

Heathrow Express: Sub-surface Fire Awareness

A submission for the Learning Technologies Solution of the Year award

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1. Overall Description

1.1 Scope

Before Heathrow Express approached Saffron Interactive, employees took mandatory face to face compliance training which cost the business up to £100,000 each year. New starters could not begin work at Heathrow Express until they had completed, and passed, this training. It was therefore crucial for learners to be able to take the training at the right time to increase productivity. But having to depend on the availability of training rooms and trainers and with the majority of existing staff working on rotating shifts, it was difficult to schedule the training at convenient times. Time really is money – every minute spent on training is a minute of lost productivity and, with an audience of around 700, it all adds up. What Heathrow Express required was an e-learning course lasting no more than one hour that would enable this audience to take the training whenever and wherever most convenient for them.

However, it soon became clear that this was no easy task. It was not simply a case of taking the existing course and stripping away content. On the contrary, new material needed to be added in order to provide context; only then would learners be able to make a connection between the online training and their day to day responsibilities, whilst emphasising the consequences of their actions.

1.2 Timescales

There was just less than four months from kick-off to gold release. And as you will see, we used every bit of this time (from touring the Heathrow Express site to put ourselves in the shoes of the learner through to developing an animated, 3D Heathrow Express site complete with escalators, fire extinguishers, help points, people and a moving train) to create something innovative and truly excellent.

1.3 Metrics and objectives

Heathrow Express' objectives for the project are summarised below:

- Reduce the training time from 120 minutes of classroom training and 30 minutes additional assessment to one 60 minute e-learning course including the assessment
- Reduce the cost of sub-surface fire awareness training whilst ensuring that the safety of Heathrow Express' staff, business partners and customers is still a number one priority



- Improve effectiveness by using an action-oriented, scenario-based approach which focuses on practical application in users' everyday work and achieves a high level of enjoyment
- Enable learners to act more safely and take the right actions in the event of a fire or platform interface accident

1.4 Deliverables

We felt sure we could deliver something more effective for the business (training that is value for money; content that is easily understood and that improves the learner's ability to raise the alarm) and creative for the learner (something directly relevant to their needs, enjoyable and memorable). We weren't satisfied with simply ticking the box and achieving fire and track safety; we wanted to challenge people's natural preconceptions about fire awareness training and give learners a memorable experience.

The objective of reducing the total training time by 50 per cent was something of a constraint. But we knew that we could not only meet this goal, but also add value and surpass expectations, delivering training that makes a difference to people's working lives.



2. Project Definition and Concept

2.1 Heathrow Express' definition

Heathrow Express provided us with the following learning outcomes for the course:

- The course should provide learners with an understanding of how fire is caused and how tragedies like the King's Cross Underground fire occur
- The course should explain how to raise the alarm in the event of a fire or track accident
- The course should inform learners of which fire extinguishers to use to tackle a fire

2.2 Saffron's definition

In order to develop an e-learning course which met Heathrow Express' objectives, we needed to understand why sub-surface fire and track awareness is so crucial at Heathrow Express. So we visited the sub-surface sites, were given tours of the platforms, public areas and back office areas, and completed the classroom based sub-surface fire awareness training.

This insight into the learners' working lives was highly influential for Saffron's project team; our interactions with end users demonstrated that the existing learning outcomes, shown above in section 2.1, lacked a focus on the desired behaviour resulting from the training and instead asked people to recite facts.

We understood that what was actually important to Heathrow Express was the learner being able to put the training into practice – something these existing outcomes didn't enable – by confidently taking the right action in the event of an emergency and ultimately saving lives. Words such as 'explain' can be tested only in person or by asking the learner to select the correct explanation or definition from a list.

