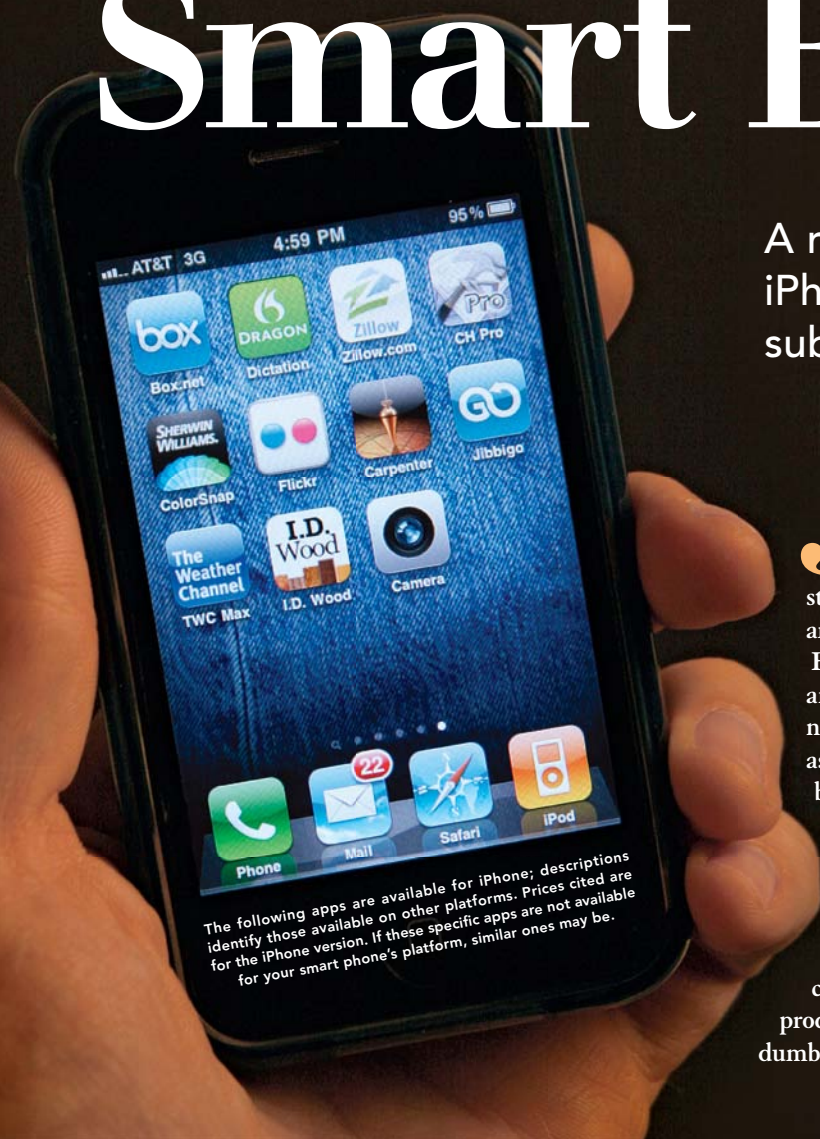


Smart Phones for Smart Builders

BY AARON LUBECK



A restoration contractor shares the 11 iPhone apps that keep his truck neat, his subs in line, and his crew out of the rain

Just a few years ago, my checklist of items to bring to the job site would have included a cell phone, a plan set, a codebook, a calculator, a level, a camera, a weather report, a black book for contacts, a map, a laptop, a portfolio, and an invoice booklet. That's a lot of stuff to pack up and strip down every day, not to mention a lot to haul around but not necessarily use. It's no wonder my truck was a mess.

Because I like to think I have better use for my time (and lower back) and because I'm always looking to improve my productivity, it was natural for me to adopt Apple's iPhone. This pocket-size tool functions as a mini-laptop, a GPS tracker, a text messenger, a media player, a web browser, and rather subordinately, a phone.

While a cell phone is a staple for any modern builder, it's the applications (apps) available on today's smart phones that are revolutionizing the way I do business. By facilitating work with less paper, less duplicative communication, and less time, my smart phone is a great declutterer. At the same time, it enables more efficient work, cutting costs and letting me keep a leg up on the competition. In fact, it was a day's productivity lost to an erratic rainstorm that was the nail in the coffin for my dumb phone. Realizing that access to an up-to-the-minute weather app (p. 66)

The following apps are available for iPhone; descriptions identify those available on other platforms. Prices cited are for the iPhone version. If these specific apps are not available for your smart phone's platform, similar ones may be.



