

Wireless Technology Drives Superior Quality Control for U.S. Homebuilder

When your reputation is built on quality, you need a reliable system to track performance. Grayson Homes, a mid-sized homebuilder in Maryland, was using a paper-based reporting system to inspect houses under construction and report back to trade contractors and suppliers on defects that needed to be resolved. The system relied on cell phones and faxes for communication. A simple database, that needed clerical support to input reports, was used to overview outstanding work.

The system was working. But for a company driven to offer the highest quality standards, it hinted that more was possible. Grayson and ATSG, a Maryland-based technology management company, worked together to build a fully wireless system. ATSG's Construction Quality Manager® (CQM) uses the Flowfinity Solutions Platform and BlackBerry® wireless technology.

Grayson was awarded the 2005 National Housing Quality Gold Award for many of its quality control initiatives. The BlackBerry CQM solution provides numerous quality control benefits, including:

- Reduced paperwork, phone calls and manual inputting of reports
- Increased field supervisor efficiency
- Greatly improved visibility of contractor performance
- Improved trade contractor effectiveness
- Superior quality assurance

A typical day on the job for a Grayson field supervisor involves hours away from the office at a building site. As the frontline in quality management, field supervisors walk job sites, checking to see that homes are built to Grayson's exacting standards. Prior to implementing CQM, any defects were noted on paper by field supervisors, who would either call, fax or two-way radio a trade contractor or supplier to resolve defects. Supervisors would return to the office to use a desktop computer spreadsheet to enter and review defects and contact trade contractors and suppliers.

To track these inspections, reports were manually typed into a simple database that Grayson used to monitor its performance. The database was often weeks behind in accuracy and provided only a limited perspective on the overall business.

Industry

Residential Construction

Situation

Grayson Homes wanted to replace a paper-based quality control system that tracked and measured trade contractor performance with a more efficient wireless solution. At the same time, they needed a real-time database that offered an instant overview of their business.

Company Profile

Grayson Homes has been building residential homes for 28 years and constructs 200 to 300 homes per year. The company has received numerous awards. A staff of 54 serves customers and manages trade contractors in the Maryland area.

Solution

BlackBerry handhelds deployed on the BlackBerry Enterprise Server™, using the Mobile Data Service (MDS) feature. ATSG's application – Construction Quality Manager® – was built using Flowfinity's Solutions Platform, Microsoft®.Net, SQL Server and Crystal reports.

Results

Grayson was awarded the 2005 National Housing Quality Gold Award for many of its quality control initiatives. The BlackBerry CQM solution provides significant quality and productivity benefits. Supervisors perform their jobs more effectively and spend less time in the office using email, phone or fax. Grayson has a sophisticated system for reviewing trade contractor performance, which it uses to enhance contractor effectiveness. Grayson has brought its quality control system up a notch, giving it a distinct advantage in its marketplace.

Improving Field Service Efficiency

"We were looking for a way to use technology to help our supervisors do their jobs," says Ron Swecker, director of home building. "We wanted to find a way to help them become more efficient and save time."

Grayson worked with ATSG, their IT services provider, to deploy a wireless application on BlackBerry handhelds. ATSG provided a complete end-to-end solution including application development, handheld deployment, training and ongoing hosting services.

For field supervisors using the solution, it would mean paper would be replaced with a wireless reporting system that offered tracking and project management.

"We selected ATSG because they have experienced developers with knowledge of construction applications and processes," says Swecker. "They actually walked the construction job with our supervisor, captured our requirements and delivered a conceptual design with their proposal."

Construction Quality Manager is now available as an out-of-the-box solution created by ATSG for BlackBerry. This robust interactive wireless solution enhances the field supervisor's ability to track, manage and resolve defects from their BlackBerry handheld, virtually wherever they are working. It also provides a superior database and management reporting system that gives the company a comprehensive view of their business.

The application uses the Flowfinity Solutions Platform to provide the handheld input screens, queries and deliver updates to server information. Flowfinity Solutions Platform technology is useful for extending any existing application to always-connected wireless devices. It's based on existing industry standards and enables application developers to leverage their existing tools for creating BlackBerry applications.