We developed a new set of testable, behavioural learning outcomes focusing on actions and relating to what Heathrow Express needs its people to *do*, not just what they need to *know*:

- Identify the causes of fire and its basic ingredients
- Take the right action in the event of a fire
- Use the correct fire extinguishers on the different types of fire
- Give details of the risk of electricity on the railway and act appropriately and efficiently in the event of someone falling on to the track
- Take action to avoid stepboard or platform interface accidents and act in the right way in the event of this kind of accident



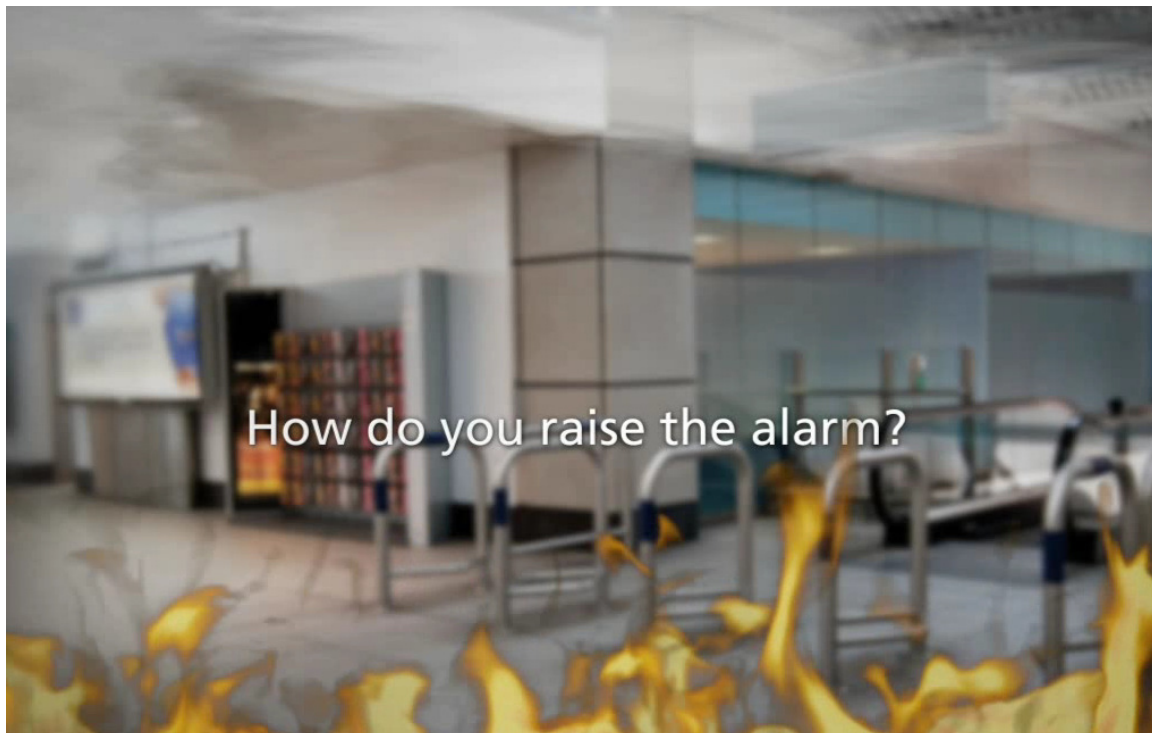
2.3 Solution and concept

Our solution was a 'day in the life' concept, seizing the opportunity to create something appropriate and recognisable, as well as visually resplendent. Our time at Heathrow Express had allowed us to build up a portfolio of photographs – rather than stock photography – taken in the various sub-surface and back office areas; this kind of detail went far in ensuring that the course was tailored to the specific needs of Heathrow Express.

