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Editor's Note

Welcome to Volume 15, issue 3 2019 of UKeiG's journal eLucidate. I'd like to thank the information professionals and experts who've contributed a diverse range of absorbing and informative topics.

Managing Director of Intranet Focus Ltd, Martin White, excavates the origins of UKeiG against the backdrop of two World Wars and the explosive increase in scientific research and scholarly publications that led to the formation of the Institute of Information Scientists in 1958. His article, "Ultra Information Management" pays homage to sophisticated, meticulous wartime codebreaking projects which were, in essence, the precursor to information management as we know it today.

Last year's UKeiG professional development programme was a huge success attracting delegates from all sectors and disciplines of the library and information profession. UKeiG Chair David Ball's workshop – "Open Access, Open Monographs, Open Data, Open Peer Review" – provided food for thought and a state-of-the-art overview of the complex issues around the open access, open science agenda. The preamble for the day stated: "The concept of Open Access to research outputs has been common currency for many years. The rapid growth of the Internet has made different publication models easily available. More recent thinking has expanded the concept of openness even further, to Open Science, which aims to transform science by making research more open, global, collaborative, creative and closer to society. This approach is being embraced by all academic disciplines. The shift is extremely important for the development and exploitation of research, and hence for the professionals who support it." One of the delegates, Ruth Wells, New Product Development Manager for CABI, but then representing the academic journals and publishing service Veruscript, was inspired to blog about the day and we have included her observations in this issue.

Tony Russell-Rose, founder of UXLabs, explores a fascinating data visualisation approach to advanced search strategy formulation "in which concepts are expressed as objects on a two-dimensional canvas and relationships are articulated using direct manipulation. This eliminates many sources of syntactic error, makes the query semantics more transparent, and offers new ways to validate, share and reproduce search strategies." He invites eLucidate readers to test drive and evaluate it for him.

Sarah Prowse, Librarian and Analyst at the NIHR Innovation Observatory, and recipient of last year's UKeiG CILIP Conference bursary, reflects on the key themes arising from the event. The conference, she writes, "offered the opportunity to reflect on the collaborative nature of the profession including the underlying mandate to strive for excellence and lead equitable change through the provision of high-quality information knowledge, skills, and services."

Claire Carter, Academic Library Liaison at the University of Bedfordshire, reports back on a recent Multimedia Information and Technology Group event addressing the issues around mindfulness and technology - #MindfulTech19. Are you at the beck and call of mobile? How

many times a day do you check for updates and alerts? MMiT's event was a rally cry to information professionals to take back control of technology and develop handling strategies to ensure that it doesn't rule your life and diminish your impact and productivity in the workplace. Claire Carter's report explores the interface between technology and wellbeing. Can mindfulness be utilised to ensure that we are in control of our digital destinies?

Dion Lindsay, Managing Director of Real Knowledge Management, reports back on UKeiG's Members' Day on the 26th June 2018, exploring the brave new world of "Big Data, Artificial Intelligence and the Internet of Things." He concludes that with imagination and vision there are even bigger opportunities for information professionals to shape the future and stake a claim to these major shifts in the paradigm of information management and delivery.

Other features in this issue include a celebration of the winner of last year's prestigious Tony Kent Strix Award that recognises major contributions to the field of information retrieval. Joy Cadwallader, Aberystwyth University, gives an update on some new online resources and services and UKeiG announces its support for Internet Librarian International 2019, encouraging you to speak at the event. The world is your oyster in terms of topics for presentation, and the broad themes for this year's conference are articulated in the article.

eLucidate is published three times per volume: around spring, summer and winter, and an archive of previous issues is available here. We endeavour to feature contributions from experts in the field, keeping members up to date with developments and innovations in the digital information industry, considering the impact on information professionals and consumers of e-information. Core topics for consideration include digital literacy, effective information retrieval and search technologies, intranets, social media, open access, e-publishing and e-industry research and development. UKeiG encourages the submission of articles and reports about any of the topics covered by the journal, and contributions and suggestions for content can be emailed to me at the email address below.

Please refer to Notes for Contributors for further information.

Enjoy, and please give us your feedback and join us in discussions on social media. You can find us on LinkedIn, Twitter and Facebook by visiting the UKeiG webpages. You can also join our JISCMail forum – LIS-UKEIG – and sign up to free membership via the CILIP web pages.

Best wishes for now,

Editor – eLucidate

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The Evolution of UKeiG:

1948, 1958 and 1978 – three important anniversaries

Martin White Managing Director, Intranet Focus Ltd

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If you have joined the profession since the mid-1990s you might occasionally wonder how UKeiG came into existence. To answer this question, I need to go back to 1921 when Professor Robert Hutton, at that time Goldsmiths' Professor of Metallurgy at Cambridge University, became the first Director of the British Non-Ferrous Metals Research Association (BNFMRA, referred to in its day as the BNF). Ben Fullman was appointed as the Librarian of the BNF and both he and Robert Hutton were aware of the growth in scientific research and publications since the end of World War One. A meeting was organised at the BNF in 1923 to consider the skills that would be needed by librarians in managing this wealth of information. The Library Association (LA) wanted nothing to do with this initiative, and so in 1924 the Association of Special Libraries and Information Bureaux (Aslib) was established to act as a clearing house for information resources. After World War Two there was an even greater volume of information to manage. These issues were discussed, but certainly not solved, at the Royal Society Scientific Information conference, which ran from the 21st June to July 2nd,1948. This Conference was the direct result of a recommendation made by the Royal Society Empire Scientific Conference of 1946 that the Royal Society convene a meeting of libraries, societies and institutions responsible for publishing, abstracting and information services to examine the possibility of improvement in existing methods of collection, indexing, and distribution of scientific literature and for the extension of existing abstracting services.

The Conference was "dedicated to considering information services from the point of view of the scientific user and was organised in four sections with members of the organising committee (including Professor J.D Bernal) acting as editors-in-chief of the sections." The four sections were: the publication and distribution of papers reporting original work, abstracting services, indexing and other library services and reviews and annual reports. It embraced all scientific subjects including agricultural sciences, engineering sciences, medical sciences, but not social sciences. It was an ambitious undertaking.

Following the Conference, Ben Fullman gave a presentation to the Aslib Annual Conference about the importance of establishing a syllabus of education to meet the needs of people working in special libraries who often had not been trained as librarians but were using their technical knowledge to manage information resources. The story from 1948 to 1957 is one of battles with and between both Aslib and the Library Association about who owned this new group of information professionals.

The immediate outcome was that B. Agard Evans, Chris Hanson, Felix Liebesny, Alexander Gordon Foster and Jason Farradane, all working in this sector, decided to call a meeting in

early 1958 to see if there was an interest in setting up a new professional organisation. The meeting was chaired by George Malcolm Dyson, a distinguished chemist who at that time had a reputation equal to David Attenborough today. It was therefore not surprising that one hundred and twenty-five people turned up! From this meeting the Institute of Information Scientists (IIS) was established in May 1958. The term "information scientist" was created by Chris Hanson in 1956 when (ironically) he was on the staff of Aslib.

The growth of the IIS was remarkable, expanding from one hundred and fifty members in 1959 to seven hundred and fifty by 1965. In parallel, Jason Farradane and his colleagues established a course at what was then the Northampton College of Technology in London (later becoming City University), which initially was a two-year part-time course, with a post-graduate course and a one-year full time course being established in 1963. The IIS started up a Bulletin, later to become *The Information Scientist* and is now the *Journal of Information Science*, published by Sage. The first IIS Conference took place in 1964, with sixty attendees, a number increasing to two hundred at the 1970 Conference in Reading.

For the purposes of this article I will bring the history of the IIS to a halt, other than to note that after attempts to bring together Aslib, the LA and the IIS into one super-organisation failed, the IIS and the LA merged in 2002 to form CILIP. Aslib closed its doors in 2010.

It was as a result of the merger that UKeiG was established, though not directly from an IIS origin. The antecedent of UKeiG was the UK Online User Group, known by the rather ugly acronym of UKOLUG. In the mid-1970s the information profession was able to take advantage of online remote access to computer databases of abstracts of Chemical Abstracts, Derwent Patent Abstracts and in time hundreds more databases. Access to the network was gained by using an acoustic coupler, the precursor of the modem, initially working at three hundred baud (roughly equivalent to thirty characters per second output on a teletype printer). Although the computer service companies offering these database services (Dialog, System Development Corp and ESA-IRS as examples) were quick to establish user groups, there was a view among the search community that an independent voice was needed. The first Online Conference was held in December 1977 and during this event (with around four hundred delegates) a side meeting agreed that there was a need to create a UK organisation to represent users, noting that similar initiatives were taking place in Scandinavia. On the 8th February 1978, the initial meeting to establish such an organisation took place and by the end of the year UKOLUG was up and running. Although the IIS played a role in this, UKOLUG was independent of the Institute and focused on providing training courses and "how to" guides for people using these services, who were often not trained as librarians or information scientists but might well be research chemists. Indeed, in respect of the UKOLUG Conferences, the organisation was a competitor to the Institute, with over two hundred delegates at the 1996 State of the Art Conference in Warwick and even more (from memory) at the 20th Birthday Conference in 1998. The IIS continued to act as a secretariat for UKOLUG, but the success of the organisation was down to the total commitment of members and the amazing ability of Christine Baker (as Administrator) to do the work of five people.

