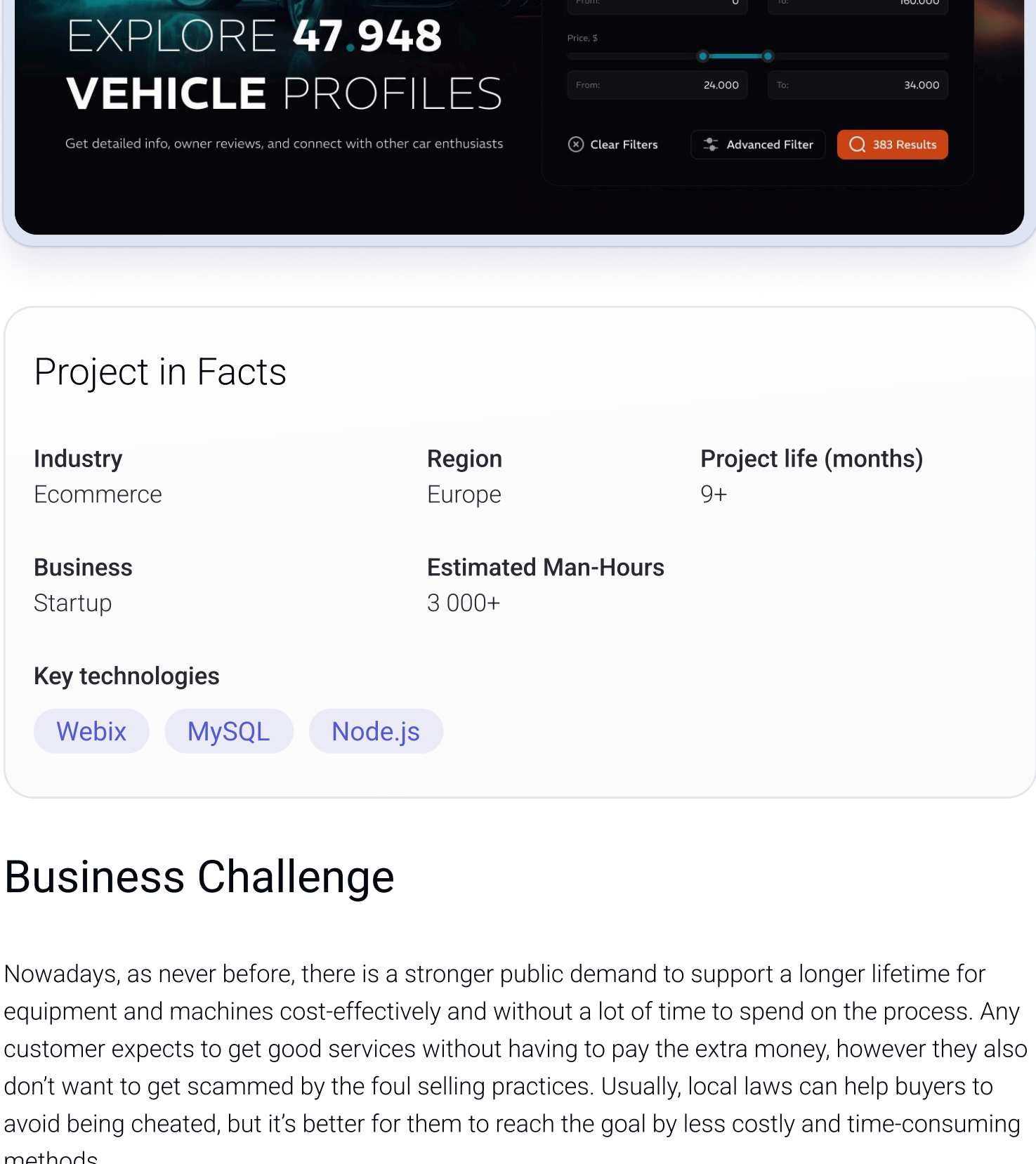


Scalable Web Platform for Car Services

A user-friendly digital service intended to connect European car owners with trusted suppliers and service providers for maintaining and repairing their vehicles. The goal of the platform is to ensure that these partnerships create a transparent marketplace for spare parts and services with optimized prices.



