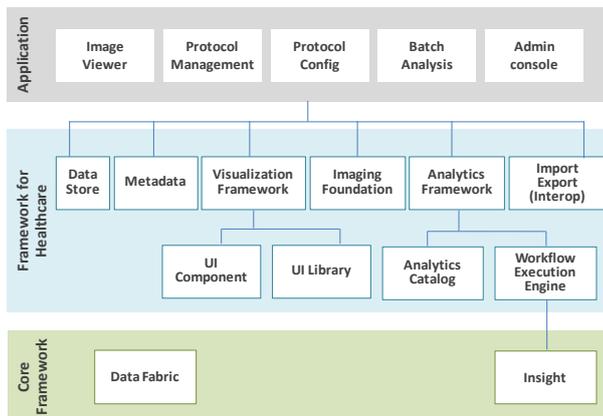


Client Requirements

Client is a leading provider of medical imaging and diagnostics services to pharmaceutical and life sciences organizations. Client manufactures a wide array of high resolution microscopy and cellular imaging platforms for research and drug discovery, that produce massive amounts of high throughput multimodal imaging data.

Client needed to build an analytics platform that could process high definition images and perform image analysis to provide visual and clinical insights. Given its expertise in healthcare analytics and medical imaging, CitiusTech was selected to custom build the analytics solution.



CitiusTech Solution

Requirement Analysis

CitiusTech put together a team of life sciences domain experts and clinical informatics specialists to do a detailed analysis of client's existing system. CitiusTech designed a flexible and configurable system for implementing the image analysis solution to process high definition images from a microscope using segmentation. The solution required to -

- Display different images in a layered fashion, such that each layer is rendered in different colour
- Provide fully flexible protocol editor that can be visualized in 3D along with object classification for image analysis
- Export the analysed data based on user specified criteria in various formats and provide batch analysis

Solution Design

CitiusTech team worked closely with the client to design and implement the solution that included:

- Flexible protocol creation
 - Support for user-defined image segmentation algorithms
- Setting up of segmentation algorithms dynamically
 - Dynamic addition of new and faster algorithms using BPMN (Business Process Model and Notification)
- Support for image blending
- Provision of data aggregation tools

Development and Deployment

CitiusTech developed the solution using agile methodology. CitiusTech led the end-to-end identification, design, development, customization and testing of the required image processing, data visualization and analytics platform.

Rich and an interactive UI was developed for a user-friendly interface. The system designed enabled users to view images, configure analytics workflows, execute in batches, visualize the results (images, masks and data) and export results for reporting and further analysis.

For deployment, CitiusTech created a OneClick Installer that provided the ability to install the application on the customer desktop. Release notes and required install scripts were shared with clients to ease the deployment process.

Value Delivered

By partnering with CitiusTech, the client was able to:

- Create an analytics platform that works synchronously with client's multiple imaging tools, serving varying needs and configurations
- Leverage CitiusTech's expertise in imaging, analytics and data quality management to build a high performance solution
- Drill down field of view level and analyze the images
- Analyze the data effectively using different visualizations such as heat maps, scatter plots and histograms
- Develop the solution in a reusable manner for image analytics across various client initiatives

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About CitiusTech

CitiusTech is a specialist provider of healthcare technology services and solutions to medical technology companies, providers, payers and life sciences organizations. CitiusTech's services and solutions include healthcare software development, healthcare interoperability, regulatory compliance, BI/analytics, consumer engagement, care coordination and population health management.

CitiusTech helps customers accelerate innovation in healthcare through a number of solutions and accelerators for clinical quality reporting, healthcare big data, cloud computing, mobile health and predictive analytics. With cutting-edge technology expertise, world-class service quality and a global resource base, CitiusTech consistently delivers best-in-class solutions and an unmatched cost advantage to healthcare clients worldwide.

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