Although the merger to create CILIP took place in 2002, the name change to UKeiG did not take place until 2004, when Gary Horrocks (then Chair of UKeiG) was quoted as saying "We felt the term 'online' was rather nebulous. It was a question of rebranding and thinking about our future direction. We wanted to take that very successful brand and recreate it with a 21st century angle. The main message is that we exist as a collective resource for information professionals."

On a personal note

My career started at the BNF where Ben Fullman (by then retired) turned up most days to work on his translation from the German of the 2nd edition of *Lead and Its Alloys* by Wilhelm Hofmann. He had so many stories to share with me about the early days of the information profession in the UK and had an encyclopaedic knowledge of seemingly every item in the Library, memorised by its colour and shelf position. I was also very fortunate to work with Clive Mitchell and Brian Perry in the information department of the BNF. Both had attended the City University course and ensured that I always followed good practice in a crucial early stage of my career. They also encouraged me to join the Institute, of which subsequently I was one of very few people to be both the Chairman of Council and President. I still claim to be a chemist by training and an information scientist by profession.

A history of the IIS – can you help?

To me, and others, it is a concern that the IIS has vanished other than in the memory of those whose careers were immeasurably supported by it. There is no board in CILIP HQ that lists the Presidents, all of whom were immensely supportive of the work of the Institute. Most distinguished themselves outside of the information profession, seeing information as a corporate asset in the widest sense. They included Sir Harold Thomson, Sir James Tait, Sir Raymond Appleyard and Professor Lewis Wolpert.

Dr. Sandra Ward, (like me a former President) and I are going to set about writing a history of the IIS in 2019. If any readers of eLucidate have memories or artefacts from their time as members and would like to contribute to this history, which will be (we hope) more of an oral than documentary history, do please contact me at *martin.white@intranetfocus.com*. I am fortunate to have most of the back copies of both the *The Information Scientist* and *Inform* newsletters.

I am very grateful to Professor Charles Oppenheim for corrections and amplifications to this article.

Open Access, Open Monographs, Open Data, Open Peer Review:

Overview of a Disruptive Technology

Ruth Wells, New Product Development Manager, CABI

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UKeiG's continuing professional development programme is designed to meet the challenges facing information professionals in the digital workplace. The 2019 programme is updated regularly. Themes covered include:

- Information retrieval/search
- Scholarly communication/open access
- Digital literacy
- Social media
- Research support

I signed up for last year's UKeiG's Open Access event, led by the Group's Chair David Ball, curious about the extensive programme of topics for exploration and discussion.

- **Disruptive technologies** – examples, definition (following Christensen) and discussion
- **Open Science** – what it encompasses; the rationales given for instance by the OECD for its development
- **Open Data** – what it is; how it is managed; policy development
- **Open Access** – definitions (Green, Gold, Gratis and Libre, toll access), brief history, policy development; costs; obstacles and practicalities
- **Open Access scholarly monographs** – the new frontier? Open Access in STM subjects is well established, but the Humanities and Social Sciences now stand to benefit greatly too
- **Open Access as a disruptive technology?** Implications for the future - our world turned upside down

David Ball's approach to the day was to ask the question ***"Is Open Access a disruptive technology?"*** This was based on the definition that a disruptive technology:

- Underperforms existing products (good enough is good enough)
- Has different features that are attractive to fringe customers
- Is cheaper, simpler, smaller, easier to use
- Transforms the market

A great example mentioned is the new Kodak Ektra Smartphone. It's built specifically for photographers and so steps around the phone/text/apps role of existing smartphones. It's a pretty cool idea, especially given Kodak have been way behind the market to date!

Photo by Erik Odiin on Unsplash

From David's perspective, Open Access is not just about publishing. He encouraged us to think about Open Notebooks, Open Data, Open Research Software, Open Peer Review and Open Bids for Funding as all being part of the research landscape. To help facilitate the fundamental transition to Open Science, the FOSTER project was initiated and funded by the EU for a limited period. More details about the project objectives can be found here.

"FOSTER established, conducted and supported a European-wide training programme, with more than 100 training events, in 28 countries, with more than 6000 participants, on open access, open data and open science, consolidating training activities at downstream level and reaching different stakeholders, diverse disciplinary communities and countries in the European Research Area (ERA.)"

Open Science will hopefully benefit the world by increasing the transfer of knowledge, as a result assisting the economy and addressing global challenges more effectively, as well as increasing the involvement of citizens in the development of scientific research. To support these aspirations Open Research Data is an important tool in the ecosphere, but there are barriers to delivering this.

To help solve these barriers, Force 11 has a series of data principles called FAIRsharing developed by its working group. These have now been adopted by a number of publishers and broadly include aspects such as making data Findable, Accessible, Interoperable and Reusable. These aims have challenges, not least the cost of hosting data in perpetuity and ensuring long-term that the data remains in a readable format with the technology of the future. Think about how on earth you could open a floppy disk these days!

In 2018 there was a Jisc project looking at UK Research Data Discovery that aspired to break down data silos and ensure data is linked to research outputs. The development of a beta discovery service is currently on hold but will eventually form part of the Open Research Hub, although no date has been set yet for this to come to fruition.

In addition to the challenges of physically hosting data, for institutions there are the underlying decisions regarding how and where to implement open access.

- Should it be mandatory?
- What type of open access should the institution support? For example, Green, Gold?
- Should they offer hosting in a repository (possibly of interest is that the average cost per article hosted in a repository is £6-15)?

Institutions also need to consider:

- Permitted embargoes by the publisher
- Sanctions for non-compliance
- Licensing requirements, such as copyright retention by the author

Probably the most open open access is Libre Open Access which is free and has no licence restrictions.

Research England (formally HEFCE – the Higher Education Funding Council for England), is working hard to support open access policies by developing recommendations and policies for institutions to follow. These include the proposed introduction of 2021 guidance on producing open access scholarly monographs. The biggest discussion around this in the academic environment is how they will be funded, given an average monograph costs around $10,000 - $35,000 to publish.

Options include Pure Gold open access, a freemium model and crowdfunding (for example, Knowledge Unlatched). The great thing about open access monographs is the level of usage they attract, upwards of two thousand downloads from what I have seen, as compared to the traditional print run of one hundred to two hundred. As a result, the publication of monographs is substantially increasing their reach and therefore dissemination of knowledge. There were two projects mentioned during the event that are aiming to support the open monograph ambition, HIRMEOS is under development and OAPEN-CH was established in 2014.

Finally, there is a trend related to open access publication - publishing peer review alongside the content - known as Open Peer Review. It involves open identity throughout the process, open peer review reports, wider community participation (recently completed in a wiki style on The Disrupted Journal of Media Practice), interaction, pre-review manuscripts, final version comments and open platforms.

eLife is an excellent example of a major publishing initiative to “improve research communication through open science and open technology evolution.” In March 2019, an open-source submission and peer-review platform, Libero Reviewer was announced. The software enables the rapid submission of manuscripts for initial assessment.

Editor’s postscript

Ruth Wells was business manager at the academic journals and publishing service Veruscript when she published this article as a blog last year. Please contact her if you have any comments or require further information and advice on open access publishing models.

UKeiG Chair David Ball is a consultant specialising in scholarly communication, e-books, virtual learning environments, design and management of academic libraries. As University Librarian and Head of Academic Development Services at Bournemouth University from 1994 to 2012, he created a vibrant library service, winning two major national awards. Since he became a consultant in 2012, Open Access clients include: Public Library of Science (PLoS), the Berlin-Brandenburgische Akademie der Wissenschaften, Public Health England, OAPEN, Enabling Open Scholarship (EOS).

He was the SPARC Europe Project Officer on two major European Open Science projects: PASTEUR4OA (which aimed to support the development and implementation of policies to ensure Open Access to all outputs from publicly-funded research) and FOSTER (which aimed to support researchers to incorporate Open Science in their daily workflow). He has also worked on a number of SPARC Europe projects, including Open Data Champions.

His one-day workshop on "Open Access, Open Monographs, Open Data, Open Peer Review: Overview of a Disruptive Technology" will be held at CILIP's headquarters on Thursday 16th May 2019. It will be of interest to research support, information and library professionals across all subjects, sectors and disciplines keen to understand the impact of Open Access and Open Science on their organisations and on current and future service provision. David will also present on recent developments and initiatives including Open Access university presses and Plan S.