BOX.NET

Box.net; free; Android version available

A cloud-computing app that lets you view, access, and share project files with multiple participants

Box.net is cloud computing on the go. This mobile tool syncs with a web dashboard where project documents are available to all collaborators in real time. Its web interface is a great facilitator of a competitive bid process: Instead of printing large plan sets for each subcontractor and scheduling individual meetings, subs can simply download relevant details and bid from the comfort of their office. Not every sub needs every sheet of a plan set; plumbers, for example, may require only the plumbing schedule and may not even need a site visit to bid. When plan sets are updated, they're updated for everyone—no need for 30 separate emails—so cloud computing saves gas, paper, time, and money.



DRAGON DICTATION

Nuance Communications; free; a version is available for BlackBerry email clients

A voice-recognition tool that translates spoken notes, punch lists, or instructions to text or email

Sometimes I like to walk a site and record material lists, client notes, punch lists, or notes for site workers. All this can be typed and emailed, but it's quicker to record my thoughts as I speak them aloud, which this app then translates to text. I love that I can start and stop as I please; I can make notes on the first floor, pause, do a five-minute review of the second floor, and pick up right where I left off. Once complete, I edit for accuracy (you do have to speak clearly) and send away: "Max, I need six 2x8x10s and two 2x12x8s. Please deliver to the Smith job tomorrow." I hit send, and that item is off my list.



ZILLOW

Zillow.com; free; Android and Windows Mobile versions available

A real-estate app that helps clients to understand property and improvement values in real time

My company focuses on remodeling in old urban neighborhoods where it's not uncommon for \$800,000 homes to share a block with property a fifth of their value. Sometimes this variance can make clients anxious about overimproving a home with, say, a big kitchen remodel. Zillow is a great application to show what other houses have sold for after undergoing comparable renovations, information that can put clients' fears at ease (or even make them more enthusiastic about an ambitious project). For builders who buy lots, it's a great tool to verify the local market. You can check out adjacent neighborhoods, average days on the market, recent sales, and recent prices, all valuable to assess the market potential and pricing of the finished product.



CARPENTER'S HELPER PRO

My Pie Interactive; \$14.99; lite version is free

A custom calculator for carpenters, with functions for stair framing, roof coverage, and lumber takeoffs

There's no longer any need for a separate, bulky, expensive construction calculator. This app is great for calculating riser heights and volumes. It speeds the framing process and the creation of story poles. It also calculates rafter runs and riser heights. Some of the bells and whistles on the Pro version are unnecessary, but the core functions are worth the cost.

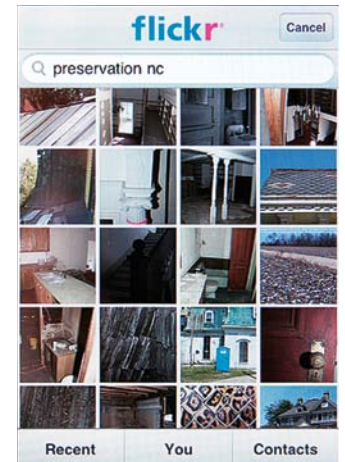


FLICKR

Yahoo!; free; Pro account is \$24.95 annually; accessible on any web-enabled phone

Upload and geotag photos of your work, creating an accessible portfolio

I use Flickr in two ways. First, the unlimited storage capacity available with a Pro account offers an efficient way to organize a photo portfolio of completed work. It's too cumbersome to haul around photo albums of every project I've done, and you can never predict what specific improvement a client may inquire about. A vast digital library can easily be stored on a 32-GB phone, but Flickr Pro offers both unlimited storage and the ability to share those images. Clients who can visualize their project by looking at others are more likely to proceed, so it's a great sales tool. Second, I photo-document rough-ins with (on average) 200 photos and upload them to Flickr. That way, when an issue comes up, I don't have to go back to the office to research what's behind the wall. It's also a cloud application, so site leads or subs can link to the same file folder and reference rough-in photos. Whether it's for a curious client or a confused electrician, my photo library is always right there in my pocket.

