SCSC Data Safety Initiative – WG Meeting 74

24ᵗʰ January 2023, Zoom

Minutes

Attendees

Mike Parsons (MP) – AAIP, Richard Garrett (RG) – SQEP, Andy Williams (AW) – Consultant, Paolo Giuliani (PG) – Atkins, Divya Atkins (DA) – MCA, Martin Atkins (MA) – MCA, Roland Rosier (RR) - TomTom, Mark Templeton (MT) – Qinetiq, Michael Green (MG) – Ecomergy, Dave Murray (DM) - BAE Systems, Oscar Slotosch (OS) – Validas, Susan Perriam (SP) – Atkins, Daniel Clegg (DC) – BAE Systems.

Apologies

Brent Kimberley (BK) – Durham, Tim Rowe (TR) – Consultant, Nick Hales (NH) – Consultant, Sam Robinson (SR) – EDF Energy, Paul Butcher (PB) – Adacore, Rhiannon Chilton (RC) - DSTL, Jennifer Kracht (JK) – TomTom, Paul Hampton (PH) – CGI, Mike Standish (MS) – Dstl, Gordon Hurwitz (GH) – Thales, Rishap Sharma (RS) – Kreisel Electric, Graham Sutherland (GS) – Consultant, Richard Bye (RB) – Network Rail, Mitali Atkins (MPA) – MCA, Bob Oates (RO) - Blackberry

Agenda

1. Welcome
2. Maritime Rescue Data Issue
3. Poster for SSS WG
4. New Guidance Version v3.5
5. Oldest Documented Data Safety Error?
6. Trusted Data
7. MCA NHS Work
8. IEC 61508 Ed 3
9. New Data Risk Types – Update
10. DSITN (Data Safety in the News)
11. Update on Tooling
12. SCSC SSS'23
13. Actions
14. Next meeting
15. AOB

NOTE: All comments or opinions in these notes are attributed only to individual attendees of the meeting, not to their respective organisations.

*[Note that actions are presented in the form **N.Mx** where **N** is the meeting number, **M** a reference number for the action raised in that meeting and **x** is an optional letter that differentiates related actions arising from the same discussion point].*

The meeting slides are available at: https://scsc.uk/file/gd/74th_DSIWG_Slides_v1-1519.pptx

1. Welcome

MP opened the meeting and welcomed those attending, especially SP who was new to the WG.

2. Maritime Distress Call Data Issue

MP mentioned a data issue related to maritime distress calls (when a vessel is in serious danger):
"The Maritime & Coastguard Agency informs owners and operators that distress alerts from Emergency Position-Indicating Radio Beacons (EPIRBs) using the Maritime User Protocol (and coded with an MMSI that does not start with a valid country code) will be processed as invalid and discarded or delayed by the Cospas-Sarsat system."
https://www.gov.uk/government/publications/safety-bulletin-30-epirbs-coded-with-the-maritime-user-protocol-the-vessel-mmsi-must-start-with-a-valid-country-code-232-235/safety-bulletin-30-epirbs-coded-with-the-maritime-user-protocol-the-vessel-mmsi-must-start-with-a-valid-country-code-232-235
Meaning that an emergency distress call could be ignored due to an incorrect digit.

This was discussed by the WG amid concerns that these satellite-based distress systems are not testable (some levy a fine for incorrect use). There might also be a concern with some of the satellite connectively coming to mobile phones. The issue of the NOTAM outage in the US was also mentioned.

MT agreed to look into this issue in more detail.

