

Category 1 Standard

S1218 Human Systems Interaction - Dialogues and Notifications

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1. Purpose

- 1.1 The purpose of this standard is to ensure user performance by defining requirements for the design of dialogues (including notifications) between users and interactive systems. These terms are defined within this document.
- 1.2 Safety and Reliability are the primary objectives of this standard. Appropriate application of this standard, based on nationally recognised standards and guidelines, will ensure that competent staff can perform adequately in normal, abnormal, degraded and emergency operating conditions, and customers can use the London Underground (LU) network safely and reliably, as they would expect.
- 1.3 Compliance with the requirements of this standard will reduce the risk of human error during interaction with systems, and support efficient delivery into service and efficient operation in service.
- 1.4 This standard provides human factors practitioners with requirements for developing the requirements for dialogues, including notifications.

Note. Dialogue requirements depend on the specific context of use for which an interactive system is to be designed and/or used, and need to be developed for that specific context of use. This standard does not specify the dialogue requirements themselves.

2. Scope

- 2.1 This standard applies to all projects that procure, create or modify computer-based interactive systems used by London Underground staff, its agents and customers.

Note. Examples of use are: staff using a mobile device, staff using a back-up system, customers using a help point, police using a CCTV playback system, and fire brigade using a Commercial Off The Shelf fire detection system.

- 2.2 This does not define requirements for system hardware or software.
- 2.3 The scope of this standard complements the scope of S1217 'Integration of Human Factors into Systems Development'.

3. Requirements

3.1 Safety Considerations

The design of safety related computer systems shall take account of required safety integrity levels and the design and software considerations associated with safety related applications.

3.2 Requirements for Dialogues

Note. Refer to Supporting Information, Figure 5-1 which describes Dialogues and maps them to Notifications

3.2.1 Dialogue requirements shall be specified based on the dialogue recommendations in BS EN ISO 9241 parts 110, 11 to 16 and 143.

3.2.2. The project specific Human Factors Integration Plan (HFIP) (mandated by Category 1 standard S1217 'Integration of human factors into systems development') shall describe how the project applies requirement 3.2.1.

Note. Other parts of the BS EN ISO 9241 series have relevance to the development of HSI design. They should be applied according to system context of use and scope of works.

3.3 Requirements for Notifications

Note. Refer to Supporting Information, Figure 5-2 which describes the context of a Notification System and Notifications

3.3.1 The process, or an equivalent to the satisfaction of London Underground, in Figure 3-1 shall be followed to determine the System Response (outputs) to be presented to users as notifications at an acceptable presentation rate.

Note. Notifications should be defined according to good practice in human factors (HF) system engineering. The design process in Figure 3-1 shows good HF practice applied to notification design. Clarification of process steps' expected inputs, resources, and outputs should be made at the project planning stages in discussion with the LU Human Factors Engineer, or the standard owner.

3.3.2 Where there is one or more Notification System within a User's workplace the HFIP shall explain or reference how it will be determined that the User will not be task overloaded in the workplace as a result of changes to existing Notification Systems, or the introduction of new Notification Systems.

3.3.3 A list of all Notifications that a Notification System reports to the User shall be compiled to enable user workload to be analysed.