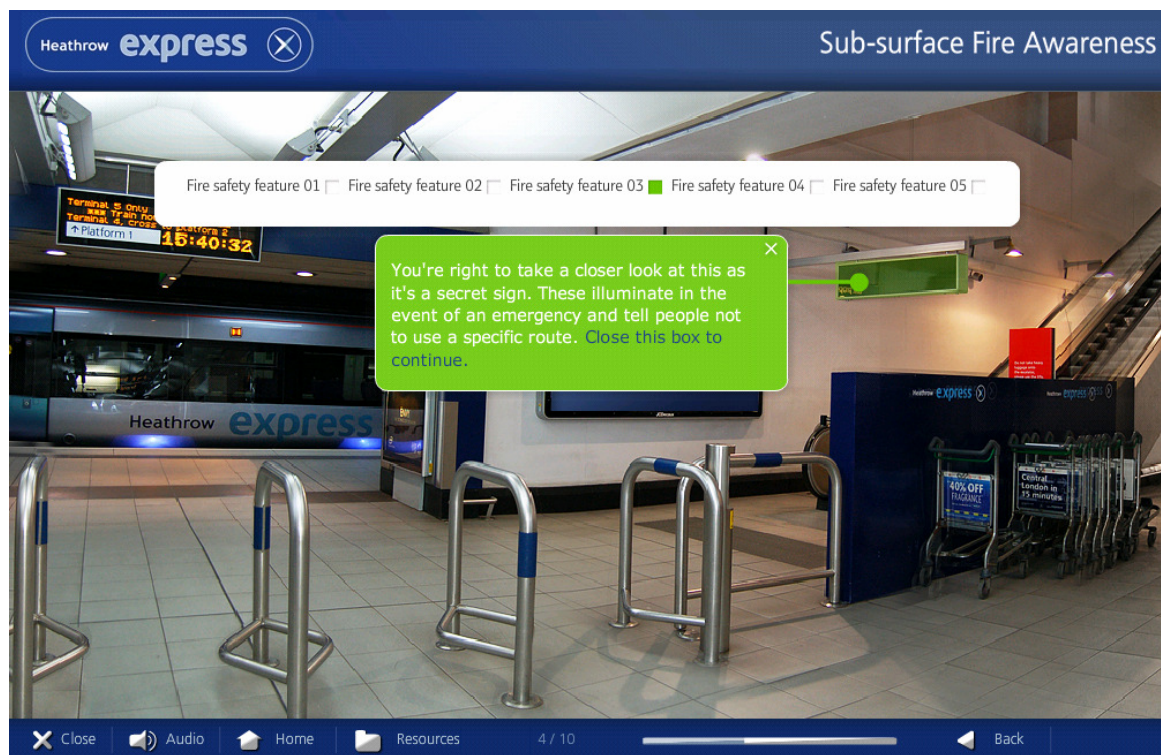
We created an animated, 3D Heathrow Express site which served as the course map and the basis for the design for the entire course. The Heathrow Express brand is highlighted throughout, down to the smallest detail, such as the branded equipment, accessories and posters on the walls, providing a premium experience and a high level of realism.



As a way of engaging the learner at the start of the course, we developed a launch sequence presenting the learner with a life or death situation: a full screen photograph of an area of Heathrow Express overlaid with a video of flames creeping up the screen. The sound of the roaring fire can be heard and as thought-provoking questions appear, smoke fills the screen, eventually leaving the learner with the statement: 'Your actions will be the difference between life and death'. This shocking introduction highlights to the learner how crucial it is that they know what to do in the event of a fire.



Learners are offered something very different from the training they are used to, including full screen 360 degree panoramic click and reveal interactions, set in a recognisable area of Heathrow Express.





The user feedback received confirms that this goes a long way towards securing user engagement. 94 per cent of learners think that the level of interaction enhanced their learning while 89 per cent believe Saffron's use of images, animation and video did just that. One learner praised Saffron's use of the test-then-tell method, posing questions to drive their learning (*'they were great ways to learn'*) and another commented on the scenarios: *'I found them to be very life like and would definitely prepare us for the work we need to do'*.

Sarah Mitchell, Business Assurance Manager at Heathrow Express believes the collection of resources available in the course are particularly valuable:

'I am impressed with the detailed level of additional learning which can take place in the Resources Folder – this is definitely a concept I'd like to see more of to allow people to increase their knowledge and skills base.'



2. 4 Meeting business need

Firstly, our tours of Heathrow Express provided the designers with the knowledge (understanding of the risks and consequences of working on sub-surface sites at Heathrow Express) to develop a course that addressed business need.

Secondly, quality checks, key controls, client reviews and sign-offs were built in to the process to ensure that we were meeting the client's expectations at each major stage. Saffron's incremental



delivery process plays a crucial part in this process for it provided regular opportunities for the client to review progress and give feedback on all deliverables throughout the project, a process facilitated by the weekly conference calls.

