daffodil

Enabling a leading travel agency to revamp its web portal, leading to enhanced user experience and performance

Customer: A Leading Travel Portal

Country: Greece

Industry: Travel

Our Role: Product Engineering

About Client

The client, counted among the largest travel agencies in the world with over 15 years of industry experience provides travel management services across the globe. The services include flight bookings, hotel bookings, itinerary packages, holiday packages, etc. for its users through a web portal. The web portal also enables its users to create customized travel packages by curating the services according to their requirements.

100,000+ global customers	**27%** increase in repeat sessions	**64%** increase in user conversions	**6** languages supported

Problem

The client intended to provide an integrated web portal for travelers to plan their entire travel including flight bookings, hotel bookings, itinerary planning, etc. Their aim was to make travel research, planning and booking experience seamless for users. However, they were unsatiated with the performance of their existing portal. The portal was facing performance issues even with minimum load and had major software architecture constraints. The bounce rate of the web portal was alarmingly high as the system could not provide real-time inventory information about hotel/flight availability. The need was to show the right information to the user at the right time and in the right context. In addition to that, the platform also required UX fixes and better scalability to achieve success. Due to these issues, the client was experiencing a dip in revenue and market share and wanted to revamp its web application architecture.

The client was looking for a suitable technology partner with adequate experience that could help them address the challenges they were facing by expert consulting and fine execution.

After a rigorous search, the client zeroed on Daffodil Software basis our experience in software development for the travel domain, mature organizational capabilities, and abundance of skill set in niche technologies. The major challenges that team Daffodil had to face were:

- To set a real-time data management system in place for the web portal, which helps fetch the inventory availability data from various hotels and airlines. Also, leverage the user's historical search data to personalize the product experience with the objective to show the right information to the user at the right time.

- To build a real-time personalization system that takes into account the user's search events and fetches the relevant information accordingly from various downstream systems to serve the same to the user.

- To integrate a booking service certification process which enables the user to receive a booking confirmation on text/email as soon as they book a service through the portal.

- To improve the UX of the web portal to make it more user-friendly and increase user engagement.

Solution

Beginning the engagement, the Daffodil team first identified and gathered information with regards to the challenges that the client was facing, the client's requirements, and their business model. Then we deployed a team with deep domain expertise in business analytics to exhaustively evaluate the business situation. After thoroughly analyzing the requirements and understanding the challenges, the team provided expert consultancy and developed a project roadmap. Our business analysts and software architects outlined the optimal architecture of the marketplace and refined the functional requirements in order to improve the performance of the application.
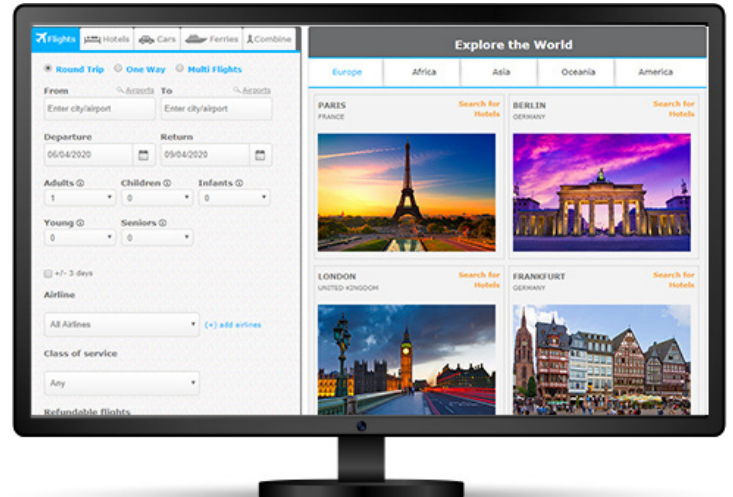
The web portal was re-built from scratch using ASP.NET version 4.5 for server-side development as its 'bundling and minification feature' helped minimize code size and hence, had a great impact on the speed and overall performance of the web application. Multiple APIs were integrated with the portal such as GTA which made search and booking facilities available to users through an XML based interface, and HotelBeds which helped manage the booking process for hotel bookings. Amadeus and travelfusion APIs were integrated to access real-time data to manage flight bookings across the globe. In addition to the complete turnaround of the backend, the UI/UX of the web portal was also revamped by integrating interactive user interface components developed using AngularJS.
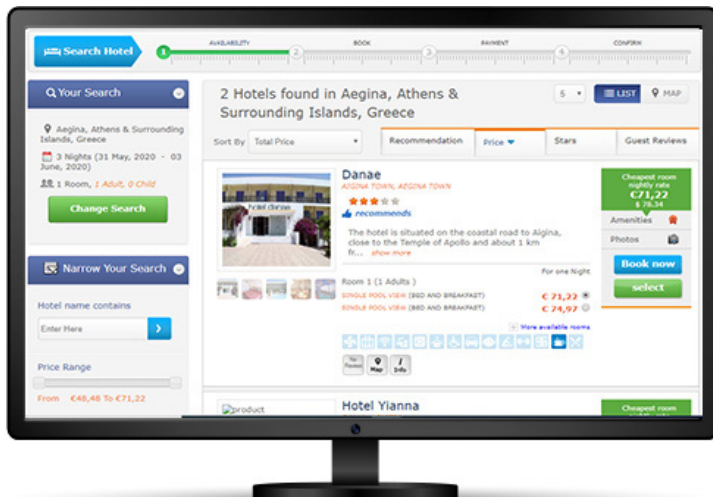