Project in Facts

Industry	Region	Project life (months)
Ecommerce	Europe	9+
Business	Estimated Man-Hours	
Startup	3 000+	
Key technologies		
Webix	MySQL	Node.js

Business Challenge

Nowadays, as never before, there is a stronger public demand to support a longer lifetime for equipment and machines cost-effectively and without a lot of time to spend on the process. Any customer expects to get good services without having to pay the extra money, however they also don't want to get scammed by the foul selling practices. Usually, local laws can help buyers to avoid being cheated, but it's better for them to reach the goal by less costly and time-consuming methods.

Modern reality allows customers to enjoy the benefits of market competition right from the comfort of their homes, as long as they have an Internet connection. However, with the vast amount of opportunities available in the online world, it may still be difficult to choose the right providers or let alone find one business that will offer you all the services you are looking for. Having an application where it is possible to find all necessary information is what car owners are eager to have. This is why one of our clients (a startup owner) decided to help vehicle owners and create a modern web-service that will foster efficiency and transparency in the EU automotive ecosystem.

Besides the desire to have a web-service with JavaScript-based responsive flexible layout and scalable backend, the client also had the following requirements in particular that should be considered:

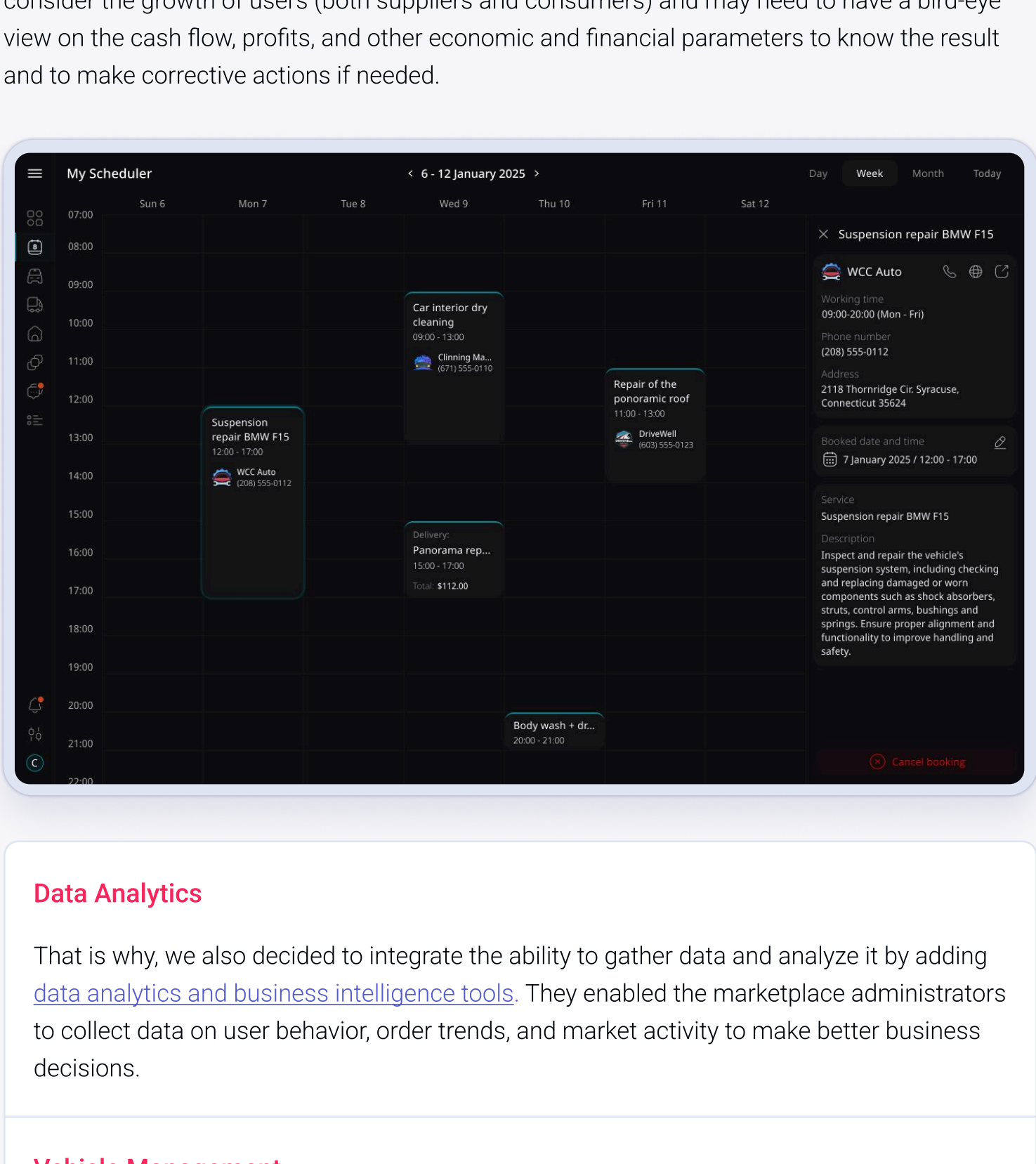
- Vehicle Tracking & Smart Maintenance Planning:** the marketplace should be able to keep record of vehicles, offer repairing services at optimal and affordable costs (by following recommendations from client's service), and forecast upcoming maintenance and repair costs;
- Built-In Auto Parts Marketplace:** car owners should be able to choose and order auto parts from the website;
- Supplier-Consumer Matchmaking:** online platform should help suppliers and consumers to find each other easily;
- Community-Driven Supplier Ratings:** the service should use a supplier's ranking, made by consumers, to avoid scammers or less cost-effective market players.

