Big Data, Artificial Intelligence and the Internet of Things

Big Stakes in the Future for Information Professionals

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Big data, artificial intelligence and the Internet of Things are no longer highly specialised disciplines and are beginning to play an increasingly important role in our work and personal lives. UKeiG's most recent Members' Day[1] provided an opportunity to learn more about these at an unexpectedly collaborative level.

David Row (CartoConsult Ltd) and James Clay (Head of Higher Education and Student Experience, Jisc) were the featured speakers in the morning: the size and structure of the participating group was such that the points we raised during David's presentation were continued throughout James' so that by lunchtime those who had paid the minimal fee to attend were treating themselves to an emerging seminar on the ethics, future and practicalities of 21st century working and living[2].

This brief report captures some of the highlights of the morning, along with pointers to where readers of eLucidate can find inspiration and discussion for enjoying and contributing to the trend.

Enhancing citizens' experience with graphic and 3D information

Imagine you are in a city new to you one evening, and you are taking a bus from where you've been working to your hotel. You need to consult some important information not available online but accessible from the local public library network. You take out your mobile phone or tablet and immediately access a live three-dimensional map of your locality, showing the progress of your bus, and the relative location of the libraries holding what you need. A colour scheme shows which ones are open longest tonight, and as you zero in on one, the app plots routes for you to the building.

LibrariesWest, a consortium of public libraries, had involved David's CartoConsult Limited Geospatial Consultancy developing trials of this kind of graphic/3D map information based enhanced services. David is a Geospatial Software developer, and he showed us that a lot of what the scenario requires was already available. He was able to demonstrate most of

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[1] UKeiG Members Day & AGM 26th June 2018.

[2] Shades of the Unconference trend of a few years ago which was so excitingly demonstrated by Wedge Black and Brian Lamb's Intranet Now conferences in 2015 and 2016. See https://www.youtube.com/watch?v=0IslVDT-8-k for how those worked, and www.intranetnow.co.uk for this year's programme of Intranet Now conferences, run by Wedge Black and Lisa Riemers.

the visual elements in the scenario to us, and that the data it required is available, even if it does need careful handling for privacy and ownership considerations[3].

Next steps? Finding the imagination, will and resources to move from the prototyping to the creation and adoption of workable services for the citizen.

The requirements of will and resources are not new to us as information professionals of course. What intrigued everybody at the UKeiG Members' Day was the need for the unfamiliar level of speculative imagination for this and other projects – and the questions that will certainly arise over managing it. Managing imagination? Surely as close to a contradiction in terms as you can get? Or at least a testing clash of cultures.

Graphic databases and creativity

The most challenging aspect of the day for most of us all was trying to cope with imagining where this creative thinking might lead. A NetIKX seminar on graph technology and open data[4] in 2018 had included a look at how big data facilities are beginning to provide the opportunity for novel insights and challenges to existing ways of thinking.

At the Members' Day we anticipated a lot of hard and unfamiliar thinking in the effective use of these facilities, but fortunately some useable examples of the technology are becoming easily available to get us used to the process and to help us "concretise" our ideas.

You can get an idea of how tough and yet accessible these new inspirations are. Use BP's Energy Charting Tool and App to present world energy data by any of eleven series (energy) types and fourteen data types (consumption, capacity, throughput, for example.) Instead of reading reports BP have created from the data, you have the opportunity to do the hard yards and become data consumers, exploring what's available and the impact which new ways of looking at it have on your thinking.

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[3] More about LibrariesWest consortium here and the legal/privacy framework that underpins the data sharing here

[4] *Making True Connections in a Complex World: new technologies to link facts, concepts and data*. January 2018. A very full (2000 word) report of the meeting is available here for members and non-members alike.

Neo4j and Tableau also provide good examples and demonstrations of how graph database systems and software can liberate thinking. Keep an eye on their developments and events if this topic has inspired you.

Designing the intelligent library for the intelligent campus

The questions we shared about ethics, law and effort after David Row's session lingered on into James Clay's introduction to what Jisc are doing about the Intelligent Campus, and by inference the intelligent campus library. And he pulled no punches.

Imagine you are a student at a UK university in the very near future. You have some research to do in a hurry, and as you walk across the campus it's beginning to rain. You know (and likely your mobile phone/tablet knows even better than you do), exactly how much stimulation you need to keep you awake, and how much peace you need to get on with the work. You wonder which library to head for.

Meanwhile the library administration systems know that it's starting to rain, that there will be a lot of demand today for the same material you need, and that in two of the campus libraries public events are about to start in the public foyer next to the research desks.

Working separately (or potentially together) your tablet and the library admin systems advise you and the library service what changes you need to put in place right now for you both to manage the emerging situation. By the time you get to the appropriate library enough specialist staff have moved near the physical resources or have been alerted on the online helpdesks, and everything is ready for your (and your fellow students') enhanced experience. A strategically placed umbrella stand is also thrown in for good measure.

James Clay took us through the kind of research Jisc is coordinating in its Intelligent Campus programme to make this and many other scenarios feasible in the very short term[5].

The Members' Day delegates, confined in the immediate surroundings of CILIP's Charter Suite, performed feats of imagination as we worked on what would be needed to make it happen in practice (nearly all the data is available) and more particularly on how universities and students would react to the practical implications of taking the enhanced student experience to the logical and practical limits.

Would students want their personal technologies to share the data the library systems would need? What about students who didn't want to? Should it be a condition of their attendance for the good of the whole? Are the legal frameworks in place? Should planners be limited by that now, or work with an unrestricted legal/ethical mind to better explore what's possible?

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[5] The pages https://www.jisc.ac.uk/rd/projects/intelligent-campus link to are packed with ideas and use cases that show what is conceivable and what is possible, in very simple and challenging language.

Intelligent campus
Using data to make smarter use of your university or college estate

3 years
Ends 1 Jul 2020

Expected outcome:
New service

Tags: DATA AND ANALYTICS

And what is the future for CILIP, UKeiG and information professionals in all this?

Of course, we want CILIP, from Board to Regional Networks, Special Interest Groups and individual membership level, to work on staying relevant and contributing to these new worlds. David and James had pointed us to exactly the kind of sources we needed to start imagining the practicalities and issues involved, and we were very much aware by the end of the morning that the future and our part in it was coming into a kind of focus that we wouldn't be able to ignore.

The Members' Day provided food for thought and inspiring reasons why we need to be involved with and help shape the Information Management, Big Data and AI agenda.

Editor's postscript

Dion Lindsay is highly-experienced knowledge management practitioner, trainer, consultant and workshop leader. His experience covers KM in commercial, government and charity environments. He ran early KM experiments in the civil service and was Knowledge Manager for the Motor Neurone Disease Association before becoming a full-time trainer and consultant.

His one-day course on "Practical Knowledge Management for Information Professionals" will be held at CILIP on Tuesday, 7th May 2019.

Effectively managed knowledge is one of the greatest resources modern organisations possess, and information professionals, with their expertise and understanding of their organisation's working needs, are well positioned to take the lead. The concepts and theories of KM are essential when interacting with senior management and other key stakeholders, but doing KM is intensely practical. Knowledge Managers must find out what will work for their organisation and discovering new ways to engage work colleagues will be challenging.

For more information, and to book online, go here.