

IoT dashboard saves healthcare org time and money

The largest not-for-profit provider of senior care and services in America, serving over 27,000 people around the country, operates a forward-thinking home wellness initiative. This IoT project places multiple sensors in patients' homes and transmits data to senior care specialists who can remotely monitor for abnormalities in daily routines that might signify potential health issues. This initiative allows seniors to age in place, while simultaneously reducing overall healthcare costs and improving patient outcomes.

As the project grew, the healthcare organization sought ways to:

- Improve and streamline the UI/UX of the application used to monitor sensor data and report on patients' health;
- Better manage the backlog of development requests generated by the business;
- Reimagine the application's architecture to make it more scalable; and
- Train its internal development staff to maintain the product using agile development methodologies.

The healthcare organization partnered with Catalyte on this project because of Catalyte's ability to:

- Implement user-centric design principles to improve the usability and efficiency of the application;
- Re-architecture the platform to make it easier and cheaper to scale; and
- Coach the organization's development staff in agile methodologies while simultaneously re-developing the application.

The work was conducted on a compressed schedule, only 12 weeks in total. Catalyte's team ramped to full speed in just two sprints, which included mastering the new technology of Angular2.

Catalyte's UX/UI experts immediately engaged stakeholders and application users (nurses, doctors, caregivers, etc.) to create a reality map and observe real-world tasks they completed with the app. From there, using user-centric design principles, Catalyte iteratively produced sketches, wireframes and Invision prototypes to test ideas with users. These integrated into the team's agile process to ensure that design efforts were aligned to the backlog priorities.

Before Catalyte's involvement, the application was single-tiered. Developers were encountering architecture problems that prevented them from delivering updates and value the business demanded. To allow the healthcare organization's developers to iterate faster on future versions of the app, Catalyte reconfigured the platform into a three-tiered micro-service architecture, consisting of API, Logic and Angular for the front end.

Simultaneous to the UI/UX and architecture updates, Catalyte engineers worked side-by-side with the organization's developers to improve development processes, introduce and coach agile development methods, create a working backlog of application features and begin to deliver the full business value possible from the home wellness initiative.

At a glance

Application type:

IoT dashboard used to monitor sensor data and report patients' health.

Challenge:

Improve and streamline application's UI/UX, for improved usability and workflow, reimagine its architecture to allow scalability and train internal development staff on agile methodologies.

Key technologies/skills:

Angular2, Logic, JIRA, Confluence, Agile, Invision, Design Sprints

Catalyte value add:

- **Training partner:** Catalyte simultaneously trained client developers in agile methodologies while delivering project results.
- **UX design:** Running design sprints in parallel with agile development reduced overall project time and maximized stakeholder participation and feedback.
- **Front/back end integration:** Single team delivered application that met both IT and business needs for employee use and scalability.

Results:

- A more productive and efficient application and improved user satisfaction.
- Reduced time for users to access and act on patient data.
- Improved quality of patient care.
- Increased flexibility and lower costs to scale the application.
- Development teams more responsive to business needs.
- Reduced development time.
- Ability to rapidly and iteratively improve the app with agile.

To increase visibility into the organization's development environment, Catalyte introduced JIRA and Confluence. This helped its developers to gather business requirements and turn them into proper criteria for user stories, essential for the delivery of incremental features using agile methodology. It also provided documentation for system level architecture that the client could follow in the future.

The final application redesign and re-architecture gave the healthcare organization a more productive and efficient application. The project also resulted in:

- Reduced time for users to access and act on patient data;
- Improved quality of patient care;
- Increased flexibility and lower costs to scale the application;
- Development teams more responsive to business needs;
- Reduced development time; and
- Ability to rapidly and iteratively improve the app with agile.