Solution

In general, the web and/or mobile application based on our client's idea can be demanded by standard consumers in other spheres as well: home appliances, houses and buildings, etc. In the case of cars and automotive domain and considering the startup owner's requirements, the marketplace might have a significant number of application features that can be available either without any fees or even registration.

To ensure the success of the marketplace, together with the client, it was decided to start with the [MVP development](#) and get feedback from the users before proceeding with more complex features. Initially, the focus was not on profits but on increasing the application's popularity, making community building crucial for our client. At this stage, they could already include some advertising to start returning the investments. Our team recognizes that almost every app owner eventually aims for business profitability, even the most altruistic ones. Therefore, we started taking into account user differentiation to monetize specific features.

- A flexible MVP version of the platform** to validate the concept and gather user feedback early in the process;
- Priority for accessibility** throughout including core features available without registration or payment and boosting community engagement from the start;
- Strategic user differentiation** and selective feature access to lay the groundwork for monetization;
- Integrated basic advertising functionality** to support initial investment returns while maintaining user-friendly experience.

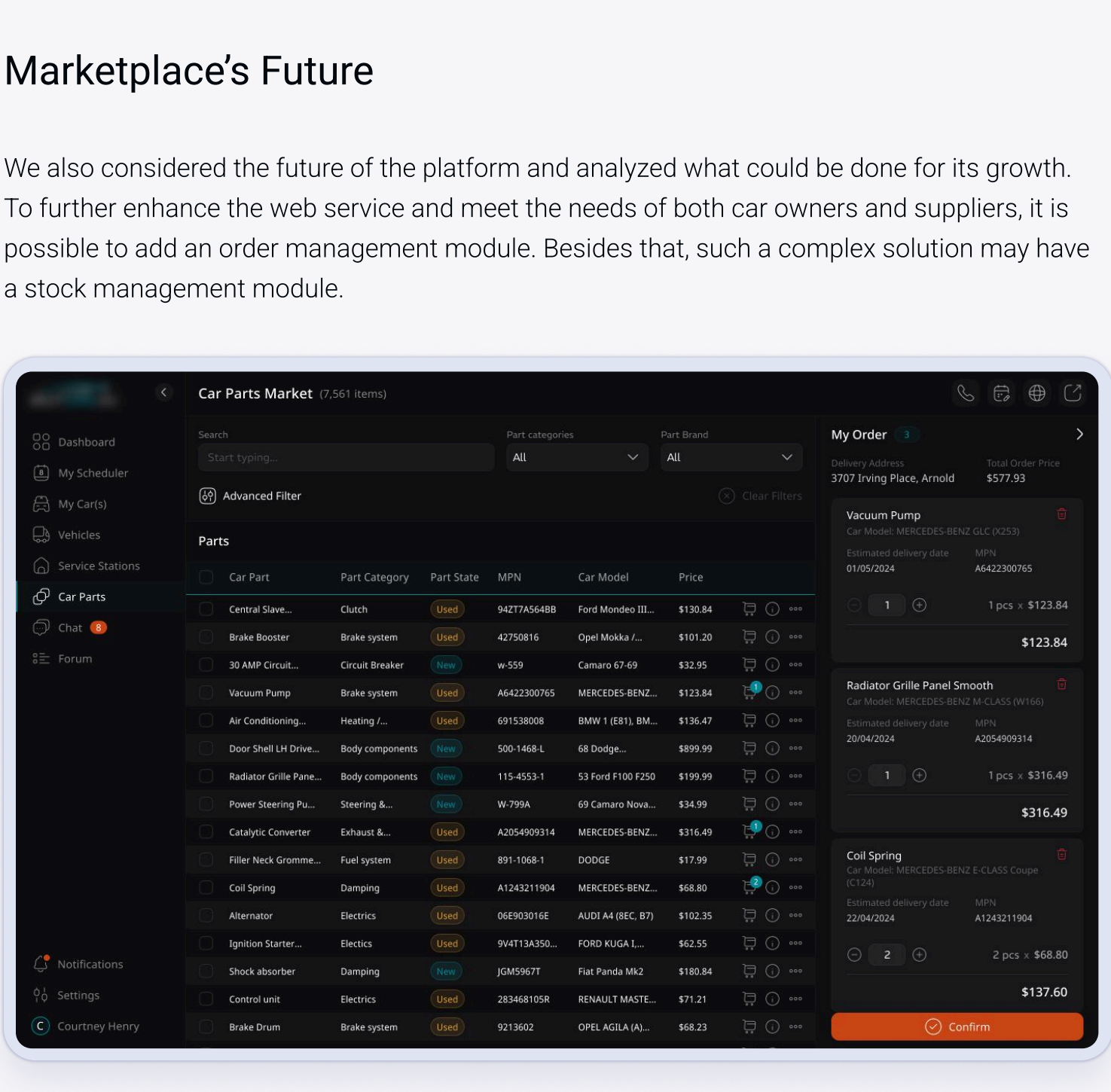


If a marketplace starts from a free-of-charge model, of course, the owner would like to minimize the cost of its creation. It's difficult to predict if one day the new system becomes popular and the owner returns investments. In this case, we can minimize the cost of development using prebuild components in the application code, which are united by a single framework.

Ihar Halchuk
Lead PM at XB Software

User Management & Engagement

Building a community of car enthusiasts requires interaction between app users. That is why it was decided to allow registered users to create profiles (for vehicles, car parts, services, etc.) and add used or new cars to the system, write articles about auto models and their particularities, make videos, rank vehicles, and join discussions on the forum.



