Cyber Security Body of Knowledge (CyBok)

Workshop

CyBok Team
@cy_bok

Howard Chivers
hrchivers@theiet.org

Gaurav Misra
g.misra@lancaster.ac.uk
The purpose of the workshop is both to raise awareness of this initiative, and to elicit your views on content.

- The Cyber Security Body of Knowledge.
  - What is a body of knowledge?
  - How will it be used?
  - The development project.

- The workshop.
  - How you can help.
Body of Knowledge

- A ‘Body of Knowledge’ is foundation knowledge which we generally regard as underpinning a discipline.
  - Documented in books, papers, standards ...

- The Cyber Security Body of Knowledge (CyBok) will be a **guide** to cyber security foundation knowledge.
  - A detailed annotated bibliography (not a text book).
  - Will focus on the established foundation of the subject (not on everything that has ever been written).
Example – IEEE SWEBOK

- Software Engineering: 15 Knowledge Areas
  - Lifecycle (e.g. requirements, design) and Foundation (e.g. (modelling, computation)
  - Each 15 – 20 pages

https://www.computer.org/web/swebok/v3
Why Develop a CyBok?

- To establish clear learning pathways from GCSE through to Bachelor’s level and beyond.
  - Value already demonstrated in mature disciplines such as mathematics, physics, chemistry, biology, software ...

- More specifically, to:
  - characterise the contents of the cyber security discipline,
  - identify knowledge dependencies which impact learning pathways,
  - facilitate the design of courses from GCSE to Master’s as well as professional training and CPD, and
  - provide a foundation for the development and accreditation of programmes.
The Project

- Funded by NCSC in two phases:
  - Scoping and design (6 months).
  - Production (2 years).

- Community effort, co-ordinated by a small team:
  - PI is Awais Rashid at Lancaster University.
  - Other team members: Andrew Martin, George Danezis, Emil Lupu, Howard Chivers.

- Will co-ordinate international contributions from:
  - Academic and Industrial advisory boards.
  - Chapter Authors and Expert Reviewers.
Governance Structure

- International Academic Advisors
- Industrial Advisory Board

Advises

Project Management Board

Manages

- Research for scoping CyBoK
- Research into knowledge dependencies
- Knowledge area Authors
- Knowledge area expert review panels
Agile Development

A number of Knowledge Areas (KAs, i.e. chapters) will be allocated to ‘sprints’ (short phases).

Incremental development will allow both public review and oversight by NCSC and oversight groups.

Phase 1 (scoping) will plan the overall chapter structure, and recruit authors for the first KAs.

Later sprints will develop exemplar learning pathways.
What topics belong in ‘cyber-security’?

What are the key Knowledge Areas?
Keywords gathered from a wide range of sources.

Clustered into suggested ‘topic’ list.

Provided as a separate sheet for information – allow you to interpret the topics.
Objective

- Identify candidate Knowledge Areas (Chapters) from within the existing topic list.
- Suggest how the topics should be grouped under each KA.
- Identify topics that you regard as out of scope or, if time allows, missing.
How

- Aim to identify (up to) 10 lead knowledge areas which can be used as chapter headings for all the topics.

- For each, put the associated topic number and a short description (as a reminder) in a lettered ‘category’ box.

- Example: if you think that ‘attacks and attackers’ should be a top-level KA, then add that to one of the category boxes.
Then categorise the topics

- Decide which topics could be included under each category and write the category letter against the corresponding numbered topics.

- Example: if you think that ‘malware’ should be included in an ‘attacks’ category:
Finally

- If you unsure of which category a topic fits, you can write more than one category against a topic.

- Write ‘X’ against a topic if you think it should not be in the CyBok.

- Add extra topics if you feel strongly.
  - Consult the keyword list if you are unsure of what might be included in a topic.

- If you would like to keep in touch with the project, please use the sign-up sheet on the reverse of the workshop sheets.

- and ...Thanks
QUESTIONS