

Green Builder

MAGAZINE

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Virtual Design Centers and Green Building

A Match Virtually Made in Heaven

By Dr. Cindy Gordon



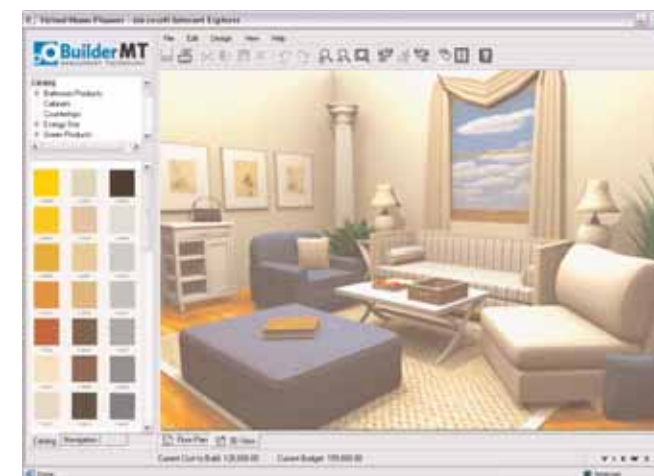
This CAD-based, virtual "plan view" of a typical residence is accompanied by a sidebar that contains product folders of potential product providers. Inside each folder are products that users can drag and drop into the image. Product specs and procurement data are captured as selections are made.

It used to be that the Web showed just static images, like the latest news photos or pictures of cars, books, and computers. You could look at the images, but you couldn't interact with them; you couldn't change them.

That's changed. Dramatically.

Today, the Web has become an interactive, collaborative commerce tool, where the image of an item for sale can be customized by the consumer (e.g., options swapped out, sizes changed), as the product is made-to-order based on your individualized data. This is the "mass customization" first promised by the Internet. Web sites that allow for this kind of rich interaction are called "virtual design centers" (VDCs). Whether it's clothing, computers, or cars, you can now use the Internet to view products virtually, customize them on your computer screen (within limits and rules set by the vendor), and model products for performance and fit before you buy them. With VDC technology available today, you can now engage customers with 3-D modeling and option selection for new homes and remodeling, starting at around \$5,000 per plan or room scenario (per-plan prices drop with volume). Moreover, for builders and remodelers, VDCs hold the prospect for driving the adoption of green products and sustainable design while providing builders and remodelers with a great tool for up-selling higher-margin products.

The most widely used VDC software for residential home building and remodeling is from a Canadian company, View22. (Its product is marketed to U.S. builders and remodelers exclusively by BuilderMT as VDSee®.) With this technology, builders and remodelers can use CAD files (or even scanned architectural drawings) to "grow" fully scaled, 3-D images of whole houses, house exteriors, house interiors, or specific room scenarios (such as kitchens and baths) that anyone can virtually tour using a browser, a good connection to the Internet, and a



VDSee allows for sophisticated use of color selections; these color selections can be tied to certain brands or types of paint, like low-VOC paints.

mouse (see samples at BuilderMT.com/VDSee). To date, View22 technology has over one million users in sectors ranging from virtual design of retail environments (like John Deere) and virtual playground layout and assembly to GE medical systems, where View22 virtually renders scaled office scenarios to ensure new equipment will fit before it is installed. But a VDC's real utility comes when it is deployed for configuring rooms and homes. If you have used the kitchen and bath planner of Kohler.com, the workshop planner on Bobvila.com, any interactive room planning on HGTV.com, or mapped out cabinets on Merillat.com, you were using View22. With the recent commercial availability of VDSee, this powerful technology is now easy for home builders and remodelers to obtain and implement.

VDSee as an Options Up-Sell & Marketing Tool

As a marketing tool, VDSee allows prospective home buyers or candidates for remodeling to "fly through" rooms, homes, exteriors, or landscapes on the Web before the homes or rooms are built; the software also allows users to insert generic or branded furniture—appliances, cabinets, etc. But VDSee is most effective as an options selection tool. With a mouse, users can access a

sidebar to open product folders that contain scaled 3-D models of branded products, like cabinets, appliances, floors, doors, windows, finishes, paint colors, etc. (The builder or remodeler is fully in command of what items go into each folder because he has put them there, and VDSee does not allow surfing of the Internet for other product selections.) So the builder or remodeler can offer just his options or, when options are linked together, offer one-click applications of multicategory good/ better/ best option packages.

By opening a product folder, users drag and insert a product into its actual location on the Web page or click on an existing item to change its color, texture, or features. Because VDSee is based in CAD software, the structural and procurement implications of any product choice, framing alterations, square footage of floors, or special orders of custom cabinets are all adjusted for in the image and recorded by the VDSee databases, which monitor the changes. Because the builder or remodeler sets the rules for use of his options, an option or change that is not allowed (e.g., an appliance too tall for a designated space) can be automatically disallowed and an alternative suggested. When the image is finalized and approved by the customer, the database can feed the builder's or remodeler's an



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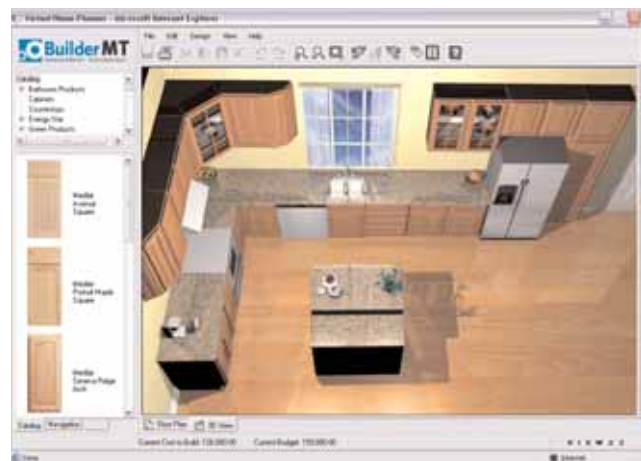


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Because VDSee is "rules based," and the rules are set by the builder or remodeler, the software can be set to disallow placements of products that violate code or exceed design specs.



