Equipment Simulator to Improve Efficiency of Test Automation

CUSTOMER CHALLENGE
A major component inspection equipment OEM from Europe, wanted to solve their problem of equipment availability during integration testing. All departments were vying for availability of the equipment for integration testing. Due to lack of availability of the equipment and the need to meet the delivery schedule, equipment was being shipped without complete testing by all departments.

SCOPE
QuEST proposed to develop a feature rich equipment simulator software with high level of configurability that could
- Simulate the actual behavior of the equipment to the best
- Able to simulate all possible errors and alarms of hardware equipment
- Incorporate maximum degree of configurability for different hardware configurations
- Able to integrate to test automation scripts easily

SOLUTION
- Developed an equipment simulator with all hardware communication protocols
- Programming interface provided on multiple programming languages
- Performance tuning mode which simulated shorter, actual and longer response times
- Intuitive user interface with animation was created that reflected the actual equipment layout
- User interface was designed to be optional so that the product was not affected by demand for resources (CPU, RAM)

FEATURES
- Extensive configuration capabilities
- Device parameters can be configured
- Intuitive UI displaying animation mimicking equipment
- Configure response timings to simulate hardware behavior

BENEFITS
- Developed the equipment simulator from a one liner requirement from customer
- Addressed tool availability by 60%
- High configurability - simulator used for different equipment by changing configuration files
- The simulator was also used for training new recruits and also for demonstration to prospective customers

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