This document addresses the nature and value of an Interaction Style Guide (ISG) as a key element in the development and implementation of the direct manipulation graphical interfaces, which are starting to be introduced into operational centres. It discusses the potential usefulness of such guides and demonstrates these with the guidance material corresponding to the Example Human-Machine Interface produced to test and illustrate the CoRe development processes. It makes suggestions as to what they should contain and how they could be structured and illustrates these suggestions through the example of a style guide developed for the baseline, en-route air traffic controller working position used to demonstrate the development framework produced by the Core Requirements for ATM Working Positions Project (CoRe: HRS/HSP-006).

References

Developer and source:

EATM Infocentre Reference: 040201-10


HRS/HSP-006-GUI-01

2004 HRS/HSP-006-GUI-01- CoRe Project Baseline Exemplary Style Guide Alistair Jackson, Alexandra Dorbes (STERIA) and Michel Geissel Safety Analysis and Scientific Centre of Expertise

Year of development / publication, updates etc:

Edition Date: 16.08.2004

General Description

Purpose:

A fundamental objective of CoRe has been to improve communication, not only within development activities but also between them. In more detail this document addresses the nature and value of an Interaction Style Guide (ISG) for the development and implementation of the direct manipulation graphical interfaces, which are starting to be introduced into operational centres. To illustrate the approach and the improved process, CoRe has three main areas of deliverable:

- a qualitative, organisational model of the activities involved in developing adequate CWPs, supported
The document is divided into six parts:

- Part 1 consists of two sections. Section 1 is the introduction. Section 2 discusses and explains the role of a style guide within a requirements-based development framework such as that proposed by the CoRe Project.
- Part 2 explains the importance of design philosophy and Section 3 deals with the expression of the design approach, automation philosophy and user characteristics.
- Part 3 addresses general design principles and ?transversal? human-machine interaction requirements which are potentially applicable across all the functionality of a particular operational interface. Following an introduction in Section 4, Section 5 deals with principles of interaction, Section 6 deals with principles of input management, and Section 7 deals with principles of visual presentation.
- Part 4 considers basic interface elements and illustrates these in Section 8 with the specification employed for the basic display and management of the CoRe Baseline HMI.
- Part 5 provides a bibliography and reference list; explains abbreviations and acronyms, and acknowledges the many contributors to this deliverable.
- Part 6 consists of technical annexes to the document.

In order to better realize the ?exemplary function?, Parts 2 and 3 are presented in the form of two parallel tracks: the first track provides explanation and guidance material, while the second illustrates how these might be practically realized with the CoRe-based example.

Technical requirements for using the method, tool, etc:

The document contains a large number of hyperlinks and is best used in an electronic form.  

Measure/Response Type:

n/a

Results obtained and interpretation:

n/a

Evaluation

Advantages:
A clear understanding of the importance of the style guide in ensuring the consistency and coherency of the interface.

A basic comprehension of how to define the main elements of such a guide.

An example that can serve as a starting point for the production of style guides for similar systems.

Disadvantages:

n/a

Alternative Methods:

n/a

Usability (ease of use, efficiency, effectiveness)

Ease of use:
high
Efficiency:
high
Effectiveness:
high

Constraints concerning conditions of use:

Transversal HF requirements (XHF) are requirements or constraints that potentially apply to all aspects of the interface. They will generally be derived directly from the design principles. For example the ?consistency? principle will lead to the choice of a particular selection model or logic for the use of colour coding throughout the interface. XHF relate to the general approach that the interface has adopted to interaction and are thus potentially applicable to any new function that is being added. They can be contrasted with HF requirements that derive directly from the functionality being introduced.

Reliability:

n/a

Validity:

n/a

Required effort (to conduct & to analyse):

n/a

Level of HF expertise needed (required user qualification)

High: high level of expertise required, only for experts, lots of training required
Other expertise needed (required user qualification):

System design expertise
Cost Information

Cost information: n/a

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Experiences of use by SESAR partners (including references):

n/a

Reported and/or published experiences of use (including references):

n/a

Applicability to lifecycle phase (E-OCVM):

V1-V2-V3

Application Area:

Aviation

Keywords:


Short Description:

This document addresses the nature and value of an Interaction Style Guide (ISG) for the development and implementation of the direct manipulation graphical interfaces, which are starting to be introduced into operational centres.

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