3. WG Poster

The poster as prepared by MPA was discussed, https://scsc.uk/file/gd/sss_poster-1516.jpg . It was thought to be very appealing and got the message across well:
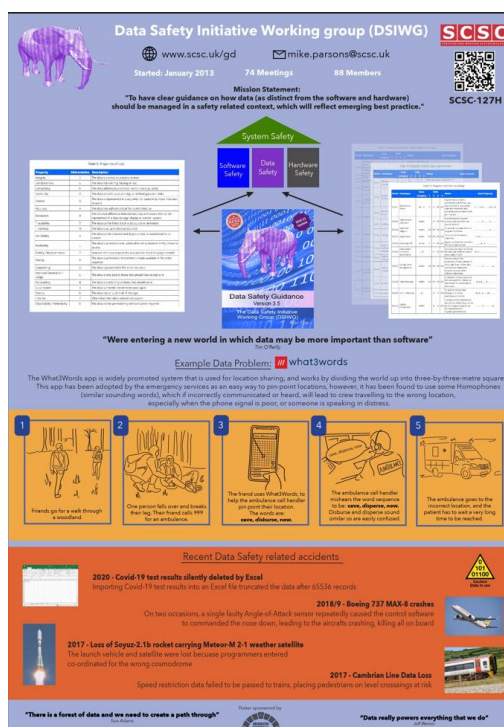
It was agreed that: (i) it would be better to remove the W3W symbol, (ii) Fix the spelling mistakes (if not already fixed), (iii) use a set of words which are real W3W word combinations and (iv) See if the images of the guidance can be made higher resolution.

MP will ask Alex King for the high-resolution images of the SCSC logos.

4. New Guidance Version v3.5
MT ran through the changes implemented in version 3.5 of the guidance
1. Collection of accidents enhanced: New subsection H.2: What3Words. Several issues are discussed, experienced by mountain rescue services and others.
2. Ease of use of the guidance document as a reference book has been improved by the addition of two indexes. These address: Locations around the world mentioned in the document and a general index to the document to provide easier access to specific topics.
3. The description of Aliasing in subsection 6.2.2 has been enhanced by a description of recent issues with homophones.
4. New properties of Analysability and Explainability added to list of data properties.
5. Subsection K.3.3 of Appendix K has been updated to address "survivorship bias"
6. New Appendix M to present the concepts of Black Swan, Dragon King, Perfect Storm and Pudding Lane data.
7. New Appendix N to propose considerations for the assurance and qualification of data-handling tools.
8. New Appendix O to present some of the issues that may arise when migrating, importing or exporting data.
9. Many of the references presented in Appendix S have been enhanced.
10. A link to the third data seminar has been added to Appendix T
11. Many minor updates including re-phrasing and spelling mistakes

The aim is to produce 12 hardcopies for the WG demo at SSS (on the 8th February, 08:30-09:30, https://scsc.uk/e898)

5. Oldest Documented Data Safety Error?
MP presented the data error which led to the Gemini spacecraft landing 80 miles from its intended location in the Atlantic ocean, as communicated by MG:
https://en.wikipedia.org/wiki/Gemini_5#:~:text=Retrofire%20was%20initiated,the%20Atlantic%20Ocean
This was apparently because the rate of the Earth's rotation had been entered as 360° per 24 hours rather than 360.98°.

MP thought that this might be worth mentioning in the DSG as the first (well-documented) data safety error (dating from 1965).

MA mentioned the Apollo 11 Lunar Module 1201 and 1202 guidance computer program alarms which occurred during on the first moon landing mission in 1969 on final descent. This was essentially caused by too much data due to an unnecessary radar feed. There are loads of good references for this, including an excellent presentation at:
https://www.youtube.com/watch?v=B1J2RMorJXM

6. Trusted Data

MG explained his thinking on Trusted Data (see slides). There was some discussion about preserving Trusted Data through transforms (e.g. compilation). MT explained the system used in his experience of military aviation.

7. MCA NHS Work

DA explained the work going on at MCA related to clinical data safety. The draft flyer (https://scsc.uk/file/gd/NHS_flyer_PDF_(1)-1520.pdf) for the upcoming data safety webinars (https://scsc.uk/e1000 , https://scsc.uk/e1001) was discussed.

A schedule for the event has yet to be developed. If anyone in the group is interested in presenting please contact DA.

8. IEC 61508 Ed 3

MP mentioned that the draft of the new version of IEC 61508 references the data safety guidance (but not much else). He had proposed some words to include but the deadlines for submissions had passed.

9. New Data Risk Types – Update

MP did a quick run-through of a draft of the SSS presentation *"Dragons, Enigmas, Treasure Islands and Zombies: An Iconography of Risks Related to Dead Data"*, https://scsc.uk/file/gd/Dragons_Enigmas_Treasure_Islands_and_Zombies_v4-1518.pptx

[RR mentioned Magic Numbers earlier in the meeting and MP explained how they were covered in the New Data Risk Types as a part of Legacy / Change data.]