Finally, we performed a pilot test on end users to ensure that the wider Heathrow Express community was pleased with the quality of the course.

2.5 Change control

Because the client review team involved a number of individuals in different areas of the business, Saffron implemented a robust change control process to ensure that all change requests were entered in one place and trackable throughout the project. Saffron provided the client with a change log document in Excel format as shown below. A single document, shown below, was used throughout the project, with a separate worksheet tab for each release. Particular attention was paid to the key sign off dates on the commitment calendar. All content was agreed at storyboarding stage, so text change requests during Flash development were minimal.

Microsoft Excel - Client_Change_Log1

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2	Description: Please complete each of the columns with an orange header to record your change requests.														
3	Location			Client change request			Saffron development		Client query response		Saffron QA comment		Status		
5	ID	Unit	Slide No.	Date	By	Change request	By	Comment	By	Comment	By	Comment	Status		
	1		1	5	09/01/2008	FG		Feedback for the third option should be 'That's not right. This is not our core business. Please try again.'					Open		
6	2		2	21	09/01/2008	FG		Change first sentence to read 'We are an equal opportunities business.'					Open		
7	3												Open		
8	4												Open		
9	5												Open		
10	6												Open		
11	7												Open		
12	8												Open		
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Draft storyboard / Final storyboard / Intern 1 / Pilot / Final check /

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3. Project Planning & Risk Management

3.1 Our approach to project management

Saffron uses an iterative and agile approach to project management; we worked *with* Heathrow Express to ensure that requirements were being met, that momentum was maintained and that our client had visibility of progress at all times. During the project initiation stage, our project lead worked with Heathrow Express to create a schedule of regular deliveries of work in progress to help ensure that they had visibility of the project at all times and that the Saffron team remained focused on their goals. Saffron allocated a dedicated project lead to monitor the progress of the project.

3.2 Risk management

There were four key elements to the risk management strategy: a detailed risk and mitigation strategy log, an incremental delivery process, a consistent point of contact and weekly conference calls.

As mentioned above, the iterative approach meant that we could be confident we were meeting requirements and reduced the risk of any large scale changes to scope, approach or content being requested towards the tail end of the project.

Weekly conference calls were held in order to measure progress, review risks, raise concerns and discuss deliverables, feedback and next steps. Although, in practice, both teams were in contact on a day to day basis, these scheduled meetings provided a formal framework for looking ahead and highlighting any potential risks (including the impact of changes to the schedule) before they arose, with all actions and decisions documented in writing.