User Engagement

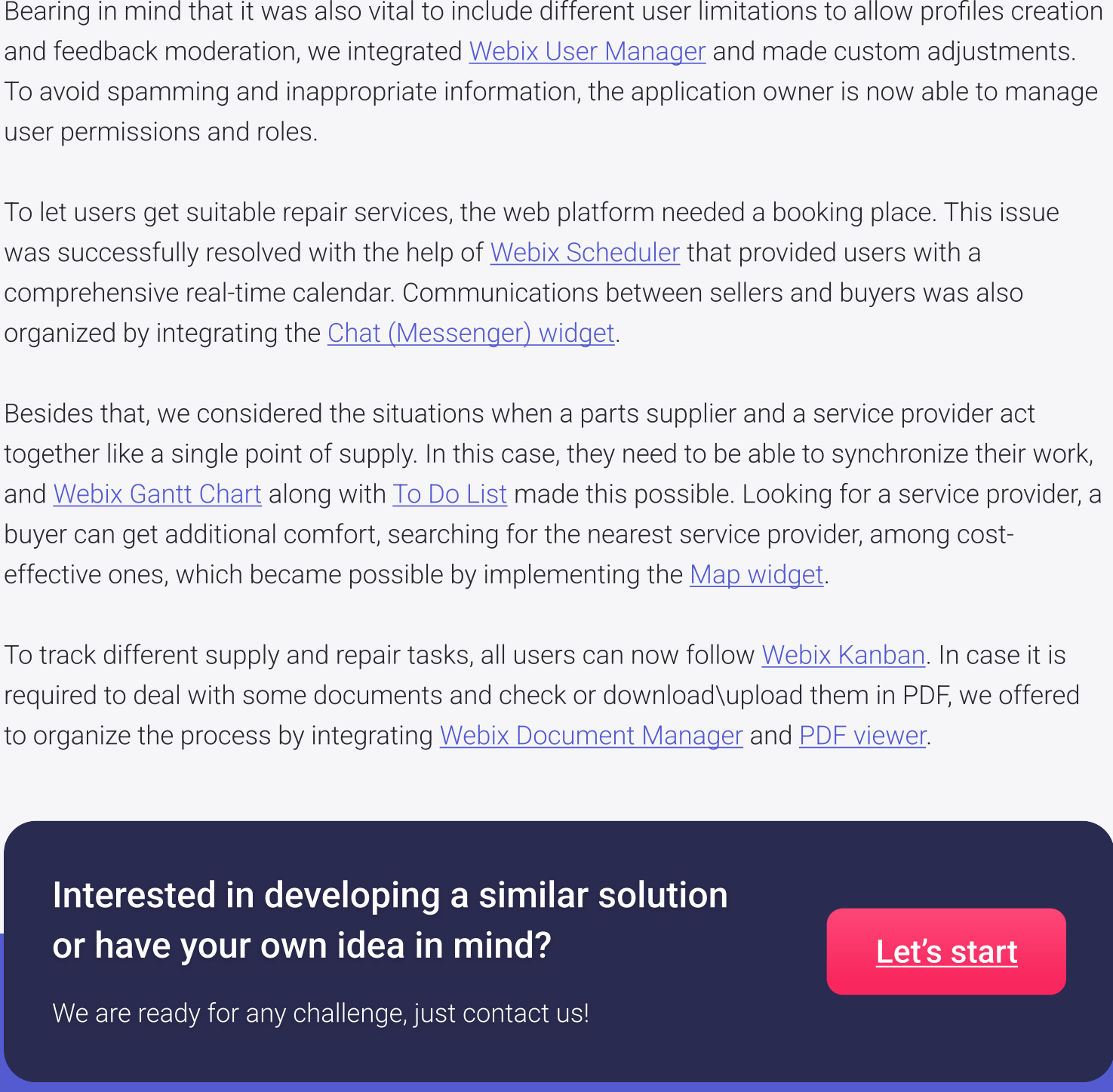
Based on our experience in developing marketplaces and customer portals, we understood that the features we implement must effectively **engage users**. For example, any user (including an application guest) should be able to find any vehicle, make comparisons based on both initial properties and usage parameters, check car rankings, read useful articles, and watch related videos.

Registration & Authorization

First of all, a web service needed to have registration and authorization features or any other way to allow certain features for restricted users only. Thus, the access limitation for car owners allowed our client to let trusted users add and edit information on their vehicles and make it available for others.

Scheduling & Data Management

As soon as it's possible to provide usability and cost-efficiency for users and market for sellers, a business may start asking for some application fee. In this case, the marketplace owner should consider the growth of users (both suppliers and consumers) and may need to have a bird-eye view on the cash flow, profits, and other economic and financial parameters to know the result and to make corrective actions if needed.



Data Analytics

That is why, we also decided to integrate the ability to gather data and analyze it by adding [data analytics and business intelligence tools](#). They enabled the marketplace administrators to collect data on user behavior, order trends, and market activity to make better business decisions.

Vehicle Management

To realize the idea of vehicle profiles and better interaction between users, we implemented **vehicle management and service scheduling features**. These modules now help app users to maintain a digital vehicle logbook (including service history and repair records), predict cost forecasting for future services based on vehicle data, and schedule appointments with local service providers considering their availability. To improve the experience, we also added the reminders for upcoming maintenance, inspections, and repairs.

