

Backfill

Plasma-Screen Windows

As every carpenter knows, windows are troublesome things. They're expensive. They require complicated framing, waterproofing, and finish work. They break, get stuck, leak air and water, and even the best of them are poor insulators compared with adjacent areas of solid wall.

Enter computer engineer and part-time carpenter Ryan Hoagland, who has developed a system for configuring one

or more high-definition plasma TVs as a remarkably convincing substitute for conventional windows. Hoagland's Winscape system uses a concealed computer to transmit video imagery to the screens, and interfaces wirelessly with an electronic "necklace" that responds to the wearer's movement by causing the image to pan

to the left or right. If the wearer moves toward the screen, the view in all directions widens; when he draws back, it narrows. To see the illusion for yourself, go to youtube.com/watch?v=Vqu9NuNKbc.

To build the prototype in his own home (a process view-

able at youtube.com/watch?v=4JsNppjT1wg), Hoagland first framed a partition wall in front of an unused living-room fireplace (1), then added a false wall several inches in front of it, with framed openings for the "windows" and space for a built-in shelving unit below (2). The finished assembly offers a spectacular, if illusory, view of the Golden Gate Bridge (3). (Other available vistas, selectable by iPhone, are train-window footage of a journey through rural Norway, an under-the-sea medley, and a look back at Earth from the space shuttle.) An ultra-quiet computer fan connected to a length of perforated 2-inch PVC pipe mounted near the top of the false wall draws air from a concealed slot beneath the shelving and vents it to the garage, preventing the 46-inch screens from overheating.

Could a similar arrangement — equipped, perhaps, with outdoor cameras for homeowners who prefer to see the actual view outside their walls — someday serve as a practical, or even energy-efficient, substitute for conventional windows?

Possibly, Hoagland says, although he modestly points out some problems that would need to be solved first. Each of the two TVs uses up to 430 watts, and while the heat they produce could be ducted to the indoors to help with space heating during the winter, electric resistance heat is expensive. The installation isn't cheap, either: Hoagland estimates that the prototype project cost about \$4,000, not including his own labor. And finally, sometimes only the real thing will do. "The fire department really likes those big glass openings in the walls," he says. — *Jon Vara*

