

Appendix G - Incident Decision Support Tool Customer Requirement Specification

Introduction

This document sets out the requirements for an information technology decision support tool which can be used to establish with a driver, or other crew member, the symptoms of an alleged train fault, and combine these with fleet-specific technical knowledge to advise the driver based on the time and location of the fault. The tool will most likely be a computer in a control room, but may take other forms, such as a mobile device for traincrew.

This document has been split into 'must haves' and 'nice to haves' to create a customer requirement specification to pin down the exact product our members require.

Requirements

Commercial must haves:

1. The supplier shall agree to a third-party source code escrow arrangement that ensures the licensee obtains formal access to the system source code when maintenance of the software cannot be otherwise assured. The arrangement shall be defined in contractually agreed terms and conditions.
2. Access to the system shall be offered under a minimum 1-year fixed term contract between both parties along with support services as per local agreement.
3. A service level agreement shall be commercially negotiated but will be circa 99%.
4. If the main channel to access the system fails, some form of locally stored decision support should be available for users to access instantly until access to the database is restored.
5. The super user shall be able to populate/modify/change the contents of the database at no extra cost as and when required.
6. Both parties shall propose change requests and evaluate them on commercial grounds.
7. The system shall suffer no more than 5 incidents per year.
8. The supplier shall provide a service level agreement covering:
 - a) Performance
 - b) Quotes for different features
 - c) System updates
 - d) Configuration
 - e) Change control
 - f) User assistance
 - g) Training packages

Technical must haves:

1. Shall be functional or accessible on a range of off-the-shelf IT solutions (e.g. tablets, mobile phones, computers, etc.).
2. The supplier shall provide a standard template fault tree which the super user can populate with textual or pictorial information and upload to the system (e.g. a diesel multiple unit may have fields for power packs, gear boxes, hydrostatics, etc.; and an electrical multiple unit may have fields for traction motors, transformers, propulsion electronics, etc.). The supplier shall agree with customers the fields comprising the standard template.
3. Shall automatically progress through the fault-finding process based on feedback from the user in the form of question and answer prompts.
4. Shall provide user security.
5. Shall commence a timer when the standard template fault tree has been accessed and flag the user when 5-minute intervals have elapsed.
6. Shall provide a link to defective on-train equipment rules.
7. Shall provide a link to information on assistance policy for recovering vehicles with another in-service vehicle.
8. Shall be interactive and easy to use:
 - a) Dependent on local bandwidth, the page should appear within 5 seconds.
 - b) Home screen should be configurable, including shortcuts to variable elements in the database.
 - c) Ability to build relationships with dataset within the system (e.g. hyperlinks, wiki, etc.).
 - d) Demonstrate bandwidth minimisation for page loading.
9. Shall take account of time and location of the incident when providing triage advice (e.g. 17:00 at Waterloo Station; get the unit moving as soon as possible/14:00 country end try to reset the faulty equipment).
10. Customer needs to appoint a super user with the authority to:
 - a) grant access to other users within the organisation.
 - b) change the content of the database.
 - c) amend historical information on events.
11. Shall automatically send an email containing a link to change the password every 90 days.
12. Shall time out:
 - a) With super user access after 30 minutes of inactivity.
 - b) With user access after 12 hours of inactivity.

13. The system provider shall provide training material to the customer.
14. Shall have a training package which will require users to log in to update their skills.
15. Shall be capable of recording information, including free text notes for export to other systems (e.g. HTML, CSB, etc.).
16. Shall be downloadable to Windows and android or web-based devices.
17. Shall alert super user when a user is accessing the system.
18. Shall be compliant with all applicable legislation, including periodic server updates and requirements for the use of proxy servers, DMZ and geographic redundancy services where applicable.
19. Shall be internet-based.
20. Shall alert the user when the system is offline and not recording (basic information should be uploadable to the live system).

Nice to haves:

1. Could store information when:
 - a) Drivers raise a fault on the system if the solution is provided to crew on a hand-held device and then transfer these files to another system.
 - b) Where available in the system, provide drivers with feedback on the remedial action required.
2. Could provide a feature to flag up to the user any ongoing fleet incidents.
3. The system to link to TRUST incidents, along with open interfaces for other systems.
4. The system to link to BUGLE.
5. A health check that recorded the last export, files received and records of dialogue and information exchanges.
6. Built-in help and user guides would be useful.
7. Whilst an internet-based system should be a must have, it would be nice for it to be external (operational offline) and require a single standardised template for submissions.
8. Engagement with drivers as they should have visibility to check whether the issue has been resolved. It was noted that visibility would shape behaviours.