

By Michael Arndt

Jeremy Wertheimer: Unraveling the Travel-Booking Tangle

His programming algorithms are behind Orbitz, the airline-industry venture that's expected to shake up the online-travel business

Jeremy Wertheimer loves hard problems, the kind that might stump a theoretician for a year or two. He came across a real brain-buster in the early 1990s. A doctoral student at Massachusetts Institute of Technology, Wertheimer used to swing by the Thomas Cook office in Cambridge to chat with travel-agent friends while taking a break from his dissertation on computational biology.

He was struck by how complicated their work was, even with the aid of mainframe computers, and soon was toiling on a real-world puzzle every bit as tough as his academic pursuit. His new problem: to find a simpler and quicker way to price airfares.

Soon, U.S. consumers will see whether the 38-year-old PhD has come up with the answer. While still in grad school in 1994, Wertheimer founded ITA Software. Never heard of it? Well, for years, the company was nothing but Wertheimer and an MIT chum. Even today, ITA's workforce wouldn't fill a subway car on the Boston T.

WORKING SMART. But Wertheimer and his clique of software writers are the programming whizzes behind Orbitz, the airline industry's B2C venture that's expected to shake up the \$20 billion online-travel business when it launches next year. Indeed, if not for Wertheimer & Co., Orbitz' go-live date could well have been delayed till 2002. "Jeremy gave us a 12- to 18-month jump on our ultimate goal," acknowledges Alex Zoghlin, Orbitz' chief technology officer. "They're small, but they're smart."

Wertheimer's behind-the-scenes reach doesn't end there. Travelbyus.com, a British Columbia-based vacation packager, uses ITA's software to power the airline portion of its consumer Web site. Amadeus Global Travel Distribution, the main reservation system for European air travel, has also licensed software from ITA so travel agents can use the Internet to search for and book the best fares and itineraries.

And on Oct. 17, Airline Tariff Publishing, the airline-industry cooperative that compiles and distributes flight information to computer reservation systems worldwide, announced that it went outside for help



Jeremy Wertheimer:

Founder of ITA Software

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for the first time. It will now rely on ITA Software to construct and maintain its database of 150 million international airfares. ITA's selling point, according to Michael Ferrier, president and CEO of the airfare clearinghouse: Its software crunches numbers in a "more timely, flexible, and economical" way than anything developed internally.

MORPHING TOOL. And sorting airfares may be only the start. With some tweaking, Wertheimer postulates, ITA's software could be used to reserve hotel rooms or rental cars or to ship freight. Modified further, its algorithms even could help advertisers buy air time or Internet service providers route packets of digitized information. "He has, theoretically at least, built a better mousetrap," endorses Forrester Research senior analyst Henry Harteveltdt, who also praises Wertheimer for thinking beyond his niche. "That's the type of leadership needed: We've climbed this hill. Now how do we scale this mountain?"

Harteveltdt and others who know Wertheimer have one other thing to say about him: He's genuinely a nice guy. Despite his genius-level intellect -- Wertheimer got his first degree, in electrical engineering, at age 19 -- he doesn't talk down to the mathematically challenged. He doesn't brag about his business success, either. ITA Software, which Wertheimer once ran from his living room, now employs two dozen full-timers in a converted brewery in central Cambridge. It has also begun turning a profit, though Wertheimer jokes that he has fixed that by hiring more computer scientists.

He also doesn't begrudge employees their personal lives. Wertheimer sets the example himself. Even as president and CEO, Wertheimer figures he works no more than 50 to 60 hours a week. "We don't try to burn people out," he states. "We're pretty delicate about priorities." Adds Harteveltdt: "He's kind, and he's gracious -- and those are rare qualities in high tech."

DEEP GEEK. Wertheimer grew up in the New York City borough of Queens. His father owned a jewelry-repair shop with a brother in Manhattan, while his mother, who taught medieval Spanish literature early in her career, has just retired from her job with the federal government. After graduating from Manhattan's Cooper Union for the Advancement of Science & Art in 1982, he earned a master's degree in engineering from MIT in 1989. Then he went off to work as an engineer for Schlumberger. But by 1992, he was back in academia, studying for his doctorate at MIT's Artificial Intelligence Lab. While in grad school, he met the computer programmer who would become his wife. Today, Jeremy and Joyce Wertheimer live in Brookline, Mass., with their 1-year-old daughter, Sarah.

