



info@franz.com
 http://www.franz.com
 1-510-452-2000
 555 12th Street, Suite 1450
 Oakland, CA 94607 USA

Allegro CL[®] Success Story

ITA Software Lisp and Allegro CL move airline travel to a higher altitude

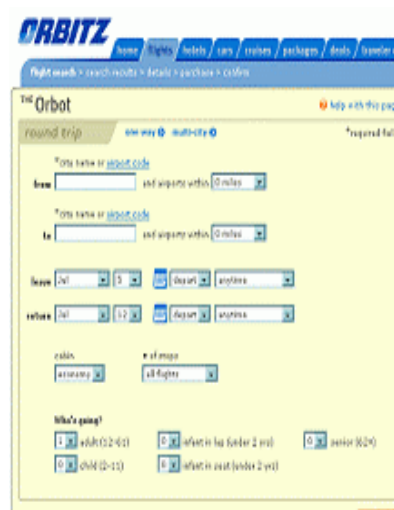
Calculating ticket prices and flight schedules can often be more complex than flying an airplane. There can be as many as 50 different types of rules associated with one fare — days it's available, which flights, number of seats, etc. This can add up to an overwhelming number of scheduling and pricing combinations.

The airline systems which manage this process were invented nearly 40 years ago in Assembler language on mainframes, and are still in use today. These applications are so massive and intricate, that industry developers thought it impossible to make major updates or changes to them...at least until Jeremy Wertheimer founded ITA Software in 1996.

Wertheimer, a graduate student at MIT, was looking for a programming challenge. "I was searching for a really hard, yet important, technical problem to solve." Says Wertheimer.

"Something that would enable me to hire a group of MIT PhD's and keep them interested and busy."

Wertheimer and his group decided to start from scratch. Instead of mainframes, they used PCs. Instead of assembly code, they used Lisp.



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*Jeremy Wertheimer
 President, ITA Software*

“Lisp was the natural language to start with. We needed to write lots of code very quickly; and we needed the higher-level power that only Lisp and Allegro CL provides.” Emphasizes Wertheimer. “Lisp provided us with the ability to write the algorithms that we needed.”

Wertheimer and his small group of programmers quickly became the “whiz. kids” of the airline industry. No one could believe that 3 programmers were able to write in less than two years, an application that many senior airline executives thought impossible. Not only was ITA Software’s system less expensive to maintain in terms of computer resources and manpower; but it offered significantly more flexibility and speed as well.

“We can search thousands of pricing and scheduling options in the time it takes the other airline engines to search several hundred. And, thanks to our lisp-based algorithms, we can adapt our questions to become more narrow or broad depending on the situation.” Says Wertheimer

ITA Software selected Allegro CL as their development environment, and they currently run it on several different platforms. “We use Lisp for the high level structure, in conjunction with a variety of other languages such as C and Java throughout the application.” Explains Wertheimer.

“We’ve been pleased with Allegro CL’s strong foreign function interfaces, powerful compiler, and multi-platform support.” He adds.

It’s this functionality and flexibility that made ITA’s software the application of choice when Orbitz (owned by the leading US airlines) launched its groundbreaking site. “Using a Lisp-based development environment, it’s easy for us to add features, such as the option of multiple airports and different travel dates, that the other systems — which are basically web servers linked into the old mainframe systems — can’t.” Wertheimer adds.

With the launch of Orbitz, ITA Software’s dream has been realized. Not only has Wertheimer managed to “build a better mousetrap,” but he has also managed to come up with a truly meaty programming application which not only sustains the interest of his high level programmers, but also solves a commercial challenge. Wertheimer says that future areas of interest for the company include cargo and other logistics areas within the airline industry.

For more information on ITA Software, visit their website at www.itasoftware.com.