**HL7 Electronic Health Records EHR System Usability Work Group**

**Minutes – Weekly Conference Call:** 2018-10-31

**Presiding Co-facilitator:** John Ritter

**Time:**1:00 PM Eastern U.S. for 60 minutes

**Video Conferencing:**

* Video: Use GoToMeeting, Meeting ID: 798-931-918#
* <https://global.gotomeeting.com/meeting/join/798931918>
* (When connected via GoToMeeting, you might want to dial-in using the Access Code and the Audio Code so that you will show up on the Control Panel).
* Audio:  Dial: +1-224-501-3412, Access Code: 798-931-918#

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**Materials:**

* “EHR UWG Minutes 20181024.docx”
* “ballotcomments\_EHRSFM\_R2\_USEGUIDE\_R1\_I1\_2018JAN\_20180124 20181024.xls”

**Minutes:**

1. Welcome/Minutes

* MOTION [Dave Schlossman; Aaron Nathan; unanimous]: The minutes of the 20181024 meeting was reviewed and accepted without objection.

1. Perhaps add a new item for the INFORMATION-CONTEXT category:

* Data-is-precise (rounded, summarized, filtered, compressed, imperfectly-decompressed)

PROPOSED LANGUAGE

The system SHOULD render (in real time) indications of the user's location within the system's information architecture (IA). Industry standards suggest that a system is intrinsically more usable when it enables users (e.g., by the use of relevant types of visible cues) to readily maintain situational awareness and understand where they are, what they’ve found, what’s around, what to expect, and what they can do (<https://www.usability.gov/what-and-why/information-architecture.html>). In HL7’s EHR System Functional Model, any given location within the system’s IA maps to a set of contexts as defined in the Usability Glossary (e.g., PATIENT-CONTEXT, TIME-CONTEXT, SCREEN-CONFIGURATION-CONTEXT, WORKSTATION-CONTEXT, SESSION-CONTEXT, and PROVENANCE-CONTEXT). A user’s orientation and awareness of position in the IA can be readily testable in a standard user-based interaction study.

*Note: in the paragraph above, should we use the “old” CONTEXT designators/labels – or the newer IA designators/labels?*

1. What is a “CONTEXT” (in terms of Usability versus User-Centered-Design versus System-Functionality?

* It seems useful for the Usability Work Group to propose the invention of a new Glossary term that successfully encapsulates the concept of the user’s (real-time) experience as occurring at a given Workstation for a given patient, on a given system, under given presumptions, under given expectations, under given limitations, etc – all based on the systems’ underlying “information architecture”.
* How can we convey the notion that the purpose of Information Architecture is to help users understand where they are, what they’ve found, what’s around, and what to expect?
* Perhaps it might be good to recast the existing Usability Glossary Context keywords as follows:
  + ~~Situational-awareness~~
  + ~~User-Cues~~
  + ~~Information-Architecture-xxx-Labelling~~
  + ~~USER-CONTEXT becomes INFORMATION-ARCHITECTURE-USER-LABELLING~~
  + ~~PATIENT-CONTEXT becomes INFORMATION-ARCHITECTURE-PATIENT-LABELLING~~
  + ~~TIME-CONTEXT becomes INFORMATION-ARCHITECTURE-TIME-LABELLING~~
  + ~~USER-CONTEXT becomes INFORMATION-ARCHITECTURE-USER-NAVIGATIONAL-LIKELIHOOD~~
  + ~~PROVENANCE-CONTENT-CONTEXT becomes INFORMATION-ARCHITECTURE-CONTENT-SOURCE-LABELLING~~
  + USER-CONTEXT becomes INFORMATION-ARCHITECTURE-USER
  + PATIENT-CONTEXT becomes INFORMATION-ARCHITECTURE-PATIENT
  + TIME-CONTEXT becomes INFORMATION-ARCHITECTURE-TIME
  + PROVENANCE-CONTENT-CONTEXT becomes INFORMATION-SOURCE
  + (and) PROVENANCE-CONTENT-CONTEXT becomes INFORMATION-RELIABILITY
  + SESSION-CONTEXT becomes INFORMATION-ARCHITECTURE-SESSION
  + WORKSTATION-CONTEXT becomes INFORMATION-ARCHITECTURE-WORKSTATION
  + (Part of) INFORMATION-CONTEXT becomes INFORMATION-ARCHITECTURE-ACCESS
  + (and part of) INFORMATION-CONTEXT becomes CONTENT-ACCURACY
* Note: On 2018-05-23, we agreed to accept the newer versions of the CONTEXT Glossary terms as indicated in GREEN (above). We must now replace all existing CONTEXT terms in the FunctionList with their newer counterparts.
* Note: On 2018-05-30, we attempted to perfect the list of CONTEXTs (above), and eventually agreed to place the discussion on the back burner until the September 2018 HL7 Working Group Meeting in Baltimore (for final discussion and acceptance). However, since the two Usability Functional Profiles need to be balloted (beforehand) – we are forced (by time constraints) to choose a proposed approach, create the specification based on the newly-selected CONTEXT monikers, ballot it, and then resolve the comments.

