:

Lean Six Sigma Blackbelt Key Personnel Since 2009

Software Engineering Institute (SEI) Capability Maturity Model (CMM) Level 3 Since 2003

Microsoft Partner Certification Since 1998

Invision Awards for Corporate Presentations, Educational Applications and Technical Training

Introduction:

G3 Systems, Inc. was founded in 1993 with the primary objective of supporting the mission critical needs of our Government, Military, Corporate, Educational and Non-Profit customers. G3 expertise focuses on four primary categories: User Interface Design, Software Engineering, Training Development and Modeling and Simulation. G3 solutions are informed by our Lean Six Sigma Black Belt analysis, validated by our Software Engineering Institute (SEI) Capability Maturity Model (CMM) Level 3 processes, and backed by our nearly 20 year track record of on-time and on-budget performance. The G3 Systems end-to-end process adds value to any project.



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From Design to Deployment, Value is Our End-to-End Process:

Agile Development Starts with Agile Thinking:

G3 has a long held belief that if you can't take a whiteboard marker and draw requirements elements on the board and show how they connect, then those connections don't really exist. This process of connecting the dots has helped G3 guide customers through the requirements verification and validation process and identify and address any conflicting, overlapping and contradictory requirements. This process done early in the project saves costly development time later. It also helps uncover overlooked 2nd and 3rd order consequences of existing requirements.

Training Needs Assessment and Optimization:

G3 is often asked to develop training for an existing system or find ways of improving current training effectiveness. G3 has a methodology for breaking the training down into modular pieces while looking for ways to structure the training to take advantage of as much functional overlap as possible in order to reduce overall development time and cost, while also improving overall training effectiveness. G3 has been able to reduce overall training time by as much as 800% while also reduce training cycles from 4-5 cycles to just 1-2 cycles.

Existing User Interface Review and Analysis:

G3 is often asked to evaluate an existing user interface in order to determine what issues may be causing problems in user satisfaction, usability or trainability. G3 typically finds the issue is not just the quality of the existing training but some core problem with the user interface design of the current systems. G3 Founder Gordon Miller is a Founding Fellow for the Center for Human Computer Interaction at Virginia Tech and can perform an analysis on a system in as little as 10 days to help guide remediation strategies to improve usability.

Workflow and Process Optimization:

G3 uses a workflow storyboard process for nearly every system it develops. This visual representation of the flow from screen to screen and the different user modes and connections between screens is critical to understanding how to achieve the necessary efficiencies in usability. 80% of all key system functionality should be available to the user in no more than 2-3 clicks. Some systems bury key features 7-8 clicks down in the interface or nest screens that require excessive navigation into and out of those features. G3 strategies solve those problems.

Legacy Systems Data Migration:

G3 has noticed a trend over the last 20 years where new proposed systems are developed to replace older systems and in the process seem to inherit much of the legacy systems data. In many cases, that data may not be in a format that is conducive to long term use in the new system or it may be incompatible with the proposed systems architectures. G3 has been successful in establishing methodologies for migrating data from as many as 17 legacy systems into a single enterprise solution or a virtual database to preserve seamless links to the legacy data.

Functional and Technical Architecture Planning:

G3 is fortunate to have contributed to the design and development of many mission critical systems. Our first major architecture was the US Army Training Information Architecture (ATIA), then the US Army Future Combat System (FCS) System of Systems, followed by the US Department of State SMART portal and more recently the Patient Health Record (PHR) system for CVS that processes over 40 million transactions a year for more than 4 million users. High performance, high availability systems architectures are our specialty.

Visual Mockups and Functional Prototypes:

G3 puts our Graphics User Interface (GUI) design expertise to good use by quickly translating requirements, workflow diagrams and other prior inputs into a visually appealing visual mockup that the customer can quickly relate to and understand. G3 then links the screens together and populates the screens with sample data to achieve a functional prototype. This can often be done in as little as 2-3 months. The customer can review and approve a solution before any final code is cut thus reducing cost and schedule risk up front and establishing a baseline.



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End User Survey and Usability Data Analysis:

G3 has always supported a user-centered design process. No matter what type of system you build there is a human in the loop somewhere even it is just to administer the system. Most systems have as few as a handful of user to as many as millions of users. G3 puts a user feedback loop into the software engineering lifecycle starting as early as the visual mockup and functional prototype step in order maximize the benefit of user inputs. This feedback loop is maintained throughout development and used after deployment to gather input for help desks.

