Success Story

Implemented FHIR-based integration to enhance risk identification
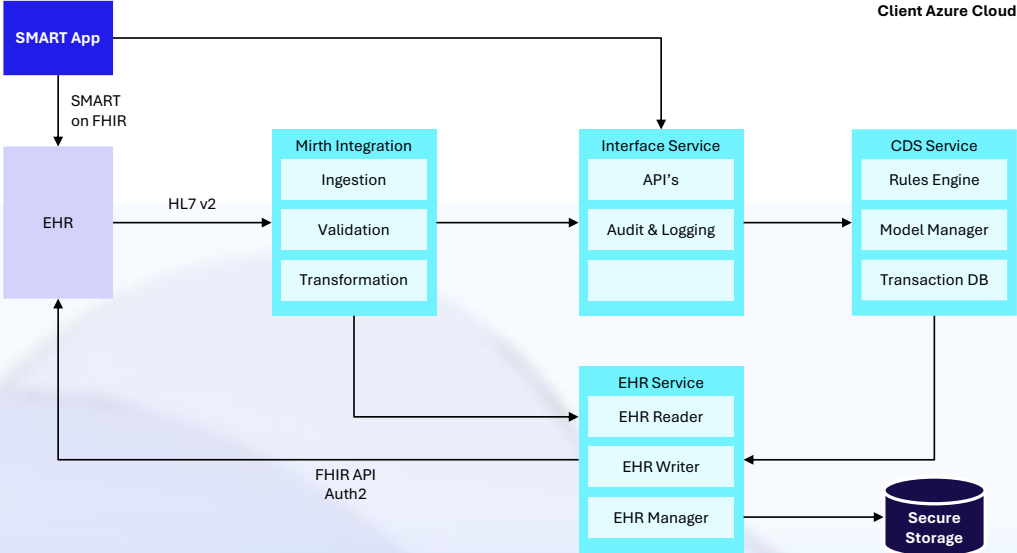
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Client is a leading medical device company that primarily focuses on LIS products.

Client Requirements

1

Client wanted to compliment the system with a clinical decision support system to provide risk scores for certain conditions like AMI, Sepsis, etc. Client's devices did not support reading of patient vitals, labs and other data from EHR's. Client needed bi-directional integration between the CDS platform and Hospital EHR's to drive clinical decision support for risk identification. CitiusTech was selected to enable interoperability with EHR's using FHIR format given our expertise in interoperability and medical devices.

Solution Schematic

Client Azure Cloud

SMART App

SMART on FHIR

EHR

HL7 v2

Mirth Integration
- Ingestion
- Validation
- Transformation

Interface Service
- API's
- Audit & Logging

CDS Service
- Rules Engine
- Model Manager
- Transaction DB

EHR Service
- EHR Reader
- EHR Writer
- EHR Manager

FHIR API Auth2

Secure Storage

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The Solution

CitiusTech designed and developed integration service using Mirth and .Net services on Azure to enable FHIR interoperability with EHR's.

Key CitiusTech Services

Establish secure **FHIR R4 API connectivity** between CDS platform and EHR

Leverage patient context using HL7 v2 messages received from EHR. Use specific lab result as trigger FHIR API calls to **query EHR**

Read patient data from hospital EHR for vitals and lab data

Generate risk score using custom ML algorithms using .Net services

Write risk score data back to EHR (if supported by EHR)

Developed a **SMART on FHIR** application for providers to access the risk score directly from the EHR

Value Delivered

1 • **Provide roadmap for scaling** the solution for multiple CDS algorithms and additional FHIR resources to support future use cases

2 Platform developed to **support any EHR** enabled to share and receive data using FHIR API

3 **Configurable UI,** can be customized as per customer requirement

CitiusTech
Shaping Healthcare Possibilities

Thank You

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With over 8,500 healthcare technology professionals worldwide, CitiusTech powers healthcare digital innovation, business transformation, and industry-wide convergence through next-generation technologies, solutions, and products

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