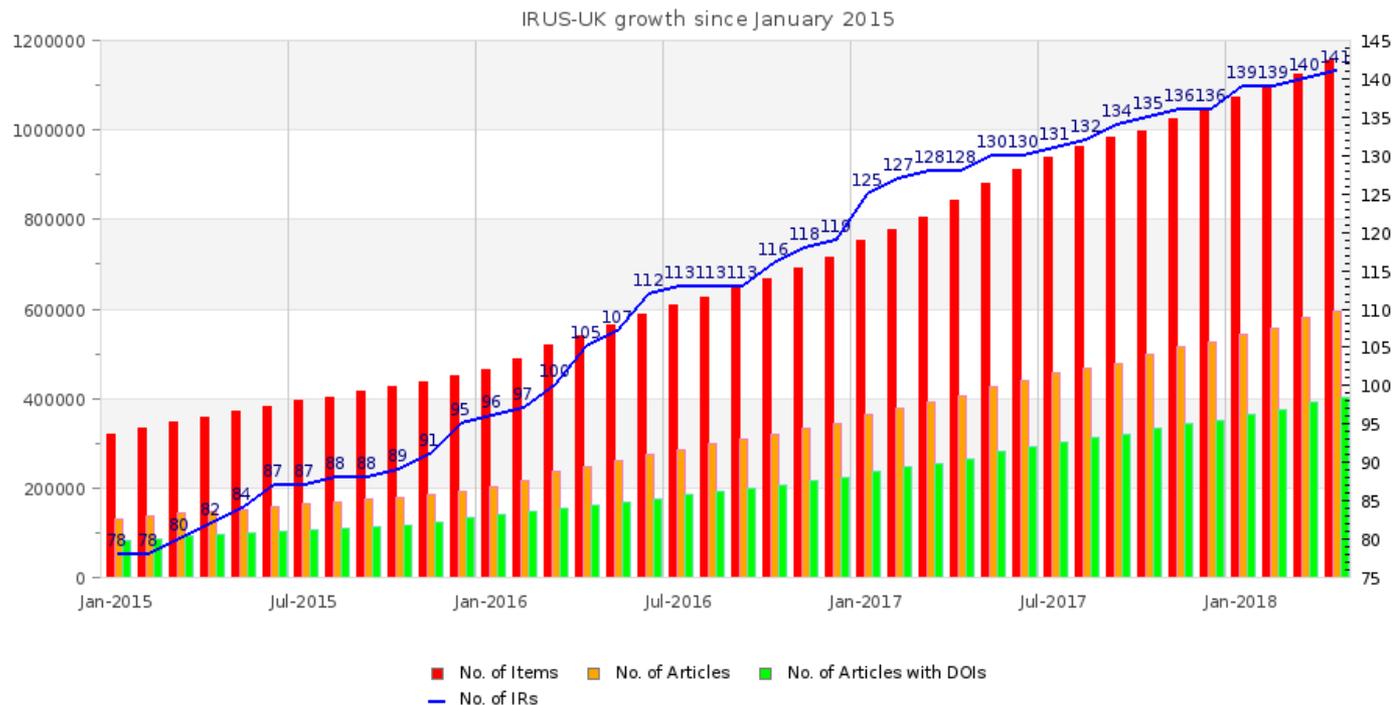# Standardised usage statistics from repositories (IRUS)

Ross MacIntyre, Head library analytics services, Jisc
COAR Workshop: On the Road to New Metrics
Hamburg, May 2018

What is IRUS-UK?

A national aggregation service for UK Institutional Repository Usage Statistics:

- Collects raw download data from UK IRs for *all item types* within repositories
- Processes raw data into COUNTER-conformant statistics - so produced on the same basis as 'traditional' scholarly publishers

IRUS-UK growth since January 2015

Legend: No. of Items, No. of Articles, No. of Articles with DOIs, No. of IRs

Who is responsible for IRUS-UK?

- Funded by Jisc

- Team Members:

  - Jisc – Service Management & Host
  - Cranfield University – Service Development & Maintenance
  - Evidence Base, Birmingham City University – User Engagement & Evaluation

About COUNTER

- **C**ounting **O**nline **U**sage of **N**etworked **E**lectronic **R**esources
  - an international initiative serving librarians, publishers and intermediaries
  - setting standards that facilitate the recording and reporting of online usage statistics
  - consistent, credible and comparable
- COUNTER Codes of Practice:
  - [Release 4 of the COUNTER Code of Practice for e-Resources](#)
    - Books, databases , journals and multimedia content
  - [Release 1 of the COUNTER Code of Practice for Articles](#)
    - Journal articles
  - [Release 1 of the COUNTER Code of Practice for Usage Factors](#)
    - Alternative metric to the Journal Impact Factor
- The Codes specify:
  - How raw data should be processed into statistics
  - How statistics reports should be formatted and delivered

