

AdTech Marketplace for Sports Venue Advertising

The B2B AdTech platform enables advertisers to discover, plan, purchase and manage advertising campaigns displayed on digital scoreboards and screens at school sports venues across the United States.

Timspark engineers contributed to the custom marketplace development by building the advertiser-facing web application and middleware layer that connects users to advertising inventory and the client's existing proprietary advertising infrastructure.

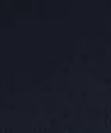
REVIEWED ON
Clutch ★★★★★

INDUSTRY	SERVICES	COUNTRY	DURATION
AdTech / Digital Advertising / Media	Custom software development / web development / API integration	USA	January 2026 – June 2026

Highlights

1. Custom B2B AdTech marketplace development for sports venue advertising.
1. Geographic advertising inventory discovery through Google Maps and location-based filtering.
1. Campaign management, media workflows, payments, reporting and secure SSO within one self-service platform.
1. MVP release preparation completed one month ahead of the original schedule.

Challenge



The client needed a scalable **B2B advertising marketplace** that would allow advertisers to independently discover, purchase, and manage advertising inventory displayed on sports venue screens.

The new digital advertising platform also had to integrate with an existing ecosystem of proprietary services responsible for delivering advertising content to physical scoreboards and displays.

Specific obstacles included:

- Outdated and incomplete documentation for existing backend services.
- Dependencies on external APIs maintained by another development team.
- Evolving business requirements during active development.
- Maintaining development velocity despite delayed backend functionality.
- Managing increasingly large video assets while preserving a smooth user experience.
- Coordinating integrations across multiple systems and ownership boundaries.

Are you facing **similar challenges?**

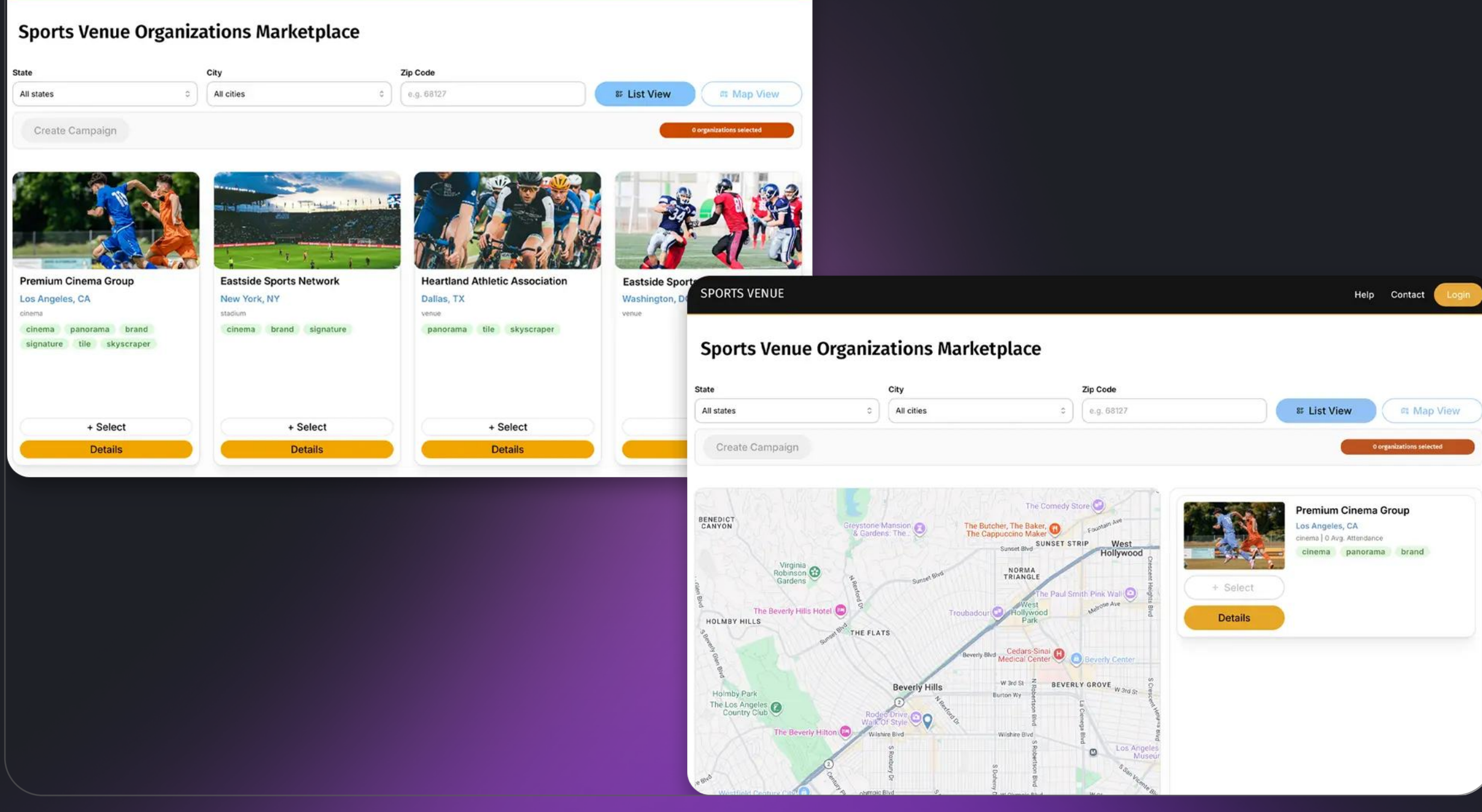
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Solution & functionality

