THE NEXT WAVE OF TECHNOLOGY

Applications for the Home of the Future

BY KARSEN MARUCA
As younger professionals with careers and interests in the tech industry — a sizable and expanding demographic in San Francisco — show a pronounced affinity for smarter homes, the city’s small architecture firms and emerging designers might sensibly be concerned with the ways in which smart technologies can and will be adopted in residential projects as technology continues to progress and become more prevalent in day-to-day living.

Luckily, small firms engaged in designing homes for smart technology in San Francisco today note that “the opportunities are endless” in this field — especially in a region with such an active role in technological innovation. San Francisco’s Garcia Tamjidi believes that “smart tech” is in the process of “taking the thinking out of things” by developing intuition and reducing operational effort, and this architecture and design firm has often used Lutron Radio RA, Grafik Eye and HomeWorks Systems technology. Their past project, Index Ventures, used Redwood Systems to integrate the control of mechanical and electrical systems; thermostats and light sensors provided for an even lighting and temperature throughout the day. In their most recent residential project, Garcia Tamjidi used Lutron HomeWorks Systems to provide room-specific programmable lighting that can be controlled both within any individual room as well as remotely. “Tablets and mobile operating software are transforming the way these different technologies can be integrated and controlled from a single device,”

It is no secret today that the San Francisco Bay Area is continuing to emerge as a capital of technological advancement — this is evident both in the active development of important technologies in the region’s many flourishing tech firms, as well as in the adoption and integration of new and cutting-edge technologies into the lives of the Bay’s residents. Because so many of the professional and personal lives of San Franciscans are affected deeply by smart technologies — whether through employment in the tech industry or by the preponderance of smartphones in hands on Muni — it is only natural that smart technologies also be integrated into the very living spaces of the residents in the City by the Bay.
observes Houman Sharif, AIA, LEED AP, the founder of another local firm, MEM architecture. MEM incorporates smart technologies in various capacities to the benefit of all residential projects; this can range from simple lighting control systems to lighting, audio visual, and security control systems that are integrated fully into the home. MEM’s recent apartment project at San Francisco’s Four Seasons Residences (image: Ethan Kaplan) is equipped throughout with an integrated lighting and window treatment control system. Sharif has found that entertainment rooms benefit most from smart technologies, but useful applications can be as simple as the ability to synchronize the function of a hard-to-reach roller shade with the position of the sun. As a blossoming consciousness of environment protection and energy consumption concerns has accompanied the tech boom, Garcia Tamjidi sees the mechanical, electrical and plumbing systems of homes being particularly marked by the implementations of smart technologies.

However, Sharif opines that “the cost of such systems can limit the extent of their application in a project,” especially when these systems have demonstrated constant transformation and improvement over the past decade and show no sign of slowing their evolution. “Technology changes literally overnight,” Garcia Tamjidi also warns, and new ideas often quickly become obsolete in this fast-paced environment. New applications can easily appear “irresistibly innovative,” but re-adaption, replacement, and retrofitting can also be enormously expensive. Designers must therefore exercise caution when integrating new applications, using foresight and considerable testing to ensure that any new implementations will have a degree of durability over the lifespan of a project.

In the future, if firms are indeed able to keep up with the technological trends, they will likely be designing smart homes that are environmentally adaptive to their individual users; smart devices will monitor the user and relay information to smart systems built into the residence. Sharif finds that, even now, there is an increase in the usage of sensors that track, learn from, and react to the daily habits of residents — he believes that the home of the future will be smart enough to anticipate the needs and wants of its inhabitants and prepare the ideal environment for users without requiring a person’s direct input. It is difficult to say, however, just how soon this will be fully translated out of science fiction films and into the stuff of reality. Although the use of smart technology can help create greater efficiency, Garcia Tamjidi notes that a skilled architect already takes into stock such factors as building siting, space planning, lighting, daylighting, and mechanical systems to intuitively design for optimal comfort and utility in the home environment: “For us at least, it is too soon to consider it a transformative tool.”

As the tech savvy adapt their desires to developments in technology, small firms will still have to adapt to some extent, because smart technology remains pricey for now, and the pace of development in this field will likely be set by the consumer’s passion for emerging technologies and willingness to bear the cost of experimentation. It is therefore not unreasonable to imagine that San Francisco — increasingly populated by well-moneyed tech enthusiasts — might also one day become a capital of the smart home.