

SCSC Data Safety Initiative – WG Meeting 45

2nd April 2019, CGI Gloucester/Webex

Minutes

Attendees

Mike Parsons (MP) – CGI, Martin Atkins (MCA) – Mission Critical Applications [Webex], Divya Atkins (DA) – Mission Critical Applications [Webex], Dave Banham (DB) – Rolls–Royce PLC [Webex], Mark Templeton (MT) – Arcade Experts, Nick Hales (NH) – ex. MOD, Peter Smith – Highways England.

Apologies

Paul McKernan (PM) – DSTL, Mike Ainsworth (MA) – Ricardo, Amira Kwar (AK) – CGI, Fan Ye (FY) – ESC, Andrew Eaton (AE) – CAA, John Bragg (JEB) – MBDA, Martyn Clarke (MC) – Consultant, Paolo Giuliani (PG) – EDF Energy, Rob Ashmore (RA) – Dstl, Sam Robinson (SR) – EDF Energy, Alastair Faulkner (AF) – Abbeymeade, Steve Clugston (SC) – Consultant, David Smith (DS) – FNC, Louise Harney (LH) – Leonardo, Paul Mukerjee – Astellas, Graham Sutherland (GS) – Consultant, Dale Callicott (DC) – Consultant, Jeanette Baldwin (JBa) – Thales, Gordon Hurwitz (GH) – Thales, Jenny Brain (JB) – Wood PLC, Julian Lockett (JL) – FNC, Paul Hampton (PH) – CGI.

Agenda

1. Introduction and Status
2. Report on NHS Digital Data Safety Workshop 28/03/19
3. Continuation of the planning / strategy (for V4 content), assessing the data risks in: IoT and OT/IT Convergence; Cryptography; Big Data; Cloud Computing; Cyber Physical Systems; Machine Learning and Autonomy; Wireless Communications; Multicore; FPGA
4. Training Course Development Update
5. SSS'19 Update
6. Overleaf Status
7. Sales/Downloads Update
8. Formal Modelling Activity Update
9. Tooling / LRF Update
10. Dissemination Update
11. Standards Update
12. Future Events
13. Data Safety in the News
14. Actions status
15. Names for Elephant
16. AOB, etc.

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/45th_DSIWG_MP_Slides_v2-539.pptx

1. Introduction and Status

MP presented the agenda for review and gave a brief introduction as to where we are.

2. Update on NHS Digital data safety workshop

MP reported on the NHS Digital Health conference held in York last month:

<https://digital.nhs.uk/news-and-events/events/2019-events/digital-health-safety-conference-2019>

At this event PH gave a data safety presentation, along with Mark Thomas of NHS Digital; also DA and MCA gave a presentation on proposed data safety tooling support. The whole afternoon workshop was devoted to data safety.

[It was great to see such support for Data Safety as a topic in its own right: there were approximately 45 people in the workshop with a mix of NHS and supplier representatives.]

Action 45.1: MP to invite Mark Thomas to join the DSIWG. Also ask if his paper could be forwarded to MT.

MP described one of his current projects at CGI which is deployment of a healthcare e-Prescribing system for hospitals which involves software developed in the UK and Slovenia (<https://openep.better.care/>). With significant safety data exchange, these work together to perform a number of functions including decision support (a drug cross-check) and drug prescribing, chart management, etc. for hospitals. This system is currently being installed at Plymouth and Taunton hospitals.

3. Continuation of the planning / strategy (for V4 content)

V4 should include data related to Artificial Intelligence and Machine Learning. In both of these cases, the training data determines the operational behaviour – so what can be done about the data? A possible approach could be to consider baseline data + deltas on safety and other “edge” cases, to show that the “DSIWG method” applies within that domain.

Meeting discussion revealed that v3 of the Guidance could be downloaded from SCSC website by users who are unaware that v3.1 is now available.

Action 45.3: MP to insert a pointer from v3 to v3.1 of the Guidance, to ensure users will become aware that the later version is now available.

The ordering of war stories to be reviewed, with the intent of placing new entries at the front. Numbering could then be an issue, so change to a label of format <year><suffix> as in 2002a. Confusion can be avoided by never reusing a label for a war story which is deleted.

NH has created a paragraph for a Facebook page – add this as a war story.

Action 45.4: MP to provide link to Facebook page in the minutes.

<https://www.facebook.com/Data-Safety-Guidance-1826980220962162/>

4. Training Course Update

This was covered in #2.

