

# Focus on USABILITY



## MEDITECH's New Development Paradigm

### MEDITECH has always taken usability seriously. Today we're taking it to another level.

In the era of value-based healthcare, it's no longer good enough for an EHR to simply work. It must be easy to learn, intuitive to use, and natural to incorporate into practice. Above all, it must enhance productivity and not diminish it. To ensure the highest standards of usability in our products, we're not just retooling our software. We're re-engineering our entire design and development process. We've enlisted the help of dozens of practicing physicians, established a host of user-driven focus groups, and incorporated an Agile development methodology that puts our users at the center of the product development cycle. Here are the core elements of our new development paradigm at MEDITECH:



#### AGILE SOFTWARE DEVELOPMENT

Agile is a set of software development methods in which requirements and solutions evolve through collaboration between cross-functional teams, including users. We recognize that our users may not fully understand all of their requirements before they see working software, so we've adopted design and development processes that are more rapid, iterative, and evolutionary, based on direct customer collaboration. Working intensively with groups of end users, we can now demonstrate working software on the order of days and weeks, rather than months, making adjustments based on user feedback.



#### USER-CENTERED DESIGN

UCD is a set of software design principles that focus intensely on the needs, wants, and limitations of users. It places users at the center to gain a fuller understanding of the real-world processes and environments they live in. In harmony with the Agile development methodology, UCD utilizes rapid iterations to produce functional designs that are evaluated by users, and tested based on real-world scenarios. This approach helps us optimize our products around how our users actually think and behave, rather than forcing them to change their behavior to accommodate the software.

“The Agile development process made it much easier for us to stay on track and not get off target. The visits to our site, our staff visits to MEDITECH, web conferences, phone conversations. All of this helped get things to market quickly and **create a product that hit the mark.**”

Eric Carey, CIO  
Valley Health System

“The designers at MEDITECH are amazing. There's nothing that comes out of our mouths that isn't further followed up on. It's been incredibly rewarding to have my personal fingerprint on some of the decisions, and to enter into discussions with other physicians who have different points of view.”

Dr. Joy Chesnut, CMIO & Physician  
Memorial Health System

## FOCUS GROUPS & USER PANELS

MEDITECH operates customer-based feedback groups throughout the research, design, coding, and maintenance phases of both new and existing products. At any given moment we're engaging dozens of groups comprised of hundreds of healthcare professionals from across our customer base. From small, rural healthcare facilities to massive, urban IDNs, we strive to identify a representative cross section of users to provide feedback on software across our product lines. Meetings are typically conducted via web conference, with development staff demonstrating designs, process flows, screen images, or working software for discussion and feedback. Focus groups are typically used early in a project, while smaller and more intensive user panels are engaged in subsequent development phases. Both are vital to our User-Centered Design efforts, as they provide valuable insights into real-world workflow issues.

## USABILITY TESTING

We incorporate multiple rounds of usability testing into the development of our products, recording responses to real life tasks within the system and tracking measures such as mouse clicks, mouse movement, and time on task. Usability testing is deployed on both prototypes and working software. Typically users are not provided any instructions or documentation, but simply observed interacting with the software. This helps our developers identify pitfalls and bottlenecks other users are likely to face, and to adjust their designs accordingly. We've even created a "usability lab" designed like a patient exam room, with an examination table, computer, tablet, desks, scales, and more. Unlike a standard exam room, however, it includes an attached observation area separated by two-way mirrors to allow staff to study the patient encounter process.

“I have never been involved in such a well thought out and planned development process. This is absolutely one of the best things I've seen MEDITECH do.”

Gayle Reid, RN, Sr. Clinical System Analyst  
Augusta Medical Center



## When Every Second Counts

## MEDITECH's Critical Care Solution

**The development of MEDITECH's new Critical Care Flowsheet & Desktop exemplifies our company's commitment to a more Agile, user-centered software development process, with direct user feedback during every stage.**

Recognizing the unique nature of the critical care environment, we embedded two practicing critical care nurses (and users of our software) directly onto our critical care development team. These clinical users participated in weekly project meetings, significantly reducing the likelihood our programmers would misinterpret their requirements. Our developers demonstrated software (sometimes designs and other times actual coded software), allowing users an opportunity to provide frequent feedback and present additional scenarios (in Agile terminology, "stories") that might or might not be accommodated. Developers would make adjustments and present their changes in the next weekly meeting.

After the core of the product had been developed, we enlisted three dozen users from a cross-section of our customer base to provide feedback on screen designs and workflow. Ten separate focus group meetings were convened to demonstrate development progress over the course of the project, and several sessions of hands-on usability testing were conducted. The feedback collected during both our focus group meetings and usability tests significantly enhanced the core product and led to the creation of several new features.

