# CASE STUDY

## NEW PRODUCT ALLOWS USERS TO EFFECTIVELY MANAGE AND ADDRESS DIVERSE INFUSION SYSTEM NEEDS

### Client Background

Our client, one of the world's largest global medical technology companies, is advancing health by improving medical discovery, diagnostics, and the delivery of care. The company supports the frontlines of healthcare by developing innovative technologies, services and solutions that help advance clinical therapy for patients and clinical process for healthcare providers.

The client is committed to:

- Helping improve patient outcomes
- Improving the safety and efficiency of clinicians' care delivery processes
- Enabling laboratory scientists to better diagnose diseases
- Advancing researchers' capabilities to develop the next generation of diagnostics and therapeutics

The client has a presence in virtually every country and partners with organizations around the world to address some of the most challenging global health issues.

softserve

## Business Challenge

The client used an outdated desktop app for internal needs. To keep up with the times and modern technologies, our client decided to develop an application that could fully address patient needs. The aim was to standardize processes, improve medication management, and enhance medication safety. Also, the client wanted to optimize this process anticipating that it would lead to cost savings.

## Project Description

The developed product will allow users to effectively manage and address the diverse infusion system needs. The web application—developed from scratch—aims to control the type and dose frequency of the drugs received through the infusion system. All infusion systems are managed from one server with access to the UI part of the app only being available to high-level staff. The back-end part of the app is divided into:

- Service layer—responsible for API
- Data access layer that reflects the data model
- Database—data access layer

The app uses layered architecture and domain-driven design. Also, Command and Query Responsibility Segregation (CQRS) is implemented to read data from operations that update data using separate interfaces. The system deals with requests—receive or change the information command—through a message broker. The event sourcing implementation is on the database level—snapshot tables. The end users of the product are internal medical staff.

The SoftServe team consisted of a project manager, business analyst, 14 developers and QA (including front-end, .Net full stack, database engineers).

Requirements were prepared and prioritized by the client and the SoftServe team was responsible for planning and translating them into tasks. Throughout the collaboration, the communication was clear and stable. The team benefited from a two-week onsite visit and another onsite visit after the first stage of the project was completed.

Compliance will be addressed during the next stage of development.

**Technology Stack**

- React.js
- Redux
- Saga
- TypeScript
- WebPack
- HTML5/CSS3
- Bootstrap
- Git

- TFS
- .Net Core
- Nancy API
- xUnit
- FakeItEasy
- Fluent-Assertions
- MediatR

- FluentValidation
- DotNetty
- Protocol Buffers
- GitHub
- Artifactory
- Confluence
- Kafka
- Dapper

- Docker
- MS SQL Server
- OLTP
- Visual Studio
- SSMS
- Jenkins
- Specflow

## Value Delivered

As a result of the collaboration, the client has a developed web app that offers interoperability across medical devices and systems to:

- Help reduce errors
- Increase efficiency
- Enhance patient care

It also helps minimize human factor errors—a high priority in the healthcare sphere. The automation procedure optimizes the whole process of delivering a high-class medical service.

# ABOUT US

SoftServe is a digital authority that advises and provides at the cutting-edge of technology. We reveal, transform, accelerate, and optimize the way enterprises and software companies do business. With expertise across healthcare, retail, media, financial services, software, and more, we implement end-to-end solutions to deliver the innovation, quality, and speed that our clients' users expect.

SoftServe delivers open innovation—from generating compelling new ideas, to developing and implementing transformational products and services.

Our work and client experience are built on a foundation of empathetic, human-focused design that ensures continuity from concept to release.

We empower enterprises and software companies to (re)identify differentiation, accelerate solution development, and vigorously compete in today's digital economy—No matter where you are in your journey.

Visit our **website**, **blog**, **Facebook**, **Twitter**, and **LinkedIn** pages.

softserve