Kit-Catalogue® - the open source equipment catalogue application

Loughborough University's award-winning[1] Kit-Catalogue® is a web based system that can help any organisation effectively catalogue, record and locate its kit, such as laboratory equipment, workshop machines, ICT and specialist tools. The aim is to reduce the costly duplication and double purchasing of equipment within HE institutions and promote the re-use of equipment across the organisation and outside. Since the launch in December 2011, early adopters of the system include the Universities of Nottingham, Northumbria, UCL and Bristol. A year later, Kit-Catalogue also became the underlying platform technology for the M5 Universities' regional research equipment catalogue.
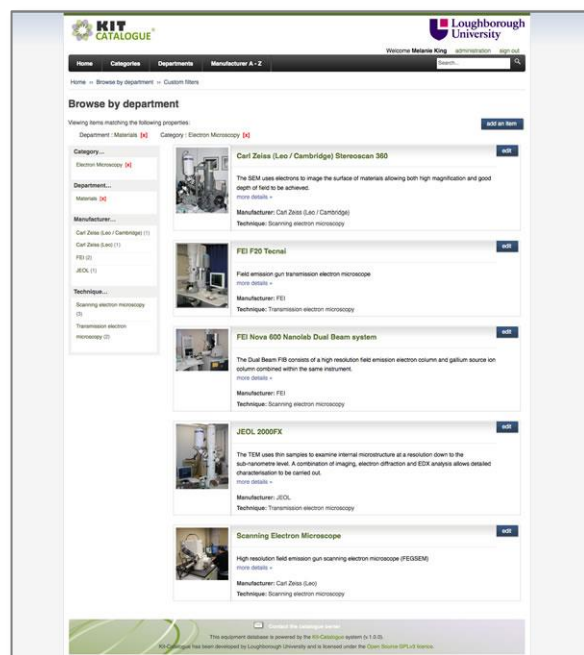
Kit-Catalogue® has grown from strength to strength in the higher education sector, gaining new adopters as well as community driven features that support the discovery and re-use of equipment. For example, Kit-Catalogue installations that enable their public API can also share their public facility and equipment information automatically with the national equipment.data portal.

Kit-Catalogue's main features

- Easily create a record for a single item of research or teaching equipment. Adding details such as manufacturer, specification, category and technique, contact info, training, calibration, asset and purchase IDs, supporting documentation and more.
- Create parent facilities with linked equipment.
- Enable records to be seen by the public or by authenticated users only.
- Create your own categorisation labels linked to underlying CPV[2] codes.
- Browse or keyword search to find items.
- Enable an item's enquiry button to receive emails from interested third parties. Catalogue managers can also choose to receive copies of these.
- Facility managers can control edits and additions to the records and run management reports on items.
- Enable the public API to have records harvested by the national catalogue.

In the latest v2.08 release (July 2014)

- reCAPTCHA available for enquiry forms to combat spam.
- Embedded content such as YouTube videos can be added to an entry.
- Shibboleth Single Sign-On functionality added to authenticate users.

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[1] Winner of the S-Lab Award for Laboratory Equipment and Services in June 2012. Finalist for the Outstanding ICT Project of the Year at the Times Higher Awards in November 2012.
[2] The Common Procurement Vocabulary (CPV), a single classification system for public procurement.

Benefits for researchers

- By making all of the facilities and equipment searchable in one place, researchers become more aware of what is available on-site. This not only reduces the potential need to travel far afield to carry out research experiments but also helps to mitigate double-purchasing of kit.
- Due to the high level of detail ascribed to each item listing, more effective judgements can be made when deciding exactly which item will be ideal for each individual laboratory operation. By offering the possibility of full descriptions, specifications, photographs, user manuals and case studies for each item, Kit-Catalogue also allows students to increase their knowledge of items.
- By encouraging equipment sharing between different departments across campus, a greater potential for collaborative research arises, which in turn enables greater opportunities for new areas of research.
- By allowing all custodians to control the availability, access and visibility restrictions for each of their items, hindrances to normal teaching schedules and research projects are prevented.