The WG thought that:
- More tangible examples would be useful
- Is there a decision tree [or flowchart] to help decide what type applies?
- What are the relationships between the types?

MP mentioned that this was ongoing work.

10. Data Safety in the News (DSITN)

The following were discussed from a data safety point of view:
- Incorrect medical texts warning: https://www.bbc.co.uk/news/uk-england-south-yorkshire-64116668
- ChatGPT: https://techcrunch.com/2023/01/05/as-nyc-public-schools-block-chatgpt-openai-says-its-working-on-mitigations-to-help-spot-chatgpt-generated-text/amp/
- Possible correlations between lack of Covid-19 vaccination and road accidents: https://fortune.com/well/2022/12/13/covid-unvaccinated-greater-risk-car-crash-traffic-accident-new-study-says-canada-government-records-pfizer-moderna/

ChatGPT was further discussed by the group with OS explaining that he had been impressed with its capabilities.

11. Update on Tooling

MA explained that the data safety tool had now been updated to version 3.4 of the guidance; further updates were required for v3.5.

12. SSS'23

MP mentioned that SSS'23 takes place in February 2023 in York: https://scsc.uk/e898 - bookings are still open.

13. Actions

See table at end.

14. AOB

None

15. Next Meeting

Next meeting will be held in March TBC. There was some discussion as to whether to go for a face-to-face meeting as some WG members will be meeting up at SSS in February.

16. Thanks

Thanks to MP for taking the minutes.
Thanks to MP for chairing.

Summary of Open Actions

Actions greyed out are considered closed and will be removed from the list at next issue.

Ref	Owner	Description	Target Guidance Version
42.9	MP	Work out a matrix of data categories (previously 'types') and data properties (as per DB discussion)	N/A
43.4	MP	Write up a data focussed FMEA approach.	4.0
44.2	MP	To discuss with AK on how to get the Wikipedia article published	N/A
46.1	MP	Review the application of DSALs to higher level forms of aggregation	N/A
49.6	MT	Review Overleaf briefing material and aim to hold a briefing before end of March 2021 in the use of Overleaf in the production of the guidance.	N/A
53.1	MP	To talk to Kevin King about what we need to do in the guidance for digital twins.	4.0
61.2	AW	Research the relevance of digital currencies and report back to the group (with MA and MT)	N/A
63.1	CT	Look at both Dark Data and Dazzle Data for sensors (e.g. when a sensor is saturated, in noisy environment or when readings are below the detection level floor)	4.0
64.1	MP	Contact Thor and establish the details of the guidance proposals in the paper.	4.0
66.6	MT	Add these three properties ['Analysability', 'Explainability', 'Verifiability'] to the user-visible further work section. If time allows then develop into the guidance further.	4.0
68.2	MP/MT	Develop the migration work further and present at next meeting	4.0

Ref	Owner	Description	Target Guidance Version
69.2	RR	Explore the issue of data / software compatibility issues and to what extent data can impose requirements on software	4.0
69.3	PMcK	Develop a scoping diagram that shows how the DSG fits into the overall lifecycle process and other standards	4.0
69.4	MA	Write a short note on the issues of aggregation	4.0
69.6	MA/DA	Update the data safety tool to use the latest version of the guidance document	-
70.1	MA/DA	Investigate feasibility of creating searchable web database of data safety-related accidents.	-
71.1	MP	Add Homophones/Homonyms explicitly to the guidance.	4.0
71.3	PH/DA/RO	Develop security properties thinking further for next DSIWG	4.0
71.4	PH/DA/RO	Present security properties work to next SISWG meeting	-
71.5	AM	(i) Establish if any of this can be published within the DSIWG and (ii) Consider a structuring similar to that used in security standards or ISO26262	-
71.7	MP/CT	Consider impact of FAIR data on the guidance	4.0
73.1	JK, RR	Consider production of a short note which could be used as an appendix to the guidance on lessons learnt using the guidance at TomTom	4.0
73.2	MT	Consider how the guidance fits with different lifecycles considering 'V', Continuous Service, Agile and 'Data Pipeline'	4.0
73.3	DA	Produce initial outline of DSIWG poster by 23rd December 2022	-
73.4	DA	See whether any of the DSITN entries from previous minutes and slides could be used to enhance the list of accidents	-