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

Upcoming UKeiG courses for 2019, click here.

Rethinking Advanced Search

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Abstract

Knowledge workers (such as healthcare information professionals, patent agents and legal researchers) need to create and execute search strategies that are accurate, repeatable and transparent. The traditional solution is to use the proprietary line-by-line "query builders" offered by database vendors. However, these offer limited support for error checking or validation, and their output can often be compromised by errors and inefficiencies. In this article, we explore a new approach to search strategy formulation in which concepts are expressed as objects on a two-dimensional canvas and relationships are articulated using direct manipulation. This eliminates many sources of syntactic error, makes the query semantics more transparent, and offers new ways to validate, share and reproduce search strategies and best practices.

Introduction

Medical knowledge is growing so rapidly that it is difficult for healthcare professionals to keep up. As the volume of published studies increases year by year, the gap between research knowledge and professional practice grows ever wider. Systematic literature reviews can play a key role in closing this gap, by synthesising the complex, incomplete and at times conflicting findings of biomedical research into a form that can readily inform health decision making.

However, undertaking a systematic review is a resource-intensive and time consuming process, sometimes taking years to complete. Even rapid evidence assessments, designed to provide quick summaries of what is known about a topic or intervention, can take as long as three to six months. Moreover, new research findings may be published in the interim, meaning that systematic reviews can be out of date or missing key evidence from the moment they are published.

At its heart, the process of systematic review relies on painstaking and meticulous searching of multiple literature sources. These include published literature sources such as MEDLINE and other specialist databases and "grey literature" (i.e. technical reports and other non-peer reviewed sources). The principal way in which such sources are interrogated is through the use of Boolean queries, which utilise a variety of keywords, operators and ontology terms. Reviewers incrementally build complex queries line by line, sometimes involving hundreds of terms, which are combined to form an overall search strategy. For example, here is a search strategy on the subject of "*Galactomannan detection for invasive aspergillosis in immunocompromised patients*":

1 "Aspergillus"[MeSH]
2 "Aspergillosis"[MeSH]
3 "Pulmonary Aspergillosis"[MeSH]
4 aspergill*[tiab]
5 fungal infection[tw]
6 (invasive[tiab] AND fungal[tiab])
7 1 OR 2 OR 3 OR 4 OR 5 OR 6
8 "Serology"[MeSH]
9 Serology"[MeSH]
10 (serology[tiab] OR serodiagnosis[tiab] OR serologic[tiab]) 11 8 OR 9 OR 10
12 "Immunoassay"[MeSH]
13 (immunoassay[tiab] OR immunoassays[tiab])
14 (immuno assay[tiab] OR immuno assays[tiab])
15 (ELISA[tiab] OR ELISAs[tiab] OR EIA[tiab] OR EIAs[tiab])
16 immunosorbent[tiab]
17 12 OR 13 OR 14 OR 15 OR 16
18 Platelia[tw]
19 "Mannans"[MeSH]
20 galactomannan[tw]
21 18 OR 19 OR 20
22 11 OR 17 OR 21
23 7 AND 22

The choice of search strategy is critical in ensuring that the process is sufficiently exhaustive and that the review is not biased by easily accessible studies. In addition, the strategy needs to be transparent and repeatable, so that others may replicate the methodology. However, there are often mistakes in search strategies reported in the literature that prevent them from being executed in their published form. In one sample of sixty three MEDLINE strategies, at least one error was detected in 90% of these, including spelling errors, truncation errors, logical operator error, incorrect query line references, redundancy without rationale, and more.

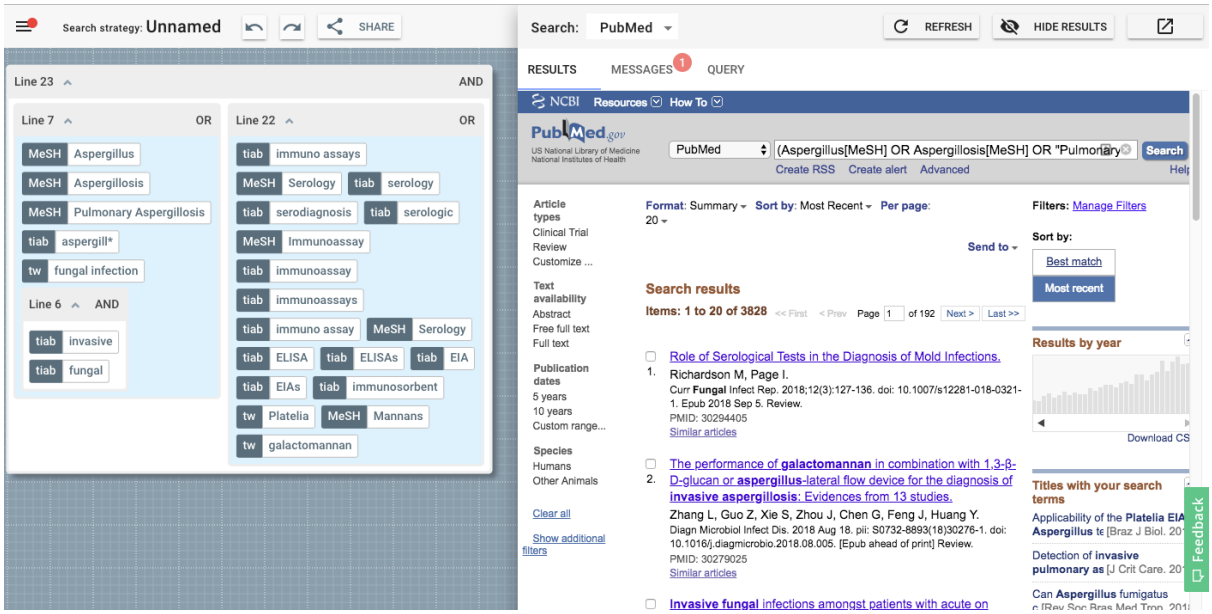
Evidently, despite the painstaking attention to detail of many dedicated individuals, creating effective search strategies is prone to error, often relying on manual processes with limited technological support. Moreover, once completed, strategies are typically published as text-based documents, and are thus rarely directly executable in their native form. This compromises their ability to be reproduced by others and often results in unnecessary duplication.

So, what can be done about this? Well, one approach is to rethink exactly what we mean by “advanced search”. However, if we were designing a framework for structured searching from scratch, the command line paradigm is probably not the ideal place to start. Those line numbers are more a reflection of the days when searches were facilitated by command line instructions to remote databases, and in that respect, they represent the past, not the future. In this article, we explore an alternative approach which we call 2dSearch.

A visual approach to systematic searching

At the heart of 2dSearch is a graphical editor which allows the user to formulate search strategies using a visual framework. Instead of entering Boolean strings into one-dimensional search boxes, queries are formulated by combining objects on a two-dimensional canvas. Concepts can be simple keywords or attribute:value pairs representing controlled vocabulary terms (for example, MeSH terms) or database-specific search operators (for example, field tags and other commands). They can be combined using Boolean (and other) operators to form higher-level groups and then iteratively nested to create expressions of arbitrary complexity. Groups can be expanded or collapsed on demand to facilitate transparency and readability.