Benefits for equipment managers and universities

- The catalogue owner can create customised labels for items in Kit-Catalogue that enable equipment managers to effectively monitor and maintain equipment, for example by generating simple reports with information such as calibration status, PAT test due dates, upgrades, financial information and a whole host of other bespoke localised information.
- With Kit-Catalogue there is the potential to promote equipment use externally to regional HEIs, industry and small to medium enterprises (SMEs), as Kit-Catalogue provides the option to make any item publicly visible and available for external hire. This offers the potential to generate money for the laboratories and enhances possibilities for collaborative research and development.
- By enabling public visibility for a host of items, Kit-Catalogue could also attract prospective researchers and students to join the institution, based on the level of high quality equipment provided.
- The open source licence means that Kit-Catalogue is easily adoptable and customisable to other institutions. Around 15 institutions currently use either their own installation of Kit-Catalogue or a hosted version. The open source project also supports a thriving user community that meets at least once a year to talk about their use of the system as well as contributing advice for others and ideas for new features.

The Jisc Kit-Catalogue pilot

In conjunction with Loughborough University, Jisc is running a national pilot of ten cloud-hosted Kit-Catalogue applications with UK HE institutions. This will take place over a two-year period (August 2014 – July 2016).

The project will explore whether Kit-Catalogue can:

- make it easier for institutions to achieve efficiency savings by sharing facilities
- deliver demonstrable progress against the Research Council UK (RCUK)'s strategic goals in this area
- stimulate and facilitate new collaborations, both within HE and with industry.

It will also:

- establish resource requirements to offer Kit-Catalogue as a full cloud-hosted Jisc service
- support further development of the Kit-Catalogue software according to a roadmap developed with pilot institutions
- work with the Engineering and Physical Sciences Research Council (EPSRC)'s equipment data project to create a user friendly 'one stop shop' for equipment sharing.

Members of the pilot are:

- Aston University
- University of Birmingham
- University of Brighton
- De Montfort University
- Newcastle University

- Northumbria University
- University College London (UCL)
- University of Leicester
- University of Nottingham
- University of Portsmouth

These members will be:

- committing resource to ensure significant proportion of high value equipment recorded in Kit-Catalogue (e.g. items costing £25K or above)
- making all (or a meaningful subset) of catalogue records accessible as publicly available information for harvesting via the national equipment.data portal
- contributing material towards a case study of their use of Kit-Catalogue.

For the latest information on this project, the pilot sites and other users in the community, please visit: http://www.kit-catalogue.com/projectpages/community/jisc-pilot/

The Kit-Catalogue roadmap next release v2.1

In November 2014, the Kit-Catalogue user group and Jisc held a joint meeting to kick off the project, collaborate on the product vision, categorise and add features on the roadmap and prioritise the next phase of development.

The Kit-Catalogue product's main goals were articulated thus:

CURATION "A quick and easy way to collect, sort, store, maintain and preserve information about equipment and facilities"

DISCOVERY "To provide a highly discoverable way for humans and machines to find meaningful and useful data about equipment and facilities"

INTEGRATION "To provide connections within other datasets, information and resources, that allow for a better understanding about the people and their practice related to equipment"

Category areas for future development were identified:

A	Adding and editing records	Features that make it easy to add information in quicker ways and keep those records up to date
B	Searching and browsing	Finding and locating items quickly
C	Usability	Intuitive interface, easy to use, no training requirements
D	Managing and reporting	Sorting and storing records in a meaningful way, allowing different users to do different things, insightful reporting of items and facilities
E	Integration	Linking the information to different software and systems (e.g. finance, research management, HR)
F	Infrastructure	The software architecture
G	Support and documentation	Resources and peer/community support tools

From 44 candidate features, 8 mostly 'discovery' features were prioritised for next release (spring 2015)**:**