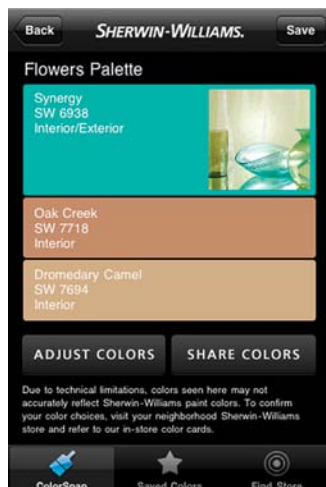


COLORSNAP

Sherwin-Williams; free; also available for BlackBerry

Captures real-world colors via the iPhone camera and matches them to Sherwin-Williams colors

My company has made one too many trips to the paint store to get a sample color for a wall, so I like this app. Just snap a photo, and the app color-matches any part of the photo to a Sherwin-Williams code. It also allows you to browse palettes and adjust by lightness, saturation, and hue, so bulky palette books can be left at the office. If you're looking to blend coats or get an absolutely perfect match, there's no substitute for taking a sample to a paint dealer and having it matched professionally. But if your client wants to paint a room to match a child's favorite red chair, it'll get you in the ballpark. I can snap a photo, and the app not only locates the color of the subject chair, but it also references two complementary colors to round out the scheme.





WEATHER CHANNEL MAX

The Weather Channel Interactive; \$3.99; base version is free

Accurate, location-enabled conditions, including local and national severe-weather alerts

The iPhone's stock weather app predicts general conditions and temperatures for the next five days. That's great, but of more value to my crew and me are weather conditions for the next few hours. We're often faced with a morning decision whether to stage exterior work. It takes a while to set up ladders and scaffolding, to drape the ground, and to get out the paint. If three guys spend an hour getting ready only to get sucker-punched by rain, then I've wasted hundreds of dollars in labor.

The Weather Channel's app cost me less than \$5 and features a two-hour radar-map timeline that shows the location and trajectory of clouds. Instead of betting on a 30% chance of rain, I can see that the storm is heading north and doesn't appear to threaten the day's schedule. As a plus, the app also links to traffic cameras, which can help to allocate human resources efficiently by keeping crews out of traffic jams.



iHANDY CARPENTER

iHandysoft; \$1.99; Android version available

Five tools in one: plumb bob, surface level, bubble level bar, steel protractor, and steel ruler

I don't usually carry large levels with me, and while the iPhone (at 4 in. long) is not all that accurate for finding perfect level, it can do solid spot checks. For example, if I'm suspicious that a stone was set incorrectly to slope toward a house, my iPhone not only can prove my theory correct, but I also can use it to photograph the errant stone and text the landscaper about it. I've also used the surface level to verify that a sink was not set level and

required shimming. In the design phase, I've used the bubble level to document existing roof angles. For now, the app handily indicates degree of pitch (such as 32°), though it seems logical that future versions should take the extra step to translate degrees to x-in-12 pitch.



JIBBIGO

Mobile Technologies; \$24.99; Android version available

Mobile speech-to-speech translator aids communication with non-English-speaking subs

Spanish-speaking workers are ubiquitous in my markets, as in many others, and language is often a barrier when a subcontractor furnishes a worker with limited English ability. But Jibbigo can help. As a voice-to-voice app, it eliminates the intermediate step of typing and verbalizing. I can say, "Your equipment cannot be stored there," and the worker can hear, "Su equipo no puede ser almacenado allí." It works in reverse, too. It's one of the more expensive apps out there, but it has prevented more than one potentially expensive miscommunication, making it worth every penny to me. And it comes in eight languages, just in case you work with unilingual Japanese nationals.



I.D. WOOD

Double-Dog Studios; \$4.99

A pocket guide to woods, with full-screen samples and detailed information for almost 160 different species

If a client is interested in exotic wood flooring, you can quickly reference its hardness, typical uses, sustainable properties, origin, and look. When specifying finishes, it's a great tool. In the field, it's a great reference on lumber cuts, stamps, and grades. I do, however, wish it had a stain guide, showing what each wood would look like with the most common stain colorations.

may have led to a different outcome, I decided my old phone's \$200 termination fee cost less than losing another day to unpredictable weather.

Two years ago, I chose the iPhone over competing smart phones for its simplicity, its multiple functions, and its availability of apps. Since then, the competi-

tion among smart phones has gotten stiffer—Android phones have closed the gap—but in my view, the iPhone is still a winner.

For all its benefits, though, the iPhone has a few downsides. First, for builders who are doing heavy-duty work, the phone may be too fragile. The touch screen isn't ideal for dirty hands, and it

may be less durable than a bulky Nextel or BlackBerry. The initial cost is more than that of comparable phones, the monthly plans cost more, and the phone is particularly expensive if broken or lost. I've found the premium well worth it, but it may be superfluous to others. Regardless of the platform, for builders wanting

to be more intelligent about their everyday operations, a smart phone may be the smartest move they can make. □

Aaron Lubeck is the author of *Green Restorations: Sustainable Building in Historic Homes* (New Society Publishers, 2010).