We developed a modern advertiser-facing web application and middleware layer that served as a bridge between advertisers and the client's proprietary advertising infrastructure.

The custom AdTech marketplace combines advertising inventory discovery, campaign management, media workflows, geographic targeting, payment processing, reporting, and user management in a single self-service environment.

Advertisers can search available organizations and advertising opportunities, select relevant inventory, configure campaigns, schedule placements, upload promotional content, and manage their advertising activity through one web interface.



The platform provides both list- and map-based views of available advertising opportunities, helping advertisers identify relevant inventory across different geographic markets.

Google Maps integration enables users to explore sports venues visually, while filters for state, city, ZIP code, campaign dates and time periods make advertising inventory management and campaign planning more efficient.

Advertiser Portal >

REST APIs >

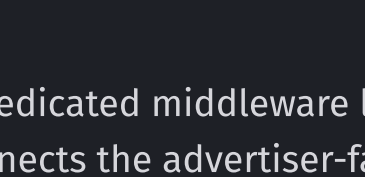
Middleware Services >

REST APIs >

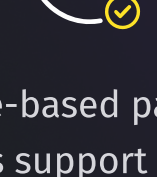
Client Proprietary Services

To reduce delays caused by external dependencies, the team implemented API mocks and simulated service responses, allowing frontend and backend development to continue while dependent services were still being updated.

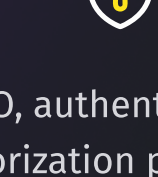
A flexible service-oriented architecture and dedicated middleware layer simplified communication with proprietary backend systems and accommodated changing business requirements throughout development.



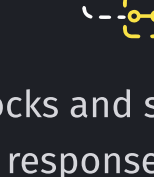
A dedicated middleware layer connects the advertiser-facing marketplace with the client's proprietary services through REST APIs, simplifying communication between multiple systems.



