Attraction Management Software and Mobile App

n-gage.io®

A CASE STUDY FOR
HERITAGE RAILWAYS

Tanfield Railway
Enhancing The Heritage Experience
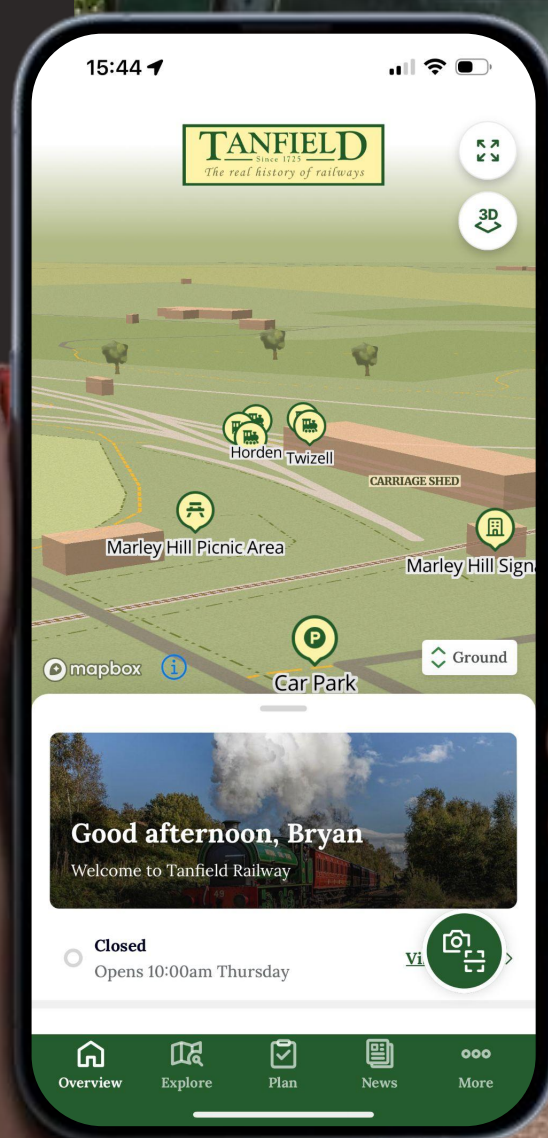
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The challenge facing heritage railways

August Edition

TANFIELD
— Since 1725 —
The real history of railways

FOREWORD

Tanfield Railway, the world's oldest railway and a celebrated icon of British industrial heritage, partnered with n-gage.io in 2025 to mark its 300th anniversary with the introduction of it's software.

By adopting a powerful new mobile app and attraction management platform, the County Durham based heritage railway has successfully enhanced the visitor experience, improved communication, and deepened public engagement, all while preserving its rich historical legacy.

Bryan Hoare
Founder and CEO
n-gage.io

n-gage.io®

This case study examines how digital technology can help to reshape the heritage railway experience, offering actionable strategies to create meaningful connections with guests, optimise railway operations, and generate new revenue streams.

Overview

Located in the heart of County Durham in North East England, Tanfield Railway is a nationally significant heritage attraction and proudly recognised as the world's oldest railway, with origins dating back to 1725. Originally built to transport coal from the collieries of Tanfield to the River Tyne, the line played a vital role in the development of industrial Britain. Today, the railway preserves this remarkable legacy through authentic, hands-on experiences, steam-powered journeys, and a dedicated volunteer team committed to restoration and education.

The railway operates a six-mile round trip through some of North East England's most picturesque countryside, giving visitors the chance to ride in lovingly restored Victorian carriages pulled by historic steam locomotives. The experience is immersive and atmospheric, taking guests back in time while telling the story of early engineering triumphs and industrial progress.

In 2025, as part of its 300th anniversary celebrations and following multiple Heritage Railway Association Award wins, Tanfield Railway took a bold step into the digital age by partnering with n-gage.io. The goal: to deliver a digital platform that would enrich visitor engagement, improve interpretation, support operational planning, and generate new opportunities for storytelling and support.

The new Tanfield Railway mobile app, powered by n-gage.io's flexible SaaS solution, has become a vital extension of the railway's on-site and off-site experience. By pairing rich, educational content with real-time communication tools, automated trails and powerful behavioural data, the railway has laid the digital foundations for its next century—ensuring its past can continue to inspire future generations.