A few additional features that were added to the web portal were:

Inventory Management: A real-time processing engine, Spark Streaming was integrated with the web portal to fetch the real-time data of hotel room or flight seat availability by duration, wait time, occupancy, travel date, etc.

Personalization System: A real-time personalization system was integrated with the web portal which personalized individual user experience through suggestions curated by analyzing a user's search history, search behavior, and search patterns.

Multilingual Feature: The platform was built to support 6 languages by integrating a multilingual plugin with the web portal enabling it to cater to users from different countries.
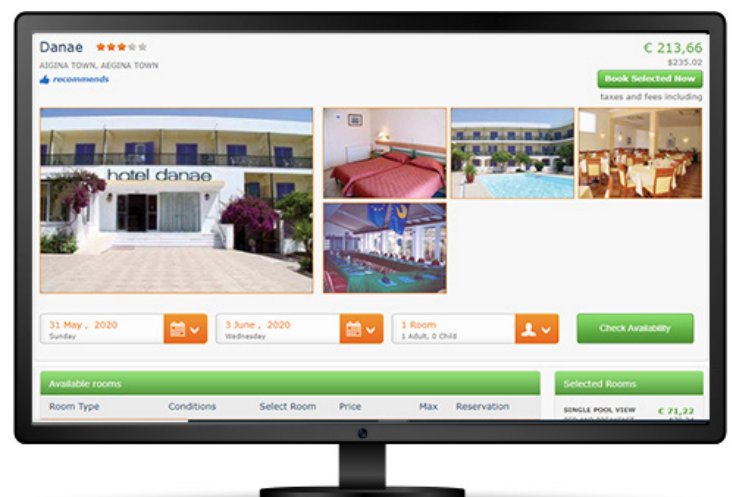
Advanced Search: Additional search criteria were added such as amenities, price range, meal types, distance, etc. to enable users to run specific searches and choose the best-suited service.

Google Maps Integration: Google maps were integrated with the web portal for navigation to hotels and travel locations.

Social Media Integration: This feature was integrated to enable users to share events, bookings, and itineraries on social media channels directly from the platform and helped increase user engagement.

Impact

The new version of the travel portal was launched in the global markets and received an outstanding response. The platform's page load time was 95% faster because of the server-side API integrations. The impressive UI/UX, smooth functioning, stellar performance and additional features of the web portal resulted in a 64% increase in user conversions. There was a 27% increase in repeat sessions because of the excellent personalized user experience that the website offered. The new portal had catered more than 100,000 users at a global level, in a short span of time.

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Technology Stack

- AngularJS

- HTML

- .Net 4.5

About Daffodil

Daffodil Software is a software engineering partner to 100+ organizations across the globe and has been helping them in making their software products more robust, teams more productive and processes more efficient. Our ability to look beyond technologies to deliver innovative solutions with scale and speed has been lauded by our clients as well as the tech community worldwide.

Since our inception, we have invested in organic growth; building on our engineering capabilities, organizational processes, and culture required to deliver a truly collaborative ecosystem for solving technology challenges. At the core of Daffodil lies a culture rooted in innovation, learning and a result-oriented mindset.

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