Product goal	Cat	Title	Description	Votes	Priority	Effort
DISCOVERY	B	Search within OU	Be able to search within the organisational unit	2	95%	2+
DISCOVERY	B	3D barcodes	Be able to create 3D barcodes which can be stuck on an item and a phone used to view the item.	7	90%	1
DISCOVERY	B	Better search	Better searching algorithms	4	90%	4
DISCOVERY	B	Filter search results	Overloaded search - be able to filter searches by OU, A-Z, most popular, most recent	4	85%	4
DISCOVERY	B	Improve browsing	Be able to browse by FACILITY and CUSTOM FIELDS	3	80%	2+
DISCOVERY	B	Understanding users	Track and search terms used by users and add REPORTS to monitor usage	5	80%	2
CURATION	C	Homepage	Allow your homepage (institutionally) to be locally configurable (e.g. add images + custom browse blocks)			
CURATION	C	Custom homepage	Allow your homepage (institutionally) to be locally configurable (e.g. add images + custom browse blocks)	8	75%	5+

Community developments

In December 2014, an early alpha android app was developed and put on the Google Play store for testing within the pilot.

KIT CATALOGUE®

http://www.kit-catalogue.com

For more information

Website:

http://www.kit-catalogue.com

Download Kit-Catalogue:

http://www.kit-catalogue.com/software/latest/

Community mailing list:

http://www.kit-catalogue.com/projectpages/community/jisc-mail/
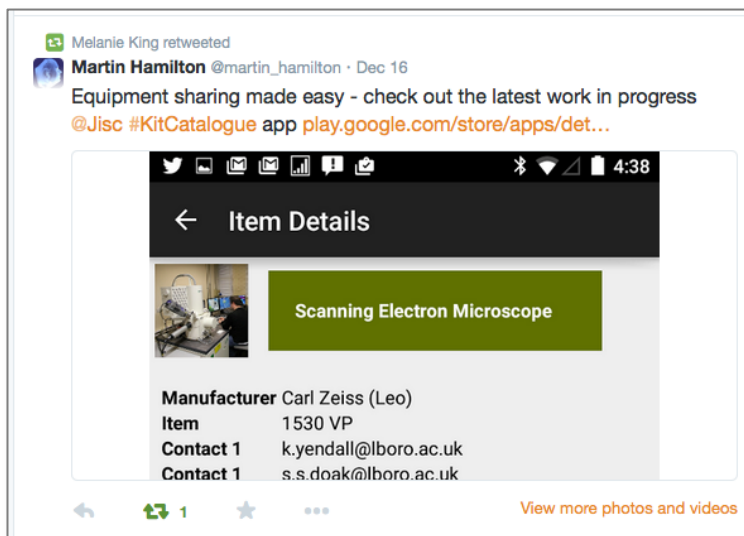
'Sharing made easy' video: (Jisc) Explaining projects, including Kit-Catalogue and its shared data centre

https://www.youtube.com/watch?v=bKfmX2sda2M&feature=youtu.be

Acknowledgements

In 2008, the Materials Research School and the Centre for Engineering and Design Education (CEDE) at Loughborough University created the 'Equipment Database', an online catalogue of laboratory equipment, workshop machines and specialist tools from across the University. This was the origin of Kit-Catalogue. The Kit-Catalogue open source project and the Jisc pilot project is still managed by CEDE and the team based at Loughborough.

In March 2011, Jisc funded developments to Loughborough's own equipment database to exploit the intelligent use of ICT to make cost and energy savings. The project created the open source Kit-Catalogue system, released in October 2011. Within a year, the first user group meeting took place (September 2012) with 8 different HEIs represented.

In September 2014 Jisc invested more funding in running a hosted cloud service of Kit-Catalogue for a period of 2 years with 10 pilot institutions.

The Universities of Southampton, Leeds, Loughborough and Bath were particularly active in initial conversations around equipment sharing in HE and together they formed the Uniquip project in 2012, funded by the EPSRC. The partnering of these universities provided access to and representation of the four regional consortia comprising 22 universities, creating a far-reaching network for this project. The result of the project was the creation of 'Uniquip' standard and has enabled the harvesting of data from any enabled Kit-Catalogue applications to the national equipment.data portal.

This case study was prepared for the Efficiency Exchange. For more on sharing equipment and facilities see the asset sharing page. To keep up to date with new developments and good practice on efficiency, effectiveness and value for money in higher education subscribe to Efficiency Exchange and follow #EfficientUnis.

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