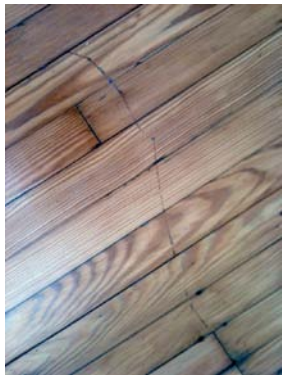


CAMERA

Camera phones aren't new, but the iPhone's clarity, flash, and video platform make it ideal for bridging communication gaps

Cell phones have long had cameras, but for me, the iPhone is the first one that really worked. It's simple, focuses well, and shoots 5-megapixel pictures (high enough resolution for an 8x10 print). Past versions struggled in low light, but the iPhone 4's LED flash eliminates problems with deficient light when shooting indoors. Newer iPhones also have a digital zoom that enables you to send images of the smallest household details. I use the camera to create punch lists, communicate on-site conditions, and build mini-portfolios. To enhance issues captured in the photograph, text or audio can be added at the touch of a button.

In-phone video editing, new to the iPhone 4, will further facilitate communication with clients not only by



Picture punch lists curtail miscommunication, whether the information involves "Which molding is damaged?" or "Where is the floor scratched?" or "I didn't see a crack anywhere."



enabling video punch lists, but also by making it easier than ever for builders to show off a portfolio to prospective clients online. The time-consuming tasks of loading video onto a laptop, then editing, rendering, and exporting it—not to mention learning the software to do this—have long kept video marketing out of construction. That's about to change. We'll soon see contractor portfolios on YouTube as normative practice. Some contractors may even edit short videos for each project they complete as part of a public media library. A phone isn't totally necessary for video editing (iMovie and Windows Movie Maker come loaded on many Macs and PCs), but it does remove the extra step from the publishing process and makes it that much simpler. Meanwhile, video platforms like FaceTime have the potential to revolutionize construction communication. When clients can conduct weekly meetings and enjoy a narrated progress report via live video call, we're officially in the 21st century.

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Four apps I wish I had

Georeferenced crew and time tracker

A few apps use smart phones as company-wide time trackers, and then there's geo-spatial technology, such as Google's Latitude, that allows friends to see where other friends are located. I'd love to combine the two to see where my carpenters are located, and what job they're logged in to perform. I could make better decisions on the day's work orders, whether to pull people to other jobs, or how to prioritize work. If I need to catch up with John, I could tell whether he's at the work site or at lunch. For builders with multiple crews on the road, this would be incredibly useful.

Site cam

In an urban environment, theft is always a problem. We went through a period when copper theft was rampant. Besides security, builders could benefit from remote monitoring for clocking in and out, keeping tabs on progress. The problem is that to date, all affordable site cams require either a wireless connection or line-of-site transmission, neither of which is practical on a typical construction site. Wireless providers could offer a service to use their networks to stream live or periodic video. I'm surprised it's not available yet, although AT&T's Video Share feature, which enables video during phone calls, brings us somewhat closer.

Real-time energy use

A few companies are working on software that tracks energy use through the meter, including Microsoft Hohm and Google PowerMeter, as well as those that monitor individual circuits, such as Powerhouse Dynamics. Other companies are measuring air quality, humidity, HVAC efficiency, maintenance schedules, and so forth. It would be great to see it all through a universal, easily accessible iPhone dashboard, but no one has cracked that nut yet. Builders could use this tool as a green differentiator, proof of long-term commitment to postoccupancy evaluation and service. Builders might say they build efficiently, but with these tools, they could monitor exactly how their structures perform, down to the minute, and produce that data in a flash for current and future clients.

Procurement and pricing database

The professional building industry has long relied on personal relationships and is staunchly resistant to replacing human salespeople with information technology. While the ability to talk to a professional will always be valued, most of our orders—particularly of stock materials—do not require a consultation. It's inevitable that suppliers and end buyers will work to eliminate these inefficiencies, and I'd love to see an app that showed real-time pricing and availability from local vendors, with the ability to order via the phone. It would save more than a few trips to the store, but because it's such a massive undertaking—and requires vendor buy-in—I'm not holding my breath.

