Preface

The main aim of the Eighth International Conference *Digital Presentation and Preservation of Cultural and Scientific Heritage (DiPP2018)* is to bring together as many interested institutions as possible working on digitising, recording, documenting, archiving, presenting, protecting and managing cultural and scientific heritage, so that they can share their advanced thoughts, know-how and experience. Public and specialised libraries, museums, galleries, archives, community centres, research institutions and universities are expected to share and acquire knowledge, skills, and expertise at the event.

Four types of papers are presented—invited papers, full papers, short papers, and project papers. The first three types discuss current scientific results, trends and achievements in the field of digital preservation and presentation of cultural and scientific heritage. The project papers present developments in progress, part of them experimental, made by memory institutions during their institutional projects.

- *Invited papers*

V. Alexiev's paper summarizes his research on semantic data integration in the Galleries, Libraries, Archives and Museums (GLAM) sector. A number of Linked Open Data for Libraries, Archives and Museums (LODLAM) projects, datasets, and ontologies, as well as Ontotext's experience in this domain, are presented.

The paper by Nektarios Moumoutzis, Marios Christoulakis, Stavros Christodoulakis and Desislava Paneva-Marinova presents *eShadow* - a new way of digital storytelling, a form of dramatized storytelling inspired by the rich tradition of the Greek Shadow Theater. *eShadow* combines a number of digital tools for the production of the digital stories covering development, pre-production, production, post-production and distribution, and has been used to support cross-curricular learning.

The paper by Zsolt László Márkus, Gábor Kaposi, Miklós Veres, Zsolt Weisz, György Szántó, Tibor Szkaliczki, Desislava Paneva-Marinova, Radoslav Pavlov, Detelin Luchev, Maxim Goynov and Lilia Pavlova presents a new flexible tool for developing, managing and presenting serious educational games. The authors introduce *The Thracians* - a serious educational game, which presents the life, beliefs and traditions of the ancient tribes.

M. Rousseva's paper presents the key challenges faced in the creation of the serious educational game *The Thracians*, based on Thracian lifestyle, beliefs and traditions and utilizing a selection of historical facts, archaeological and artistic artefacts.

Gita Senka's paper discusses the background needs, problems, and advantages for co-operation between technology companies and cultural institutions. The paper maps

existing platforms and business models creating art, cultural content and experiences in Latvia.

The paper by E. Pilege and S. Plota outlines the main challenges and opportunities for creative industries and describes the Latvian Colleges of Culture project *Data design training programme*.

Peretz Shoval's paper proposed a method for modeling graph database schema. The method is based on an Entity-Relationship Diagram of the domain of application that is mapped to a graph database schema in two steps. The resulting schema is expressed in form of a diagram and as DDL statements that can be added to a future definition language of a graph database system.

Elena Pavlovska's paper introduces *Open Grey* - the most popular electronic archive for documents disseminated through non-traditional channels - and the repositories of the Balkan countries.

- *Full papers*

O. Kouzov's paper discusses the uses of educational tools, based on artificial intelligence, and the role of the artificial intelligence in social sciences, arts and culture as a key to the achievement of emotional empathy.

The paper by Magdelena Stoyanova, Diego C. Stoyanov and Lilia Pavlova aims to contribute for the setting of an optimal working process tailored for digital image processing of historic painting research documentation, to be used also in other interdisciplinary areas. To the end it integrates the purely algebraic approach with expediencies derived from the specific scientific background of multidimensional and multimodal images of different types.

The paper by Galya Georgieva-Tsaneva, Nikolay Noev and Galina Bogdanova examines the issue of serious educational games in the field of military and historical heritage and presents a specific model of a serious game in the field of military-historical heritage.

- *Short papers*

Galya N. Georgieva-Tsaneva and Negoslav Subev's paper overviews the technologies, tools and methods for achieving accessibility of information databases containing annotated information for people with disabilities and in particular people with visual deficits. The authors suggest a model of digitalised database of physiological data.

