Senior Software Engineer – C++ / Windows / Legacy Systems (Contract)

UK-based • 80–100% Remote • Open to NW Europe (occasional on-site)
Availability: Contract roles only
info@plexis.uk

PROFESSIONAL SUMMARY

Senior Software Engineer with deep expertise in C++ and Microsoft Foundation Classes (MFC), specialising in the support, sustainment, and remediation of long-lived Windows systems.

Strong background in diagnosing, debugging, and stabilising complex legacy codebases, often with limited documentation and elevated operational risk. Experienced in hardware-adjacent systems, systems integration, and fault isolation across software, data, and connected devices.

Known for rapidly understanding unfamiliar systems, identifying root causes, and delivering pragmatic fixes rather than greenfield redesigns. Particularly effective in business-critical, safety-critical, or hard-to-resource environments where continuity and correctness matter more than novelty.

KEY TECHNICAL SKILLS

Core Languages & Frameworks

- C++ (Advanced) – primary language
- MFC / Win32 API – extensive production experience
- C# (.NET) – working knowledge
- C – working knowledge

Platforms & Environments

- Windows (desktop and embedded variants)
- Visual Studio (multiple generations)
- Legacy build systems and toolchains

System-Level & Adjacent Skills

- Legacy system sustainment and support
- Fault diagnosis and root-cause analysis
- Systems integration and test support
- Hardware–software interfacing
- Serial, USB, network-connected devices
- Working with undocumented or poorly documented systems

Data & Persistence (Support-Level)

- MS SQL Server – investigation of data anomalies affecting system behaviour
- Microsoft Access – interrogation and correction of operational data used by legacy applications
- Data-level fault isolation as part of wider system troubleshooting (not DBA / schema design)

Application Deployment & Runtime Assurance (Windows)

- MSI authoring using Windows Installer technology
- WiX Toolset (XML-defined installers and bootstrappers)
- Microsoft Visual C++ runtime and dependency management
- Native C++ and .NET runtime prerequisite handling
- Silent install, repair, rollback, and clean uninstall strategies
- Multi-OS deployment (Windows XP, 7, 10)
- Installation testing on virtualised environments (VMware)

Engineering Practices

- Debugging complex multi-threaded applications
- Code remediation and stabilisation
- Regression fault fixing
- Technical risk reduction
- Knowledge recovery and documentation capture

PROFESSIONAL EXPERIENCE

Senior Software Engineer (Contract & Permanent)

Various Organisations | UK & Europe

- Supported and sustained long-lived Windows applications built in C++/MFC, frequently business-critical and difficult to resource
- Took ownership of unfamiliar legacy systems, rapidly building mental models of architecture, dependencies, and failure modes
- Diagnosed and fixed hard faults including memory corruption, race conditions, timing issues, integration failures, and data-related defects
- Investigated database inconsistencies (SQL Server / Access) where data integrity issues manifested as application or system failures
- Owned application release and deployment for native Windows systems, ensuring reliable installation, upgrade, runtime behaviour, and clean removal across supported Windows versions
- Diagnosed and resolved installer and runtime failures involving MSI packages, VC++ runtimes, .NET dependencies, SQL Express, and third-party components
- Worked closely with hardware, test, and systems engineers to isolate cross-disciplinary faults

- Improved system stability without large-scale redesign, minimising operational and commercial risk
- Provided pragmatic documentation and knowledge transfer where none existed, reducing single-point-of-failure exposure
- (Earlier roles included defence, satellite, and hardware-integrated environments where reliability and correctness were prioritised over feature velocity.)

STRENGTHS RELEVANT TO LEGACY & CRITICAL SYSTEMS

- Calm, methodical fault investigation under pressure
- High tolerance for complex, unattractive codebases
- Strong intuition for failure modes in mature systems
- Comfortable working where “the original developers are long gone”
- Commercially aware: fix what matters, don’t destabilise what works

ENGAGEMENT PREFERENCES

- Contract roles only
- 80%+ remote preferred
- UK-based or North-West Europe (occasional on-site acceptable)

Particularly interested in:

- Defence and critical infrastructure
- Industrial and control systems
- Medical, transport, and energy sectors
- Any environment with skills scarcity in C++/MFC

EDUCATION & EARLIER CAREER

Details available if required. Earlier career included hands-on software engineering and systems roles that formed the foundation for current legacy, sustainment, and fault-resolution expertise.