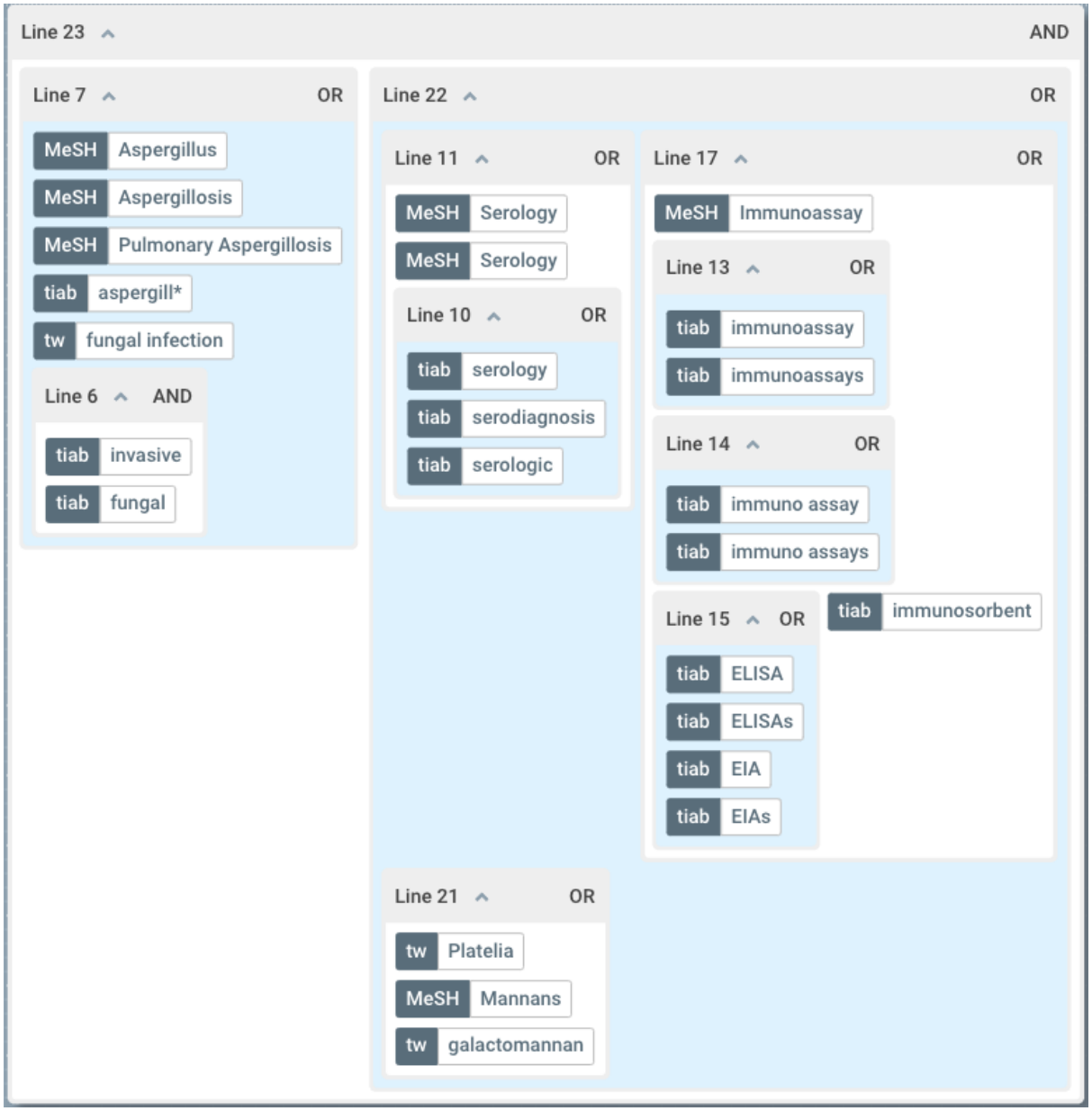
The application itself consists of two panes: a query canvas on the left and a search results pane on the right (which can be resized or detached in a separate tab or window):



The canvas itself can be resized or zoomed and features an "overview" widget which allows the user to view or navigate to elements that may be outside the current viewport. Adopting design cues from Google's Material Design language, a sliding menu is offered on the left, providing file I/O and other options. This is complemented by a navigation bar across the top which provides support for common document-level functions such as naming and sharing search strategies.

Although 2dSearch supports the creation of complete strategies from a blank canvas, its function and value are most readily understood by reference to an existing (i.e. text-based) search strategy, such as the example shown above. A trained professional may be able to mentally "parse" the sequence of commands shown and interpret the general approach, but without associated documentation it is difficult to understand exactly what the searcher intended. Moreover, it is difficult to optimise, debug or re-use strategies expressed in this form.

However, when this strategy is opened using 2dSearch, its structure becomes much more apparent:



It can be seen that the overall expression consists of a conjunction of two disjunctions (Lines 7 and 22), the first of which articulates variations on the fungal infection concept, while the latter contains various nested disjunctions to capture the diagnostic test (serology) and associated procedures. Evidently, the line numbers themselves are somewhat arbitrary in this context, having served an original purpose analogous to that of line numbering in 1st generation BASIC. However, by displaying them as nested groups with transparent structure, 2dSearch offers support for abstraction, whereby lower-level details can be hidden and higher-level structure revealed. Moreover, it is now possible to give meaningful names to subgroups, so that they can be saved and reused as modular components.

Although visualisation of search strategies in this manner can offer immediate utility, the true value of the approach is not so much in the *information* design, but in the *interaction* design. For example, to edit the expression, the user can move terms from one block to another using direct manipulation and create new groups simply by combining terms. They can also cut, copy, delete, and lasso multiple objects. If they want to understand the effect of one block in isolation, they can execute it individually. Conversely, if they want to remove one element from consideration, they can temporarily disable it. It is also possible to edit the content inline, interchanging Mesh terms with keywords and field tags as required. In each case, the effects of each editing operation are displayed in real time in the adjacent search results pane.

Validation and reproducibility

It is common for healthcare information professionals to want to search more than one database, particularly when undertaking a systematic literature review. In practice, this requires a process of "translation" of the search strategy to match the syntax of the target database and the search operators it supports. For a relatively simple query this may not be a major undertaking, particularly if such operators form a relatively small proportion of the overall search strategy. However, the user still has to understand which elements are platform-specific, identify the closest equivalent in the other database and manually edit their query, all of which is laborious and time consuming.

2dSearch provides elementary support for search strategy translation in the form of a "Messages" tab on the results pane. This serves a purpose similar to a console or messages pane in a software IDE, alerting the user to compilation issues and offering advice, fixes and workarounds. For example, if the user tries to execute via PubMed a query string containing operators specific to Google Scholar, an alert is shown listing the unknown operators. In due course, this mechanism could be extended to offer a greater degree of interactive support for the translation of strategies across databases. In addition, 2dSearch also offers the potential for search strategy optimisation by identifying redundancy (for example, spurious brackets or duplicate elements) and comparison of canonical representations.

In closing

2dSearch is a framework for search query formulation in which information needs are expressed by manipulating objects on a two-dimensional canvas. Transforming logical structure into physical structure mitigates many of the shortcomings of Boolean strings, eliminates many sources of syntactic error and makes the query semantics more transparent. Librarians and researchers can still write line by line Boolean queries if they wish, but 2dSearch offers new ways for them to be validated, shared and made reproducible.

We are currently working on providing better support for cross-platform integration, which allows a given search strategy to be applied to more than one database. We recognise that providing accurate and reliable translations of search strategies is a significant undertaking, often requiring skilled human judgment. But the point is that it represents something far greater: the prospect of a *universal language for search*, in which information needs can be articulated in a *generic manner*, with the task of mapping to the

semantics of an underlying database being delegated to platform-specific adapters. Such a development could have profound implications for the way in which search skills are taught, learnt and applied.

In due course, we hope to undertake a formal, user-centric evaluation, particularly in relation to traditional query builders. In the meantime, try out 2dSearch for yourself, and let us know what you think.

Editor's postscript

Tony Russell-Rose is Director of UXLabs, a research and design consultancy specialising in complex search and information access applications. Previously, Tony was Manager of User Experience at Oracle and editor of the Endeca UI Design Pattern Library, an online resource dedicated to best practice in the design of search and discovery experiences. He holds a PhD in human-computer interaction, an MSc in cognitive psychology and a first degree in engineering, majoring in human factors. He is also Honorary Visiting Fellow at the Centre for Interactive Systems Research, City University, London.

His one-day course on "Search usability: filters and facets" will be held at CILIP's headquarters in London on Thursday 25th April 2019. The course will provide an introduction to the design of search user experiences with a focus on the fundamental principles of faceted search and navigation. For more information go here.

Reflections from Brighton:

CILIP Conference 2018

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Introduction

The UK is at the forefront of continual evolution in the field of information and library studies, and as a Canadian who moved to Scotland in 2016 to complete a Master of Science (I&LS) at the University of Strathclyde, I can attest first-hand to the growing demand for innovation within the profession. Faced with unique challenges and opportunities, my peers and I are embracing non-traditional roles centred on digital advancement and the professional skillsets required to adapt and disseminate new technologies.

As a librarian and analyst for the NIHR Innovation Observatory based at Newcastle University, attending the 2018 CILIP Conference through the generosity of the UKeiG CILIP Conference Bursary allowed me the opportunity to expand my horizons beyond medical research and explore interdisciplinary boundaries with other information professionals from a variety of backgrounds. What follows are my impressions of key conference themes as relevant to knowledge and information management (K&IM), and where appropriate, presentations have been linked from the CILIP 2018 conference webpage. Additional coverage includes conference photographs, related tweets on Twitter (@CILIPConf18, #CILIPConf18) and the podcast episode "Librarians with Lives" by library manager Jo Wood.

Mobilising knowledge

The conference was off to an inspiring start with the opening keynote address from House of Commons (HoC) librarian Penny Young. The HoC Library staff support the work of MPs through confidential enquiries and the production of public briefings on a variety of topics including health services and medicine, education, social services, international affairs, and economy and finance (among others). The queries gathered often provide insight into emerging trends, creating the opportunity to mobilise knowledge in the best interests of democracy. Knowledge mobilisation aims to not only "bridge the gap" between moving available knowledge into active use, but also to create connections between expertise and practice in order to improve outcomes. A key challenge is in the accessibility and management of data available, with the HoC Library considering methodologies of digital distribution and improving public outreach through user experience design of web portals. The "enduring skills" of librarians were highlighted as a means of equipping citizens and the public at large to engage with information resources.