The Challenge

As Tanfield Railway approached its tricentenary, the management team recognised the need to modernise its approach to visitor engagement, without compromising its deeply authentic heritage appeal. The railway needed a solution that could:

- Provide interactive navigation and wayfinding across the six-mile route and multiple station sites

- Offer rich, educational content that brings the railway's unique history and engineering legacy to life

- Improve communication around timetables, events and service changes in real-time

- Deliver in-app trails to support guided journeys and walking tours along and beyond the track

- Offer sponsors and partners greater visibility and engagement with visitors

- Use guest behaviour insights to support fundraising, campaign planning, and marketing

- Promote its award-winning restoration and conservation work through a digital medium

The team also needed a solution that could scale with the railway's seasonal activity and support growing digital expectations from today's visitors and heritage supporters.

The Solution

Tanfield Railway implemented n-gage.io's powerful SaaS attraction platform, combining a highly customisable mobile guest app with a real-time operator dashboard for content management, messaging, analytics and more. This allowed Tanfield to design an experience that stayed true to its heritage while making it easier and more enjoyable for visitors to explore and connect with the railway. Key features included:

Interactive GPS Mapping and Navigation
Visitors can explore the route, stations, signal boxes, engine sheds and scenic viewpoints with ease using a live, GPS-enabled site map.

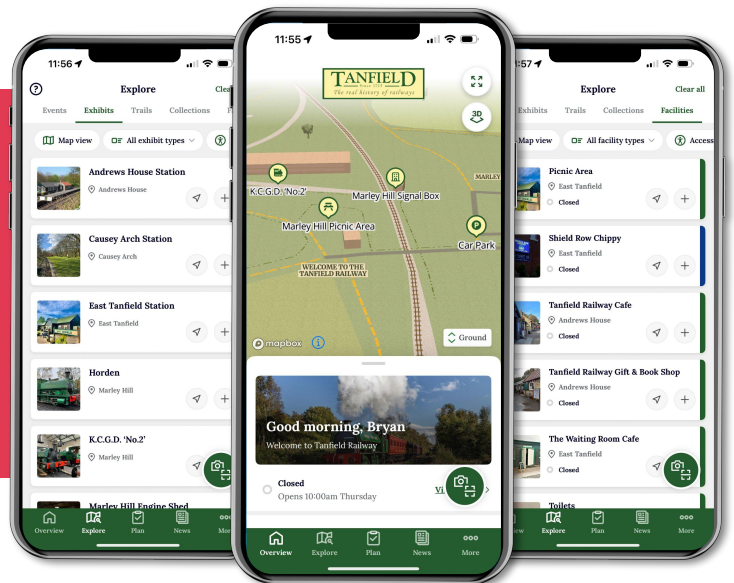### Locomotive and Carriage Profiles
Visitors can access detailed information and behind-the-scenes videos on the lovingly restored locomotives and carriages in the Tanfield collection.

In-App Push Notifications
Real-time alerts for upcoming performances, special offers, and sponsor activations ensured fans never missed a moment.

Supporter and Sponsor Updates
The app acts as a platform for sharing updates on restoration work, fundraising campaigns and sponsor recognition, keeping supporters connected year-round.

Guests use the app to explore the heritage railway line via an interactive map, and receive real-time updates on its history and preservation

Automated Mobile Trails
The app's heritage trails feature supports both on-train and on-foot journeys with rich historical content, audio commentary and location-based storytelling.

Push Notifications for Timetables, Events and Special Offers
Real-time updates on train schedules, special events, volunteer days and ticket offers keep passengers informed and engaged.

Behavioural Data Insights
The back end dashboard captures visitor trends, dwell times, most popular routes and content engagement, supporting marketing, scheduling and future planning.