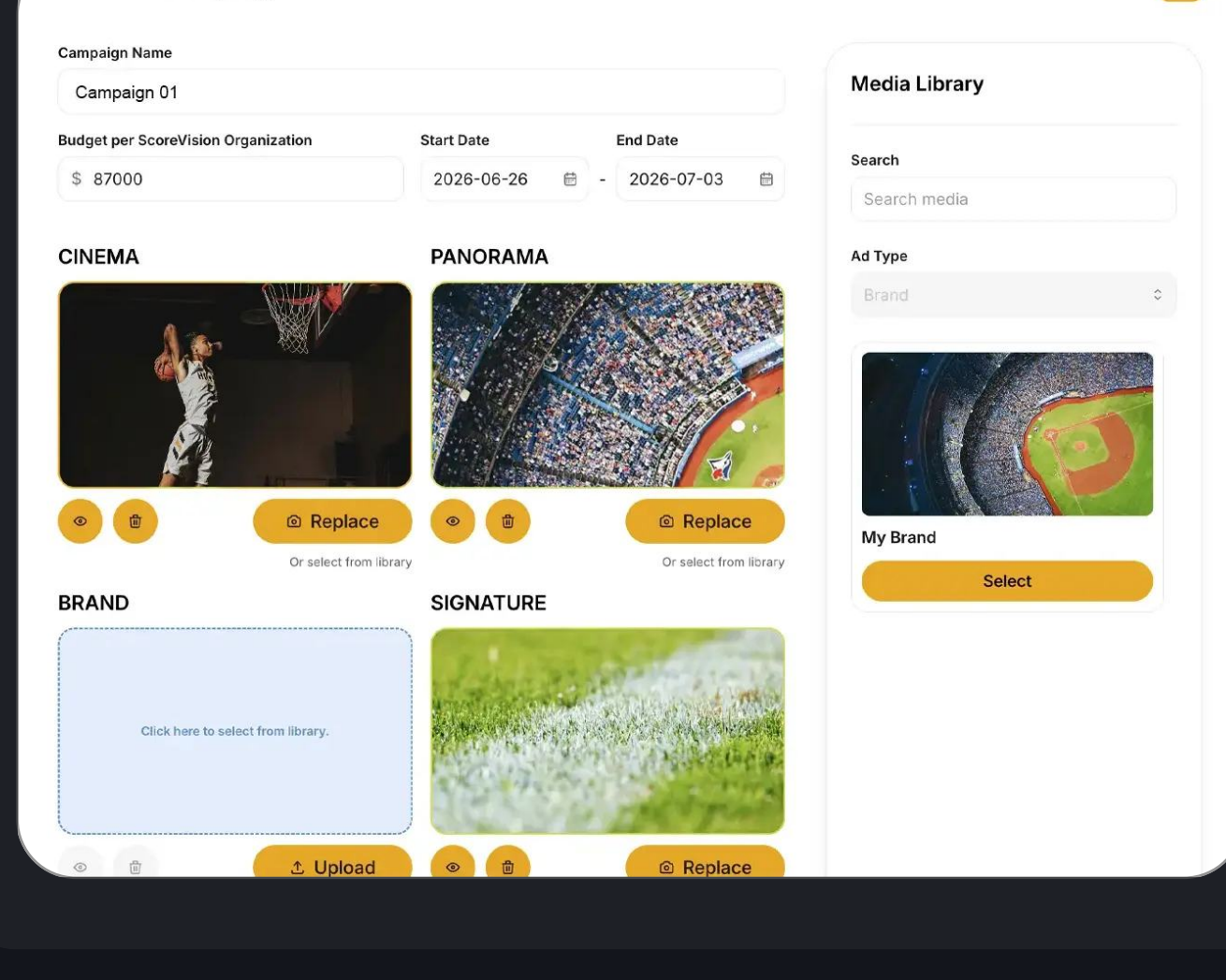
Stripe-based payment workflows support advertising purchases, transaction management and automated invoicing within the marketplace.



Secure SSO authentication and authorization provide controlled access to marketplace functionality and user accounts.



