AscendiX

Custom Cross-Platform App Development

for flibco.com
About Flibco.com

Flibco.com provides private airport shuttle services in main Western European countries. Their customers can book tickets for a private or shared shuttle minibus online or over the phone to get from their home or the nearest shuttle bus stop to any airport and vice versa.

With a help of shuttle transportation apps their customers can book online a private or shared shuttle minibus from their home or the nearest shuttle bus stop to any airport and vice versa.

Also, on Flibco.com people may see the timetable of the available airports and find a shuttle bus stop in the required location.
Background

To level up Flibco.com shuttle service, the company needed to upgrade and/or to develop their shuttle bus tracking and booking software. Namely, to upgrade Shuttle Bus and to develop Door2Gate.

**shuttle bus**

Had to be renewed from an outdated monolithic software written on Ruby to an innovative shuttle transportation service that could be booked from any location at desired time to optimize booking flow.

**door2gate**

Had to be created as a new ready-to-use shuttle service app that could:

- Manage private and shared shuttle buses availability
- Plan routes and pick up points based on the vehicle availability
- Have a full-featured shuttle driver application, and admin panel
Challenges

To keep up with the current transportation services demands, we had to perform the following tasks:

- Migrate and enhance a legacy monolithic system, which consisted of backend and multiple applications, to a new modern solution
- Improve security measures for the payment processes, and users’ authentication
- Create optimal routes and passenger groups for shared Door2Gate trips considering e.g. LiveTraffic situations, canceled, or new bookings
- Develop multi-environment SDLC (System Development Life Cycle) for Drupal to deliver the glitch-free and user-friendly CMS
- Implement cloud migration from an out-of-date software to a better shuttle transportation software solution
- Enable multi-payment option to guarantee a seamless access to payment operations
- Add an opportunity to monitor and analyze the performance of the shuttle booking app
Solutions

The most valuable functions that were introduced into Shuttle Bus and Door2Gate software are:

Shuttle Booking Management

Flibco's customers now have three options to book a ticket:
- via website
- at the Points of Sale in the airport
- right in the bus

Passengers' booking history is visible on the Flibco website, in the user's cabinet. There the clients may find the passed and upcoming bookings with the ticket details, cancellations, remaining deposits etc. The same information can be found in the Flibco.com admin panel that allows the company to provide multisource shuttle booking support.

Ticket Management

Flibco.com enabled users to get booked tickets by email or as an HTML page and added an opportunity to check seat reservation via QR code in the ticket. The company has introduced EPOS thermal printing for ticket, receipt, and invoice printing as well.
Integration with TomTom Services

For getting real-time data about traffic and time estimation for each trip we integrated Door2Gate with TomTom. This service also helps to recalculate the route based on the LiveTraffic situations, canceled or new bookings. Due to this integration, Flibco.com has a possibility to group separate orders into one trip considering:

- customers' addresses,
- desired time of arrival to the airport or departure from it,
- traffic etc.

Google Maps Integration

This integration helps the drivers to make their search for customers' addresses more precise and plan their trips based on available routes and pick up points in the shortest time.

Security Management

Protective measures were introduced both for the users' account authentication during logging-in attempts as well as for the payment process confirmation.
Performance Analytics
Flibco now has an opportunity to record activities, monitor, and analyze real-time data of the shuttle service application.

Multi-Payment Integration
Passengers can pay for the shuttle services in several ways via:
- Braintree online payment system
- Deposit
- Deposit + Braintree payment solutions

Customers can also apply a discount code (Luxair coupon) to the final cost of the trip.

Easy Sign-Up Process
The Flibco shuttle transportation software allows simple one-step registration via the regular website form and via Facebook or Google accounts.
Drupal CMS Integration

Flibco.com wanted to have a modern site with ability to manage content with WYSIWYG (What You See Is What You Get) option and with integrated application for booking tickets. We used Drupal CMS system for the site, Docker for continuous integration and deployment to multiple development, testing and production environment.

It made the CMS site development process much more predictable and reliable. The application has been implemented using Vue.js reactive JavaScript framework and progressively decoupled Drupal approach.

