Case Study

Online Booking System for a Travel Agency

SUMMARY

Luxoft delivered and seamlessly integrated new features for Hotwire's online booking system, expertly combining nearshore and offshore development and ensuring smooth collaboration throughout the entire project. Starting from business requirements analysis and user needs elicitation, Luxoft successfully designed and documented new features of the presentation layer for the Hotwire site. The scope included the creation of Hotwire's automated newsletters, integration with the client's web statistics and analysis tool, and QA and Test Automation.

CLIENT

Hotwire.com is a leading discount travel site with low rates on airline tickets, hotel rooms, rental cars, and vacation packages. Hotwire, Inc. is an operating company within Expedia, Inc.

Technology: Java, Oracle, Weblogic, Xalan, Apache Commons, Struts/Tiles, EJB, JMS, JTA
Duration: 2 years

BUSINESS CHALLENGE

Hotwire is a world-leading travel agency that offers discount rates on airline tickets, hotel reservations, car rentals, and more. In order to meet the expectations of travel price-hunters, the Hotwire site features the following components:

- A functional web interface to search, book, and advertise trips based on a particular trip requirement
- Back-end systems to manage deals and other business-related data
- An interface for suppliers to fill in their offers

Rapid growth and market expansion strained the company's in-house IT resources, while the need for technology upgrades and new architecture solutions continued increasing. Outsourcing the professional services and allowing the core staff to stay focused on critical projects was the obvious solution.

WHY LUXOFT?

The outsourcer had to meet tough professional skills criteria and possess a proven track record. It also had to be able to work seamlessly with the onshore team in an Agile environment. The selection process was narrowed down to vendors specializing in complex IT projects. Luxoft was considered thanks to a track record of handling sophisticated projects. The project started with a pilot that involved only a handful of Luxoft engineers, but soon the client's complete trust was won and a full-scale Delivery Center was established.

LUXOFT'S DELIVERED SOLUTION

The main challenge for the Luxoft team was to interact seamlessly with Hotwire's ongoing local software engineering process and fit all projects into the existing architecture. From the get-go, all teams made sure to run the same processes and standards. It was crucial to work closely with both business and engineering teams in a format that they were comfortable with, in order to meet everyone's expectations. Initial onsite trainings for the key technical specialists from Luxoft provided immersion into Hotwire's engineering culture, facilitated knowledge transfer, and helped establish an effective work process.

Over a span of two years, multiple projects of different sizes and in different functional areas were completed, including the following:

"Extranet"

Extranet is a full-cycle development of the new website that provides suppliers with the functionality to manage advertisements that are hosted on the client's site. This functionality also works closely with the system for internal deal management. The system works as strong operational leverage and a way to increase ad sales volume.

During the first project stage, Luxoft suggested an alternative approach that involved having the nearshore team handle business analysis and requirement development. This method guaranteed a very high level of cooperation with the local business team and specific system suppliers. Stakeholders were pleased with the resulting high quality of the delivered conclusion and the clarity of the requirements.

From an engineering perspective, this project required a highly detailed system design to cover functional and security requirements, financial traceability, and technical knowledge transfer. Luxoft provided about 300 pages of detailed technical documentation to cover most of these aspects. The following important functionalities were developed:

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- A web application that eliminated the extra cost of developing two separate systems, designed for use by both salespersons and suppliers
- Support for sales agents that can work with multiple suppliers in addition to the direct supplier's organization
- Multiple alternative interfaces for supplier data management
- Excel report generation, distribution, and filtering, in order to increase data visibility
- Integration with the Oracle Financials System

Customer Reviews

The scope of this project includes a new functionality that gives users a chance to review and rate the hotels they have stayed in. The collected data is used to help others make educated choices by taking into account the opinions of other users.

Hotwire developed the requirements for this project, but lacked the engineering resources to implement them. In order to speed up project execution, Luxoft staffed Hotwire's development center with an additional professional team in a matter of weeks. They were quickly trained by the local staff engineers, and the client's site boasted the fully functioning new feature only four months after the initial request.

Luxoft's expertise in text analysis allowed us to propose and implement an improved mechanism for user-entered text validation. Sophisticated context rules were applied, in addition to the straightforward search mechanism that was initially planned. This improvement helped Hotwire reduce the team of review moderators and have a more interactive dialogue with reviewers.

Deal Management Tool

A new Content Management System (CMS) was needed to replace the existing legacy system. Hotwire's new CMS allows for a significant expansion of the deal business, starting from simplified newsletter distribution and continuing on to full-fledged site development, while significantly reducing support costs. The prioritization of the following components was essential for this project:

- A new deal engine with a separate Intranet web application that could better serve rapidly evolving business needs
- Deals, newsletters, deal packages and a system user management tool, all unified under the same web interface concept
- Various search options that help find and access information quickly
- A multi-user transactional environment that prevents editing of the same deal by more than one user at the same time
- Email notifications of deal status changes
- Active Directory integration that meets stringent security and usability requirements

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City Resolution

City Resolution is a better way of determining geographical objects from user input, which can also resolve ambiguous cases. This reduces the number of users leaving the site when it encounters resolution problems.

The improved City Resolution feature is based on state-of-the-art technology and has the following enhanced functionality:

- ◄ Improved resolution for cities with ambiguous locations, which allows users to unequivocally select between:
    - ◄ Cities with the same city name (examples: Portland, Maine vs. Portland, Oregon)
    - ◄ Cities, states, or countries with the same name (example: Jamaica, NY vs. the country of Jamaica)
    - ◄ Different airports in the same city
- ◄ Auto-correct and auto-complete options that deal with the issues like misspellings, punctuation in the user input, and abbreviations
- ◄ Support for different services (air, hotel, cars, cruises)
- ◄ A customization tool for site administrators that enables them to update settings on demand

BENEFITS

The Luxoft team delivered significant enhancements for Hotwire's online booking, seamlessly integrating new features into it. The entire project was completed on time and to budget, and Luxoft's combination of nearshore and offshore development locations ensured smooth collaboration throughout the entire project.

The bottom line benefits include the following:

- ◄ The expected financial benefits of the improved City Resolution and Customer Review features are around $30–$40k per month for each project
- ◄ Compared to the customization of an out-of-the-shelf CMS or the implementation of an application from an ASP, the ROI of the Deal Management Tool project is about 400%
- ◄ Though not quantified yet, the intangible benefits such as security, usability, data propriety, and increased speed are likely to be even more significant

CUSTOMER FEEDBACK

„Luxoft was awarded the project thanks to their strong focus on engineering excellence, in-depth domain knowledge, solid track record, and global delivery capability."

Roman Kaplun
Director of Engineering Services at Hotwire

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ABOUT LUXOFT

Luxoft Holding, Inc. (NYSE:LXFT) is a leading provider of software development services and innovative IT solutions to a global client base consisting primarily of large multinational corporations. Luxoft's software development services consist of core and mission critical custom software development and support, product engineering and testing, and technology consulting. Luxoft's solutions are based on its proprietary products and platforms that directly impact its clients' business outcomes and efficiently deliver continuous innovation. Luxoft is incorporated in Tortola, British Virgin Islands, has its operating headquarters office in Zug, Switzerland and is listed on the New York Stock Exchange.

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