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2023 IEEE International Conference on Cyber Security and Resilience

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Call for Papers

IEEE Workshop on Dependability and Resilience in Digital Cultural Heritage Ecosystems (DR-DCHE)

The Internet has changed our way of working, communicating, living, producing and accessing information; everything is available on an open and flexible infrastructure accessible to all, most of the time free of cost. However - for the sake of resources trustworthiness, reliability and reuse - the availability of meta-information about their authenticity, integrity, provenance, custody and relations with other items is crucial.

In the last decades, due to the digital transition, a vast part of the world's cultural heritage has been transformed into complex structured and unstructured digital data, information and knowledge now referred to as Digital Heritage Assets (DHAs). Such assets represent a key factor in the development of the European Social and Cultural Innovation sector as well as the GLAMs, Digital Humanities and the Heritage Science fields.

The whole of these DHAs stored in public or private cloud clouds or servers is defined as Data Space, and together with all the stakeholders involved in the various phases of the DHA lifecycle (content creators, aggregators, publishers, data centers, services and research infrastructures etc.) compose the so called Digital Cultural Heritage Ecosystem (DCHE).

Due to the relevance of the DHAs for the definition and representation of cultural, national and social identities, the repositories in which they are stored become - in some sense - the caretakers of the collective heritage of a country, region etc., with the mission of preserving tangible and intangible aspects related to its culture, eventually allowing the possibility to reconstruct its historical journey.

Within a DCHE, DHAs are generated by organizations and flow across multiple jurisdictions under different and uncertain custody, control, policies, techniques, vulnerabilities, etc. and with the increasing use of automated techniques and agents to make decisions around and through such assets.

However, as both the value and the attack surface of the DHAs are increasing, the possibility for them to become the target of an attack is increasing as well.

In fact, the threats posed by terrorism and war are multidimensional. Attackers become more flexible and adaptable, able to carry out attacks on different targets. In this respect, since a cyberattack is considered a legitimate form of warfare, the new threat defined by UNESCO Director General Irina Bokova as "cultural cleansing" adds the digital heritage assets to the mosaic of targets for a cyberattack. The need to move the protection of cultural heritage to a new level had been already mentioned in the Communication on Critical Infrastructure Protection in the Fight against Terrorism by the European Commission back in 2004, where a definition of critical infrastructure that included cultural and natural heritage had been provided.

Thus, it is necessary to manage DCHE and the related DHAs as a critical infrastructure sustaining their dependability and resilience against unwanted disruption events.

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The present workshop aims to collect novel approaches, research technologies, best practices and Systematization of Knowledge (SoK) on the management of Digital Cultural Heritage Ecosystem and the related complex DHAs to be treated as critical infrastructures.

A selection of the best papers will be invited to contribute to a special issue of the Digital Library Perspective Journal (Emerald).

Papers are solicited on (but not limited to) the following topics:

- Custody, Provenance, Authenticity
- Complex Data formats
- Ontologies, Knowledge graph
- Decision Support Systems
- (Meta) Data Quality
- Resilient System Architectures
- Digital preservation lifecycle
- Digital Forensics
- Trusted digital repositories
- Privacy and Security
- Persistent Identifiers, digital Identity

- Interoperability
- Assets Restoration
- Open Archives Security
- Reputation and Trust Management Systems
- FAIR Data
- Digital Right Management
- Cryptography
- Research Infrastructures.
- Blockchain/DLT
- Data Integrity, Confidentiality
- Data Protection, Risk Mitigation