1. Ballot reconciliation

* Resolve the ballot-comments as follows:
  + Identify the items that are clearly User-Centered-Design and mark those for inclusion in the “User-Centered-Design-Functional-Profile” (or perhaps named the “Usability Functional Profile”).
  + Identify the items that are clearly NOT User-Centered-Design and mark those for inclusion in the “Usefulness-and-Utility-Functional-Profile”.
* The group continued reviewing proposed reconciliations.

1. Next Steps:

* Submit the reconciled ballot to the HL7 Ballot Website so that the commenters can review the dispositions and (possibly) withdraw their Negative votes.
* Render the results of the recent ballots into two Functional Profiles.
* Examine any (outstanding issues) Parking Lot documents.
* Examine previously reconciled-ballots for outstanding requests/instructions.
* Assemble/Edit the aspects of the Publication package, including:
  + Glossary
  + Overview Chapter
  + Conformance Chapter
  + “How To” Guide for using the two Usability Functional Profiles as Companion Functional Profiles and/or as evaluators of existing systems
* Upload the two Functional Profiles into the EHR Profile Designer Tool.
* Test the merger of an existing Domain Functional Profile with a Usability Functional Profile (in the EHR Profile Designer Tool).
* Create education, marketing, tutorials newsletter articles, White Papers, Powerpoint presentations (for general use by HIMSS, HL7, universities, professional societies, governmental organizations such as ONC and AHRQ that focus on healthcare, et cetera).
* Encourage peer review by fellow travelers of the Usability WG’s artifacts.
* Encourage a fitness-for-use review by members of the marketplace.

1. Next Meeting

* The next regular meeting will be 2018-11-07 at 1:00 pm ET US.

1. Adjournment

* The meeting adjourned at 3:00 pm ET US.

< End of Session >

**APPENDIX 1**

**How to Classify the Proposed (New) Usability Conformance Criteria**

2015-07-22

While reviewing the Comment-Only Ballot, the group began wondering how best to adjudicate certain balloters’ assertions that some proposed Conformance Criteria were in the scope of EHR System Usability Functional Profile – and that others were out of scope (even after generalizing some of the more narrowly-targeted Conformance Criteria appropriately). The group agreed that it would be good to construct a means of classifying the EHR System Usability functions and conformance criteria that were being reviewed in the Comment-Only Ballot. Here are the three classifications:

* Definition of Data-Quality-Heuristics in terms of:
  + Precision, timeliness, correctness, completeness, accuracy, consistency, currency, authority of the source (level of expertise), attribution of the source (human or machine), accuracy or fidelity to the source; suitability to the task.
* Definition of Usability-Design-Heuristics in terms of:
  + Evidence of Data-Quality
    - Reliability
    - Validity
  + Data visualization
    - Granularity of the presentation of the data
    - Format of the presentation
    - Self-describability
  + Data processing (clinical decision support)
    - Hierarchical conveyance (of the understanding) of the data (e.g., Russell L. Ackoff’s design continuum from data to information to knowledge)
    - Analytics (e.g., extrapolation, interpretation, insight, analogy, nearness-to-the-goal)
    - Suitability to the task.
* Definition of System-Usability-Heuristics in terms of:
  + Usefulness
  + Utility
  + User Interface
  + User Satisfaction
  + Efficiency of use
  + Usableness
  + Neilson’s ten heuristics
    - Learnability
    - Prevention of errors
    - etc
* After the Ballot-Comment spreadsheet has been reviewed, then the team can examine the Usability Design Heuristics spreadsheet and categorize each New Usability CC according to a specific Design Heuristic.

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