



SHIELD Newsletter

About the SHIELD project

During the final year the SHIELD project continued producing scientific publications reflecting the achievements and intensified the search for exploitation opportunities by establishing links with potential customers and the user community. We participated in numerous workshops, seminars and conferences targeted at industry and academia with the intention to showcase SHIELD results, to prepare the way for a successful commercial exploitation of the project outcomes and creating a user community that benefits from the output of SHIELD project.

We have also continued working with the standard making bodies (CEN-CENELEC/JTC 13 CEN/TC 251) in topics related to privacy, data protection and health data transfer. Engagement with standard making bodies is especially important, since standards reach wide audiences and impact technological development.

Regarding the future, the project partners will continue to disseminate the results of SHIELD project through academic and commercial seminars, academic/professional articles and sales activities. A spin-out, "SPYDERISK", is commercializing the work of IT Innovation. The project has also produced online educational material that is already used by students at Southampton University and freely available for the general public interested in cyber security.

For more info about the work of standard making bodies:

<https://www.cencenelec.eu/Pages/default.aspx>

https://en.wikipedia.org/wiki/CEN/TC_251



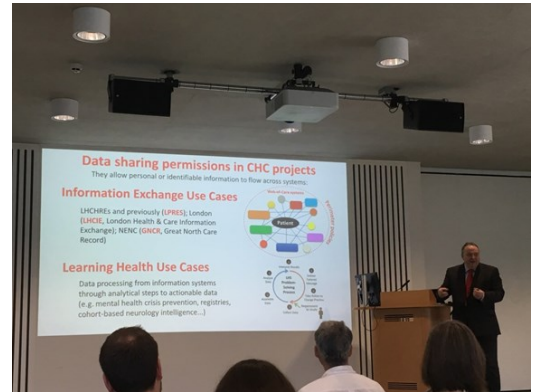
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AIMES Presentations

AIMES gave several presentations at Alder Hey Children's Hospital (March 29, 2019) organised by Health Innovation Exchange initiative which aims to connect the Liverpool City Region businesses with companies involved in advanced healthcare technologies. The topic of the conference was "Making it work in the NHS". AIMES's presentations covered these topics: "Types of Data and Record Systems in the NHS", "Governance and Permissions", "Connections and HSCN", "Developing Roadmaps when building relationships within the NHS".



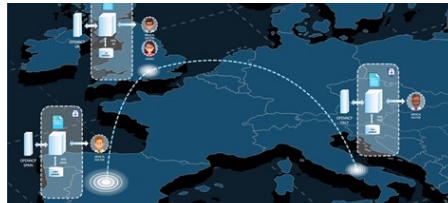
SHIELD production of educational material

System Security Modeller

System Security Modeller (SSM) video explaining the new features of the updated software release has been produced and deployed on youtube. The 16 minute video explains the main functionality of the tool, which includes: a) creating a system model, b) validating the model, c) identifying threats, d) calculating risks, e) addressing the threats by selecting the appropriate control measures and f) producing a summary report. The latest version of SSM enables the user to create design-time models of IT systems describing healthcare scenarios using the SHIELD domain model.

Video URL: <https://www.youtube.com/watch?v=Azh4rQ5MOu4>

SHIELD videos



Two videos presenting the SHIELD project have been produced: a longer version (<http://bit.ly/2XX90Yz>) and a shorter version (<http://bit.ly/2JFbtD7>).



An e-learning course of System Security Modeller (SSM) has been produced. The course provides a step-by-step tutorial which explains how to create a design-time security model of the system, automatic detection of security threats, risk analysis, and applying security measures in order to reduce risk levels. The tool provides a set of SHIELD-specific assets and relationships that can be used for modelling various scenarios related to processing, storage and communication of health data. The course consists of nine modules: 1) Welcome to the course, 2) The Basics of Cybersecurity Risk Analysis, 3) Risk Analysis Theory, 4) Regulatory Compliance as Risk Analysis, 5) Trust, Trustworthiness and Humans in the Network, 6) Getting Started with the SSM tool, 7) GDPR in SSM, 8) The Factory of the Future – a use case, 9) Summary of learning.