Rating & Reviews

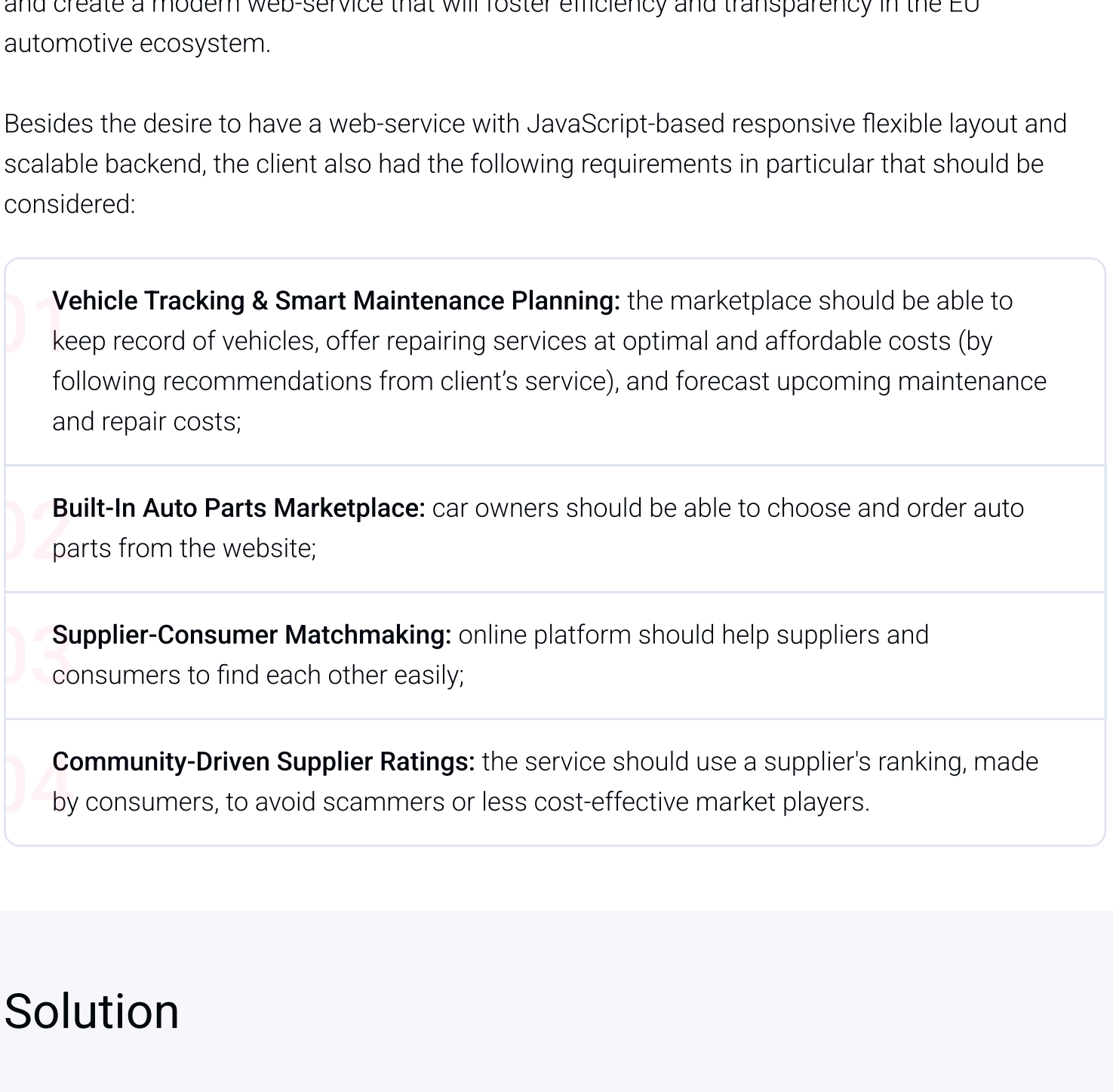
When thinking about a subscription fee, it is important to bring additional significant value to the users. It can be time saving for those users who are looking for cost-effective car repair by helping them to avoid fraudulent activity. Thus, it was decided to organize not only an online market of spare parts and services but also add authorized feedback on suppliers' services.

