

MassHousing Shrinks 18-Month Development Project to 12 Weeks with Mendix

Needing to streamline its Chapter 40 comprehensive permit process, MassHousing used the Mendix App Platform to deliver a single application that replaced eight legacy systems. Two developers built the app in 12 weeks, compared to a projected 18 months using .NET. Now, MassHousing is developing additional apps with Mendix, as it looks to keep pace with growing business demand and deliver valued information solutions through a more iterative, collaborative approach.

Challenge

Chapter 40B, Massachusetts' affordable housing law, was enacted to address obstacles to the zoning for affordable housing. MassHousing is one of four state entities that oversee the state-wide program. Oversight includes a preliminary review and approval of the proposed development with respect to compliance with statutory and regulatory requirements at several points in the permitting and construction process, entailing the tracking of over 800 pieces of data for each development as well as providing required reports to the Commonwealth's Department of Housing and Community Development.

Managing the data-intensive process has been a challenge, though, and over the past decade, MassHousing amassed a collection of packaged software, custom apps and spreadsheets, each dealing with a portion of the overall Chapter 40B process. Some were built by in-house developers using .NET and other tools, while others sprung up ad hoc from spreadsheets created in business departments. Because there was no integration between these systems, it was difficult for staffers to find information, react quickly to business requests and produce timely reports for compliance needs.



“We would get requests for information about how many projects we have in a given community with certain criteria, and we couldn’t answer because all of the data was in different systems, and there was no easy way to access it, without bringing all the dispersed data sources into a separate executive information system,” said Charles Schiappa, MassHousing’s CIO. “We needed a holistic solution that would help us do a better job managing this complicated process from end to end.”

Solution

The agency spent a year studying all facets of the processes that govern Chapter 40B, producing a 1,200-page requirements document. The report called for the creation of an app with more than 800 data elements and more than 70 input screens that would centralize information and streamline workers’ processes, eliminating the need for several legacy systems.

“Even without doing a detailed estimate, my gut told me that it would take another year of coding and then a half year of quality assurance and testing to build the app using our existing process,” Schiappa said. “I knew we couldn’t wait that long.”

Looking into alternative approaches, MassHousing met with Mendix, and was told the same app could be built in 12 weeks using the Mendix App Platform. Schiappa admitted he was skeptical at first, but when a three-day proof of concept produced one-quarter of the app's functionality, he was convinced Mendix was the right platform. "We didn't believe it could be done that fast, but we took them up on their offer and were pleasantly surprised," he said.

Results

A team of two developers, including a systems analyst with minimal coding experience and a developer from Mendix, built the affordable housing app in just 12 weeks, as promised, using the Mendix platform. The resulting 40B app centralizes the management of a series of functions, including the tracking of end user documentation submitted for zoning board approvals, lists of new and existing developments and unit counts for projects, organized by town, development type and timing. What was revealing to Schiappa, though, was how Mendix allowed MassHousing to incorporate user feedback much earlier in the process to deliver precisely what they needed.

"In the past we would do all of our testing at the end, and that would be the first time users would see an app in the flesh, so to speak," Schiappa said. "Using the cloud-based Mendix platform, we were able to show working prototypes to end users after two weeks, and weekly thereafter. That allowed us to create a much more iterative, collaborative process, incorporating user feedback all along the project life cycle, and resulting in the solution that everybody wanted."

The new Chapter 40B app has provided immediate business benefits in the form of a much easier process to comply with government regulations. Quarterly reports used to take days

"Mendix has changed the way our users participate in the development process. We've gone from user fatigue to user engagement, bordering on delight. We can easily make changes along the way and create the system they need and the system they'll use."

Charles Schiappa
CIO, MassHousing

to complete because workers encountered complications running queries from multiple systems. Reports can now be run with the click of a mouse. Program staff are pleased with the results says Greg Watson, Manager of Comprehensive Permit Programs, noting that "the app covers all of our program needs and is very easy to use; moreover, Mendix personnel allowed the program needs to drive the development of the app and were very responsive to our comments throughout the process."

In addition to this business responsiveness, Schiappa said, Mendix provides MassHousing with a development, test and operational environment; a fast and flexible cloud platform to meet growing business demand for custom apps without increasing the size of the IT infrastructure. MassHousing has begun tackling the list of projects on its backlog, starting with an app that streamlines the agency's procurement process.

"Mendix is helping us to change the way we build certain types of apps," he said. "I think of it as having an express lane and a regular checkout lane at the grocery store. Before, we only had a one-size-fits-all approach. Now, depending on the project criteria, we can either deliver it quickly and flexibly with Mendix or use our traditional approach."



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