The paper by Nikolay Noev, Iliya Valev, Stefka Kancheva and Vladimir Sapundjiev discusses the methodology and the structure of the content of *Mission Opalchenets* - a Serious Educational Game related to the military and historical heritage.

The paper by Elena Zaharieva-Stoyanova and Damyan Beshevliev views problems related to the development of crochet software. It presents an approach for developing

a software module representing crochet symbols for describing basic and advanced crochet stitches. The application is oriented to digital representation of crochet patterns.

The paper by Radu Claudiu Fierascu, Irina Fierascu, Valentin Raditoiu, Cristian-Andi Nicolae, Mihnea Dulea and Dragos Alexandru Mirea presents a project aiming to offer integrated methodologies for the valorisation of national cultural heritage using nuclear and other analytical techniques.

The paper by Irina Fierascu, Radu Claudiu Fierascu, Iulia Florentina Dana-Negula, Ioana Popitiu, Gabriel Rustoiu, Constantin Ioan Inel and Alina Ortan presents a project aiming to provide practical solutions for ceramic and paper artifacts, based on new antifungal recipes, in order to reduce the impact of biodegradation of cultural heritage artifacts.

Stefka Kovacheva and Ludmila Dimitrova's paper discusses the *Bulgarian cultural and historical heritage under the protection of UNESCO* database, developed in Institute of Mathematics and Informatics, Bulgarian Academy of Sciences.

- *Project papers*

Yanislav Zhelev's paper presents the main outcomes and results achieved in the framework of the Erasmus+ Project "International Standards training in VET for promotion of market relevant education" (ISTRA №2016-1-BG01-KA202-023738) aiming at the development and piloting of innovative training approaches and contents for VET and C-VET training on two widely applicable series of standards – ISO/IEC 27000 and ISO 31000.

The paper by Maria Dimova, Stanislava Slavova-Petkova and Detelin Luchev presents models for digital book trailers and possibility for their uses for educational purposes. Models and stiles for creation of digital book trailers are discussed. Bulgarian digital book trailers are included as examples of the models. Digital storytelling is presented as a pedagogically valuable approach.

R. Steward's paper presents the first steps towards the digitalization of the museum collection with artefacts, found at the archaeological site Aquae Calidae, near Burgas. The text includes representation of the data model and platform structure, discussing the process of digitizing movable cultural heritage and the compatibility with Bulgarian legislation.

Michela Tramonti and Alden Dochshanov's paper presents an example of an educational robotics tool used to engage students in their learning process through the manipulation and construction of artifacts.

The paper by Vladimir Georgiev, Alexandra Nikolova and Emanuela Mitreva describes how *Unity* and *Shield UI* frameworks are used for building the three-dimensional object rendering section of an online knowledge management system for human anatomy.

The paper by Radovesta Stewart, Yanislav Zhelev and Maria Monova-Zheleva presents the technology developed as a part of the project *ORCHIS*, aimed to research, record and digitalize data on the species of orchids that live in the Standzha Mountain.

- *Workshops and Demos*

Peter Stanchev, Milena Damyanova, Yanita Zherkova, Zlatina Karova, Guenoveva Jecheva, Radoslav Pavlov and George Simeonov present the current state of Bulgarian Open access activities and the discussed topics of the Ninth National Information Day: Open Science, Open Data, and Open Access.

The mini-symposium on *Future Trends in Serious Games for Cultural Heritage,* chaired by D. Paneva-Marinova and R. Pavlov, presents outcomes of the *Serious Education Games as Contemporary Tools for New Educational Applications project (Contract DSD-2/05.04.2017,* between the Bulgarian Academy of Sciences and the Institute of Mathematics and Informatics, activity *Introduction of Contemporary Methods in Educating and Fostering Young Talent (PMC №347))* and other projects in the field, and outlines some future trends for cultural heritage game development.

Maria Todorova and Teodor Martev's demo presents *Museum Space* - an end-to-end Museum Management Software Suite developed to help galleries, libraries, archives, and museums.

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