



Shaping Healthcare Possibilities

## Success Story

# Innovative Test Automation with CitiusTech: A dual-layer COE approach to an efficient framework

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## The Challenge

- Client provides kidney dialysis services through a network of dialysis centers in the United States and few other countries serving patients.
- Client has an online web portal to enable clinicians in performing various health-management services. It is centralized application for data coming from different legacy applications and different sources. It deals with patient details, treatment scheduling, clinical details, Reports, Facility Management etc.
- There was a need for a single automation solution to support all features and all tiers of application while providing Smoke, Sanity, Regression testing and Test data creation functionality

## The Tools and Technologies

Java	Selenium 4	BDD Cucumber
Bitbucket	IntelliJ IDEA	Git, Jenkins
Google Spanner (GCP)	POM	Gradle

10

Automation  
QA Team

5+

Years

12

Domains  
Supported



## The Solution

CitiusTech has established an Automation center of excellence (COE) with two distinct layers:

- **Automation framework team:** This team is responsible for developing and enhancing the automation framework using technologies as listed
- **Automation engineering team:** is responsible for automating End to End UI, API and Database scenarios for all the features developed in the application
- It supports multiple database technologies - **RDBMS (Oracle, DB2, Netezza); No SQL (Cassandra); Cloud (Google Spanner)**
- Supports script execution and reporting for both local executions and on Jenkins (CI/CD).
- Supports to spin up containers rather than setting up heavy virtual machines
- It has been upgraded to Selenium 4 for better debugging and error handling capabilities
- Leveraged Selenium Manager to handle Chrome version update automatically
- Execution of Scenarios on Selenium grid using Kubernetes

Some of the other features of the framework are:

- Utility to validate data received in different Kafka topics through Automated Job Scheduling
- Utility to upload all 25 Protocols to any facility residing in SPANNER database
- Visibility of Element in Component
- Rerun failed scenarios from Jenkins
- Screenshot taking capability
- Skipping Test execution at run time after certain Time Interval
- PDF validation



## Solution Highlights

- Automation of ~13000+ test scripts using Unified Automation framework has helped to reduce overall testing efforts and allowed shorter release cycles with improved quality
- Achieved ~70% automation coverage of the manual test cases provided
- Automation Saves 4 times of manual efforts during regression execution
- Early detection of functional issues
- Automation smoke and regression and test data creation scripts are extensively used by manual team for UAT
- BDD is known for bridging the gap between technical teams and business stakeholders. It operates on executable specifications written in Gherkin, a plain language accessible to all team members, fostering inclusivity and collaboration



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# 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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