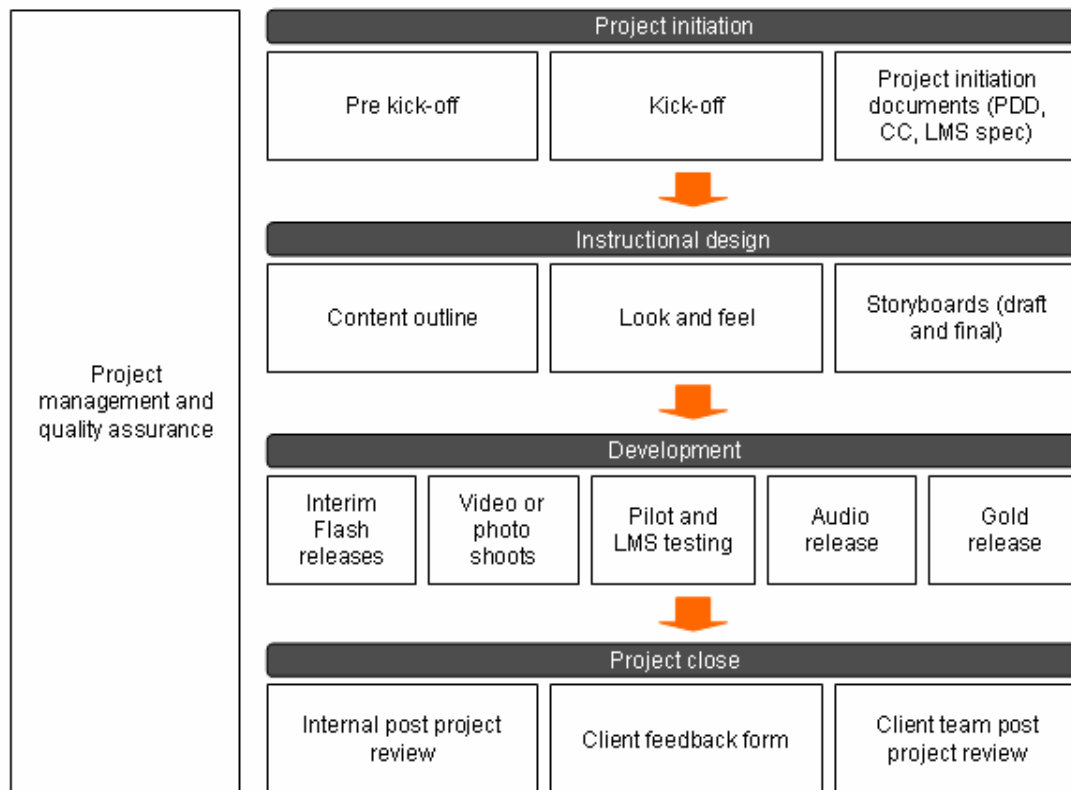
3.3 Management review

Our internal quality assurance processes required everything we sent to Heathrow Express – including project documentation, storyboards, design prototypes and development releases – to pass a series of quality checks against standardised checklists and audit forms. Only once the product had passed these checks, which covered text, design and functionality, and had been approved by management, were they released for review.



4. Project Initiation & Development

Saffron's development process is split into four key phases, illustrated below:



The development process was extremely cost effective; as mentioned above, our iterative approach to project management ensured that we minimised any large scale changes to scope, approach or content being requested once we entered the 'Development' phase, changes which, can radically reduce the cost effectiveness of the development process. The Commitment Calendar was a useful tool in ensuring that the project was completed on schedule.

Please refer back to section 2.2 and 2.3 for details concerning the Project Initiation and Instructional Design phase.



5. Project Introduction & Follow-up

The programme introduction process went smoothly, with no issues arising post implementation. Heathrow Express provided us with extremely positive feedback from their users during the post project review meeting:

- 98% of users said that the knowledge they had gained from the course would enable them to raise the alarm in the event of a fire in the right way
- 92% of users said that the course was useful and increased their knowledge of fire awareness
- 98% of users said that they would apply what they learnt

For a more detailed account of the user feedback we received, please consult Section 9.1.

6. Client Support

Although the client did not experience any issues with the programme introduction, we assured Heathrow Express that our instructional designers were available for up to three months after the course was released if any problems did occur.

We also use the post release client feedback form as a way of identifying and responding to any issues that the client may be experiencing with the course.



7. Post Project Review

7.1 End of project processes

Following acceptance of the gold release, Saffron sent Heathrow Express a client feedback form. We also invited the client team to attend a post project review meeting to gather additional feedback from key team members. The main areas that we focused on were; our client service and project management; the effectiveness of Saffron's processes, documents and controls; and the finished product itself.

7.2 Lessons learnt

The three main lessons learnt were:

- With the right attitude and approach, regulatory compliance training can be interesting, memorable and engaging
- 3D animation is a very effective way of maintaining learner engagement and making a clear link between the training and work
- Resources can be integral to training – printable takeaways such as the list of dos and don'ts, the 'fight fire with sense' checklist and details of 'call signs' and real-life photographs of fire damage helped the learners to become immersed in their learning environment

8. Client Engagement

Heathrow Express were very impressed with our agile and 'supportive' project management, which 'takes the sting out of project management', offers value for money and contributes to our strong relationship with Heathrow Express. Chris Knapp, Learning and Development Manager, comments:

'Saffron has been very supportive of the fact that this has been the first e-learning intervention for Heathrow Express and has guided everyone on the way.'

See Section 9.2 for a more detailed account of the feedback we received from Heathrow Express.



9. Impact & Contribution

We believe we've produced a great course that considerably reduces Heathrow Express' training costs, offers learners something new and takes a fresh look at fire safety and awareness. But we're not the ones that really matter.