Software Engineering and Systems Integration:

G3 has developed a diversified software engineering and systems integration approach. If viable 3rd party solutions exist either in the Government off the Shelf (GOTS) or Commercial off the Shelf (COTS) arena then we prefer to integrate a solution. All too often using GOTS or COTS can be a compromise that may prove to be more costly to adapt than simply engineering a complete solution. G3 has certified experts in all programming languages including C++, C#, .NET, .PHP, .XML, Java (Android), Flash, Cold Fusion and Coco (iPhone).

Web Portal Development and Online Training:

G3 was founded just before the birth of the Internet. G3 was instrumental in many of the first commercial web-based solutions for buying and selling items online such as houses and cars. Our transactional ecommerce solutions evolved into our web applications development business. G3 started out building training on CD-ROM long before web-based training was technically viable. G3 has since designed mission critical web-based information systems portals and vital decision supports systems for DOD, DHS, DOS, ED, HUD and others.

Interactive Multimedia and Technical Training:

G3 training solutions have won multiple international design awards for Educational Applications and Technical Training. G3 Founder Gordon Miller was Founder and Director of the Multimedia Lab at Virginia Tech in 1991 prior to Founding G3 in 1993. While at Virginia Tech, Miller assisted over 400 faculty and staff with the development of over 150 multimedia projects. Since then G3 has developed over 2,000 hours of Interactive Multimedia Instruction (IMI) including full courseware conversion work under the DLXXI contract.

Modeling and Simulation-based Training Solutions:

G3 Founder Gordon Miller was the Co-Founder for the Lab for Scientific Visual Analysis at Virginia Tech in 1989 where he focused on mathematical and parametric modeling, visual and spatial simulations, wave propagation and simulation. Since then G3 has developed solutions that include software simulations, visual simulations, process simulations, surgical simulations, weapon systems simulations and full 3D simulation-based training. These simulations have been a vital part of our decision support systems and training systems success.

Load Testing Validation and Performance Monitoring:

G3 builds solutions using personnel that typically score in the top 1%-2% of their respective fields. As such, our highly innovative solutions aren't always the lowest cost, but do offer our customers the "best value". Our high performance systems are engineered and optimized by expert personnel. Therefore, in order to protect that investment and to keep our solutions running at maximum efficiency; G3 quality assurance (QA) personnel can ensure that our solutions continue to meet performance targets. Ongoing monitoring and maintenance contracts with G3 will keep those systems running at optimal efficiency throughout the projected life of the system.

Capabilities Presentation:

This link is to a 30 slide capabilities presentation in PDF format (5MB) as well as a digital copy of this document.

<http://www.g3.com/capabilities/>



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G3 Systems Innovation – Our Platforms and Products:

Next Generation Simulation-based Training Architecture:

G3 developed a simulation based training architecture in early 2007 in response to requests from US Army Training and Doctrine Command (TRADOC) from the Army Training Support Center (ATSC) to design an architecture for simulation-based training that was compatible with our prior design for the Army Training Information Architecture (ATIA). PEO STRI used a variation of our diagram in an RFP in early 2008.

Next Generation Modular Data Aggregation Architecture:

G3 leveraged the design of own simulation-based training architecture in 2009 to address the broader issue of needing to preserve the investment in and bridge mission critical data collections efforts for simulation-based training data across a variety of systems while being able to leverage that same information into an operations capability. The revolutionary new architecture has been reviewed by OSD and is under consideration for use.

Next Generation Multi-Platform Mobile Device Architecture:

G3 has been able to leverage our modular data aggregation architecture to tackle the difficult issue of deploying solutions to multiple mobile devices that normally would require different development approaches. G3 has a prototype of a multi-device container-configure-content solution that solves this problem. G3 Founder Miller has worked on mobile solutions since 1999 when he Co-Founded Harmonia, Inc., now a world leader in mobile apps.

Operations Lifecycle Management (OLM) Platform:

G3 worked on a number of projects with the US Department of Housing and Urban Development (HUD) since 2001 including a building construction error detection system and a building lifecycle cost calculator. These early systems have since given rise to our more comprehensive Operations Lifecycle Management (OLM) solution that is being used by commercial real estate managers, banks and multi-site medical and convenience store owners.