5. Update on SSS'19

MP presented the Summary Slides which were used at SSS'19 to provide an update on the work of the DSIWG. <https://scsc.uk/re569.33:1>

NH stated that he had presented an analysis of the Uberlingen disaster: <https://scsc.uk/re569.17:1>

MP reported that he has spoken with John McDermid regarding machine learning data and the possibility of including it in Guidance v4.0.

Action 42.7 closed: John Spriggs (NATS) has offered to help with production of a template GSN including data. DA pointed out that this is needed urgently to ensure that the tool output aligns with it.

6. Overleaf Update

MP stated that JEB had informed him that change tracking is now available in Overleaf.

7. Sales/Downloads Update

Downloads of version 3.1 are frequent (>225) from the SCSC website. Some paper copies of version 3.1 have also been sold.

8. Formal modelling activity update

DB reported that he has hosted nine meetings so far, during which the model has been reviewed and is now at revision B2. The next task is to begin a review of the Guidance text, with a plan to rewrite sections where needed. Whilst the structure of the Guidance is not expected to change, an automated Glossary will be required. The target is to develop the first Guidance document (formal version) by the end of June 2019. This update will not modify the ODR or risk identification sections. DB clarified that in 2014 the modelling activity focussed on safety assurance. Current work started again, but focussing on ISO 31000. Work is therefore based around risk – and the language pertaining to risk within the Guidance.

The following are links to resources from the OWG progress report:

- Revised ontology report:
[https://scsc.uk/file/gd/Proposal for a model of data risk management vB.2-531.pdf](https://scsc.uk/file/gd/Proposal%20for%20a%20model%20of%20data%20risk%20management%20vB.2-531.pdf)

- Diff with previous revision:
[https://scsc.uk/file/gd/Proposal for a model of data risk management vB.2 vs vB.1-532.pdf](https://scsc.uk/file/gd/Proposal%20for%20a%20model%20of%20data%20risk%20management%20vB.2%20vs%20vB.1-532.pdf)
- Excel spreadsheet of the terms extracted from the ontology:
[https://scsc.uk/file/gd/Proposal for a model of data risk management vB.2 - Glossary v1-535.xlsx](https://scsc.uk/file/gd/Proposal%20for%20a%20model%20of%20data%20risk%20management%20vB.2%20-%20Glossary%20v1-535.xlsx)

9. Tooling Update

Action 43.2 closed: DA has spoken with John Clarke of the University of Sheffield and confirmed that he is interested in helping the DSIWG as regards machine learning.

DA has also tried to contact Michael Aspaturian (MAs) of EDF Energy, but without success.

MCA and DA have submitted a proposal for funding to Lloyds Register for a two-year project to bring the tool to maturity. The submission envisages seven people, being a mix of full and part-time.

MCA presented an initial demonstration tool, which supports automated filtering of the “treatments” which are presented within the Guidance. He was asked to consider preserving this simple version of the tool, as it would provide an excellent teaching tool.

DA also informed the meeting of work by Suresh Manandhar, an Artificial Intelligence expert based at York. He is working with other Nepalese around the world to develop a healthcare application for rural areas of Nepal. This is a cloud-based system, where users own their own data. Suresh said that they would be interested in using the guidance, as appropriate.

Action 45.2: MCA to send MT details of the serial numbers applied to treatments within the demonstrator. This is to ensure that numbering within the Guidance and tooling can be aligned

10. Dissemination Update

No specific update.

11. Standards update

Not discussed.

12. Future Events

SSS'20 will be held 11-13th February 2020 at the Principal Hotel, York, UK, <https://scsc.uk/e619>
The key dates are:

- 31 May 2019 deadline for abstracts (200 words)
 - 30 September 2019 deadline for papers (<6,000 words).
- [MP would encourage everyone to submit an abstract with a data safety theme.]

13. Data Safety in the News

The Boeing 737 Max 8 issues were discussed [note the use of faulty data from one sensor only].

Sidney Decker's presentation "Turkish 1951" is now available on the SCSC website as a video:
<https://scsc.uk/re569.1:2> [again a single data channel design led to problems.]

Note also that in each of the above cases, the Design Organisation tried to carry over the design certification from a previous version of the aircraft, to avoid retraining.

A number of other issues were discussed:

- Flight which travelled to Dusseldorf via Edinburgh, due to flight plan error,
<https://airwaysmag.com/airlines/british-airways-plane-lands-at-the-wrong-airport/>
- Flybe plane which dropped 500 feet in eighteen seconds:
<https://www.independent.co.uk/travel/news-and-advice/flybe-flight-belfast-glasgow-nosedived-aaib-report-autopilot-setting-a8623481.html>

14. Actions status

39.11 agreed closed as nothing has happened on this for ages.