Hong-Anh Nguyen, Information Centre Manage for the King's Fund, initiated a novel discussion on the second day of the conference as to how knowledge management can be made accessible at all levels titled: "Knowing me, knowing you: knowledge management is

something we all can do". While presented within the context of a healthcare environment, many of the ideas shared could be implemented in a variety of inter- or cross- disciplinary settings. This included collegiate working through the development of knowledge management toolkits, stories, and mobilisation strategies utilising social media. The onus was on encouraging awareness and engagement with knowledge management activities through shared learning experiences, which in turn, create a process with the potential to enable innovation. A key takeaway from the session was that knowledge grows when it is used and loses its value or ability to inform change when it is not. While a simple concept, this reinforced the idea of information professionals as driving agents of change.

The heart of knowledge mobilisation strategies, based on a two-way system of information exchange, is to foster relationships and engagement. One mobilisation strategy touted throughout the conference was the Knowvember campaign, which seeks to inspire, encourage and support information and knowledge professionals working in the health sector to undertake knowledge management activities during the month of November. Originally designed for NHS library and knowledge services in England, Knowvember provides an opportunity to showcase how knowledge management initiatives aid an organisation in becoming more effective and efficient while creating both a sense of ownership and agency for participants. Through active reflection on the audience and desired outcomes, K&IM professionals from all sectors are in a unique position to generate, impart, and inform knowledge-based practices and tools.

Digital curation – past and present

The first day of the conference also brought interdisciplinary seminars including *Preserving the past for the future*, which welcomed speakers such as Dr. Nick Barratt (Senate House Library) and Richard Davies (Head of British Library Qatar Foundation Partnership). Dr. Barrett emphasised the connections between digital technologies and wellbeing, and the impact of heritage collections as a form of digital memory curation. By curating and preserving our own stories in a digital environment, argues Dr. Barrett, "there's an opportunity to reflect on what you wrote five years ago and how you see that now - or gather other people's perspectives". Questions were raised regarding the digital curation lifecycle in this instance, and how best to conceptualise methods for capturing and storing elements of personal heritage. Social media applications, such as Instagram and Twitter, offer a new means of documenting lived or shared experiences. The preservation of such digital media items, as well as questions of ownership and access for re-use or transformation, remain contentious. This highlights an area of need for expertise within the profession, as user rights will continue to evolve given interjurisdictional legalities.

Richard Davies offered a differing perspective of the interplay between past and present and the role of digital transformation, speaking on the challenges of access to the British Library's collections in the context of partnership with the Qatar Foundation and the Qatar National Library. The collaboration has resulted in the Qatar Digital Library (QDL), a free online portal based around the British Library's collections, with the intent to improve understanding of the Islamic world, Arabic cultural heritage, and the modern history of the Gulf. The project has not been without its challenges, from digitising a wide variety of previously un-digitised British Library materials (maps, visual arts, sound and

video, personal papers, manuscripts etc.) to creating a portal that is bilingual and accessible across all platforms. The QDL has taken a broad approach to audience identification, noting that academic research may be only one of many ways in which users can engage with featured materials. The overarching aim is to provide a freely available resource with the potential to transform the study of the Gulf and Arabic cultural heritage.

Finally, broadcaster Samira Ahmed encouraged attendees to contribute their professional narratives as reflective of austerity. Offering a means of confidential contact to share insight as to how information services are being lost and the impact at both local and national levels, the BBC journalist highlighted the Windrush scandal to illustrate the importance of archives and the transition to media in perpetuity. Landing cards from the "Windrush Generation" (immigrants invited to the UK from Caribbean nations during the late 1940s to early 1970s) were destroyed in the interest of austerity. The loss of these crucial documents establishing legal status resulted in a host of ramifications, including unjust revocation of personal rights and freedoms. Information professionals and their regulatory bodies were called to action in emphasising the value of their work and the need for ongoing transparent discussion surrounding knowledge management within democratic society.

General Data Protection Regulation (GDPR)

The EU General Data Protection Regulation (GDPR) was at the forefront of much discussion among conference delegates. The new regulation, which was implemented in May of 2018, has fundamentally reshaped the way in which data is handled across every sector from healthcare to banking and beyond. The GDPR broadens definitions of personal data and the obligations of organisations that process it. In addition to records of what personal data exist within organisations, the GDPR requires a documented understanding of why information is held, how it is collected, when it will be deleted or anonymised, and guidelines for access. The successful implementation of GDPR compliance has been challenging for organisations small and large alike, with many nuances of the regulation yet to be seen.

Helen Dodd, Head of Data Governance at Cancer Research UK and a keynote speaker on the second day of the conference, brought a positive message to the implications and potential outcomes of the new regulation. In 2017, the charity was fined by the Information Commissioner's Office for the misuse of personal data. While transitioning organisations to GDPR compliance is no easy feat, Helen acknowledged the opportunity to create a new relationship with their audience through raising awareness of rights and how personal data is used. For example, by encouraging supporters of their organisation to opt-in, as opposed to opt-out, of communications the onus shifts from one of negative reaction to active, self-directed engagement. Additional strategies include streamlining platforms of digital access where users can update and manage their own details and consent preferences. In doing so, Cancer Research UK hopes to further direct its efforts to an audience that is actively engaged and open to continual dialogue.

This concept of transparency was also echoed by many of the conference exhibitors and sponsors (including Facet Publishing, ProQuest, and LisJobnet.com, among other

representatives from niche industry and research sectors). By way of illustration, the ProQuest company ExLibris opted to create an online portal as part of a newly developed "Trust Center" which aims to provide customers with in-depth information and to prepare for compliance. The company notes: "With the increased importance of security and privacy regulations, it is imperative to provide customers with full transparency and easy access to in-depth information about the security of their solution, how privacy is being handled, and the standards that these solutions meet, all through a single contact point." The opportunity to interact one-to-one with representatives from diverse fields reinforced the message that clear communication with engaged stakeholders is at the heart of successful GDPR implementation.

The future of the profession

One of the most impactful experiences over the two-day conference was the opportunity to observe the CILIP Board meeting. CEO Nick Poole presented a strategic plan, entitled "Securing the Future", encompassing a workforce strategy for information professionals. The four key priorities of the plan include: advocating for the profession, developing a "future-ready" workforce, driving standards and innovation, and helping members to succeed. It was refreshing to see the CEO of CILIP questioning if the emerging priorities contained in the strategic plan were merely outputs of an "echo chamber" reinforced by a closed system. Information professionals span a wide range of titles including librarians, information managers, knowledge managers and data professionals. Recognising the unique skillset and needs of each broad group, and simultaneously the cohesion of represented values, is no easy task.

As a relatively newly qualified librarian undertaking the CILIP chartership process the emphasis on transferrable skills in K&IM, with the ability to adapt to ongoing innovation, has not only been reflective of my own experience but paramount to the outlook of new graduates. This was echoed by Stephen Phillips, the Vice Chair of the K&IM special interest group, who gave an overview of key portfolio initiatives. Not unlike the Board meeting, professional accreditation for the K&IM workforce and the need for CILIP and its special interest groups to understand and engage with the international K&IM community was emphasised as a key objective. Professional accreditation offers the opportunity to articulate the skills, competencies and shared values of K&IM practitioners while emphasizing and implementing a formalised system of continuing professional development (and the recognition of this status by employers and clients alike). The routes by which accreditation is acquired must be based in credibility and trust, so that the benefits for practitioners and employers will create confidence in the skills and experience needed for successful workplace outcomes.

Finally, retiring librarian Guy Daines (Head of Policy, CILIP) offered a reflective keynote on his experiences within the profession and with CILIP ("GREXIT"). He spoke of the evolution of the profession and its key texts, including the "Follett Report" of 1993 which fostered the development of one hundred new academic building projects with an emphasis on flexibility and future proofing. Other works of note included the "New Library" report of 1997, which transformed the services offered by public libraries in the UK, and the pivotal "Information Matters" of 2008 which saw the formal recognition of K&IM as a function of government. As Daines noted: "But reports can only go so far. Few

provide the motivation to get us to work on a daily basis. Much more important are the enduring values that underpin our work". In developing the evidence-base that underpins the profession, the work of both past and present CILIP members can be honoured and recognised for their wider societal contributions.