Year Round Content & Updates
The app continues to act as a communication channel for visitors, enthusiasts and the community long building loyalty and anticipation for the next visit.
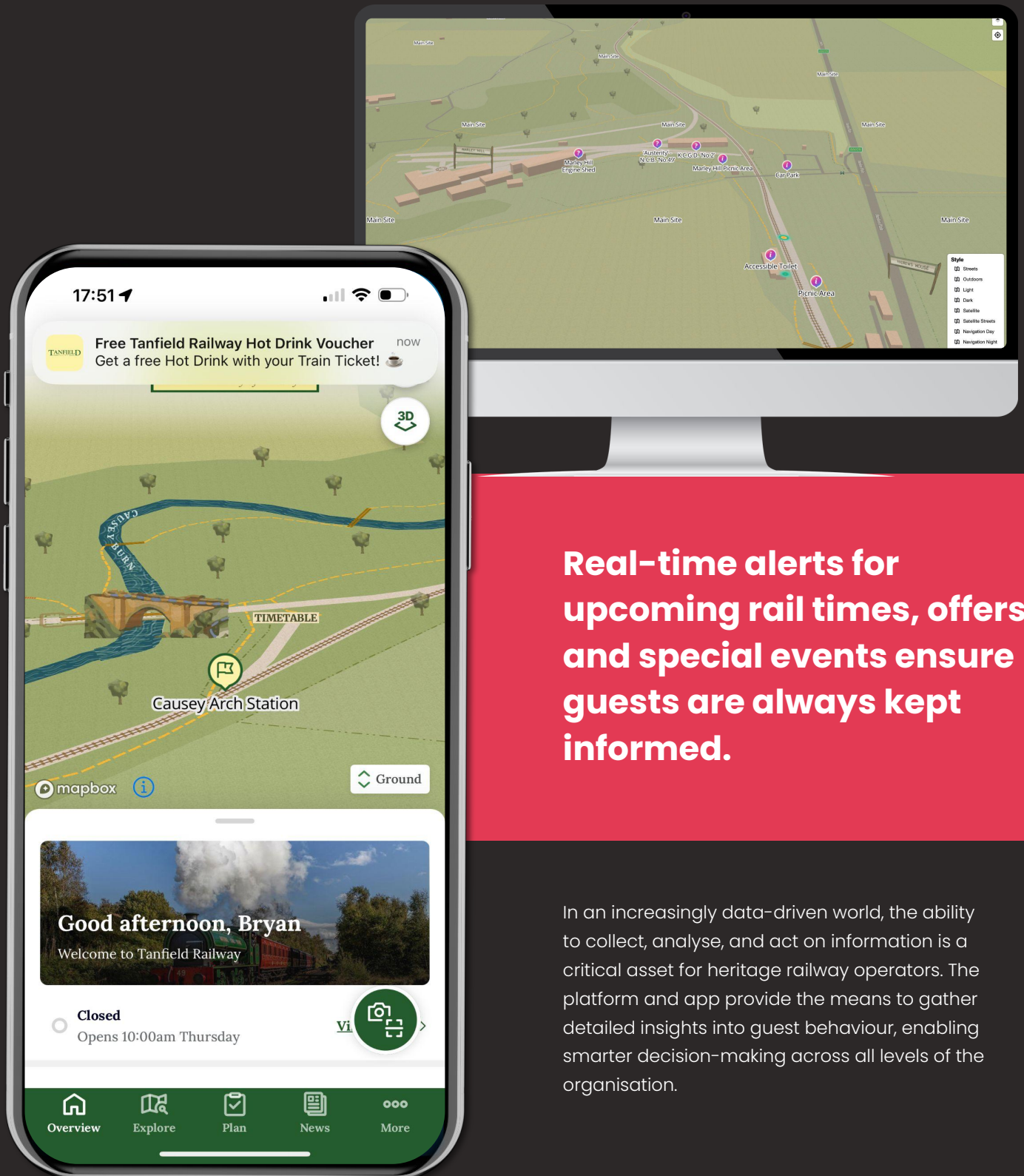
Real-time alerts for upcoming rail times, offers, and special events ensure guests are always kept informed.

In an increasingly data-driven world, the ability to collect, analyse, and act on information is a critical asset for heritage railway operators. The platform and app provide the means to gather detailed insights into guest behaviour, enabling smarter decision-making across all levels of the organisation.

Implementation and Launch

The digital solution was implemented and launched in time for Tanfield Railways 300th anniversary, complementing its broader efforts to connect with the public and promote the significance of its heritage work.

With close collaboration between Tanfield's volunteer teams and n-gage.io's support staff, the platform was configured, branded and launched efficiently. Initial response from guests and supporters has been extremely positive.

- Downloads across both iOS and Android mobile platforms

Heritage railway trails, interactive content, and personalised notifications enhance the guest experience.

- 58% email subscription opt-in rate, significantly boosting Tanfield's supporter communications

- Strong app usage across weekends, special events and campaign periods

Key Outcomes

Since launching the app, Tanfield Railway has seen improvements in guest engagement, operational communication, and community interaction.

- Improved visitor navigation as guests are now better able to plan their visit, navigate the railway route and explore key features—improving overall satisfaction.

- Stronger storytelling & interpretation with onboard and on-foot trails have added a new layer of educational value to the railway experience, reaching all age groups.

- Real-time communication with passengers providing alerts for running schedules, timetable changes and events have increased convenience and reduced uncertainty.

