HOME SMART HOME

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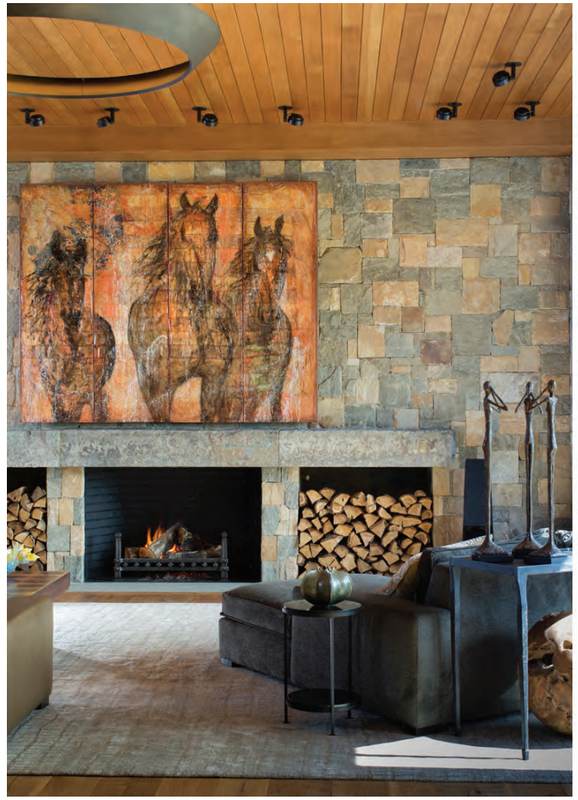
For those reading this over the age of 50 (guessing), you will remember how simple life used to be. When there was less technology, expectations for responses were more realistic, there were less daily decisions to make and life just seemed simpler. But, with the introduction of technology and WiFi, everything in our daily lives has become hinged on us having power and an internet connection. More significantly, everything is faster and, while seeming easier, is actually more complex. Technology has been incorporated into our daily lives. And with each day, it becomes a necessity we can't seem to live without. Without these connections, we feel totally lost. We can't leave our homes without cell phones in hand, a digital calendar reminding us that we have a 9am meeting and voice controlled speakers telling us where to drive. By the time we get our morning coffee, turned on by an app, technology has engaged the majority of our senses.

This infusion of technology has truly become a normal part of our lives and has quickly become integrated into our homes. Home automation, often referred to as a Smart Home, is the implementation of technology into building operations. It consists of lighting control, smart HVAC (heating and air conditioning), wireless security, and more. Imagine coming home from work at night and pressing a button on your phone to turn on the lights, play your favorite music and unlock the front door. Whole house integrated smart control systems allow the user to turn on a lighting scene before having friends over for a party, and then turn off every light in the house with the push of one button on their phone when the last guest leaves. Improved mechanical equipment, design strategies and smart integration are making our homes more efficient, both from an operating cost standpoint and from saving us actual time each and every day. Time is precious given that demands are high as a result of technology. This is the circle of daily life in the twenty-first century.

What are some simple things you can do with simple efforts? Upgrading to a smart thermostat will make your home more comfortable and save money over time. The thermostat will



With the push of a button, a four-panel ten foot painting parts to reveal a large TV. Notice no hardware is visible in either position.

sense when occupants are in the room and learn comfort levels. Changing light bulbs within your home to LEDs can even significantly reduce energy costs, cutting cooling loads while improving the quality and longevity of light inside. Further, occupancy sensors can turn lights off when spaces aren't used. If starting from scratch, the options for integrating new technology are broad. Right now, these systems are on the edge of being totally wireless, eliminating the need for hardwiring throughout the home. Currently, this hardwiring requirement can significantly impact technology installation costs.