Consumer-Driven Rating System

Supplier rating and consumer reviews now help car owners to make informed decisions, because suppliers are rated by consumers based on their service quality, pricing, and overall experience. This consumer-driven rating system with detailed reviews became a powerful tool to report fraudulent or suspicious activity, helping to maintain platform integrity.

Marketplace's Future

We also considered the future of the platform and analyzed what could be done for its growth. To further enhance the web service and meet the needs of both car owners and suppliers, it is possible to add an order management module. Besides that, such a complex solution may have a stock management module.



Order Management

With its help, car owners will be able to place orders for spare parts or services and track the status of their orders in real-time. They may have access to such features as order creation, modification, and cancellation and will be able to track real-time orders and check status updates.

Stock Management

A robust stock management system will help suppliers to keep track of their inventory of auto parts, ensuring that the online marketplace can provide accurate availability data to consumers. The module will provide users with real-time stock levels and product availability updates when ordering as well as automatic restocking notifications to suppliers when inventory is running low.

Tools & Technologies

To develop such a solution, we decided that it will be ideal to use agile methodologies for being able to see the result fast and make product changes as per market requests and feedback. It is also important to consider that not all startups have a lot of funds and finally reach positive cashflow. In this case, we can minimize the cost of development using prebuild components in the application code, which are united by a single framework.

Thus, **to save client's funds and ensure faster development**, we chose to use [Webix JavaScript UI library](#) over other technologies. Starting application creation from a single framework with many prebuild widgets, like Webix, allowed our client to spend less resources on the MVP.

If talking about the features we implemented, the widget library created a win-win scenario for our team and our client. For example, it was decided to present the comparison of vehicles in a table by using [Webix Pivot Table](#) that allows fast rendering. When having many comparison parameters, the rendering speed definitely matters. For visualizing single car properties, [Property Sheet](#) was chosen. To build a form of initial car properties and usage parameters, we used [Accordion](#) that allowed us to manage visibility of only required parameters of a car.

