

Appendix G - Vehicle Incident Decision Support Tool Customer Requirement Specification

Introduction

The purpose of this document is to describe 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 provide advice to the driver taking into account the time and location of the fault. The Tool will most likely be a computer based in a control room, but may take other forms, such as a mobile device for train crew.

This paper has been split into must haves and nice to haves to create a customer requirement specification to assist us in understanding 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 upon terms & conditions.
1. Access to the system shall be offered under a minimum of 1 year fixed term contract between both parties along with support services as per local agreement.
2. Shall provide a service level agreement to be commercially negotiated but circa 99%.
3. 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 database is restored.
4. Shall enable the super user to populate/modify/change the contents within the database at no extra cost; as and when required.
5. Shall allow both parties to propose change requests and evaluate them on commercial grounds.
6. System shall suffer no more than 5 incidents per year.
7. 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 able to work or be 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 into the system for users (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 flat to the user when 5 minutes 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) Dependant on local bandwidth, when clicked on 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 data set 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 – who will have authority:
 - a) To grant access to other users within the organisation.
 - b) To change the content of the database.

- c) Amend historical information on events.
11. Shall automatically send an email containing a link to change password every 90 days.
 12. Shall timeout:
 - a) With super user access – after 30minutes of inactivity.
 - b) With user access – after 12hours 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 Androids or web based.
 17. Shall alert super user when a user is accessing the system.
 18. Shall be compliant with all applicable legislations 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 user when the system is offline and not recording:
 - a) Offline data – basic information should be able to be uploaded into the live system.

Nice to have:

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 actions to take to address the issue.
2. Could provide a feature to flag up to the user any ongoing fleet incidents.
3. The system to link into TRUST incidents, along with open interfaces for other systems to link in.
4. The system to link into BUGLE.
5. A health-check that recorded the last export, files received and records of dialogue and information exchanges.

6. Built-in help guides 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 (operate when internet is offline) and therefore only needing 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 drive behaviours.