

PROJECT TYPE

MIS

TECHNOLOGIES

Ruby 3.1.2, Rails 7.0.8, Postgres, Sidekiq, Devise, Dry-rb, WickedPDF, React 18, Material UI, Docker, Sentry, AWS S3, Amazon SES

DURATION

The development time is 1 year with 1 year of support

METHODOLOGY

Scrum

TEAM

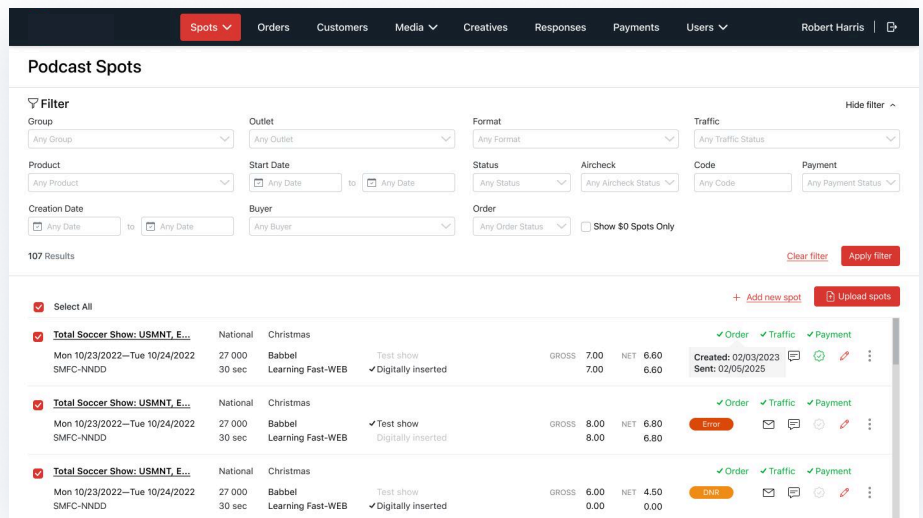
 QA,
 DevOps,
 Project Manager,
 Business Analyst,
 UX/UI Designer,
 Frontend Dev,
 Backend Dev

A media buying system for a leading US-based advertising agency

Explore how the SumatoSoft team developed a custom web-based system, achieved 50x faster performance, intuitive workflows, and advanced analytics, simplifying users' daily operations.

The Client is a leading US-based audio advertising agency. The company specializes in radio and podcast advertising and offers services such as media buying, creative services, podcast advertising, and attribution analysis.

The Client's legacy system, developed over 20 years ago using FileMaker, was outdated, low-performing, and difficult to use. At its core, the system managed millions of records, but it struggled to handle the volume effectively. Slow response times, hours-long file uploads, and frequent system failures were common issues faced by staff.



Project Distinctive Features

- ✓ Comprehensive data management for ads, customers, media outlets, and payments.
- ✓ Capability to upload large datasets (e.g., Excel, CSV) without disrupting system performance.
- ✓ Role-based access control, including admin-exclusive features for user invitations and secure onboarding.
- ✓ Asynchronous processing to ensure uninterrupted operation during intensive data handling.
- ✓ Custom algorithms for response attribution analysis, with plans for future integration of machine learning.

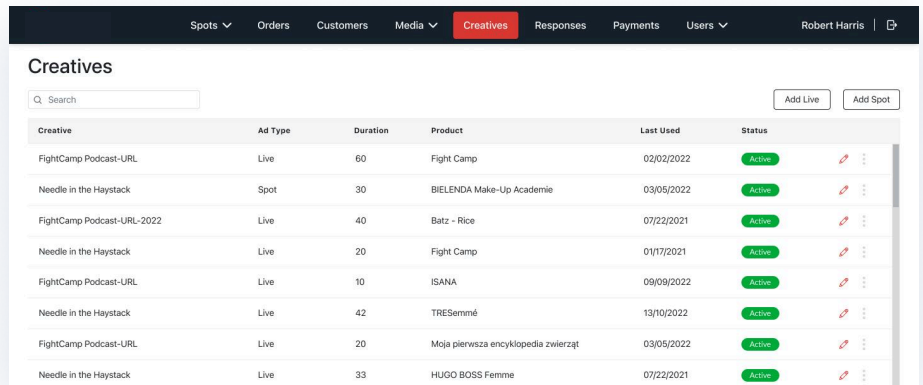
- ✓ Modular architecture to accommodate distinct workflows and improve operational clarity.
- ✓ Email integration for notifications and order management, featuring auto-generated templates and attachments.

Business challenge

The Client approached us with the goal of building a new high-performance and user-friendly solution capable of addressing the required data volume. High performance was a core requirement for this project.

Additional requirement:

- ✓ A new system should cover additional user scenarios that were previously unsupported.
- ✓ Switching to cloud infrastructure to reduce efforts and costs associated with maintaining onsite equipment.
- ✓ The previous system relied heavily on workarounds to complete tasks. The new platform required properly implemented features.



Creative	Ad Type	Duration	Product	Last Used	Status
FightCamp Podcast-URL	Live	60	Fight Camp	02/02/2022	Active
Needle in the Haystack	Spot	30	BIELENDA Make-Up Academie	03/05/2022	Active
FightCamp Podcast-URL-2022	Live	40	Batz - Rice	07/22/2021	Active
Needle in the Haystack	Live	20	Fight Camp	01/17/2021	Active
FightCamp Podcast-URL	Live	10	ISANA	09/09/2022	Active
Needle in the Haystack	Live	42	TRESemné	13/10/2022	Active
FightCamp Podcast-URL	Live	20	Moja pierwsza encyklopedia zwierząt	03/05/2022	Active
Needle in the Haystack	Live	33	HUGO BOSS Femme	07/22/2021	Active

Our solution

The SumatoSoft team developed a web-based record-keeping platform that addresses over one hundred user scenarios, ensures responses to employee requests within seconds, and meets modern standards of user responsiveness. The solution is organized into several logical modules, each handling distinct aspects of the Client's business flow and displaying just enough information on the first screen to enable employees to make swift decisions.

