Information Resilience in a Digital Built Environment (DBE)

Benefits to: Chief Information Officers, Project Managers

"Capabilities and Requirements for ensuring the resilience of information in the digitised Architecture, Engineering, Construction and Operations (AECO) sector are crucial to the Centre for Digital Built Britain's (CDBB) agenda."

Summary

Information is the underpinning driver in the Digitised Built Environment and crucial to the Centre for Digital Built Britain's agenda. Threats to information affect the intrinsic, relational and security dimensions of information quality. Therefore, the DBE requires capabilities of people, and requirements of the process, software and hardware for threat prevention and reduction. The aim of this research is to develop an information resilience framework which outlines the capabilities and requirements needed to ensure the resilience of information throughout its lifecycle; creation, use, storage, reuse, preserve and destroy.

Key Findings

The findings highlight the need for people's (stakeholder) competencies and behaviours which are driven by cognitive abilities such as attention, learning, reasoning and perception. Furthermore, process' requirements such as embedding validation check process, standard requirements for Level of Detail, digital upskilling, among others, were identified. Additionally, identified software requirements include its ability to be customised to meet the project needs, detect conflicts and provide context of information. Finally, hardware requirements encompass facilitating backup, having a high capacity system and being inaccessible to peripherals.

INFORMATION RESILIENCE FRAMEWORK
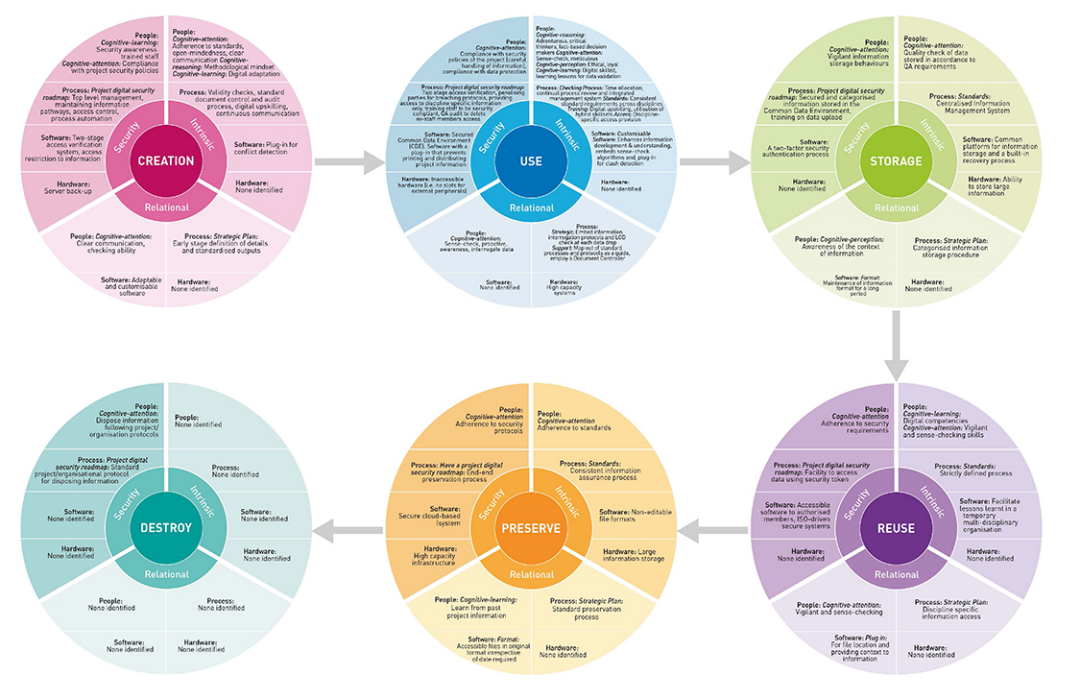
Impact and Value

- The developed IR framework is intended to maintain and enhance information quality in the midst of threats and help assets to be managed more effectively over their extended lifecycles.

- IR is central to the collaborative digitised asset development process in the Built Environment and therefore it is necessary to identify the capabilities and requirements needed to enable adequate decision making and planning.

- IR contributes to the capability and requirements for Smart Construction and Digital Design Agenda in the Construction 2025 (Gov.uk, 2013 & 2017) and the Data and Information - 'Data provenance and quality towards maintaining social values embodied in the data against threats' (numbers 13 and 14, under CDBB Focus areas)

Next Steps

This research will be further extended to the development of a decision-making assessment tool to measure capabilities and requirements in the entire lifecycle of built assets.

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