Complex Software Maintenance

Another solved challenge is migration from the outdated monolith system for Shuttle Bus to a brand new one. It was not possible to replace the whole system at once because of tight timeframes and high coupling of the legacy system.

The migration was performed step-by-step introducing new backend services and related UI applications at several phases. During the migration process, the data were synchronized between the two systems.
Internal Results

Implemented changes reflected positively on all the aspects of Flibco’s workflow. Most of all on:

- Customer specialists’ team
- Marketing team
- Business analytics team
- Subcontractors

Improvements for Customer Support Team

After migration to a new solution, Shuttle Bus became more internally manageable and automated.

For example, due to the newly introduced algorithm and admin panel, Flibco’s customer service team does not have to assign and match the trips manually. All the results are saved in CMS, and trip management processes are performed automatically.

Also, customer service specialists are able to track, change, remove information from backend without additional development that made their work more productive.
Results

In early 2019 we’re in need to outsource a development of a mobile application to an external company. We were blessed to find Ascendix!

A number of other initiatives followed after the mobile app delivery, including a unique system to manage our Door2Gate product and a complete overall revival of our IT infrastructure. Our partners at Ascendix have been phenomenal all the way, showing an exceptional level of efficiency, transparency, expertise and quality.

An outstanding and steady level of their performance and trust is what we at fibco.com value the most in our ongoing relationship. It’s no doubt that all of our future initiatives are with Ascendix.

Since 2019 Ascendix Technologies has performed two complex tasks for Fibco.com:

- Migration from an outdated Ruby-based system to a modern CMS-integrated solution of Shuttle Bus
- Custom cross-platform app development of Door2Gate.

It took around six months for both projects to introduce core and the most important changes. And the process of Door2Gate improvement is still going on. All these changes got lots of internal and external positive results.
Earlier, the Flibco’s marketing team was not even able to change the background of the website without developers’ assistance. Now, flexibility of the system allows to adjust the features for the customers’ convenience directly in the admin panel.

Moreover, due to all Flibco.com marketing improvements, website visits have increased almost 400%.

**Improvements for Subcontractors**

The introduction of the Door2Gate driver app made a significant difference to bus drivers’ work performance. Its user-friendly interface and integration with TomTom and Google Maps services not only optimized the route planning but also made easier shuttle bus tracking in case of emergency or bus breakage.

**Improvements for Business Analytics Team**

Reverse engineering from the legacy system made the data structure more reliable and clearer. The high quality of the API documentation was attested not only by Flibco but by the third-party travel tech company that was involved in a partnership with Flibco.com.

These optimized data collection and storage led to simplification of business intelligence tool use and simplification of general reporting and analysis procedures.
External Results

The quality of the introduced changes was proven not only by positive feedback of employees within the company but also by Flibco.com users. UAT (User Acceptance Test) showed that user acceptance has increased, and it reflected on the increased traffic comparing to the pre-development period. Flibco’s management started receiving positive feedback from the customers regarding the user-friendliness and clearness of the company’s website performance.

Unfortunately, due to the COVID -19 impact, the results in terms of the revenue can’t demonstrate the success of the development in full.

But general criteria like increased engagement of Flibco’s users, enlargement of the existing and potential customers base prove to be promising for the company’s success after the crisis.

“"When you have a vision and a way to go through, your goal is not to make ONE party happy. If my goal as a CEO would be just making customers happy, it would be logic, but it wouldn’t be the right way. You have to start earlier and work on your structure internally.

Because if your employees are happy and they have an easy way of working, it reflects on your customers and on subcontractors that work with your customers. We’ve got a lot of positive feedback now. We’ve made employees happy and now our goal is to make everybody happy. And we are going to continue with it.”"
Scope of Work

Team

1. Project Manager
2. Backend Developers
3. Business Analyst
4. Designer
5. DevOps
6. QA Engineers
7. Frontend Developers

6,000 hours
Architecture

Flibco’s system is built around a modular backend using Java technologies stack. Backed services use MongoDB as data storage. Client's side consists of several separate applications. Xamarin mobile application allows drivers to manage tickets and passengers during the trip. There are two admin panels for Shuttle Bus and Door2Gate parts of the business. They provide the operations department the ability to manage all processes in the system.
### About Ascendix Technologies

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