SFO TECHNOLOGIES
A NeST Group Company

CASE STUDY
SURGICAL C-ARM X-RAY VIEW STATION SOFTWARE

Customer

A Germany based global company with a large presence in Healthcare.

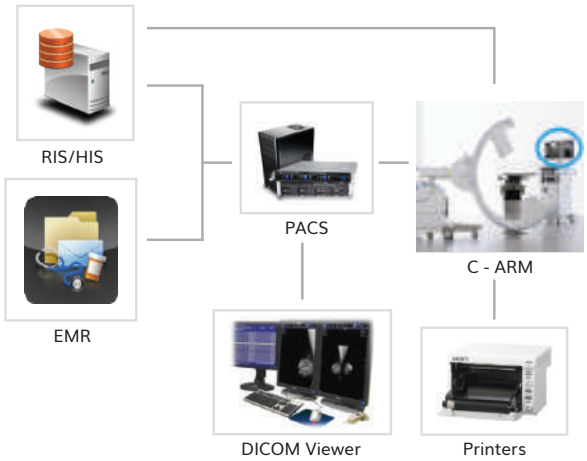
Business Need/Challenges

Today, X-ray machines are used in healthcare, to aid surgeons in visualizing bone structures during surgeries and thus help them reattach broken bones with screws or structural plates. However, the surgery department faces challenges with regard to these machines, which comes in the form of cost pressure and the need for optimum clinical outcomes. Cost-effective equipment can still create other bottlenecks, like compromises in quality and reliability, and being inadequate in tough surgical environments. The customer needs to provide a multidisciplinary mobile C-ARM for demanding environments, that helps in improving quality of care, simplicity in use, and enabling efficient workflows for Operation Rooms, profiting from high uptime; and thereby reducing avoidable costs.

The Solution in Brief

SFO developed the end-to-end solution for C-ARM View Station software. The application features medical imaging technology and is based on an innovative touch-and-play concept. With its smart usability features and fast boot-up of 40 seconds, it enables operational simplicity in an Operation Room, where there are multiple procedures to be performed in a day.

- Responsive multi-touch supporting application GUI
- View real time images, process images digitally and archive images
- DICOM work list mode as well as standalone workflow mode
- Self-servicing capabilities for C-ARM
- DICOM Interoperability
- Workflow Management, Data transfer & Printing



Scope of Work

- C-ARM workflow
- DICOM Interoperability
- Medical Image Processing
- Annotation and Drawing
- DICOM Printing
- XCS Protocol
- Hardware Adjustments and Calibrations