Banking Industry Web-based Compliance Platform:

G3 realized back in 2008 as the regulatory environment was changing for the banking industry that there was a huge need to address the consolidation happening in that industry due to TARP and reconcile that change with the need for individual compliance problems that could adversely impact organizational compliance. G3 has built a platform that protects both personnel assets and facilities assets for small and medium sized banks.

Healthcare Industry Web-based Personal Health Record (PHR) Platform:

G3 has been focused on medical solutions since our first surgical simulation project in 1995. In 2008 G3 was given the opportunity to develop a highly scalable and highly secure modular enterprise architecture to manage personal health records (PHR) for CVS. Since then we have developed our own optimized PHR user interface that can run atop of our system or other industry standard solutions and offers superior diagnostics support.

High Performance Web-based GIS Platform:

G3 realized back in 2004 that there were serious limitations to the web-based GIS solutions from ESRI. So, we built our own GIS platform called InteractiveGIS (iGIS). The iGIS platform offers a number of key features such as easy to use on-screen digitizing input tools via a web browser, shared boundary data, secure shared data layers, printing and PDF output of up to E-size drawings from a web browser and up to 8x faster screen redraw.

Natural Language Processing and Semantic Search Platform:

G3 realized in 2007 that the popularity of Google would soon make search the primary method of interacting with information. In 2008, G3 began work on a platform that combines a Natural Language Processing Relationship Analysis Engine (RAE) and Semantic Search to produce more accurate and meaningful search results. G3 now automates metadata tagging of entire document repositories and automates RFP proposal compliance using RAE.



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G3 Systems Success – Select Past Performance:

US Department of Defense (DOD):

US Navy: Naval Surface Warfare Center (NSWC) Air Defense Engineer AEGIS Simulation for TMG.
US Army: Ft. Eustis, VA – Army Training Technical Architecture (ATTA) for Camber Corporation.
US Army: Ft. Eustis, VA - Army Training Information Architecture – Migrated (ATIA-M) for SAIC.
US Army: Ft. Leonard Wood, MO –Military Police School CBT Design for Camber Corporation.
US Army: Ft. Jackson, SC – Personnel School CBT Design for Camber Corporation.
US Army: Ft. Gordon, GA – Signal School CBT of 50 hours for Camber Corporation.
US Army: Future Combat System (FCS) System of Systems for BAE Systems.
US Army: Military Vaccine Agency (MILVAX) Web-based Portals for Vaccines, Smallpox, Anthrax for SAIC.
US Navy: Naval Air Warfare Center (NAWCTSD) Flight Deck Operations Fire Simulation Training for NGSB.
US Navy: Naval Air Systems Command (NAVAIR) Noise Dosimetry for Personnel Noise Exposure for ATI.

US Department of State (DOS):

State Messaging Archive Retrieval Toolset (SMART) Outlook 2003 Templates for NGIT.
State Messaging Archive Retrieval Toolset (SMART) Web Portal Toolkit for NGIT.
State Messaging Archive Retrieval Toolset (SMART) Pilot Program Website for NGIT.

US Department of Homeland Security (DHS):

Buffer Zone Protection Plan Toolkit (BZPP) Training Needs Assessment and CBT for Digital Sandbox.
Site Profiler Survey Tool (SPST) Data Collection and Online Expert System for Digital Sandbox.

US Department of Housing and Urban Development (HUD):

Virtual Manufacturing Simulation for Residential Construction Error Detection for Virginia Tech.
Whole House Calculator for Lifecycle Cost Management of Residential Construction for Virginia Tech.

US Department of Health and Human Services (HHS):

National Institute of Mental Health (NIMH) Legacy System Migration of Digital Pay Plan (DPP) for SAIC.
CVS/Caremark: Personal Health Record (PHR) System – 40 Million Transactions per Year for 4 Million Users.
CVS/Caremark: Disease Prevention Recommendations (DPR) Engine – Automated Analysis for Diagnosis.
CVS/Caremark: Accordant Nurse Portal (ANP) for Secure Remote Access to Patient Health Records.

US Department of Education (ED):

Virginia Career VIEW Online Database including 600 Careers from DOL and Assessment Expert System for Virginia Tech.
Training and Technical Assistance Center (T/TAC) Benefits Coordination and History for Children and Youth with Disabilities.

G3 Systems Personnel – Points of Contact:

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