Implementing a robust Cyber Security Framework for a MedTech leader

Success Story

A leading oncology treatment technology provider leveraged CitiusTech's Security Team's capabilities to implement a state-of-the-art Cyber Security Framework.

CitiusTech

Business Impact

A leading oncology treatment technology provider leveraged CitiusTech security team's capabilities to implement a Cyber Security Framework to detect and mitigate security vulnerabilities across all the phases of Software Development Life Cycle.

250+	**100+**	**1.5 Mn**
Cyber Security Threats Detected	Security Vulnerabilities Mitigated	Lines of Code Scanned

Client Requirement

Client is a leading medical technology company specializing in oncology. Client has a proprietary Oncology Information System (OIS), set up at various radiation oncology clinics. To reduce infrastructure / staffing costs at local clinics, client wanted to set up a Centralized Treatment Planning system with automated workflow.

The client needed to design and implement a comprehensive Cyber Security Framework that secured its cloud-based OIS product against conventional cyber threats and vulnerabilities throughout the various phases of Software Development Life Cycle.

The CitiusTech Advantage

The client partnered with CitiusTech's to architect and build the Centralized Treatment Planning solution. As part of the product development, CitiusTech designed a robust security testing framework to meet client specific security needs. The solution included Static Application Security Testing as well as assessments of third-party libraries.

Insights from threat-modeling and cyber security risk assessments were used to determine the attack surface, assign severity levels to various threats, and drive the vulnerability mitigation process. This made the application architecture robust and effectively secured the product against any impending threats.

Technology Overview

CitiusTech helped secure the product by identifying, analyzing and evaluating security risks and ensured that the appropriate security controls were applied.

Threat Modeling & Cybersecurity Risk Assessment (CRA)

- Identification of security threats at the design level using Microsoft Threat Modeling Tool

- Analysis of cyber security risks using Cybersecurity Risk Assessment (CRA) and providing solutions against identified risks in threat modelling

Static Code Analysis

- Static code analysis using SonarQube tool

- Elimination of false positives from automated testing by conducting manual verifications

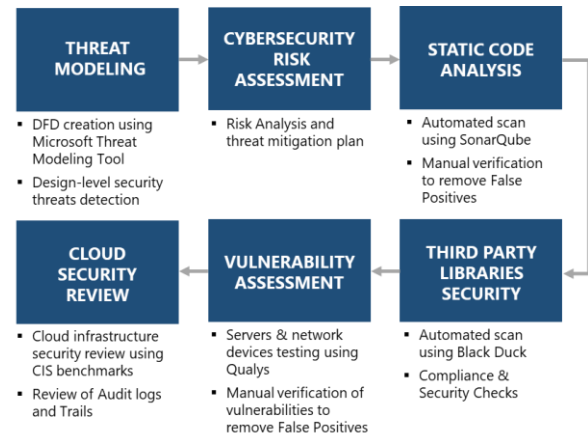## Vulnerability Identification Across Third-party Libraries

- Security assessment of third-party libraries using Black Duck

- Management of security, quality and license compliance risk

Vulnerability Assessment (VA)

- Recurring automated vulnerability assessment scan using Qualys tool

- Manual verification of vulnerabilities for all the servers & network devices

Cloud Security Review (CSR)

- Cloud security assessment using benchmarks published by Center for Internet Security (CIS)

- Review of cloud-based identity and access management, logging, monitoring, networking, etc.

THREAT MODELING
- DFD creation using Microsoft Threat Modeling Tool
- Design-level security threats detection

CYBERSECURITY RISK ASSESSMENT
- Risk Analysis and threat mitigation plan

STATIC CODE ANALYSIS
- Automated scan using SonarQube
- Manual verification to remove False Positives

CLOUD SECURITY REVIEW
- Cloud infrastructure security review using CIS benchmarks
- Review of Audit logs and Trails

VULNERABILITY ASSESSMENT
- Servers & network devices testing using Qualys
- Manual verification of vulnerabilities to remove False Positives

THIRD PARTY LIBRARIES SECURITY
- Automated scan using Black Duck
- Compliance & Security Checks

Solution Schematic

About CitiusTech

CitiusTech is a specialist provider of healthcare technology services and solutions to healthcare technology companies, providers, payers and life sciences organizations. With over 4,000 professionals worldwide, CitiusTech enables healthcare organizations to drive clinical value chain excellence - across integration & interoperability, data management (EDW, Big Data), performance management (BI / analytics), predictive analytics & data science and digital engagement (mobile, IoT). CitiusTech helps customers accelerate innovation in healthcare through specialized solutions, platforms, proficiencies and accelerators. With cutting-edge technology, world-class service quality and a global resource base, CitiusTech consistently delivers best-in-class solutions and an unmatched cost advantage to healthcare organizations worldwide.

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