Final thoughts

Overall, the 2018 CILIP conference offered the opportunity to reflect on the collaborative nature of the profession including the underlying mandate to strive for excellence and lead equitable change through the provision of high-quality information knowledge, skills, and services. While the profession faces many challenges, such as GDPR and a continually evolving workforce, ultimately the message was one of growth and a willingness to innovate in all aspects of K&IM. Attending the conference has given me new perspective on the value of the profession, and the crucial role K&IM plays in all aspects of both public and private life. I can only hope to be as welcoming and generous with my experiences in future as those that were shared with me. Special thanks to John Wickenden (Hon. Secretary UKeiG) for his guidance at the conference, and all those involved with UKeiG for the opportunity to attend.

Mindful Technology:

Banishing Digital Distractions

An overview of #MindfulTech19

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"Eat a live frog first thing in the morning and nothing worse will happen to you the rest of the day" Mark Twain

I am easily distracted: people, my 'phone, email, chocolate, the washing up or the contents of the fridge take on increasing importance when I have a list of things that "have" to be done. Home was the cleanest it has ever been whilst I was writing my Masters dissertation. Therefore, a recent MMiT event - Mindful Technology – was particularly pertinent to my situation.

In a nutshell, five top tips and lessons learned for getting the "To Do list" done:

1. Eat the frog, do the worst thing first
2. Embrace the Pomodoro time management technique (iterations of strict twenty five minute blocks of performing a task interspersed with short breaks)
3. Create a work group (and combine with #2), as you're less likely to slack off in front of people
4. Change your environment. Why can't you work outside or find a quieter room?
5. Grow a tree whilst you work. Use apps like Forest to prevent digital distraction and keep you focused on a task whilst helping the environment

Four speakers presented a useful mix of practical tips, tools and techniques to overcome digital distractions, alongside deeper conversations on why and how we interact with the digital world and how that impacts on our identities.

There are apps built into your mobile device that enable you to see how much time you are spending online; others are available for download. OFFTIME can help keep you focused on a task by enabling you to set parameters on online availably, effectively blocking out notifications and alerts during specific periods of the day. The app offers "space to breathe in our hyper-connected world." Evernote and Scoop.it! enable you to curate and organise items of interest to be read later rather than diverting your attention when you're on the job. All of these applications have their benefits and potential for helping manage your work life. None of these will work, however, without a degree of self-restraint and will power.

Andy Tattersall offered advice on 20 Ways to Beat Digital Distraction. Declutter your email. Unsubscribe from mailing lists. Compartmentalise and diarise your time to make tasks more achievable. Find quieter places to work (maybe get back to nature and work outside). Then there's THAT frog. Doing the least compelling task first gets it out of the way and your day will only improve. It needs doing anyway so why fret about it for any length of time. Easier said than done I know, but still something to aim for.

The Forest app is an ingenious feel good antidote to 'phone addiction. You can plant a virtual sapling, and it will thrive into a big tree as long as you abstain from checking your mobile. If you don't stay focused the sapling will wither. Forest also awards abstention by funding the planting of real trees based on the credits you accrue. DreamLab, is another example of an app that promotes wellbeing whilst keeping you off your 'phone. When you charge your mobile during the night while you sleep it puts the device to work number crunching research data with the mantra: 'Charge. Sleep. Fight cancer."

Antony Groves expounded the central theme of mindfulness during his presentation; the notion of digital wellness; balancing work and life. If we used our devices mindfully, we'd be in control of when we use them and how we use them. Are apps that incentivise and control our use of devices necessary in this context?

David White argued that the debate was less about the need to disconnect, but more about self-control. "We aren't addicted to our 'phones. We are addicted to being social." It is essential that we utilise our devices mindfully to control our "digital destiny." During his presentation he articulated the continuum of "visitor" and "resident" modes when we are online. It is possible to be both, but probably detrimental to be actively engaging as a resident online all of the time. Passive online visiting, lurking can be beneficial. In a professional capacity, individuals can learn from lectures or discussion threads simply by reading, listening and absorbing them, for example. However, is there any real benefit in voyeuristically scrolling through Facebook every night before you go to sleep? Does this activity serve a purpose, or could it be replaced with a more beneficial activity?

Social media provides a positive opportunity to define yourself personality and self online; but the negative effects of relentlessly chasing retweets, likes and loves, is well documented. David also drew a link between this online persona and the anxiety caused by dwindling device batteries. A dead battery not only results in a temporary loss of communication, but also a feeling of losing a part of yourself. Food for thought.

"Questioning why you agree with something is more valuable that bolstering your views on what you disagree with."

David concluded with this challenge. The commentary around fake news is prevalent and although I was aware that there was a bubble that algorithms created, feeding individuals only information they thought they would like to hear, I had never placed myself in that gullible category. After listening to David's presentation, I realise that I'm as guilty of this as anybody else. I will take up the challenge to seek out opinions on subjects and debates that are contrary to my views and try and create a more balanced social media feed.

Sue Thomas closed the afternoon by introducing the concept of Technobiophila. She argued that we don't need less technology but more interaction with nature in order to balance it. Research into the benefits of getting outside and communing with nature is well documented. The biophilia hypothesis articulates why taking your work outside might be beneficial. Sue introduced less well-known research which is proving that virtual nature can also promote a sense of wellbeing just much as the real thing. Technobiophilia – "How to feel better without logging off" - explains why so many of us have nature screensavers and images on our PCs and other devices boosting our mood whilst we work. Sue believes that we can design our own lives to be integrated with the digital world, but only to an extent that suits us personally. For example, scheduling an outdoor or walking meeting can be supplemented by using apps such as Plum Village, to encourage mobile device-based meditation. Technology can help promote mindfulness and wellbeing, in conjunction with nature. Balance is the key.

See:#MindfulTech2019

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

[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.

[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.

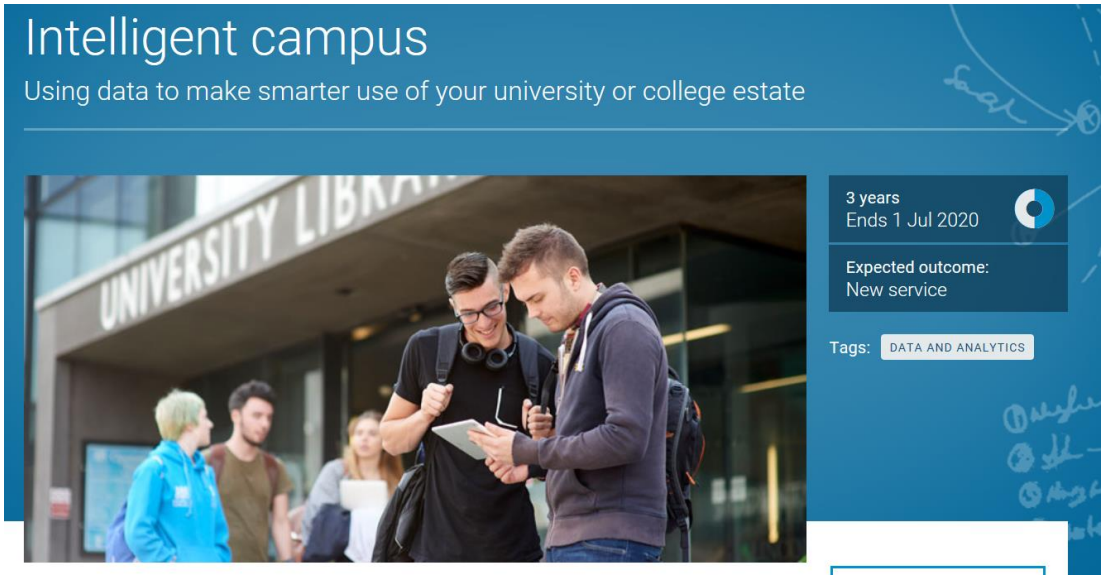
Working separately (or potentially together) your tablet and the library admin systems advise you and the library service what changes you need to put in place right now for you both to manage the emerging situation. By the time you get to the appropriate library enough specialist staff have moved near 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?

[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.



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.

Ultra Information Management – an enigma

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A visitor surveying the main ceiling-height bookcase in our dining room and knowing my background would not be surprised to see books on American political history, the history of science and the music of J.S.Bach. A substantial number of books on Richard Feynman (my hero!) might come as a bit of a surprise but certainly not as great as a section on the use of cryptography, especially in World War Two. This has long been a subject of great interest to me since buying David Khan's book The Codebreakers in a second-hand bookshop in San Francisco in the early 1980s. At the time that Khan wrote this book in 1974 the full story of the way in which Turing and others had been able to read the Enigma-encrypted German radio messages had not been made public, though Khan does hint at what was going on. However, my interest is not so much in the way in which the Enigma and Lorenz cyphers were decrypted but in the processes through which the information and intelligence was then communicated to senior battlefield commanders.