41.8: The "screen resolution" pdf version of the Guidance is not suitable for cut & paste or search, due to compression. Request to all to check whether these features work on the "print resolution" version, on their combination of operating system and web browser.

41.9: Closed as JEB reported that this has been done.

41.10: Consists of two sub-tasks, the first of which has been done.

41.12: Closed as now normal business.

42.7: Closed – see earlier.

43.1: Closed. Note from DB "No response to my second email to John Fitzgerald."

43.2: Closed – see earlier.

44.4: Closed as done.

15. Next Meeting

The aim is to hold a meeting early June at CGI Fenchurch St. [Note: i.e. **NOT** on 31st May.]

16. Thanks

Thanks to MT for taking the minutes.

A vote of thanks to Helen and the CGI team at Gloucester was recorded for providing an excellent meeting venue and demonstrations of the Innovation Room.

Thanks to MP for chairing the meeting.

17. Summary of Open Actions

Rows have been greyed-out to indicate that the actions were closed during this meeting. Those entries will be deleted from future versions of the action log.

Ref	Owner	Description	Target Guidance Version
36.4	MC	Coordinate the production of training material (based on v3.0).	N/A
39.11	MAs	To look at what funding routes may be available from Nuclear Sector for tooling.	N/A
40.10	MT	To ask if his Qinetiq course can be released to DSIWG and be presented at SSS'20	N/A
41.8	MT/BJ	Ensure Data Safety Guidance PDFs have no ligature problems	N/A
41.9	JB	Follow up with MT on how change tracking works in Overleaf and whether guidance can be added directly to Overleaf	N/A
41.10	PH	To update the healthcare trifold to include the NHS logo colour, if approved, and arrange distribution of the trifold at key healthcare events	N/A
41.12	ALL	DSIWG members to identify any influential conferences in their domain for discussion at future DSIWG meetings	N/A
42.4	LH	Get an update from RO on cyber-data properties mapping, which has been published.	N/A
42.6	PH	Define the process to publish a document developed in Overleaf via Amazon	N/A
42.7	MP	Ask John Spriggs to write a template data safety argument for the next guidance update	N/A
42.9	MP	Work out a matrix of data categories (previously 'types') and data properties (as per DB discussion)	N/A
43.1	DB	Ask John Fitzgerald at the Newcastle University if he would be interested in contributing to the guidance on Cyber Physical Systems from a data perspective.	4.0
43.2	DA	Ask John Clarke (Sheffield University) if he would like to contribute to the guidance on Machine Learning.	4.0
43.3	GH	Speak to Stephen Boyle & James Weston on Cyber security aspects of IT/OT to see if they could contribute.	4.0
43.4	MP	Write up a data focussed FMEA approach.	4.0
44.1	MT	Review last 12 months of DSIWG minutes and put any actions referring to v4.0 into Appendix O.	4.0
44.2	DB/LH	To develop the Wikipedia article to get it into a position where it can pass review and be published.	N/A
44.3	MT/MP	Make contact with Martyn Clarke to see if there is any progress on Action 36.4 (production of training material)	N/A

Ref	Owner	Description	Target Guidance Version
44.4	DB	Ask Brian Jepson if he can instantiate an instance of a tool for collaboration.	N/A
45.1	MP	MP to invite Mark Thomas to join the DSIWG. Also ask if his paper could be forwarded to MT.	N/A
45.2	MCA	MCA to send MT details of the serial numbers applied to treatments within the demonstrator. This is to ensure that numbering within the Guidance and tooling can be aligned.	4.0
45.3	MP	MP to insert a pointer from v3 to v3.1 of the Guidance, to ensure users will become aware that the later version is now available.	3.1
45.4	MP	MP to provide link to Facebook page in the minutes.	4.0

18. Names for the Elephant

Names were discussed for the “Data Elephant”:

Horton	Elliot
Dumbo	David / Declan / Dawn / Davy
Daisy / Daisie / Dase “Data and Safety Elephant”	Tim / Kelly or Tim Elly
Dizzy / Delphi [Can see into the future!]	Daisy / Delia “Data ELEphant Information Assurance”
Elephant McElephantface	Dharma (sense of duty / truth)
Ellie / Ellen / Ella	John McDelephant

Of these “**Delphi**” and “**Dharma**” were the most popular.

19. AOB

DA also suggested that MT should read Mark Thomas' paper to see his work/ideas on ODR and tailoring.