Course URL: <http://learnssm.it-innovation.soton.ac.uk/>

Metarc @ BT UK

Metarc is a Cambridge (UK) based company which works on the development of data protection mechanisms and tools. Metarc's ICMetrics™ Cybersecurity technology is one of the key elements of SHIELD infrastructure. The main task is to develop new mobile device security mechanisms that provide a secure storage and communication of health data. The work also addresses potential risks such as device theft, inadequate security practices and malware infection. Within the SHIELD project the objective is to develop a secure data exchange application for EPSOS compliant health data communications. Metarc presented the



ICMetrics Technology at BT UK Adastral Park headquarters. Adastral Park is a hub of high-tech telecommunication and technology companies. The four main organisations located here are: BT Research and Innovation, Tommy Flowers Institute, Innovation Martlesham and TEAC UK.

Health 2.0 BASQUE

Tecnia gave a keynote presentation about the SHIELD project at Health 2.0 BASQUE, (April 02, 2019) in Bilbao. The main purpose of this conference series is to facilitate the communication between academic research and the health sector. The focus of SHIELD presentation was on improving the security and privacy of medical records of EU citizens. For more details: <http://www.health20basque.com/>



IET Software

The SHIELD and Konfido projects were in charge of organising IET Software Journal Special Issue which included papers covering several aspects of Security and Privacy in Cloud-based Systems, such as control policies, threat problem or new legislations (for example GDPR). In this special issue SHIELD published two papers: "Guest Editorial: Security and Privacy in Cloud-based Systems" and "Assessing source code vulnerabilities in a cloud-based system for health systems: open NCP". This paper analyses an existing open source initiative for connecting national health systems for different countries.



Security Congress

Tecnia attended the 13th International Congress on Security in Madrid (September 23-25, 2019). This venue provided a good opportunity for the dissemination of information about the SHIELD project.



ISACA ROADSHOW BILBAO 2019

The SHIELD project was presented at the ISACA ROADSHOW BILBAO 2019 event. Xabier Larrucea (from Tecnia) was a member of roundtable discussing a topic "Audit & Management of Cybersecurity Risks in the Industrial & Retail Sector".



SHIELD Publications

The dissemination in the final year of the project was characterised by the increased number of research publications, engagement with a wider user community and potential customers. In 2019 the SHIELD project: published 13 research papers, attended 21 conferences, provided input to the work of CEN-CENELEC/JTC 13 and CEN/TC 251 standardisation bodies, held numerous meetings with potential exploitation partners, organized two workshops (Konfido and Tident2019), produced a tutorial video and e-Learning course.

Infosec2019

At Infosecurity Europe (July 4-6, 2019, London) MetrarC presented a device authentication tool based on patented technology which enables to derive secure encryption keys from the properties of digital systems. This tool can be used for the authentication and identification of network and PKI security, mobile devices and IoT.



SPYDERISK



SPYDERISK is a spin-out from the University of Southampton, capitalising on the results of several years of research into modelling risk conducted by IT Innovation, including the SHIELD project. This unique product combines a comprehensive system model with an innovative machine-reasoning technique and detailed knowledge base of threats and control strategies to create an overall view of security risks to the IT system. SPYDERISK is targeting a rapidly growing market through an online subscription model for scalable global reach. SPYDERISK's initial market is in assisting companies with compliance certification such as ISO 27001 or SOC-2. Companies increasing require this certification to differentiate themselves in the market or because it is mandated by a supply chain.

<https://spyderisk.com>



Joint Workshop

A jointed workshop with Konfido project was organised in Paris (May 21-22, 2019). The aim of collaboration with Konfido was to develop a common architecture based on OpenNCP and learn from the experience of both projects. SHIELD also collaborated with the sister project, KONFIDO, to consider the tensions between legislative and ethical perspectives. IT Innovation presented a paper authored by Brian Pickering, Giuliana Faiella & Fabrizio Clemente "Resolving Stakeholder Tussles in Healthcare Systems: Ethical Challenges to Data Protection".

Challenges to Data Protection".



OpenNCP Bootcamp

The OpenNCP technology has been critical for the success of the project therefore a lot of effort was invested into the collaboration with the OpenNCP community. Each year the project representatives attended OpenNCP boot-camps and contributed to the development of this technology. The OpenNCP/eHDSI bootcamp on 20-24 May 2019 in Warsaw was attended by two Tecnalía and Ibermática. The technical work at the bootcamp included: a) OpenNCP installation and configuration of

the new version 3.0.0 RC4, b) testing frameworks and tools, CDA implementation, c) conformance testing and monitoring.

About the bootcamp: <https://ec.europa.eu/cefdigital/wiki/pages/viewpage.action?pageId=75671130>