- Deeper supporter and donor engagement with campaigns, restoration updates and sponsor content can be delivered directly to users, enhancing loyalty and funding opportunities.

- Data-Driven decision making as visitor insights are helping to inform scheduling, event planning and promotional focus, ensuring resources are allocated where they make the most impact.

- Reduced print usage by moving timetables, guides and maps to the app, the railway has reduced its environmental impact and streamlined visitor information delivery.

Client Testimonial

"We're delighted to launch our new Tanfield Railway App and offer our visitors and passengers an enhanced digital experience," said David Watchman, General Manager at Tanfield Railway. n-gage.io has developed a software platform and mobile app that's helping the attraction industry to transform their approach to visitor engagement, whilst delivering business critical insights to help improve operations and drive revenue growth, something which is so vital to us in the industry."

"The technology will certainly help us to enhance the heritage railway experience and deliver another form of digital media around the restoration and conservation work of the organisation. We believe the software and app to be a game changer for the heritage railway industry when it comes to raising awareness of our work and delivering a more personalised experience."

How can heritage railways embrace digital without losing the magic of the past?

In this full video interview below, David Watchman from Tanfield Railway shares how the world's oldest railway is using digital transformation to drive revenue, engage visitors, and secure its future for generations to come.

We cover:

- Why embracing digital is essential for heritage attractions
- Using data to improve visitor experience
- How apps can extend engagement beyond the visit
- The role of digital in accessibility and education
- Balancing on-site immersion with tech
- Future opportunities for heritage railways

Watch now at: https://youtu.be/Go5gIcSfQAs

Why It Matters for Festival & Event Organisers

Tanfield Railways success demonstrates how heritage attractions of all sizes can benefit from modern visitor engagement tools without compromising their authenticity.

With n-gage.io, heritage railway operators can:

- Create interactive digital trails that bring history to life
- Improve passenger communication with real-time updates
- Gain data insights to guide event planning, fundraising and promotion
- Deliver personalised experiences that drive return visits and loyalty
- Promote conservation work, restoration stories and anniversaries year-round
- Reduce reliance on print and make interpretation more sustainable

Conclusion

By embracing the n-gage.io platform, Tanfield Railway has successfully fused tradition with technology—enhancing the way visitors experience and connect with one of the world's most historic railway lines. The app delivers educational value, operational efficiency and commercial benefits, helping the railway grow and thrive in its fourth century of operation.

As digital expectations continue to rise, Tanfield Railway sets an inspiring example of how heritage railways can modernise and still preserve the stories that matter.

Next Steps

To discover how n-gage.io can help your heritage railway to embrace digital transformation, book a discovery call or request a demo today at www.n-gage.io.

n-gage.io®

FEATURES

All-in-one, attraction management software & highly customisable mobile app for heritage railways.

Just some of our key features:

Digital Ticketing & Memberships

Integration with ticketing providers for tickets displayed in-app.

Interactive Maps, Trails & Wayfinding

Help audiences find their way, by navigating to places of interest or facilities.

Messaging & Notifications

Segment audiences to send personalised messages, offers & notifications.

Trigger Activations

Use the powerful trigger system combined with beacons and QR codes.

Day Planning with Reminders

Talk and tour times with event reminders, navigation & feedback tools.

Interactive Content

Create interactive & engaging content using text imagery, audio and video.

Fundraising and Sponsorship

Create individual & corporate sponsor profiles with search and find in-app.

Learning & Education

Create fun in-app exhibit quizzes to aid learning or use the lesson planning tools.

Audience Insights

Gain valuable insights into audience behaviour, to help plan operations.

Capture Their Day

Create fun interactions using customisable photo frames to share on social.

Gamification & Achievements

Set up interactive achievements to challenge and reward visitors.

Promote Sustainability

Using a mobile app helps improve sustainability, and reduce paper.

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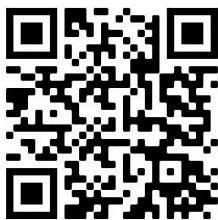
CONTACT

For more information about
how n-gage.io can help your
heritage railway to enhance the
guest the experience, gain valuable
insights and drive revenue growth,
request a free demo of the all in-one
attraction management software
and guest mobile app at:

www.n-gage.io/request-a-demo

Or simply scan below

TANFIELD
Since 1725
The real history of railways

09:18

< Back   **Heritage Steam Train Ride**

Heritage Steam Train Ride

9 Mar 2025 • **10:30am - 11:40am**

Andrews House Station

Train Rides

⌖   +

[↗] **Find out more**

Event description