As a virtual room is populated with scaled-to-size product images, users can change the finishes, colors, and locations of the products. Or, using an onscreen budget calculator, users can mix and match product selections to accommodate their options-allowance budget and the home's energy performance.

procurement process by sending product selection data to digital purchase orders. If the customer wants to change his options, it is simply a matter of accessing the Web, as room scenarios can be saved by customer name. If the changes are made after the change-order approval date, a time-date stamp on the customer's action will immediately convert the option swap-out into a billable change-order.

Virtually Modeling a Home's Performance

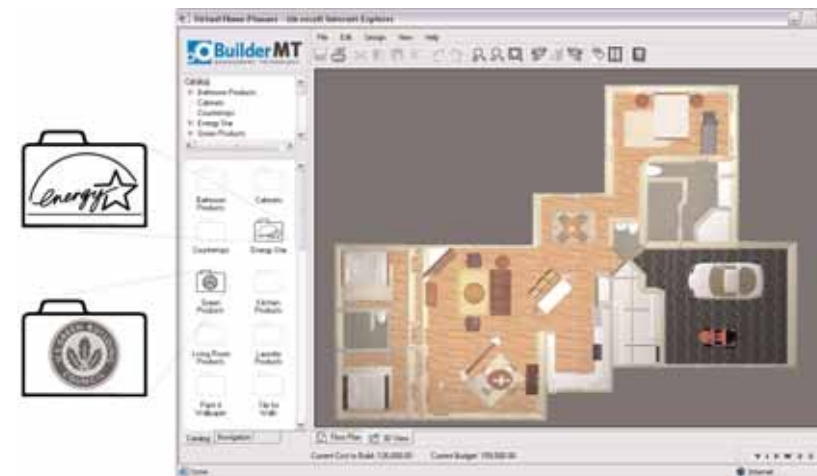
During the options selection and home-modeling processes, as the 3-D image is built up—by buyers working alone on the Web, working in collaboration with a sales agent, or even working on kiosks at model homes—VDSee is calculating in the background. A running cost calculator can be viewed on screen to show the immediate effect that a certain option choice has on an options allowance, overall budget, or mortgage payment. The same type of calculator can also be created to map energy consumption and operating costs (just as TurboTax shows a running calculation of your tax refund as you calculate your income taxes). Mix-and-match option scenarios are easy to render because, for example, the customer balances his or her choice for granite countertops by compromising on the lighting package, or upgrades the dishwasher by saving on the hardwood floors. Human nature being what it is, users of VDSee tend to

gravitate to more attractive, more efficient, and more costly options; indeed, this selling environment allows customers to up-sell themselves.

But let's take the options selection process beyond picking just cabinets, appliances, and floors and see how VDSee can be used to offer "green" products in front of and behind the walls as it models the resulting performance of the house for green ratings or compliance for preferential lending, like an energy-efficient-rated mortgage. Because the builder or remodeler controls the products in the options folders on the screen of VDSee, a "green products" folder can easily be established that features "green-rated" cabinets made from sustainably harvested lumber or floors made from plantation-growth hardwoods. Another folder could contain all ENERGY STAR products, in multiple subcategories, for example, building-envelope upgrades, high-performance windows, products for controlled air infiltration, upgraded heating and air-conditioning systems, ENERGY STAR appliances, premium duct systems, upgraded water-heating equipment, and efficient lighting. VDSee can be configured so the client can adopt an ENERGY STAR home with one click or buy one or two select ENERGY STAR products.

Because a running cost calculator can be seen on screen, the costs of these products can be seen in context of how much money will be saved over the lifetime of the home. A homeowner who

ENERGY STAR green-rated products can be grouped into single folders or flagged as "green" and offered within standard product category folders.



saves \$100 a month in heating and cooling costs due to ENERGY STAR selections can make that \$100 available for a higher mortgage payment, which allows further up-selling. Thus, the house is "tuned" for efficiency as its performance is indexed against the mortgage. The builder or remodeler "yields manages" the buyer to optimize their options, their budget, and the energy efficiency of their home. Moreover, when a lender seeks house performance metrics to qualify a home or remodel for an energy-efficient-rated loan, VDSee can serve as an excellent, third-party predictive model the lender can rely on when determining what properties qualify for lower-interest loans, preferential loan-to-value ratios, or escrow amounts for future purchases of energy-efficient products.

An enormous amount of commerce is already being done using VDCs, and the

home building sector is an ideal setting to use these tools. Visit some of the Web sites cited above to try out a VDC, or visit BuilderMT.com/VDSee to view samples of this remarkable technology today.

Dr. Cindy Gordon is a well-known author and CEO of Helix Commerce. Her most recent book is *Winning at Collaboration Commerce: The Next Competitive Advantage*.

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