Using the MDS feature of the BlackBerry Enterprise Server, information is wirelessly pushed to the handheld automatically when the central database is changed. As the construction supervisor enters data on the BlackBerry handheld, updates are sent wirelessly to the central server where the database is updated immediately. When the supervisor is out of wireless coverage, and not connected, they can use CQM to capture and update status. All updates are automatically sent to the server as soon as the user returns to an area with wireless coverage.

An Award-Winning Solution

Grayson's commitment to quality has paid off not only with their customers, but with industry praise. The company was recently awarded the 2005 National Housing Quality (NHQ) Gold Award from the NAHB Research Center. According to Grayson, CQM for BlackBerry was a key contributor to the company's achievement, since it has helped supervisors inspect homes more quickly and accurately, increasing the level of quality and customer satisfaction.

"We liked the Construction Quality Manager right away," says Swecker. "It is customized specifically for the construction industry. And even though there are other solutions in the market that are done on a handheld device, we liked that it combined the all-in-one functionality of BlackBerry. We have a handheld with email, calendar, phone, web browsing and a quality management system in one device. It just made more sense to have one handheld than having someone carry a PDA and a phone."

BlackBerry handhelds have now become indispensable. When a supervisor is inspecting a house, he enters a defect into the Construction Quality Manager application. The notation does not go away until he marks it complete. At the end of the day, the supervisor prints a report that lists all houses and any open issues. The next day the supervisor checks to see if open items have been resolved.

Increased Efficiency

As an added efficiency, trade contractors are automatically emailed or faxed a report every day that shows incomplete items. "Our trade contractors really like the new system" says Swecker. This defect history enhances trade contractor effectiveness and gives them a reliable worksheet of jobs to complete.

Supervisors are no longer carrying around binders of information and defects are reported immediately – without delays or lapses in memory, says Swecker. "It makes it harder for things to get overlooked."

The supervisor can also use the database to monitor the organization's overall quality performance. The system runs a report, by frequency, outlining the most commonly occurring defects, phases of construction, job numbers and specific trade contractors.

"In the past, we might hear anecdotally that there was a problem with a particular trade contractor," he says. "The only thing we could do then was to test everyone's memories for the specifics. Now, when we hear there's a problem with a trade contractor, I can pull up a report in about 10 seconds that tells me exactly what the problems have been."

Swecker uses the information to improve overall quality and the relationships with his trade contractors. He feels it not only helps Grayson, but also the trade contractor, who gets important feedback on their service.

"Some people could use this as a tool to beat up on trade contractors," says Swecker. "The way we treat our trade contractors and the relationships we have with them, is very important to us. We see it as a way to work together with them to gather information that they may not be sophisticated enough to have. We assume that they would like to improve and be as efficient as possible and we can help them by outlining where they are spending extra time."

BlackBerry Solution Improves Workflow Management

Although the supervisory team still uses their desktop computers, they do not use them as much. Supervisors comment that BlackBerry functionality allows them to do most of the same things they do in the office – on the road.

"Supervisors love the handheld because they don't want to have to go into the office," says Swecker. "At one time, they were even hesitant to use email because it would have meant they'd be chained to their desks. But now, email and their calendars go with them when they visit the houses."

Swecker also uses BlackBerry functionality to replace note taking at meetings. He types in the relevant information and then emails the summary of the meeting to the participants once the meeting is over. Swecker finds the process improves his efficiency and keeps everyone in the loop.

Benefits Today Lead to Future Plans

"The backend of this solution is by far the most important part," he says. "The ability to capture all this data, sift through it easily and get to information that allows you to make improvements, is key to our competitive position in the marketplace."

Swecker says the solution has not yet been applied to customer service. But he expects to use it to manage customer warranty service appointments. BlackBerry with the ATSG solution will be used to enter defects that the customers point out in their post-settlement warranty meetings. Swecker believes that a wireless solution will allow them to record defects, create a list and email it to the customer as confirmation of the work to be done.

So far, the benefits to Grayson Homes have been undeniable and include:

- Reduced paperwork, phone calls and manual inputting of reports
- Increased supervisor efficiency on the job in speedily following up on defects
- Greatly improved reporting on trade contractor performance and recurring issues
- Improved trade contractor effectiveness in understanding shortcomings or resolving defects
- Superior quality assurance which translates into customer satisfaction



To learn more about CQM visit www.atsgi.com and www.flowfinity.com

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*Ron Swecker,
Director of Home Building*