Methods & tools for publishing & reusing linked open statistical data

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ABSTRACT

The number of open data available for reuse is rapidly increasing. A large number of these data are numerical thus can be easily visualized. Linked open data technology enables easy reuse and linking of data residing in different locations. In this workshop, we will present a number of technologies and tools that are currently under development for visualizing linked open statistical data. We will demonstrate the use of these technologies and tools to visualize open data obtained from various European Union Member States ministries and other organizations. We will also give the workshop participants the opportunity to use these tools thus obtaining a personal experience on their capabilities.

CCS CONCEPTS

•Information systems → Information systems applications;

KEYWORDS

Linked Open Data, Linked Open Statistics, ICT Tools

1 INTRODUCTION

The amount of open data is rapidly increasing. Publishing data however does not automatically transform to benefits [3]. From a technological perspective, Linked Open Data are considered as the highest level of open data maturity. Lately, W3C published the RDF Data Cube (RDF qb) vocabulary in an attempt to integrate LOD

with the data cube mode, usually employed in data warehouses and business intelligence [4]. As many open data is numerical, it makes sense to use RDF qb for publishing numerical open data, such as statistics. However, as this technology is emerging we are lacking methods and tools to manage Linked Open Statistical Data (LOSD). A few projects have been funded to close this gap. In this workshop, one of these projects, namely OpenGovIntelligence, will present its methods and tools.

2 THE OPENGOVINTELLIGENCE PROJECT

The work presented in this workshop is conducted within the European Union funded project OpenGovIntelligence (OpenGovIntelligence.eu) [2]. This project continues work that started within the European Union funded project OpenCube (opencube-project.eu) [1].

The OpenGovIntelligence project aims at stimulating sustainable economic growth in Europe through fostering innovation in society and enterprises. Towards this end, OpenGovIntelligence suggests a holistic approach for the modernization of Public Administration (PA) by exploiting Linked Open Statistical Data (LOSD) technologies. This includes new business processes, policies, and tools that will enable the active participation of the society and enterprises in data sharing and in the co-production of innovative data-driven public services. The project objectives include:

- The identification of challenges in opening up and exploiting LOSD for the co-production of innovative data-driven public services.
- The creation of a framework comprising business processes, policies, and data infrastructure architectures.
- The delivery of the OpenGovIntelligece ICT toolkit comprising easy-to-use and user-centric tools to facilitate realizing a sustainable LOSD Innovation Ecosystem.
- The validation of results in six countries. The pilots will develop services to tackle societal and PA challenges in various problem areas such as internal decision-making in PAs, enhancing e-services provided by Points of Single Contact in Europe, and improving policy-making in the

areas of environment protection, economic growth, and unemployment.

3 WORKSHOP FORMAT

We propose a 2-3 hour workshop. The workshop will consist of short presentations, a hands-on session and time for discussions. A tentative workshop programme follows.

(1) Welcome and brief presentation of the participants.
(2) Brief presentation of the OpenGovIntelligence project.
(3) Presentation of Linked Open Statistical Data (LOSD) principles, potential, barriers, methods and tools.
(4) Discussion with the participants regarding relevant experiences.
(5) Hands-on session on the use of OpenGovIntelligence tools for data visualizations.
(6) Evaluation of OpenGovIntelligence methods and tools.
(7) Discussion on potential use of OpenGovIntelligence in policy making.

4 WORKSHOP FACILITATORS

The workshop will have a moderator and four presenters. Short bios of all participants follow.

4.1 Moderator

Ass. Prof. Efthimios Tambouris is Associate Professor of Information Systems and eGovernment at the Applied Informatics Department of the University of Macedonia, Greece. Before that, he served at research centers CERTH/ITI and NCSR fiDemokritosfi as well as the IT industry. He holds a Diploma in Electrical Engineering from NTUA, Greece, and an MSc and PhD from Brunel University, UK. During the last twenty years, he has initiated, coordinated and participated in several international research projects and service contracts. He has served as an expert in standardisation activities at CEN and is a reviewer for the European Commission. He has more than 150 research publications.

4.2 Workshop Presenters

Dr. Evangelos Kalampokis is an Adjunct Lecturer at the Business Administration Dept. of the University of Macedonia, Greece and a research fellow with Information Systems Lab at the same university. During the last nine years, he has initiated and worked in several EU funded research projects such as H2020 OpenGovIntelligence and FP7 OpenCube. Between 2009 and 2011 he has been a research intern at DERI-NUIG, the largest Semantic Web Research centre worldwide. He has published in high impact journals including IEEE Intelligent Systems, Internet Research, and the Journal of Biomedical Informatics. He is a co-chair at the SemStats workshop, which is co-located with the International Semantic Web Conference. More information: http://kalampok.is.

Prof. Dr. Marijn Janssen is a full Professor in ICT & Governance and chair of the Information and Communication Technology (ICT) section of the Technology, Policy and Management Faculty of Delft University of Technology. Dr. Janssen research interests are in the field of orchestration, shared services arrangements, and open and big data and infrastructures. He is Co-Editor-in-Chief of Government Information Quarterly, conference chair of IFIP EGOV

series and is chairing mini-tracks at the DG.o, ICEGOV, HICCS and AMCIS conferences. He was ranked as one of the leading e-government researchers in surveys in 2009, 2014 and 2016, and has published over 380 refereed publications. More information: www.tbm.tudelft.nl/marijnj.

Prof. Robert Krimmer is a full Professor of e-Governance within Ragnar Nurkse Department of Innovation and Governance at the Faculty of Economics and Governance Science, Tallinn University of Technology, Estonia. His research is focused on the transformation of the public sector, electronic participation and democracy, as well as e-voting. He is Associate Editor of the international scientific journal Government Information Quarterly (GIQ). Next to coordinating The Once-Only Principle Project (TOOP), he is engaged in the Erasmus Mundus Joint Master degree on public sector innovation and e-governance.

Prof. Konstantinos A. Tarabanis is a full Professor of Information Systems at the Department of Business Administration of the University of Macedonia, Greece. He is also the Director of the Information Systems Laboratory at the same university. He received an Engineering Diploma in Mechanical Engineering from the National Technical University of Athens, an MS in both Mechanical Engineering and Computer Science, and a PhD in Computer Science at Columbia University, New York, NY. He was a Research Staff Member at the IBM T.J. Watson Research Centre and was employed by the IBM Corporation. He has received several awards. He has more than 200 research publications.

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