

Case Study

# Merlot Aero

AltexSoft helps Merlot Aero advance airline management by enhancing the legacy system and building up new features for its transportation SaaS product

Transportation, Enterprise Application, SaaS, White-Label Solution, Microsoft.Net, C#, Cloud Computing, Microsoft Azure

# Background

Merlot Aero is a global transportation software solutions provider. Its core product is a cloud-based airline operations management system. It is an enterprise white-label software, which means, that it is provided to Merlot Aero customers in a form of a turnkey solution, customized and tailored to the end user's needs.

The system is a feature-rich airline operations management platform. It utilizes a set of modules that are used for operations and crew management, internal staff planning, and regulatory compliance tracking. Its main focus is overall safety, efficiency and quality of airline operations. The product offers both web-based and mobile tools to be used on the go, with round-the-clock access to the documents, schedule and flight info.

The product integrates with third-party vendors for flights data and can be extended with new functionality or customized as needed, thanks to its open architecture.



# Challenges

The product has a vast number of features that enable simple yet powerful airline operations management. It is provided to the airline companies as a software solution, tailored to the individual needs of every customer. With aircraft and crew management capabilities being at its core, the product enables endless add-on integrations.

AltexSoft has joined the project at the later stage as a part of a distributed engineering team. Working on the project, our team has accomplished a number of tasks aimed at the system's overall performance and user experience. Namely, the main challenges were:

**1.**

Legacy code review and system architecture analysis

**2.**

Expanding the product functionality

**3.**

Ongoing UI/UX design development to cover new product features

# Value Delivered

Serving 33 airlines across 15 countries, the product is a widely used solution in the aviation industry and has been recognized with the case study by Microsoft. Our contribution to the client's success lies in:

## 1. Improved source code quality and system architecture design analysis.

Having experience of working with the legacy software, we started with code refactoring, documenting and system architecture review. This allowed us to dive deep into the product, gaining useful insights about its inner structure and business logic, as well as indicate possible bottlenecks in its architecture and performance.

## 2. Powerful integrations and new features implementation.

The AltexSoft team has implemented a vast number of features extending current product capabilities. These include routes management and reporting, data exporting tools, and multiple third-party integrations. For example, to source reliable and up-to-date info about the flights, a direct integration with the data providers was implemented by our team. This information is represented in a convenient form of a Gantt chart or edited by the managers as needed. Another complex feature that we have implemented is the ability to support multiple time zones: it is crucial for planning international flights.

## 3. Ongoing design development and alternative UI conceptualization.

While implementing the new features, our team helped design those features as well to make them an integral part of the product. Apart from developing the interface for new system modules, our team has completely reimaged the app UI, having created a new design concept for the client-side application. The concept is still to be implemented.

# Approach and Technical Info

The project involved a dedicated team of 7 engineers, assigned full-time. Additional resources were enlisted part-time to assist with UX and architecture design, enlarging the project team to up to 9 team members.

The technology stack used within this project included:

**Microsoft .NET Framework, C#, JavaScript, Microsoft SQL Server, Windows Azure.**

AltexSoft has been working with Merlot Aero since 2008. The total project duration amounted to over 15 man-years, resulting in 3 major product releases and a number of minor ones.

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