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Staying Connected

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Expediting information to the field by eliminating trips to the office is helping builders chalk up even more profits by responding to customers quicker than ever before.

In the residential construction industry, certain all-in-one wireless applications are smoothing the turbulence involved with scheduling, finances, and communication by expediting transactions and updates to and from the field. These applications seamlessly deliver data through tablet PCs, personal digital assistants (PDAs), and other wireless devices ultimately reducing trips to the office. As a result, builders are discovering newfound freedom in their daily schedules with the reduction of massive paperwork and independence from a constant Internet connection.

Even the most technology-resistant organizations within the construction industry require very little training to become a mobile office. With advances in technology, users are able to constantly input data into lightweight wireless devices, which in the end often equates to less wasted resources and increased accountability.

Market Forecasting

Many builders are warming up to the idea of using wireless devices in the field. Ruggedized industrial laptops, such as tablet PCs, are able to withstand being tossed in a truck, dropped, or otherwise abused in a common construction setting. What's more, these highly customized machines have the capacities to prove effective for all size homebuilders. Their full-sized computer screens provide a larger visual display than typical PDAs, and efficiently recharge from a cigarette lighter or work trailer.

With that in mind, the tablet PC is what BuilderMT, www.buildermt.com, Lakewood, Colo., chose to run its Jobsite Field Management application on during initial trials. This application, which will also run on PDAs, smartphones, and other wireless devices, allows builders to update numerous field activities and access crucial backoffice workflow documents.

Whether typed in or handwritten directly onto the screen, information is accurately translated into traditional computer text via the software. There's no need to convert the files or change the language to turn handwriting into computer text. This saves time associated with such tasks as obtaining change-of-work authorization, capturing signatures, filling out timesheets, and other paper-oriented projects enacted on a jobsite.

"Our software connects directly to the server at a builder's office. A piece of software loads on your portable device to manage all the functions of checklists, activity approvals, schedule variances, reminders, notes, text messaging, emails, telephone calls, and more," says Tom Gebes, president, BuilderMT. "While a supervisor walks a site he checks something as completed and updates the project's schedule. Then the company's purchasing or accounting department is notified to generate an invoice and pay the appropriate vendor. Having all these tasks aligned reduces time spent on inputting data and traveling back and forth to the office. It's a means of generating a system of checks and balances."

With Jobsite Field Management, builders can easily change a project's schedule to formulate a new completion date. Therefore, nearly everyone in the company is involved in such tasks as determining which crews are scheduled to work on a certain day to when the accounting department pays a vendor.

This application handles scheduling specific tasks, logging in completion of individual activities, sending payment approval to accounting, establishing reminders, viewing supplier and buyer/owner contact information, and updating projected completion dates, among other tasks.

Simplified Wireless

Until recently, the main problem associated with wireless applications for the field has been the level of complexity, according to Sid Cutts, vice president of sales for Field2Base, www.field2base.com, Morrisville, N.C. This is a primary reason that Field2Base has designed its application to enable users to alter photos, computer-aided design (CAD) drawings, and other visual images directly on the screen. The tablet PC also stores a digital copy of all documentation, which is backed up on the Field2Base server.

“When I came on board I wanted to make sure we were going to do this almost at a Sesame Street level. It’s all one-touch computing with large, clear icons. You don’t even have to know how to navigate through Microsoft; simply turn on the tablet and you’re at the Field2Base application,” explains Cutts, adding the device stores CAD drawings, which eliminates the need for builders to carry around large rolls of paper.

“I can write notes on the tablet PC with a pen then email them to anyone related to a project. Let’s say we’re in the framing stages and laying out the floor system. We’ve got a question based on the foundation—things just aren’t lining up properly. Typically you’d have to get the mason, the engineered wood company, the architect, and some other contractors on the phone to discuss the issue. But with this you can take a digital photo of the situation, use the pen to indicate the specific area, and convey that to supervisors, homeowners, vendors, etc.,” says Cutts.

Jeff Rainey, president and CEO of Home Equity Builders Inc., www.hebinc.com, Great Falls, Va., likes the ease of use with Field2Base.

“One of the things we’ve had to deal with for years is that there’s no such thing as a road warrior tool. We bring cell phones, laptops, and PDAs to sites. This application has combined those into one simple-to-use, fully functional office,” says Rainey.

He offers an anecdote about his own experience. “It’s reduced those hours that kind of sneak in—those unbillable hours. Let’s say we’re at a client meeting. Typically a builder (or supervisor) goes to the meeting and takes notes on the tablet. If he hands off his notes to an office manager and leaves to visit other sites for the day, the office manager has to wait for him to come back and try to recall what he was noting. Then he might have to call someone to refresh his memory. Well, with this product, the tablet PC instantly translates his notes, which relieves the office manager of that duty and saves time. The notes are emailed to anyone involved with that meeting, perfectly unimpaired. So this has raised everyone’s level of responsibility and accountability. It’s saved us a lot of money in clarification time and time spent going back to the office.”

Integration is key

In addition to increased mobility, wireless applications are allowing for more integration in scheduling and payment programs. The data input in the field goes instantly to anyone who needs that information. Because contractors no longer have to wait for data to be sifted from department to department, which could take days or weeks, their daily updates allow them to seamlessly integrate their work on the project.

Integrated Construction Profit Manager, by HeadsUp Technologies, www.headsuptech.com, Overland Park, Kan., is an integrated scheduling, project management, and profit analysis tool. Through handheld tools it sends information and accesses information from a centrally hosted Web application. Daily reports are inputted at construction sites via a PDA and transmitted to a centralized location and analyzed against the project’s schedule.

“When we started working on this I couldn’t believe people weren’t connecting schedules to what’s being done in the field,” says Dann Kroeger, CEO, HeadsUp Technologies. “Companies in the \$300 million-\$500 million annual sales range have the personnel to handle various stages of the project. Yet even these people are far removed from project managers and the people on the sites. They can only provide schedules bi-weekly or monthly, which isn’t frequent enough to handle the daily changes on construction projects. More people need to be in touch more frequently to handle all the information seamlessly.”

Because these products can instantly capture and convey information, they gain more control of the daily changes in scheduling, which inherently prevents many problems or delays between hierarchical structures, which manage various stages of the project. Now they can rely on daily input from the field such as hours worked, the type of work and amount of work conducted, delivery information, weather information, and more.

Users can also access documents such as building permits that relate to a chain of activities, says Kroeger. Using Integrated Construction Profit Manager to find where the permit is in the sequence of events often prevents delays in the project.

“If you don’t have the permit and your people are scheduled to be there that day, it costs money. It then recalculates schedules based on daily reports. All in all, it updates the status of all projects in accordance with planned completion dates.”

Ultimately, these daily reports allow builders to detect problems early enough, enabling them to make informed decisions. “At the end of the day a site supervisor will do one of two things: put in percentage completion based on a gut feel and/or observation and/or the percentage of tasks completed. That information correlates with the schedule. It notifies the supervisor to critical path item tasks not yet completed. Those tasks could cause a bunch of things to happen which could cost money,” says Kroeger.

Integrated Construction Profit Manager uses a PDA to connect to the centralized host and exchange information builders seek. Other companies install their software directly onto the PDA, but Kroeger believes it to be too restrictive and potentially more problematic.

That’s a mistake because the vendor is held responsible and the customer can’t use the application. The advantage of an ASP is that it supports everyone,” adds Kroeger.