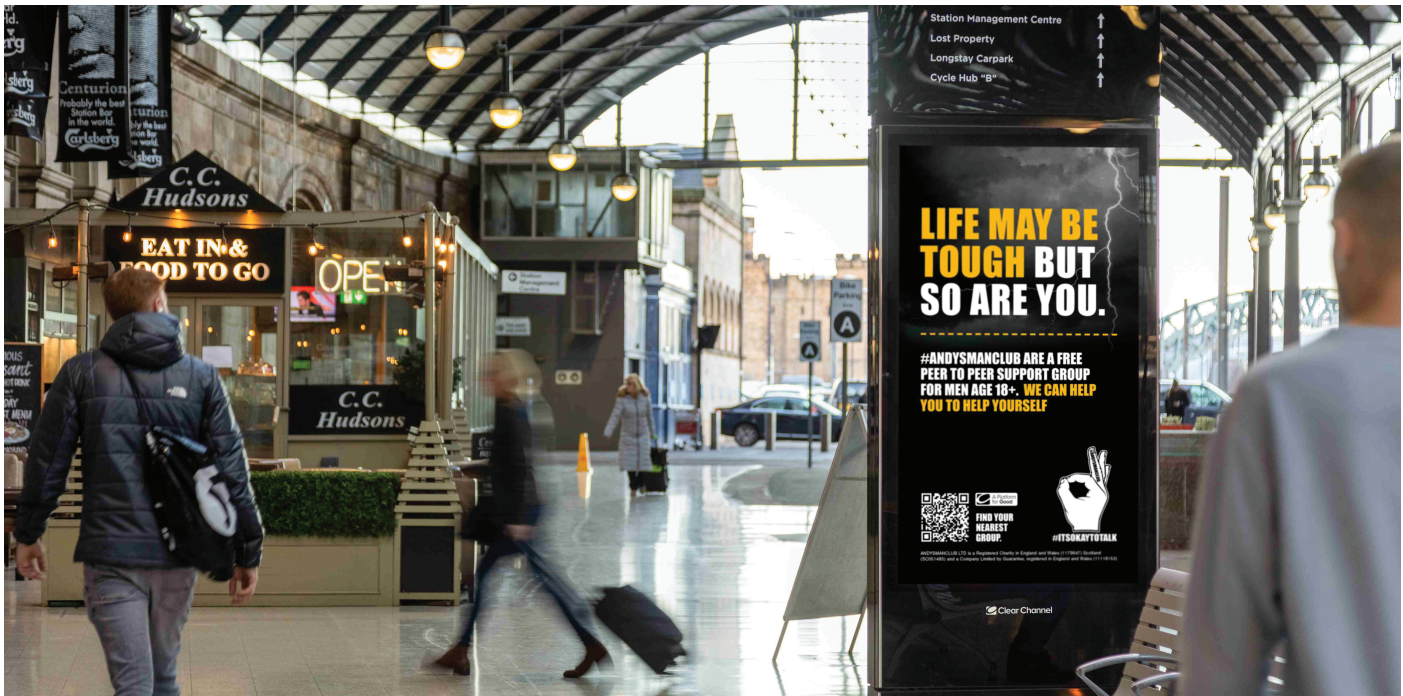# Automating Frame Availability Management

Clear Channel's Frame Manager application seamlessly manages OutOfCharge / OpeningHours with drastic improvements around data integrity and data visibility.

US-based Clear Channel Outdoor Holdings, Inc. is a global outdoor advertising company, specialising in Out-Of-Home (OOH) advertising, which involves displaying advertisements in public spaces—primarily outdoors—where they are visible to people as they navigate through the urban environment. These advertisements are placed on various types of media, including billboards, transit locations such as subways, airport advertising, and street furniture like bus shelters and signages. Their digital offerings enable brands to utilise real-time, engaging content across high-tech screens, while their traditional formats allow for large-scale, impactful advertising on printed billboards. The company's extensive network of prime advertising locations in urban and suburban environments helps businesses reach broad and diverse audiences effectively. The company operates across several geographies, including the UK and Europe, offering a range of both digital and traditional advertising solutions. Clear Channel's media assets consist of both digital and non-digital frames. Digital frames refer

to advertisements displayed on electronic screens, where the content can be dynamic and updated in real-time. Non-digital frames, often referred to as classic or traditional formats, involve static ads printed on materials like paper or vinyl.

Business Challenge

Clear Channel faced a significant operational challenge in managing the availability of their digital frames. For unforeseen reasons, these frames could become unavailable for campaign bookings temporarily or permanently, termed as "Temporarily or Permanently OutOfCharge". Additionally, the availability timings of frames could change over time, including special periods like Christmas or holidays, which required management of "OpeningHours".
The existing process for effecting these changes was entirely manual, relying on email communication and actions across various internal and external teams. This manual, distributed approach led to several critical issues:

1. Data Inconsistency: The lack of a centralised system resulted in discrepancies in frame availability data across different platforms and teams.
2. Data Integrity Issues: Manual updates across multiple systems increased the risk of errors and mismatches in frame status.
3. Lack of Audit Trail: The email-based process made it difficult to track changes and maintain a comprehensive audit history.
4. Inefficiency: The manual nature of the process was time-consuming and prone to delays, affecting the overall operational efficiency.

