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### Digital dreamland

### Brightest tech minds see the future as a gadget lover's delight As innovations appear, consumers just want simplicity

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#### Article Text:

In the next few years, our homes may become giant computer networks that serve up music and video wherever and whenever we want.

But there are a lot of obstacles blocking our way to that tech paradise, members of The Dallas Morning News Board of Technology Experts agreed.

The News gathers a group of executives, academics and entrepreneurs each year to discuss the most pressing issues in the industry.

This year's focus was consumer technology.

The board's key findings:

\*Companies need to make it easier for consumers to use such sophisticated devices. Gadgets must be able to speak common digital languages and share information on copyrights and users' personal preferences.

\*With old business models in jeopardy, entrepreneurs and inventors will have to find new ways to make money.

\*Even the best technology companies won't be able to foresee the surprising things consumers want to do with their gadgets.

"If you look at the history of innovation the last 250 years, these things usually take until about the third generation until they get easy, till they become mainstream," said Dr. Leon Kappelman, professor of information systems at the University of North Texas.

The Internet is just reaching that stage, he said.

The board met on Tuesday, and board members were envisioning a world in which TV, movies and music were available at the press of a button.

Apple Computer Inc.'s video-playing iPod and video download service was officially announced the next day.

"I'd like to wake up one morning and have everything in my home integrated so my music from my iPod, my kids' iPods and my wife's iPod is accessible to the television, where I have true high-speed Internet, IPTV [Internet-based television] on demand," said Guy Hoffman, chief executive of software maker Metalex Corp. "All our video collections are there as well."

Lea Ann Champion, senior executive vice president at SBC Communications Inc., is leading Project Lightspeed, the company's installation of fiber networks to send voice, video and data to homes. The home of the future won't confine video to a single box, but will distribute a television program or a movie to other devices, she said.

"Whether you're in the bathroom brushing your teeth or whatever, you can stay up with all the programs," she said. "You can watch one show from room to room off your DVR [digital video recorder] with ease and with simple controls, the same remote you use normally. I think that's where I'd like to see video sharing and time shifting go."

In this geek fantasy, all the media would be accessible through wireless devices as well, said **Molly Pieroni, Managing Director of JatoTech Ventures.**

Cuddling on a digital hearth:

Family life is going electronic

Board members marveled at the way technology was already changing their families' lives.

Ms. Pieroni's husband, an "XBox fanatic", is using a routing device to ensure that her e-mail doesn't slow down the performance of his online gaming. That's something only a tech expert used to be able to do.

Wireless communications have helped families stay closer. Mr. Hoffman found it easier to communicate with his two teenagers using instant messaging from a Blackberry instead of the phone.

Cellphones also make it easier for parents to stay in touch. On a visit to his daughter's university dorm last weekend, Naresh Lakhnpal of Deloitte & Touche didn't see a single land-line phone in any room.

"It was 10 bucks when I was going to school to have a land-line phone in your room, and that just allowed you to call local," said the consulting firm's global practices director for technology, media and telecommunications.

High-definition TV and gaming are also helping bring people together, said Kurt Scherf, principal analyst at Parks Associates.

When consumers talk about buying HDTV, they say, "Boy, this is the opportunity where we can bring friends and family together. This is the Super Bowl. We want to host the neighborhood party," Mr. Scherf said.

Broadband Internet and wireless networking are changing the way people watch football.

Doug Razor, vice president and strategic marketing manager at Texas Instruments Inc., praised a device called the Slingbox, made by TI customer Sling Media. The gadget allows its user to stream live TV from home to a computer over the Internet.

"I installed the thing and sat in Beijing and watched the Dallas Cowboys' opening game live," Mr. Razor said.

Technology winners know:

Path to success is simplicity

What did many of these technologies have in common? They were simple to operate, not requiring sophisticated users to set them up, board members said.

Companies need to do the work for consumers by focusing on simplicity. And technology and communications companies desperately need to improve their customer service over the phone and the Internet, they said.

Software designed to preserve copyrights on digital media has made gadgets even more complex, sometimes preventing consumers from copying songs or movies even if they're legally allowed to do so, said Wei Wei Jeang, a partner at Haynes & Boone LLP.

"It takes control out of the consumer's hands," she said. "We just have to see what consumers are willing to put up with in terms of how they want to spend their money."

The technology learning curve is creating a generation gap, the board said. As older consumers struggle to figure it all out, technology is becoming second nature to their children and grandchildren.

"On the one hand, my parents don't get it at all and never will," said Larry Irving, a Washington consultant and an assistant secretary of commerce in the Clinton administration. "On the other hand, for my nephews and nieces and godchildren, it's a piece of cake for them."

Mr. Hoffman expressed his own frustration at not being able to get his wireless network to link up to a son's bedroom computer.