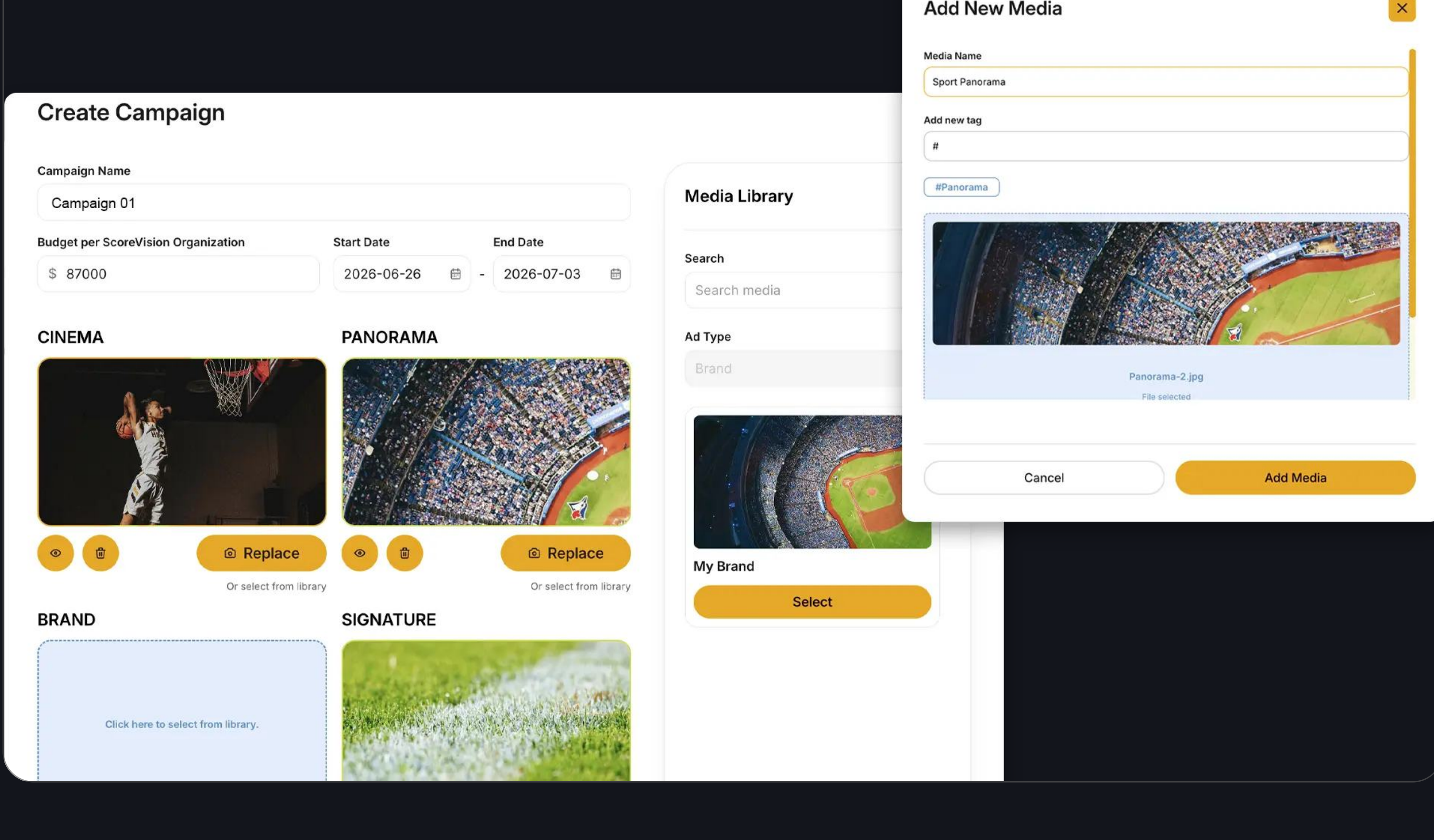
API mocks and simulated service responses allowed development to continue while dependent external services were still being updated.



Advertisers can create and configure campaigns, select inventory, schedule placements, manage campaign statuses and move through the purchasing workflow without relying on extensive manual coordination.

Campaign setup brings together budget configuration, flight dates, advertising formats and media selection in a single workflow. Advertisers can select existing assets from the media library or upload new promotional content for use across different placements.

The platform also supports video uploads and content validation, interactive reporting dashboards, and campaign performance visualization.



Delivery model

Timspark provided three engineers who were integrated into the partner's wider delivery team rather than operating as a standalone project team.

Our engineers were responsible for the core marketplace development, including the advertiser-facing application and its integration with the client's proprietary services.

The project followed Scrum practices with two-week sprints. Day-to-day communication took place primarily through Slack and project management channels, with close collaboration across sprint planning, backlog refinement, code reviews and regular status updates.

Stakeholder communication was coordinated by project management representatives, enabling the integrated teams to align on technical dependencies, evolving requirements and delivery priorities throughout the project.

Technologies used

Frontend

React.js, Vite, React Router, Chart.js, jsPDF, HTML2Canvas, Google Maps Platform

Backend

NestJS, Firebase, REST APIs (JSON), Stripe, Swagger

UI/UX

NestJS, Firebase, REST APIs (JSON), Stripe, Swagger

Results and business value

The solution established a scalable digital advertising platform that transformed how advertising inventory could be discovered, purchased, and managed across sports venues.

By combining self-service campaign management, geographic inventory discovery, media workflows, payments and reporting, the marketplace reduced manual effort while laying the foundation to expand both the advertiser base and available venue inventory.

Do you have a similar project need?