

Glass That Glows and Gives Stock Information

By BARNABY J. FEDER

Hordes of entrepreneurs and giant companies compete to make consumer electronic devices faster, multifeatured and able to process mind-boggling amounts of data. But David Rose is betting there is money to be made heading against the crowd. His company, Ambient Devices, a start-up in Cambridge, Mass., is producing devices that display limited information in ways that can be understood with just a glance.

Researchers have speculated since the 1980's that data-deluged consumers might welcome a new class of unobtrusive display devices that can instantly convey general information like the direction of the stock market or traffic conditions to viewers who know what is being monitored. The potential appeal of bare-bones displays is clear in the continuing popularity of things like clocks and nondigital speedometers.

The information age twist is that, thanks to computers and wireless communications, even the simplest display can now draw on data from anywhere in the world. Moreover, computers make it possible to switch such a device from being a stock monitor to a traffic reporter without replacing the display.

Researchers at M.I.T.'s Media Lab, Georgia Tech and Carnegie Mellon have built a winsome array of objects that can represent changing information — like lighted glass fixtures that change color, pinwheels that change speed and water tubes that show varying concentrations of bubbles. One experiment at the University of California at Berkeley involved a mobile representing the schedules of buses that passed near the researchers' laboratory, with arms that rose and fell to indicate how far away each bus was supposed to be.

A year ago, Ambient Devices began to test commercially whether consumers would pay for devices that offer unobtrusive displays of information.

"Our philosophy is to make them friendly to live with by sidestepping all issues of how to work it or which button to press," said Mr. Rose, the company's president and a former programmer and product designer. "We're going to increase the number of devices in your life but you won't think of them as devices."

Ambient started with a \$299 color-shifting glass orb sold primarily through Hammacher Schlemmer and Web sites like ThinkGeek. The direction of the stock market — deep red when the Dow Jones Industrial Average is headed down, shading to bright green when it is surging — has been the most common subject of interest for the 800 or so early purchasers, Mr. Rose said.

The orbs are plugged into the wall and are meant to be left on like clocks. They receive their data wirelessly through radio signals sent over pager networks. The orbs can represent any type of information available on the Internet, but such content is translated and compressed by Ambient's main server into a proprietary code so that only brief snippets of data are needed to control the orb's color.

Ambient offers a few data streams like stock indexes and weather reports free with the device. But it charges a subscription fee, generally \$7 a month, for more specialized data,

Advertisement



ARTICLE TOOLS

- E-Mail This Article
- Printer-Friendly Format
- Most E-Mailed Articles
- Reprints

ARTICLE TOOLS SPONSORED BY SPRINT
[E-mail this article to your PCS Phone](#)

TIMES NEWS TRACKER

Topics	Alerts
Rose, David	<input type="button" value="Create"/>
Dow Jones Stock Average	<input type="button" value="Create"/>
Massachusetts Institute of Technology	<input type="button" value="Create"/>
Media Lab	<input type="button" value="Create"/>
<input type="button" value="Create Your Own"/> <input type="button" value="Manage"/>	
<input type="button" value="Most Popular Alerts"/> <input type="button" value="Take a Tour"/>	
<input type="button" value="CLICK HERE TO SUBSCRIBE"/>	

[Enlarge This Image](#)



Alex Quesada for The New York Times
 "We're going to increase the number of devices in your life but you won't think of them as devices," said David Rose, president of Ambient Devices.

NYT Store



The New Rules of

Personal Investing
Price: \$15. Learn More.

Real Estate

Sign up for E-Mail Alerts!

Receive the latest property listings in your inbox...

Sell or Rent Your Home

Post a property listing on NYTimes.com...

Find a Mover

Get instant quotes for full-service, self-service and last-minute moves...

Get Mortgage Quotes

Get instant mortgage quotes and calculate

like tracking a particular stock.

Bloomberg L.P., the financial data services giant, is experimenting with using Ambient's prototype pinwheels, which it sets to spin faster or slower to show how well a particular sales team is doing compared with other teams in the company. Barbarian Group, a small Boston design studio, uses an Ambient orb to monitor hit rates on its Web site, which it investigates when unexpected color shifts occur. And, according to Mr. Rose, a major drug company that has declined to be identified, is exploring using orbs as displays for information derived from Pollen.com, a Web-based provider of localized pollen count data and projections, as a way to remind customers when to take allergy drugs.

Brookstone, the specialty retailer based in Nashua, N.H., thinks Mr. Rose may be on to something big. It recently chose a new version of Ambient's orb priced at \$150 as a featured gift for Father's Day. The orbs are being sent to all of its stores and they will also be sold through the company's catalog.

Michael F. Anthony, chairman and chief executive of Brookstone, said he was impressed by how much attention the orb that he keeps on a table in his office has attracted. He said his orb is programmed to track Brookstone's stock.

Asked whether subordinates steer clear of the office when the orb is glowing red, Mr. Anthony laughed and said, "I've made it stay green."

Ambient's emphasis on simplicity is not entirely foreign to information technology trends. Mr. Rose, 36, who earlier in his career worked on making products like personal digital assistants easier to use, noted that the demand was strong for simpler interfaces on devices..

A fast-growing niche in the software industry is devoted to summing up data to make it easier to absorb. There are now programs, called executive dashboards, that boil down trends to simple charts for senior executives. And many computer displays use color to highlight at a glance when the data received is urgent or negative. Ambient's strategy of reducing information to a trickle of data so that it can be distributed and received easily and cheaply has something in common with Microsoft's recently publicized plans to send Internet content to screens on watches and other wearable electronic devices.

Ambient's focus is different, though, because it is gambling that consumers want information to be made noticeable without it commanding attention. Mr. Rose said there was proof that such information influenced behavior. For example, in a customer survey, early owners of Ambient orbs said the color fluctuations led them to check on their stock portfolios three times more often and to trade more frequently, according to Mr. Rose. But independent researchers caution that it is difficult to test the impact of devices designed to be unobtrusive.

"It's surprisingly hard to evaluate the usefulness of information people are not focusing on," said Jennifer Mankoff, an assistant professor at the University of California at Berkeley's College of Engineering whose research includes ambient displays.

The same questions are on the mind of Jody G. Miller, a partner at Maveron Investors, a venture capital firm based in Seattle. "We're not asking how unique this is but also how practical people will find it and how valuable the information is to consumers," said Ms. Miller, whose firm is one of a number of potential investors Mr. Rose has spoken to recently in seeking at least \$1.5 million to develop new products.

Mr. Rose is keenly aware of the limits of the kind of information he wants to provide. Ambient updates the data to its orbs every 10 minutes, which can be an eternity in professions like stock trading. "If you are monitoring something time critical, you probably want a more intrusive monitor," he said.



Start the day informed with home delivery of The New York Times newspaper.

[Click Here for 50% off](#)

TOP NYTIMES.COM ARTICLES

- Israel Strikes in Gaza Soon After Bus Explodes in Jerusalem
- Feds Open Criminal Investigation of Freddie Mac
-

TOP TECHNOLOGY ARTICLES

- PeopleSoft Bid Mirrors Lofty Goals of Oracle Chief Executive
- An Officer and a Gentleman? 50 Women Would Disagree



Advertiser Links

[Tiny, Wireless Video Camera Kit ONLY \\$79.99!](#)

[Take the Discover science quiz. Free.](#)

[Save on Broadway Shows! Get TicketWatch](#)