Furthermore, since the client used third-party systems like Broadsign for campaign planning and inventory management for a significant number of their frames, these changes needed to be reflected not just in internal applications but also in external systems. This led to Clear Channel engaging with Sahaj Software to develop an efficient, centralised system that the digital operations team could use to manage these changes effectively while ensuring data consistency across all platforms.

The Solution

The Frame is a location that Clear Channel sells to a customer for advertising. This might be a Classic posting location or a Digital screen. With the advertising proposition becoming more mature, this has created a dependency on the quality and consistency of the Frame data. This is a classic Master Data Management problem. This key piece of master data needs to be managed end-to-end throughout its lifecycle, be accurate, and in sync across all systems and touchpoints.

Based on these requirements, we developed a solution with the following key components:

1 **User-Centric Interface - FrameManager Application:**
We designed and built a new application called FrameManager, with the following features:
- Single Sign-On (SSO) integration for seamless access
- Support for both individual and bulk updates to frame status
- Intuitive user interface refined through multiple iterations and use feedback
- Adherence to the client's look and feel, ensured by collaboration with the in-house UX team

2 **Comprehensive Change Management Flow:**
The team implemented a unified process for managing both OutOfCharge status and OpeningHours updates. This flow ensured that changes were consistently applied across all relevant systems, including third-party platforms like Broadsign.

3 **Data Migration and Consolidation:**
Historical data related to Out-of-Charge status and Opening Hours was migrated from various internal and external systems into the new FrameManager application. This consolidation created a single source of truth for frame availability data.

4 **Robust Audit System:**
A detailed audit system was integrated into FrameManager, which:
- Recorded all user actions related to frame status changes
- Provided an interface within the application for supervisors to perform quick checks and audits
- Maintained a comprehensive history of changes for each frame

5 **Integration with External Systems:**
The solution included automated synchronisation with third-party systems like Broadsign, ensuring that frame availability data remained consistent across all platforms used for campaign planning and inventory management.

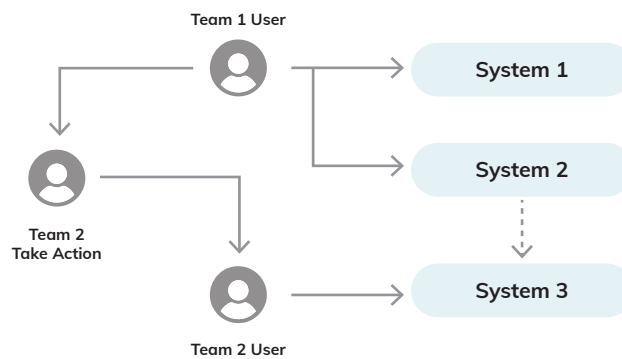6 **API Access for other applications:**
We developed APIs that allowed other internal applications to access real-time frame availability data, enabling seamless integration with other business processes and systems.
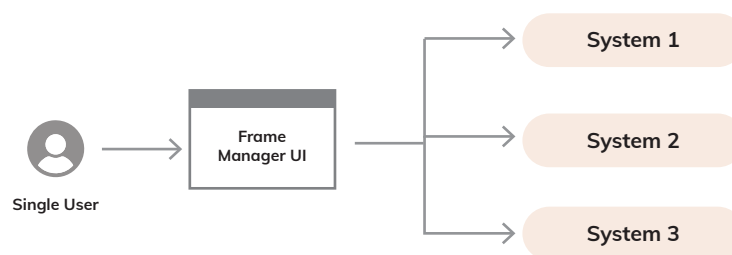
Impact

The Frame Manager application has been well received by the end users of the system, resulting in the following improvements:

- Drastically reduced the time spent managing *OutOfCharge* and *OpeningHours*, from 4 hours to just 5 minutes at the end of each month—representing a 97% time savings.
- No more inconsistencies and integrity issues related to the data related to *OutOfCharge* and *OpeningHours.*
- Application teams interested in the data around *OutOfCharge/OpeningHours* now have a programmatic means to get the data from the Frame Service on demand and in real time.

BEFORE

Team 1 User

System 1

System 2

Team 2
Take Action

System 3

Team 2 User

AFTER

Single User

Frame
Manager UI

System 1

System 2

System 3

The Frame Manager application has been a tremendous success towards the objective of seamless management of this frame master data for Clear Channel with drastic improvements around data integrity and data visibility. This has enabled different business verticals to confidently use the data around the frame for their individual application needs.