Though Wertheimer was offered jobs from the big names in tech when he received his PhD in 1996, he had made up his mind way before then to be an entrepreneur, to turn what had begun as a down-time diversion a few years earlier into his own startup. Borrowing money from his parents and maxing out his credit cards, Wertheimer came up with \$100,000, hired classmate Carl deMarcken, and bought a couple of powerful PCs. Each man then sat down and started writing computer code. Wertheimer called the enterprise Internet Travel Agent, later renaming it ITA Software.

Good idea. AOL can
achieve growth
again this way
Time Warner should
keep a stake but
spin off the division,
giving AOL equity to
snap up hot Internet
properties
Time Warner and
AOL should just part
ways
Not sure

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Looking back today, when almost everything is for sale on the Net, it's difficult to sense just how out-there Wertheimer's proposition was for the travel industry. Until the mid-1990s, airline tickets had been sold the same way for decades: Each carrier filed fares for every route on its schedule with the U.S. Transportation Dept., updating them whenever there was even the slightest change. Airline Tariff Publishing compiled the data, which was then fed into the mainframe computers of big reservation systems like Sabre Group.

BOOKING LABYRINTH. Airline-ticket agents and outside travel agents could access the information through dedicated computer terminals or by leafing through thick timetables. But because so many combinations of flights and fares are possible -- someone flying between Boston and Los Angeles, for example, might have 72,000 options on any given day -- it was hit or miss whether the agents came up with a satisfactory ticket.

After watching his travel-agent friends piece together trips like this, Wertheimer figured there had to be a way to do this gargantuan search-and-sort on a personal computer. Within a year, he and deMarcken assembled the basic program. Their algorithms ranked flights from the cheapest price up, after quickly combing through the same data that airlines and the traditional reservation systems had been getting from Airline Tariff Publishing. What's more, the software made the information open to anyone with Internet access.

Creating a computer program wasn't Wertheimer's only hard problem, however. He had to go out and sell it. He started making the rounds in the airline industry in 1997 but was roundly snubbed. The airline folks just couldn't believe that one man with a puny laptop could outperform their hulking mainframes, Wertheimer recalls. They also weren't ready to write off years of investment in proprietary systems. Finally, in 1998, he landed a client, signing a 10-year licensing contract with Amadeus. The European company, controlled by carriers Air France, Spain's Iberia, and Germany's Lufthansa, also gave ITA a much-needed infusion of cash for a 20% stake in the business. A year later, Orbitz tapped ITA.

Today, ITA's fare-search software is accessible on the company's (www.itasoftware.com) Web site in a beta version. The software has also been available, again in beta, at orbitz.com since mid-October.

KEY LINK. But while consumers can go to either site and handily come up with the lowest airfares, for now, they can book seats only at travelbyus.com. The reason? ITA and Orbitz are still debugging a companion program to make sure that airlines actually have tickets available at their published prices. "They can find fares really well, but if you can't get a seat, it doesn't do you a hill of beans of good," notes Richard P. Eastman, president of Eastman Group, which also writes software for airlines. The partners are also testing to ensure that their server farm and other hardware have enough computing power to accommodate the heavy traffic they expect Orbitz will draw.

Analysts say Orbitz will be the true measure of Wertheimer's product. But the continued test runs have pushed back its startup again and again. So, too, have federal antitrust concerns about Orbitz' corporate parentage: The Chicago-based venture is owned by the nation's top five airlines -- United, American, Delta, Northwest, and Continental -- and has signed up most others as nonequity partners, raising worries about collusion. Originally planned to be fully functional by last August at the latest, Orbitz now says it will begin limited operations with preregistered subscribers in February before opening the site to everyone next June.

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The delays have also given Sabre's Travelocity.com and Microsoft's Expedia.com, today's online-travel leaders, time to revamp their Web sites. Both now offer new search functions that, while lacking ITA's navigational ease, mimic some of its low-fare listing capabilities.

SKEPTICAL RIVALS. "We've already beaten him to the market," crows Expedia Marketing Director Suzi Levine. Mamie T. Millard, Travelocity's senior vice-president for product development, is equally dismissive: "They've done some good things, no doubt about it," she says, "but by June, it will be a whole different world."

But analysts bet that Orbitz will fly. Besides, ITA is more than Orbitz, thanks to Wertheimer's careful negotiations. None of ITA's contracts, including its multimillion-dollar deal with Amadeus, are exclusive. That leaves Wertheimer free to sell his software to other reservation systems or Internet-based travel vendors. Travelers, it turns out, aren't the only ones with lots of options.