"I've tried every device possible. I've tried every booster you can try. I've tried routers. I've tried antennas," he said.

"And I've walked into places like CompUSA and said, 'Price is not an object. Send out whoever you want. I just want to see this room work. Make this room work for me.' They can't do it."

Simplifying technology requires innovation, but innovation requires a financial incentive, the board said. Technology could be much more efficient today if businesses could figure out ways to make money from it.

The movie industry, for instance, is trying to protect its old business model instead of making movie downloads simple, Mr. Scherf said. Movie studios release their films on various formats according to "windows," the predetermined schedule to maximize sales.

"You're in the theater [for] 'X' number of months," he said. "You move next to airplanes. Then pay-per-view, then HBO. All of us tend to say, 'Just forget the windows, just put the thing out there.'"

But it's unrealistic to expect movie studios to instantly abandon the way they make money, he said. "To say to the content industry, 'Nope, you just need to do it this way,' there's a lot of push-back from that."

Innovators want a prize.

So there needs to be a prize.

To change the world, risk-taking entrepreneurs have to start companies and pursue new technology, board members said. But many innovators are leaving the high-tech field because they can't see a big payoff at the end of a lot of hard work and late hours, they said.

"The question becomes: What business models are going to drive this?" said Mr. Hoffman, a former venture capitalist. "If there's not money to be made, you won't spur the innovation and the entrepreneurship."

"When you're having the moment at 2:30 a.m., and it's dark and it's cold and you're by yourself in front a computer screen, you're asking yourself, 'What am I doing here?'" Ms. Pieroni said.

Innovation is still coming from universities, said Dr. Hasan Pirkul, the management school dean at the University of Texas at Dallas.

"The scientists did not go away," he said. "They're still in their labs."

Government funding is flowing into research such as on biotechnology, he said. And the next generation of researchers hasn't been through the boom-and-bust economic cycles that are scaring off older entrepreneurs.

"They're all a bunch of young kids coming up," he said. "They would not know anything about the nuclear winter [the tech bust of the early 2000s]. We'll be all right."

Mr. Lakhanpal said he expects innovation to continue as long as the Internet remains open to all comers, not the exclusive domain of the biggest technology companies.

Podcasting, a digital broadcasting technology, was invented by Internet users before companies such as Apple embraced it, he noted.

"The most important thing is you can't interfere with what the Internet was designed for, which is cheap collaboration without regard to distance," Mr. Lakhanpal said. "When you get in the middle of that, you muck it up."

Go ahead, check a crystal ball, and maybe talk to teens, too

But it's often difficult to figure out what problem to solve, despite all the engineering expertise and business savvy at technology companies.

What consumers want is often different from what content providers are willing to sell, which in turn is often different from the gadgets or software technology that companies are producing.

At the same time, many technologies are held back not because companies are reluctant to build them, but because they don't see a trend coming.

Mr. Razor has been a top strategy executive at Texas Instruments Inc. for a decade. "So I get paid to have a decent crystal ball, and we've got a big business in cellular telephony," he said. "You'd think with all that there that we would have spotted things like SMS [text messaging] or ring tones, and I can assure you that nobody, not just us, but not Nokia, not Ericsson, not Motorola, not Samsung, would have predicted a billion-plus dollar business that instant messages would become."

Camera phones also took the company by surprise.

"We actually have a business at TI making chips for digital cameras," Mr. Razor said. "So we had the technology pieces and the customer relationships right in front of us, and we never put two and two together, until we saw them taking off all over Asia and all over Europe. They were crappy, but people were using them."

TI has started bringing in teenagers - technology early adopters - the last few summers to rate potential products.

"And it's amazing how many things just kind of fall flat," Mr. Razor said. "I'm not sure we're listening well enough to what feedback we're getting. The fact is, a lot of the things that will make the things we've been talking about here useful and popular may not be obvious to any of us."

Many technology firms think that if a technology isn't perfect, consumers won't buy it.

But often the novelty and usefulness of new gadgets outweigh any drawbacks. That's what happened with camera phones, Mr. Irving said.

"I was at a wedding in Italy, and half the family lived in New York," he said. "And people are sending real-time pictures to somewhere in Staten Island so their family could see it. This is cool stuff."

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Who are these bright minds? See Page 6D.

Caption:

ILLUSTRATION(S): (MICHAEL HOGUE/Staff illustration) Brightest tech minds see the future as a gadget lover's delight; PHOTO(S): 1. (RICHARD MICHAEL PRUITT/Staff Photographer) Guy Hoffman, chief executive of software maker Metalect, shows off his wireless telephone earpiece at a meeting last week of The Dallas Morning News Board of Technology Experts.

2. (FILE 2003/Staff Photo) High-definition televisions are among items that could make many homes a tech paradise in the next few years.

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