The exact source of the information was never disclosed to even the most senior commanders but was handled by Special Liaison Units (SLU), consisting of a few officers and enlisted men; low in rank to avoid drawing attention and often situated some distance away from the battlefield HQ, to maintain security. This process was masterminded by Frederick Winterbotham and was known as Ultra. In effect this was the prototype of the way in which information specialists started to work directly with research scientists in the 1970s to make use of the availability of online computer access to scientific information.

I have just finished reading a superb book by Sir Max Hastings entitled The Secret War, which is notable for presenting not just the work of Allied cryptographers but also similar work being undertaken by the German, Russian, American and Japanese armed forces. A sub-theme of this book is the challenges common to all these operations in managing the enormous number of messages that had to be deciphered, assessed, interpreted and distributed each day, especially once America and Japan entered the war. This work was all about information management, though it was never described in those terms.

Reading *The Secret War* some common elements of managing the information flows emerge, all of which apply right now to the challenges of handling information inside organisations to ensure that decisions are made on the basis of the best available information. Without going into detail about the processes involved, some of the issues that arose included:

Timeliness - the decoded information had to be transmitted on to the SLUs quickly enough for commanders to consider what actions they should take. At many times during World War Two the cryptographers found that codes and routines had changed which resulted in delays of many days in breaking back into the messages.

Context – it was all very well knowing that the 3rd Mechanised Brigade were moving from Marseille to Bordeaux, but without knowing what equipment and role the Brigade had this information had no value at all. To try to overcome this problem vast card indexes were built up of every military unit, commander and capability. By the end of World War Two, the card indexes in the main analysis section in London ran to around four million cards.

Veracity – commanders had to make decisions based on sources of information they were not aware of. This required the commanders to have great faith in the skills of often very junior staff in the SLU unit.

Completeness – quite often the picture gained of a battlefield (and I include here land, sea and air operations) was not complete. The lack of information might not even be obvious and so commanders had to trust their own judgement in making the optimum decision. Another factor here was that although air and sea operations were carried out by radio messages, army operations also used telephone lines.

Trust – there was not time to double-check every piece of information. Sometimes there was a mistake in the decryption, or the message was corrupted. Once a commander had made a decision which in retrospect was not a "correct" one they might well stop trusting the information they had been provided with.

Prioritisation – with so many messages being decrypted, especially when the early mechanical devices (the Bombes and Collosus) became available, the initial triaging of messages by importance was a very difficult challenge as the teams in Bletchley Park often had little idea of the current battlefield situation. On many occasions what seemed to be of little importance turned out to be a significant misjudgement of priority.

Feedback – only rarely did the decryption teams have any feedback from the battlefield. Winston Churchill was very supportive, but the day-to-day work had to be a labour of personal commitment. Yet the secrecy had to be total, and that meant that even staff working in different sections of Bletchley Park could not talk about the work they were undertaking. Indeed, many had no idea of what they were doing and why – a good example would be the staff in the Y Service spending all their time writing down meaningless sets of five characters as they intercepted radio communications.

Post-1945 the history of the development of computers is well documented, and without doubt, the decryption work was of the greatest importance in catalysing the development process. The techniques of managing very large card indexes also continued to be developed, many using edge-notched cards. It is quite interesting to read a report on Nonconventional Technical Information Systems published in 1958. It reads as though these all suddenly sprang into life but in fact, they were all introduced during World War Two to manage decrypted information. When I started work in 1970 at the BNF - (see *The Evolution of UKeiG*) - a ten-thousand-hole optical coincidence card system was being used for information retrieval; a technique developed by Polish cryptographers in the 1930s as they, for the first time, worked out how to decode the German Enigma machine traffic. Gradually these were supplanted by computers and in particular the development of

computer phototypesetting that generated computer-readable tapes for use in information retrieval systems.

When it comes to the techniques of managing information, there was no need for these after the end of World War Two. Computers did not have a major impact managing text information until the arrival of IBM STAIRS in 1973 and "enterprise search" applications only came on to the market in the 1980s. Going back to the start of my career the most technically sophisticated device in the BNF (apart from a foundry and several diecasting machines) was the IBM golf-ball typewriters being used by the team preparing BNF Abstracts.

Certainly, the volume of published scientific information increased substantially after World War Two and this led to the formation of the Institute of Information Scientists in 1958. I have always wondered how many of the founders and initial members of the IIS were aware of the Enigma and Ultra work, but of course could say nothing about it. If they had, perhaps the importance of information as an organisational asset and the techniques of information management tested out for real in a global conflict could have been more widely recognised and adopted.

Online Resource Update

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Please send your submissions for the next issue to *jrc@aber.ac.uk*

Index on Censorship/SAGE

In the current political climate where fake news seems to reign supreme, it is good news to see the archive of the *Index on Censorship* published by Sage has become freely available online. From issue 1 in 1972 up to the end of 2017, the archive includes contributions from authors such as Samuel Beckett, Nadine Gordimer, Mario Vargas Llosa, Hilary Mantel and Kurt Vonnegut, and can be searched by keywords in the full text and browsed by decade, volume and issue. Editor Rachel Jolley says, "It's incredibly important that people can trace and learn from trends in freedom of expression and censorship as we experience many authoritarian leaders following a similar playbook to the 1970s and 1980s." After a short search I found an excellent piece by Jodie Ginsberg (the *Index on Censorship* CEO), with the inviting title *Global View: Why libraries are vital for communities, and why censorship should be left at the door*. Couldn't agree more.

Landscape Histories from the Air

Nicknamed "Historical Google Earth", this is a freely-available collection of aerial photographs of the UK taken between 1945 and 2009 which have been digitised in a partnership between the Cambridge University Library and the Cambridge Department of Geography. 1,500 photographs are available now via the Cambridge Digital Library and there plans to digitise the entire Cambridge University Collection of Aerial Photography (CUCAP) comprising nearly half a million photographs. 80,000 of them are available as thumbnails via the Cambridge Air Photos web page where they can be selected from a map or browsed by theme and area.

National Library of Jamaica

Films collected during the Jamaica International Reggae Film Festival between 2008 and 2013 are to be donated, together with contributions from Reggae Films UK archivist Peter Gittins, to become the basis of a digital reggae film archive which will be established at the National Library of Jamaica. Olivia Grange, the Minister of Culture, Gender, Entertainment and Sport who announced the archive at a screening of *Legends of Ska* at Emancipation Park in Kingstown, said, "the database will be an innovation that will preserve the hundreds of documentaries, feature films and videos to enable study and research, as well as viewing of films that record Jamaica's Reggae music history". Thanks to InfoDocket for the nod to this story.

ProQuest/British Library

The British Library has integrated Proquest's Syndetics Unbound enrichment service into its catalogue to enhance the user experience. Features include "look inside" which comprises a large-size cover image, the table of contents and first chapters or excerpts, reviews, recommendations and tags, author biographies, a book profile with genre and topic terms, and a "browse shelf" function with cover images. The ProQuest press release says those searching the BL catalogue will see, "rich, dynamic information that helps them not only choose the right book, but also find related titles and materials in the library."

Spare Rib/British Library/Jisc

It looks as though access to the digitised archive of the iconic feminist publication *Spare Rib* 1972-1993 may be lost if Brexit goes ahead, following revelations from the British Library that it hadn't been possible to "clearly identify and/or locate a rights-holder" for some 57% of its content when it was originally digitised. So, it was only possible to make the content freely available online via the EU's copyright law exception on orphan works for cultural institutions. The British Library have written this warning blog; they are in touch with the Intellectual Property Office regarding contingencies and the Libraries Archives Copyright Alliance (LACA) are also working on it. Spare Rib is currently freely available via Jisc Journals Archives.

University of California/Elsevier

After many German universities agreed recently not to renew their Elsevier subscriptions, a big US player has now made their move. On the 28th February the University of California, a ten campus giant which includes UC Berkeley and UCLA, announced that after months of negotiation they were terminating their subscriptions with Elsevier. A web page on the UC Office of Scholarly Publications states Elsevier's proposal was to continue to charge high publishing fees on top of the annual subscription fees costing many millions of dollars. UC were negotiating for a "publish and read" deal whereby the agreement with Elsevier would cover, "both the University's subscriptions and open access publishing of UC research in their journals." The web page states their intention to seek similar deals with other scholarly journal publishers and advises how students and staff can continue gain access to Elsevier articles via existing permanent access agreements, open access portals, interlibrary loans and contacting the author. In an article by Lindsey Ellis in the Chronicle of Higher Education, Elsevier are quoted as having offered a deal which met UC's requirements but hoped to "bridge the divide" soon. Lyndsey noted that the termination, "may signal to other academic libraries that pay millions of dollars in subscriptions to large journal publishers that a retreat from those costly mass subscriptions is workable." The new CEO of Elsevier Kumsal Bayazit, who took charge on the 15th February 2019 has arrived in interesting times.

