

Want to know about airfares? No you don't

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One of the biggest puzzles of the consumer world is airline ticket pricing, with travelers often left wondering why they paid one price while the passenger sitting beside them paid a lot more, or less, for the same flight.

But it takes a computer scientist with a doctoral degree from the Massachusetts Institute of Technology to really put things in perspective.

"It is theoretically impossible to guarantee that one can find the best route or price" at any given time, said Carl de Marcken, chief scientist and co-founder of ITA Software, a Cambridge, Mass., company that writes software used by online travel sites like Orbitz to calculate air-travel routes and prices.

That's because the pricing system used by airlines is so complicated. There are millions of possible combinations of fare factors for any given trip, he said, and the airlines' computer systems are constantly adjusting their fares.

De Marcken has lectured on the topic to mathematics and computer science students at various universities over the past several years, and he has put together an online essay demonstrating just how mind-numbingly complex the system of pricing airline tickets has become.

He looked at all the factors that can affect a ticket price -- the airline rules, dates

and times of flights, the route taken, and many others. He breaks down fares into individual components called "pricing units," which further complicate things.

For one sample flight, an American Air- lines trip between Boston and San Francisco that could connect at either Dallas/Fort Worth Airport or Chicago, he concluded that there are nearly 25 million ways to arrive at a fare.

He said it's impossible for travel agents to assert that they're offering the best fare at any given time, given the system's complexity.

"No computer system or travel agent could ever make such a claim," he said. Although his work helped him develop ITA's software, he said he wrote his essay as an "academic exercise for my own amusement." He also said that he "wanted to show that in fact there's a unique and fascinating complexity to airline prices."

Online: A link to de Marcken's essay can be found at Sky Talk, the *Star-Telegram's* aviation and travel blog, under Interactive at www.star-telegram.com.

Comparing fares

Two sites have recently launched that try to help travelers navigate the byzantine world of airline pricing

Farecast (www.farecast.com) predicts whether a fare will rise or fall in the future at 75 airports, including D/FW, and advises travelers whether to buy now or wait.

FareCompare (www.farecompare.com) also looks at fare trends with suggestions on the best times to buy, and can notify travelers when fares drop.

Yapta (www.yapta.com), meanwhile, tracks fares and urges travelers to request refunds from airlines when prices drop on tickets that have already been purchased