The system supports three user roles: the Client's employees, Admins, and media outlets, including podcasters and radio stations. The primary user scenario involves processing advertising orders.

Advertising customers ask for ad placements on radio stations or podcasts. The employees create orders in the system and prepare detailed requests for media outlets, specifying the number of plays and media materials before sending requests to media outlets. Media outlets can accept, decline, or suggest changes to the requests. Employees can then monitor the progress of advertising campaigns, track payments, and provide additional analytics to advertising customers on campaign performance.

A comprehensive analytics algorithm was also developed, enabling the system to evaluate ad performance even for the most extensive campaigns, such as those spanning multiple states and diverse media outlets, without relying on explicit identifiers like promo codes. The system supports importing thousands of response records from Excel without system disruption.

Early User Testing

Since the Client's employees are the core users of the system, the development team closely collaborated with them to ensure the platform met their needs. We conducted regular end-user interviews, tested prototypes, and presented multiple design options to gather valuable feedback and refine the solution.

Add Spots

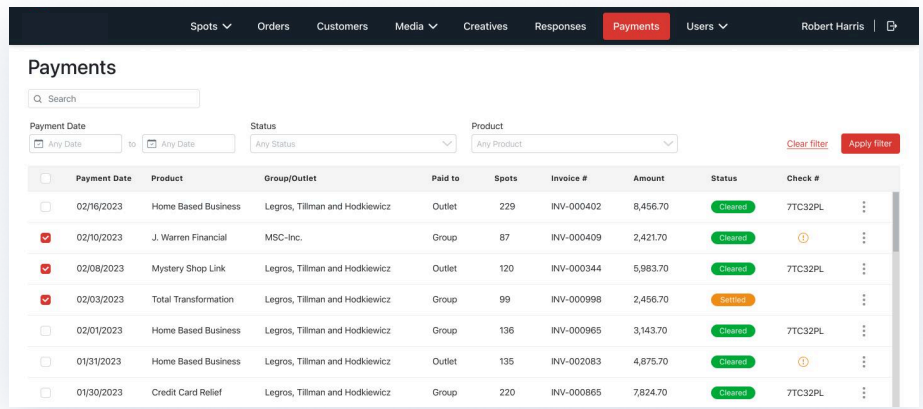
Outlet: Start Date: to [Clear filter](#) [Apply filter](#)

Date	Time	Outlet	Spots	Spend	Product
<input type="checkbox"/> Mon, 03/22/2023 – Tue, 03/23/2023	07:00AM–08:00AM	WBBM-AM	134	23.00	Altimetry
<input type="checkbox"/> Mon, 03/22/2023 – Tue, 03/23/2023	07:00AM–08:00AM	WBBM-AM	134	23.00	Altimetry
<input type="checkbox"/> Mon, 03/22/2023 – Tue, 03/23/2023	07:00AM–08:00AM	WBBM-AM	134	23.00	Altimetry
<input type="checkbox"/> Mon, 03/22/2023 – Tue, 03/23/2023	07:00AM–08:00AM	WBBM-AM	134	23.00	Altimetry
<input type="checkbox"/> Mon, 03/22/2023 – Tue, 03/23/2023	07:00AM–08:00AM	WBBM-AM	134	23.00	Altimetry
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<input type="checkbox"/> Mon, 03/22/2023 – Tue, 03/23/2023	07:00AM–08:00AM	WBBM-AM	134	23.00	Altimetry

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High-Performance Requirement

We conducted rigorous performance and load testing using tools such as Locust, Jmeter. After completing the core development process, the team spent some time optimizing performance metrics and stabilizing the system. Database queries were fine-tuned, asynchronous processing was implemented, and response times for actions were reduced to seconds. These efforts resulted in a performance improvement of approximately 50 times compared to the legacy system.



	Payment Date	Product	Group/Outlet	Paid to	Spots	Invoice #	Amount	Status	Check #
<input type="checkbox"/>	02/16/2023	Home Based Business	Legros, Tillman and Hodkiewicz	Outlet	229	INV-000402	8,456.70	Cleared	7TC32PL
<input checked="" type="checkbox"/>	02/10/2023	J. Warren Financial	MSC-Inc.	Group	87	INV-000409	2,421.70	Cleared	
<input checked="" type="checkbox"/>	02/08/2023	Mystery Shop Link	Legros, Tillman and Hodkiewicz	Outlet	120	INV-000344	5,983.70	Cleared	7TC32PL
<input checked="" type="checkbox"/>	02/03/2023	Total Transformation	Legros, Tillman and Hodkiewicz	Group	99	INV-000998	2,456.70	Settled	
<input type="checkbox"/>	02/01/2023	Home Based Business	Legros, Tillman and Hodkiewicz	Group	136	INV-000965	3,143.70	Cleared	7TC32PL
<input type="checkbox"/>	01/31/2023	Home Based Business	Legros, Tillman and Hodkiewicz	Outlet	135	INV-002083	4,875.70	Cleared	
<input type="checkbox"/>	01/30/2023	Credit Card Relief	Legros, Tillman and Hodkiewicz	Group	220	INV-000865	7,824.70	Cleared	7TC32PL

Customer's benefits

The new platform significantly transformed the Client's operations. With response times 50 times faster than the previous system, user productivity improved dramatically. Enhanced user experience and intuitive, information-rich layouts further streamlined employees' daily routines.

What's happening with the project right now?

Since the platform's launch, we have been gathering feedback from end users, refining and supporting the system.