Consumers and manufacturers are becoming much more conscious of the environmental and long term health impacts from materials and products in our homes. No different than caring about the food they put into their bodies, homeowners are more than ever concerned about the air and water quality within their homes. Autism awareness has further brought these discussions to the front and center of the building industry. The overall efficiency of systems and indoor air and water quality are a priority when designing a new home. The effort goes beyond selecting a high-efficiency mechanical unit. This focus becomes a part of the initial design discussions of your home. Programming the uses within the home, planning the adjacencies and stacking of spaces, and coordinating the systems that support the homeowner's goals is critical when designing a custom home. Bringing all of the consultants and subcontractors together early on in a project ensures a cohesive and successful outcome.

Technology has replaced old brick and mortar methods—companies, engineers and architects are looking for more efficient ways of building, operating and maintaining a home. Prefabricated and panelized systems delivered on a truck erect shells of buildings in just days compared to months. Solar and geothermal applications capture free energy to help reduce heating and cooling loads, cut electric and lighting bills, and can even earn you a paycheck. Tax incentives and rebates offered from the federal, state and local agencies often help offset the added upfront costs of these systems. As professional architects, we emphasize how important it is that discussions regarding your desire to have these systems integrated into your home happen early on in the design process. Even with all of the benefits, there is definitely an increased cost when integrating smart technology into your new or existing home.

Technology has also benefitted the role of the architect in home building. In the beginning of a new project, architects (we) start with pen on paper, dialoguing and guiding the design of a home right in front of clients. Conceptual freehand sketching is completed before drawing technology is implemented. In the past 15 years, computer-aided design has developed from line-based software to a 3-dimensional interactive parametric modeling program known as Building Information Modeling (BIM). This impressive technology allows clients to see their future dream home in almost real-time, and can even produce digital tours. In seconds, the program can produce perspective images inside and out, helping the architect and

Smart technology manages the inventory and maintains temperature in this wine room. Notifications of low stock and temperature variations are sent to the owner's phone.

homeowners envision the final product. Plans can be revised and section cuts made anywhere in the home.

With technology continuing to evolve, tools are becoming more detailed and diversified. Structural Engineers, Mechanical, Electrical and Plumbing Engineers and Commercial Architecture firms are quickly investing into this integrated modeling software. This BIM software allows the design team to link the structural, mechanical and architectural components of a project into one shared model. Limiting exhausting human coordination efforts, onsite coordination issues and fundamental design conflicts, BIM can provide more holistically-designed buildings. The structure is "built" in a digital world before a backhoe moves an ounce of dirt. The biggest benefits are cost and time savings, and the reduction, if not elimination, of unforeseen conditions.

If the changes and improvements in technology discussed above have significantly improved our life, health, safety and welfare over the past decade, imagine what the next century will bring!

Preset controls allow the heating mesh under this tile to warm the floor for bare feet on winter mornings. Towel bars heat up as well.

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Born and raised in Virginia, **Cathy Purple Cherry** ultimately landed in Annapolis where she grew a large architectural firm specializing in high-end custom homes and estates. A talented architect, visionary, and three-dimensional thinker, Cathy is able to marry clients' dreams with the reality of the built environment. Cathy's intense love for the mountains has always been deeply rooted in her, and as such, Cathy is passionate about extending her 27-year old practice through DC and down the range to Charlottesville. She and her husband are building their second home, which they will one day retire in on Ennis Mountain. While Cathy revels in the intricate design opportunities presented by high-end residential architecture, Cathy is equally passionate about her philanthropic efforts and her work serving the special needs community through the firm's Purposeful Architecture studio.

At Purple Cherry Architects, technology is woven into the firm's design process and strategy. The firm uses Revit for design development and construction documents for all its projects and also uses a real-time interactive design screen to visually connect and sketch live for its clients who are remote.

"Our use of 3D visualization has benefits that we see early and often through the design process," said Cathy. "3D models developed by our design team allow each client to quickly understand the massing and volume of the home. And, it also allows the contractor to see the design alignments and trim relationships when beginning construction. This emphasis on technology and the use of 3D models builds effectiveness and efficiency into each project and serves as a design and educational tool for the client and contractor. Our design team appreciates that each client's vision is shaped by a lifetime of experiences. We encourage clients to create virtual idea boards to help us capture their preferences and inspirations."

Purple Cherry Architects
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