

PROJECT TYPE

Web applications

TECHNOLOGIES

Grape, Ruby on Rails, MySQL, LoopBack, ReactJS, Redux, Angular, RxJS, Redis, Docker, Jenkins, CircleCI

DURATION

10 months

METHODOLOGY

Scrum

TEAM

5 full stack developers

2 iOS developers

1 PM

1 Head of QA

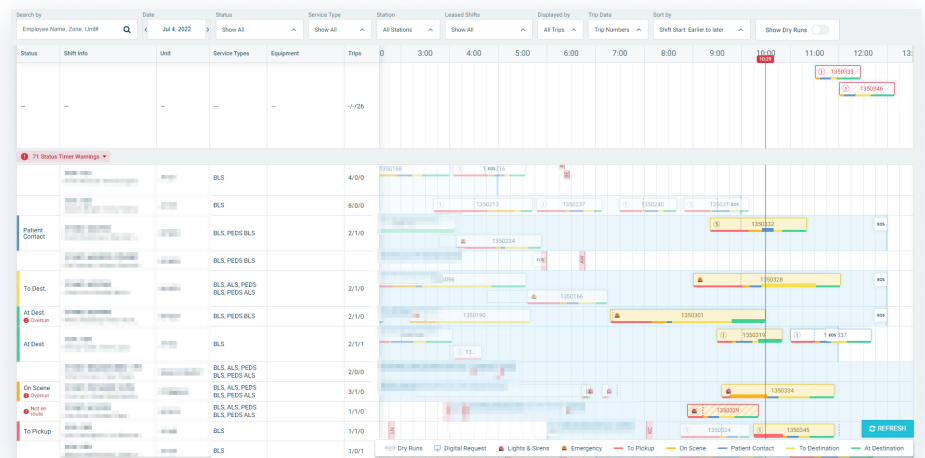
2 QA

1 DevOps

1 Director of engineering

Enhancing Medical Transportation Platform that Operates in 26 States of the USA

Two years of collaboration to enhance the platform of a leading medical transportation service provider in the USA and the United Kingdom.



Project Special Features

- ✓ **Two unique trip types** – we developed two novel trip types catering to distinct needs – on-site COVID-19 testing trips, where medical personnel carry out sample collection, and custom number segments trips that allow greater flexibility for unanticipated situations.
- ✓ **Customized call specifications** – the app permits users to define the number and qualifications of required medical personnel, along with gender preferences for religious or special medical equipment considerations.
- ✓ **Flexible transport scheduling** – users have the choice to either call the closest available medical transport instantly or schedule it for a desired time.
- ✓ **Smart route calculation** – this feature assesses potential delays from traffic congestion and accidents to determine the most efficient route.
- ✓ **Separate statistics for special trips** – trips that do not involve passenger transportation, such as COVID-19 testing trips, have a separate statistical representation to avoid data mix-up.
- ✓ **Codebase refactoring** – we addressed significant codebase challenges to enhance system scalability and adaptability for future modifications.

Business challenge

Our Client is a leading provider of mobile medical services and transportation in 26 US States and in the United Kingdom. Around 1000 enquiries for cars are coming to the application per day in 6 States. The company primarily targets the B2B sector, catering to healthcare organizations. Their product is a tech-enabled platform that consists of 4 interconnected applications. Amidst the COVID-19 pandemic, the Client aimed to expand their platform's scope with new features.

Main Challenge

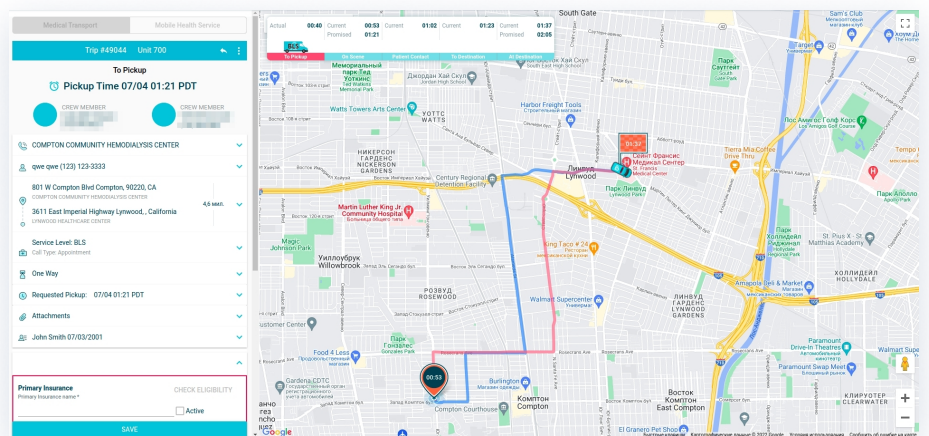
The unclear interdependencies among their four applications posed a challenge for any code changes. The Client engaged SumatoSoft to develop new trip types and optimize the existing codebase, enhancing overall system scalability.

Our solution

We provided staff augmentation services, effectively joining their development team. We assimilated into the existing structure with ease and promptly started working on the development process.