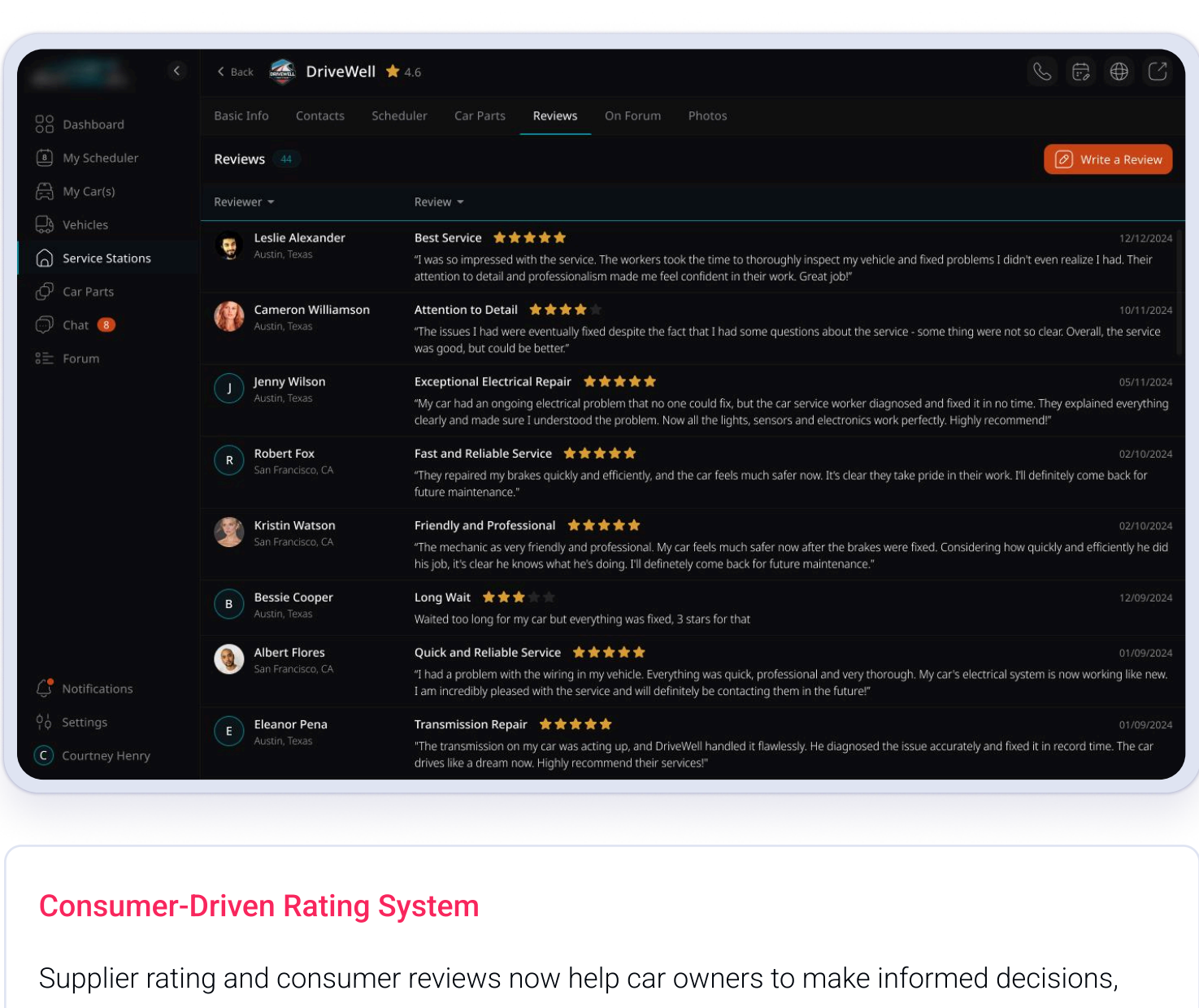
To organize the data provided by spare parts, the platform needed a proper data visualization for [inventory management](#). That's why we chose [DataTable](#) for the use by Sellers, and [DataView](#) for Buyers.

Bearing in mind that it was also vital to include different user limitations to allow profiles creation and feedback moderation, we integrated [Webix User Manager](#) and made custom adjustments. To avoid spamming and inappropriate information, the application owner is now able to manage user permissions and roles.

To let users get suitable repair services, the web platform needed a booking place. This issue was successfully resolved with the help of [Webix Scheduler](#) that provided users with a comprehensive real-time calendar. Communications between sellers and buyers was also organized by integrating the [Chat \(Messenger\) widget](#).

Besides that, we considered the situations when a parts supplier and a service provider act together like a single point of supply. In this case, they need to be able to synchronize their work, and [Webix Gantt Chart](#) along with [To Do List](#) made this possible. Looking for a service provider, a buyer can get additional comfort, searching for the nearest service provider, among cost-effective ones, which became possible by implementing the [Map widget](#).

To track different supply and repair tasks, all users can now follow [Webix Kanban](#). In case it is required to deal with some documents and check or download/upload them in PDF, we offered to organize the process by integrating [Webix Document Manager](#) and [PDF viewer](#).



Interested in developing a similar solution or have your own idea in mind?

We are ready for any challenge, just contact us!

Result

Looking into a crisis in political and economic relations in the world, even relatively rich European countries may need to support much more of their existing assets rather than to buy new. With the results our client gained, the product looks promising:

- ✓ the development of MVP helped to save time and money and get users' feedback earlier;
- ✓ the usage of Webix JavaScript UI library helped to get high-quality results faster;
- ✓ the implementation of such features as user management, vehicle profiles, service scheduling, data analytics, and supplier rating helped to start creating a dedicated and loyal community;
- ✓ the additional functional modules we proposed provided the client with clear insights for the marketplace's future development.

All in all, the solution we provided ensured that the platform can scale efficiently and remain competitive in the automotive ecosystem for years to come.

Your questions and requests are always welcome!

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