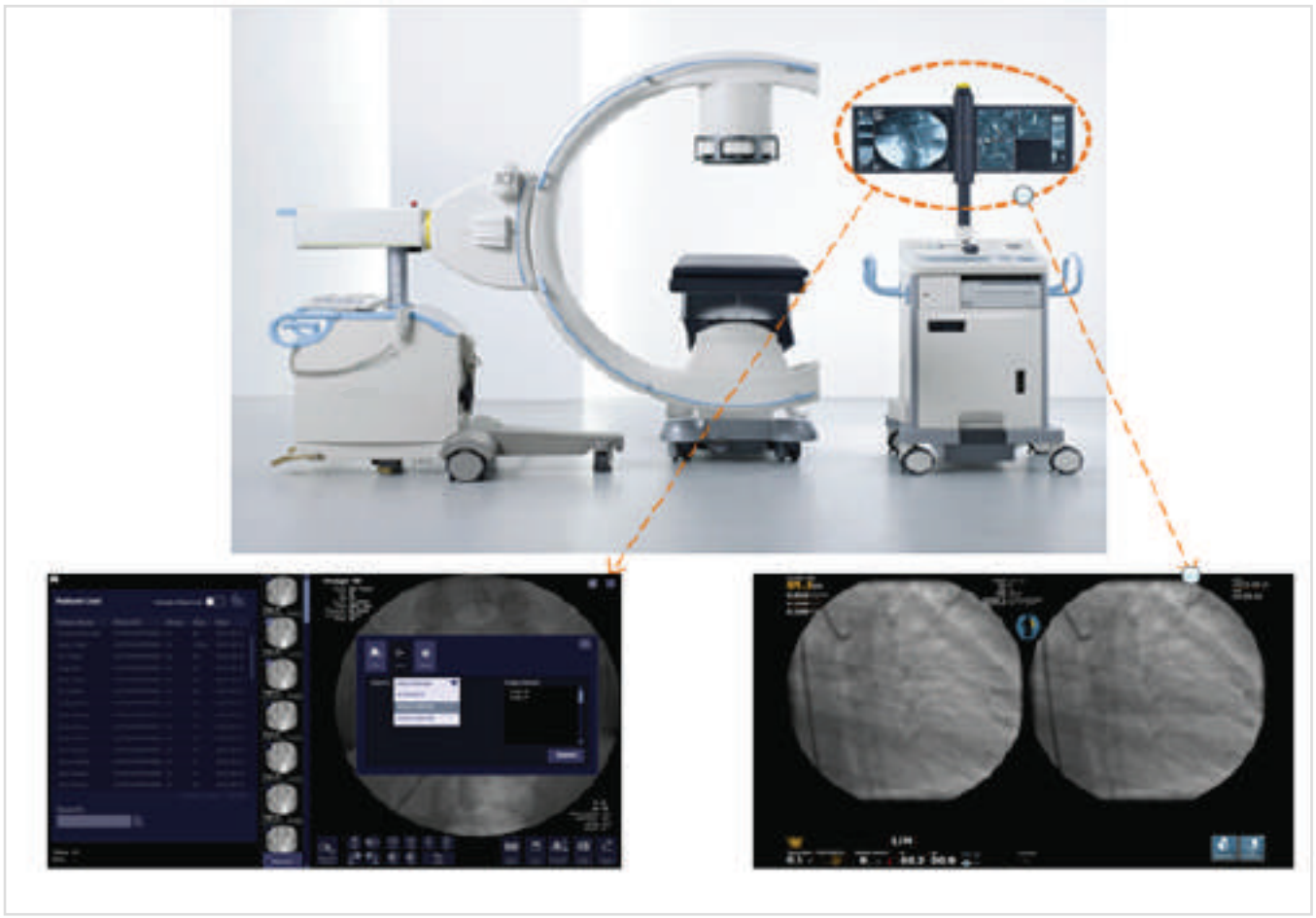
C-ARM View Station Software

The view station software enables crystal clear images of anatomical structures, implants, screws and devices with its powerful imaging technology. The patient X-ray images may be compared in the display for visual comparison, and may be moved to any angle so that it is possible to have a clear view of the images.

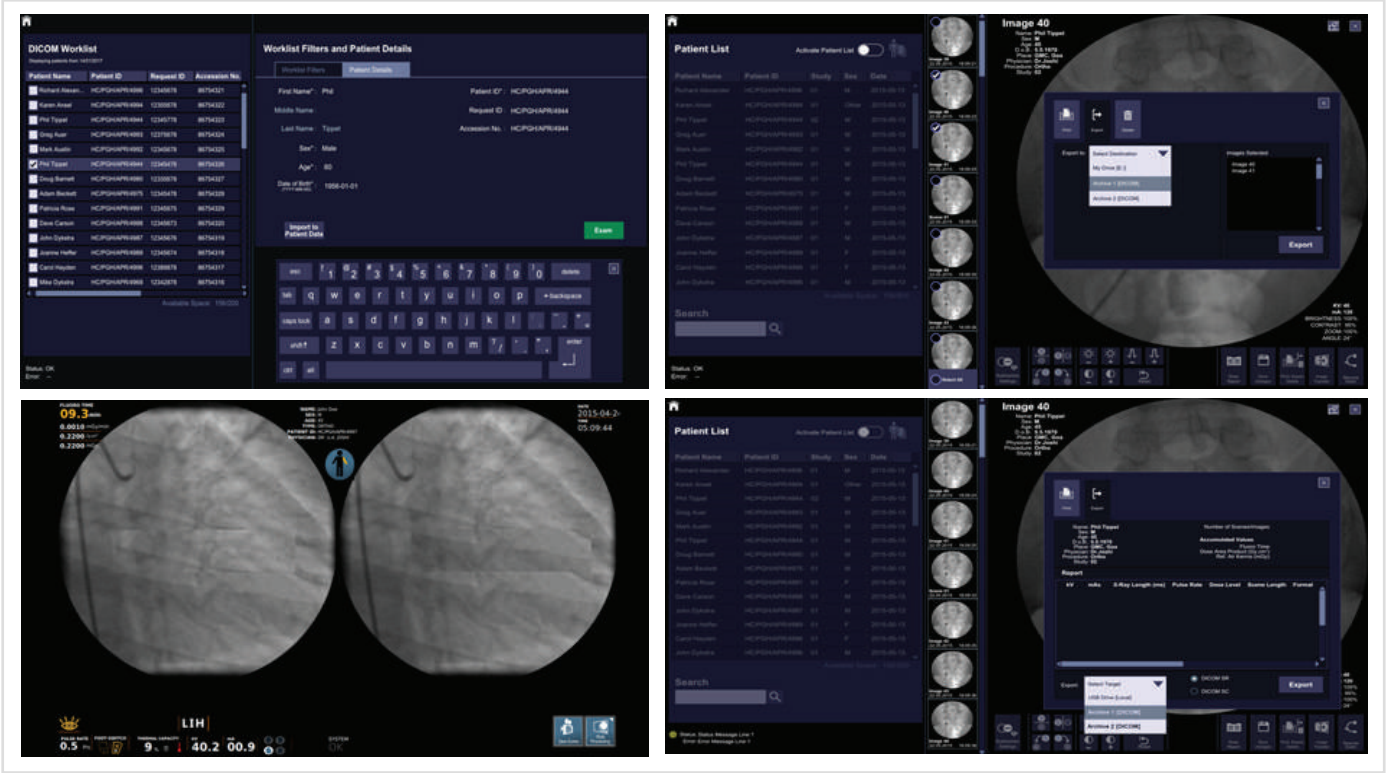
Annotations and mark-ups may also be added to the images. The images may also be exported to the USB, and if PACS is configured, they can be sent to PACS also. Imaging gets simplified with the unique touch and play concept, where the image and dose both can be optimized with just a single user interaction.

Solution Highlights

- C-ARM dual monitor image viewer with advanced image processor unit.
- Intelligent measurement and annotation capabilities
- X-Ray calibration and hardware self-servicing features
- Integration on Freescale i.mx6q multicore board



C–ARM: View Station User Interface



SFO Core Strengths in C-ARM View Station Software

- DICOM Interfacing
- XCS Protocol
- Medical Image Processing
- Annotation and Drawing
- UI Development in Linux
- Seamless integration with hardware.
- Easy portable application software for multiple platforms.

Major Technologies & Tools used:

- C, C++
- QT/QML
- OpenGL
- Qtest
- QT Creator
- MergeCOM
- SQLite
- Git, SVN
- Visual Studio 2015
- SonarQube
- Lcov - Coverage

SFO Role

Design, development and system testing of the solution in collaboration with the customer engineering team.