The app incorporates **four types of applications**, each serving a specific role:

- ✓ **iOS app for drivers** – provides an interface for drivers to manage trips and navigate efficiently.
- ✓ **Requester** – an application that displays all current transport movement and trips on a map, aiding in the creation and tracking of trips.
- ✓ **Scheduler** – an application that displays a time schedule of trips for all vehicles, assisting dispatchers in efficiently managing vehicle allocations.
- ✓ **Standing orders** – an application used for managing orders for regular, recurring trips, enabling easy scheduling and organization.

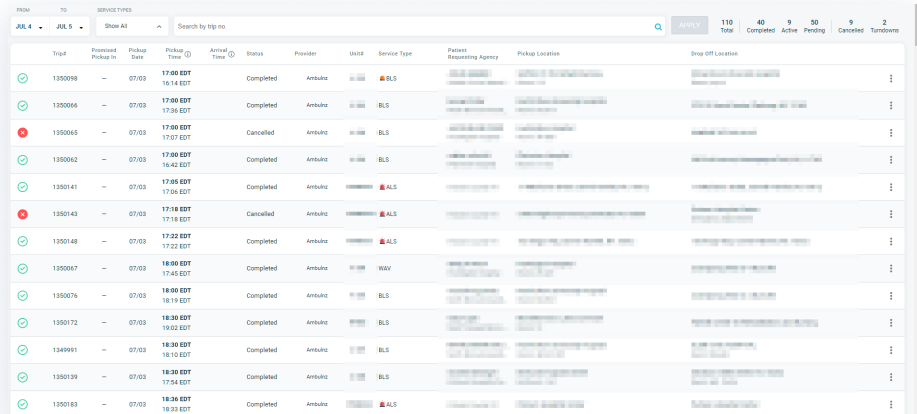


Our role in the DocGo team was focused on three critical tasks:

1. developing two new types of trips;
2. debugging the system;
3. and refactoring the existing codebase.

New types of trip development

In general, every trip within the system consists of several logical segments or events. Some examples of such segments are "departing from point A," "driving to the pickup location," "waiting for the client," and "driving to the destination," among others. We developed two unique types of trips, each one requiring a different set of segments.



FROM	TO	SERVICE TYPES	SEARCH	110	40	9	50	9	2
JUL 4	JUL 5	Show All	Search by trip no.	Jobs	Completed	Active	Pending	Cancelled	Turnover
1350094	07-03	17:00 EDT 16:14 EDT	Completed	Ambulance	BLS				
1350066	07-03	17:00 EDT 17:35 EDT	Completed	Ambulance	BLS				
1350065	07-03	17:00 EDT 17:57 EDT	Cancelled	Ambulance	BLS				
1350062	07-03	17:00 EDT 16:42 EDT	Completed	Ambulance	BLS				
1350141	07-03	17:05 EDT 17:05 EDT	Completed	Ambulance	ALS				
1350143	07-03	17:18 EDT 17:18 EDT	Cancelled	Ambulance	ALS				
1350148	07-03	17:22 EDT 17:22 EDT	Completed	Ambulance	ALS				
1350067	07-03	18:00 EDT 17:45 EDT	Completed	Ambulance	IBX				
1350076	07-03	18:00 EDT 18:19 EDT	Completed	Ambulance	BLS				
1350172	07-03	18:30 EDT 19:02 EDT	Completed	Ambulance	BLS				
1349991	07-03	18:30 EDT 18:10 EDT	Completed	Ambulance	BLS				
1350139	07-03	18:30 EDT 17:24 EDT	Completed	Ambulance	BLS				
1350183	07-03	18:36 EDT 18:33 EDT	Completed	Ambulance	ALS				

The first type of trip catered to on-site COVID-19 testing. Medical personnel, alongside a driver, would travel from point A to point B and wait while the sample collection took place. This type of trip doesn't require passenger transportation. To ensure this data did not blend with others, we made code adjustments for the separate statistics.

The second type of trip aimed at enhancing flexibility by offering trips with custom number segments. This type of trip was designed for situations that did not fit the existing models, thereby broadening the utility of the app.

Distinct features of new trips:

- ✓ **Customized call specifications** – users could specify the number and qualifications of the required medical personnel, along with their gender preferences for religious reasons or accommodating special medical equipment needs.
- ✓ **Flexible transport calling** – the system offers the option to either summon the nearest available medical transport or schedule a transport for a specific time.
- ✓ **Smart route calculation** – this feature takes into account potential delays due to traffic jams and accidents to provide the most efficient route.
- ✓ **Separate statistics for COVID testing trips** – for trips involving tasks like COVID-19 sample collection where no passengers are transported, the system provides separate statistics.

Refactoring and debugging

The code was not originally designed for easy integration of new trip types. It lacked a clear mapping of interdependencies between applications, making changes a time-consuming and intricate task. Moreover, the rapid functionality expansion led to multiple bugs. Recognizing these issues, we undertook a comprehensive refactoring of the codebase over a span of two years. Our aim was to enhance the code's readability, reduce complexity, fix bugs, and improve maintainability.

We succeeded. The revised codebase now allows for more straightforward additions and modifications, effectively making the system more flexible and adaptive to changing needs.

Customer's benefits

We successfully developed two unique types of trips in the app and refactored the codebase, improving the system scalability and adaptability for future modifications.

What's happening with the project right now?

New features are being developed.