UKeiG Celebrates the Winner of the 2018 Tony Kent Strix Award

The Tony Kent Strix Award was inaugurated in 1998 by The Institute of Information Scientists. It is now presented by UKeiG in partnership with the International Society for Knowledge Organization UK (ISKO UK), the Royal Society of Chemistry Chemical Information and Computer Applications Group (RSC CICAG) and the British Computer Society Information Retrieval Specialist Group (BCS IRSG). The Award is given in recognition of Outstanding Practical Innovation or Achievement in the Field of Information Retrieval.

In late 2018, UKeiG was delighted to announce that the winner of the prestigious award for 2018, in recognition of her contributions to the field of information retrieval, was Professor Pia Borlund (Department of Archivistics, Library and Information Science at Oslo and Akershus University College of Applied Sciences, Norway.)

Professor Borlund was nominated for the award by Diane H. Sonnenwald, Emerita Professor of Library & Information Studies at University College Dublin and received unanimous praise and support from the Strix judging panel. “Similar to the memorable Dr Tony Kent, the work by Borlund is original and innovative, and has had a significant impact on information retrieval (IR) research and applications. Her approaches are analytical and practical, and her devotion and dedication to users and interactive information retrieval (IIR) are outstanding. Within the IR community, Borlund is known for her innovative contributions to IR user studies, evaluations and test design, including strong, novel methodological contributions to IIR evaluation. In particular, she is recognised for the development of her IIR evaluation model which uniquely employs simulated work task situations. Borlund developed the IIR evaluation model as a doctoral student by taking up the challenges of the calls put forward by Professor Stephen Robertson (recipient of the first Tony Kent Strix Award in 1998) and Micheline Hancock-Beaulieu, in their iconic 1992 paper on IR systems evaluation.”

The Award was presented by Doug Veal (Strix Chair) and David Ball (UKeiG Chair) and accepted by Dr Andrew MacFarlane on Professor Borlund’s behalf on the afternoon of Friday 23rd November 2018 at the Geological Society, Piccadilly, London. Professor Borlund will present the next Strix Memorial Lecture on Friday 29th November 2019 at the same venue. “I’m very pleased and very, very honoured to receive the Tony Kent Strix Award. It’s an honour to join the past recipients who I have admired and respected since I was a student. I thank Professor Diane Sonnenwald for the nomination.”

For more information about Professor Borlund please refer to the PDF documents listed here.

At the 2018 event, the 2017 Strix award winner, Maarten de Rijke, Professor of Computer Science at the University of Amsterdam, presented on "Retrieval as Interaction." Professor de Rijke has a formidable high impact publication record in a range of areas including semantic search, semi-structured retrieval and social media. He has produced influential research outputs on the large-scale semantic analysis of online content and on the analysis of subjective aspects of information (sentiment, credibility, memory, reputation and experiences). His contributions to information retrieval, to the fast-evolving areas of computational methods for analysing, understanding and enabling effective human interaction with information sources, have been profound.

The afternoon was streamed live to the 17th Dutch-Belgian Information Retrieval Workshop (DIR2018), at the University of Leiden in the Netherlands, so over one hundred and seventy international delegates got to see Professor de Rijke's lecture.

A recording can be accessed here.

Stella Dextre Clarke, winner of the Tony Kent Strix Award in 2006, also reflected on "Then and Now: Contrasts in the Scope of Information Retrieval." Now retired from consultancy in information management, she is still active as Vice-Chair of the UK Chapter of ISKO (International Society for Knowledge Organization). Stella has written an overview of the Strix Award and winners over the years, mapping a changing landscape. It will feature in the next issue of eLucidate.

A recording of her presentation can be accessed here.

For more information about the Tony Kent Strix Award visit.

Previous Strix winners are listed here.

A call for nominations for the 2019 award will be issued in April 2019, and don't forget to put the afternoon of Friday 29th November 2019 in your diary.

Internet Librarian International:

2019 Call for Speakers

Submission deadline: 12th April 2019

Submit here.

UKeiG is pleased to announce its support of this year's Internet Librarian International (ILI). As part of this partnership, UKeIG members benefit from a 25% discount to attend the conference this October in London.

Celebrating library innovation, each year hundreds of library and information professionals – and others – come together at ILI to exchange ideas, knowledge and experience. Our focus is on real-world innovations - big or small.

We want to hear how you are making a difference to your organisation, clients and communities. We're looking for case studies, great stories, personal experiences and lessons learned from the ideas, strategies and practical implementations you've put in place.

Topics

Your proposal may fit into any of these broad topics but don't be limited by this list. We also have a wildcard option!

Information in society – share your experiences of influencing, teaching, advocating, coaching, developing networks and encouraging communities.

New content and the digital scholar – tell us about new ways with content and collections, new publishing models and how you are supporting scholarship.

The new librarian– how have you redefined and redesigned roles, teams and structures?

Strategising the future – future scanning; strategic service and role design; visions for future libraries.

Tech and tools trends – tell us about how you are harnessing cutting-edge tech to create new services, reach audiences and deliver real impact.

Users and user experience – how are you developing a deeper understanding of users and designing new products, services and spaces?

Wildcard – we're really interested in hearing about other cutting-edge projects and initiatives.

Submit your speaking proposal using the online form before the 12th April 2019. The ILI committee will be in touch by the end of May.

Further information is available from: *info@internet-librarian.com*

More About ILI

- The main conference is held over two days (15th-16th October)
- The conference starts with a day of pre-conference workshops (14th October)
- The conference takes place at London's Olympia Conference Centre, which is centrally located and within easy reach of transport
- Each day has three themed tracks – delegates can move between tracks throughout the day
- Our delegates come from over thirty countries
- All sessions are presented in English
- ILI is co-located with Taxonomy Boot Camp London

Notes for Contributors

eLucidate is the journal of the UK electronic information Group. It is published three times per volume, around spring, summer and winter. It aims to keep members up to date with developments and innovations in the digital information industry, considering the impact on information professionals and consumers of e-information.

UKeiG encourages the submission of articles, reports and reviews about any of the topics covered by the journal. These include electronic resource awareness, information management, digital/information literacy, effective information retrieval and search technologies, intranets, social media, open access, e-publishing and e-industry research and development. UKeiG can't pay contributors, but you will retain your copyright and will be able to republish your work elsewhere.

Please follow these simple guidelines:

About our members

Our membership is eclectic and includes information professionals at all levels of the UK workforce involved in digital content management and awareness, information dissemination, training and service delivery.

The UKeiG demographic comprises academia, but also the private, commercial and public sectors, embracing schools, further and higher education, the NHS, healthcare and pharmaceutical industries, science, law, finance, arts, humanities, archives, museums and libraries.

UKeiG's most popular professional development courses include search tools and strategies, knowledge management, open access and research data management.

A key benefit of membership is that the CPD courses, meetings and networking forums provide "crossover" insight from one discipline to another. Members see UKeiG as a way of keeping up to date with trends and developments outside of their core, day-to-day business. Few other organisations provide this kind of cross-sectorial context and oversight.

Technical level

Although members rate themselves highly for technical awareness, they are typically users rather than creators of technology. Articles should not assume understanding of technical terms without explanation.

Length of article

Feature articles should be in the region of 1500-2500 words, but the editor is flexible on article length. Each article should be prefaced by a short summary/abstract.

What to write

The world is your oyster in terms of suggested themes and subjects as long as they reflect the disciplines and membership base articulated above. You should never assume that readers will be entirely familiar with your topic, so anything you can do to offer definitions, explanations, examples and context would be welcome. You should always link to suggested reading and alternative resources to enable readers to explore your article further.

While the obvious focus of the group is the UK electronic information sector, the industry, by its very nature, is global and international developments should be reported when they impact on the UK landscape.

The most valuable viewpoint you can give is that of a practitioner. While UKeiG welcomes theoretical debate, we are primarily a forum where peers can share their practical experiences and understanding. So, if something worked for you, tell the readership. If something didn't, tell the readership why not.

How to submit

Please e-mail your copy to the editor, Gary Horrocks at: *info.ukeig@cilip.org.uk* Articles should be delivered in a simple Word format. Hyperlinks to alternative/suggested content/further reading should be embedded in the text. Images are welcome if they illustrate a point or clarify a statement. Please send them separately, and also place them in the Word document in the appropriate sections. They may be in gif or jpeg formats.

Rights

By submitting an article to eLucidate, authors grant UKeiG the non-exclusive right to publish the material in any format in perpetuity. However, authors retain full rights to their content and remain the copyright owner.

About you

Please provide a biographical paragraph about yourself, alongside an email address and job title/affiliation.

Editorial process

Your article will be copy-edited for spelling and for sense. If there are major changes to the article, we may return it to you for your comments and approval, but most articles require only light corrections before appearing in eLucidate, and do not need a further review by the author.