9.1 User feedback

The course launched on 19 April 2010 and by mid July had been accessed by some 300 people. The feedback received from these users, and those involved in the pilot test in March, has been overwhelmingly positive.

Our favourite comments are *'I think it is entertaining as well as learning at the same time'* and *'I wish all railway courses were as well presented as this one!'* but we received great feedback on all aspects of the course:

- Visual impact: *'it made me more aware'* and *'well set out; the course used key areas to demonstrate fire awareness'* with 82 per cent of users believing the course has a good balance of text and graphics
- Ease of use: *'easy to follow'* – an overwhelming 96 per cent of users state that the course is easy to navigate
- Tone of voice: *'the scenarios were well explained and easy to remember'*
- Detail and relevance: *'the information is spot on and is exactly what is needed to understand'*, *'relevant, informative and a valuable insight'*, *'useful for anyone working in the Heathrow Express environment'* and will *"definitely prepare us for the work we need to do"*

9.2 Client satisfaction/Impact on business

- Learning culture transformation – shifting from traditional to embracing technology for learning
- Significant cost savings - £0.5 million over a five year projection
- Reduced administration costs
- All learners are compliant and are able to carry out their daily jobs



Sarah Mitchell, Business Assurance Manager, describes the result as having *'really shaken up the way we deliver training'* and resolves *'I'd like to have more of this type of interactive learning in the business'*.

'The impact on the business has been unimaginable. We want more e-learning'

'From a competence management perspective, this training is outstanding. The way it's designed means that end users are not tied to taking the course at defined times – they are able to manage their own learning much better'

The Heathrow Express stakeholders were delighted that we had delivered on their business objectives. The following table demonstrates exactly how we delivered against the original course objectives.

Objective	Achievement
Reduce the training time from 120 minutes of classroom training	<ul style="list-style-type: none">• Total training time halved• Knock on effects – cost savings and increased productivity (700 users over the five year lifespan of the course saves up to £480,000 a year)
Reduce the cost of sub-surface fire awareness training	<ul style="list-style-type: none">• Having previously paid up to £100,000 per year for face to face training (£40 per hour for up to three hours of training per learner), the e-learning course can be taken anywhere at any time, without the need to hire training rooms or pay for trainers' time
Improve effectiveness by using an action oriented, scenario based approach	<ul style="list-style-type: none">• Behavioural focus, using photographic imagery to develop scenarios and actively involving the learner• Effective training that achieves genuine performance improvement and competence, not just nominal compliance
Enable learners to be better able to act safely and in the right way	<ul style="list-style-type: none">• Assessment uses situation based questions to teach and test actions rather than memory• Course provides takeaway resources to offer ongoing guidance



10. Achievements

Our key achievement was the fact that we didn't simply deliver on expectations – we exceeded them. Heathrow Express cited three areas of added value.

The first of these areas is our agile and 'supportive' project management (see Section 3 above).

The second area in which we excelled was the ease with which learners can access the course, as highlighted by Heathrow Express' Operations Director, Keith Harding:

'From a competence management perspective, this training is outstanding. The way it's designed means that end users are not tied to taking the course at defined times – they are able to manage their own learning much better.'

This is particularly important in compliance courses: if a course is mandatory, people won't respond well if they can't complete it at a time most convenient for them.

Furthermore, from a design perspective, we broke the mould of compliance training by offering something different, unexpected and which extended the boundaries of accepted good practice. Heathrow Express felt that Saffron exceeded expectations by developing a unique design and concept using interactive media. Features such as the animated 3D course map, the consistent Heathrow Express branding and realistic touches, the full screen 360 degree panoramic interactions and use of video mean that the course caters to a wide variety of preferences and was described by one learner as 'visually exciting.'

Chris Knapp praised the 'engaging' and 'compelling' feel to the course and in this way Saffron really did add significant value and deliver the wow factor.

'The innovative look and feel offers powerful emotional engagement which serves to focus the learner on the importance of the training.'

We now offer this project for consideration for the Learning Technologies Solution of the Year award.

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