

3D Visualization Subsystem

SUBSYSTEM UPGRADE FOR EXISTING RADIOLOGY INFORMATION SYSTEM (RIS)

SITUATION

- Manufacturer's current system was receiving negative customer feedback for its poor 3D visualization quality, failing to meet market demands, and it was being outpaced by competitors
- Repeated development efforts to upgrade original source code to support the much-needed enhanced 3D visualization capabilities and functionality proved impossible to achieve

CHALLENGES

- Existing code was not maintainable
- Current design did not support the addition of the required new capabilities and functionality
- Poorly established coding and design practices were key blockers

SOLUTION

- A new Linux-based C++ platform that leveraged Insight Segmentation and Registration Toolkit (ITK) / Visualization Toolkit (VTK) libraries to achieve high-quality 3D rendering and interaction
- Introduced DICOM interoperability enhancements and improved cybersecurity controls that met FDA regulatory requirements

RESULTS

- New 3D visualization subsystem capable of providing improved rendering speed and image quality that also allows anatomical separation and image rotation for enhanced diagnostic analysis
- New robust architecture will better support evolving market needs enabling manufacturer to stay ahead of the competition
- Knowledge transfer of engineering best practices for design, coding and testing to internal team will ensure high-quality future releases

ABOUT MEDACUITY

MedAcuity is a specialized engineering firm that focuses on medical technology software development. The trusted and experienced firm was founded in 2007 by a team of seasoned software engineers who identified opportunities to fill gaps in the engineering expertise and efficiency facing the medical technology industry. MedAcuity offers extensive experience across the MedTech industry with full life-cycle software development and subspecialties in other areas including tool validation, algorithm development, and cybersecurity.

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