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The Tracker Protocol

- To enable repositories to participate in IRUS-UK a small piece of code is added to repository software, which employs the 'Tracker Protocol'
  - http://irus.mimas.ac.uk/documents/TrackerProtocol-V3-2017-03-22.pdf
  - Patches for DSpace (4-6.x) and Plug-ins for Eprints (3.2-3.3.x)
  - Implementation guidelines for Fedora/Hydra/Samvera
  - Implementations developed for PURE portal and fig**share**
- The Tracker Protocol was devised in collaboration with and is endorsed by COUNTER
- Gathers basic data for each raw download and sends to IRUS-UK server
  - Raw download data is stored in daily logfiles before being processed and ingested into IRUS-UK database
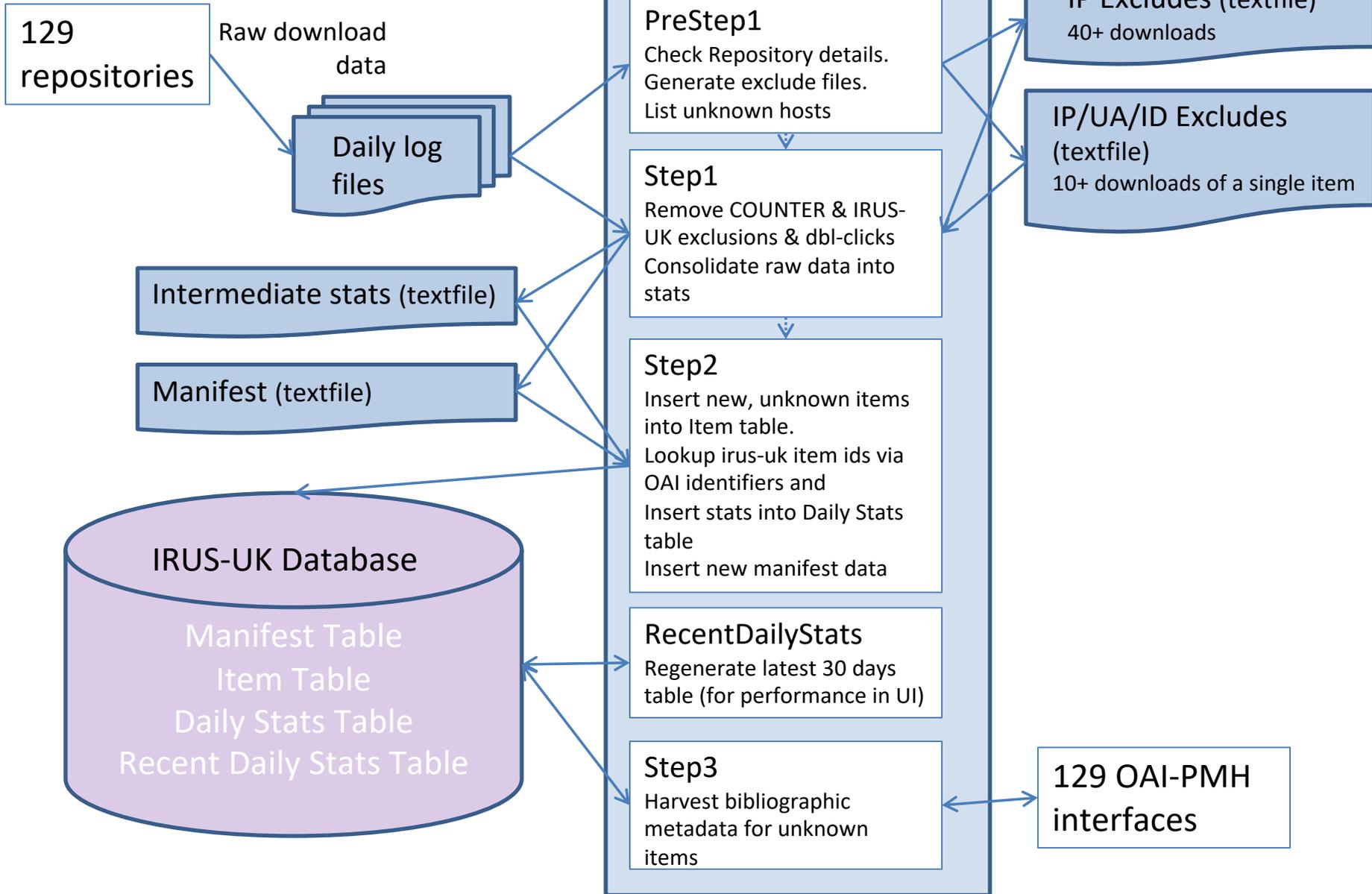
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IRUS-UK ingest procedures

- The IRUS-UK daily ingest follows processing rules specified in:
  - [Release 4 of the COUNTER Code of Practice for e-Resources](#)
  - [Release 1 of the COUNTER Code of Practice for Articles](#)
- Processes entries from recognised IRs
- Sorts and filters entries following COUNTER rules to remove robot entries using the [COUNTER User Agent Exclusion List](#)
  - regarded as a minimum requirement for excluding bots, etc.
- Filters entries using additional IRUS-UK filters
- Filters entries by applying the COUNTER 30 second double-click rule
- Consolidates raw usage data for each item into daily statistics
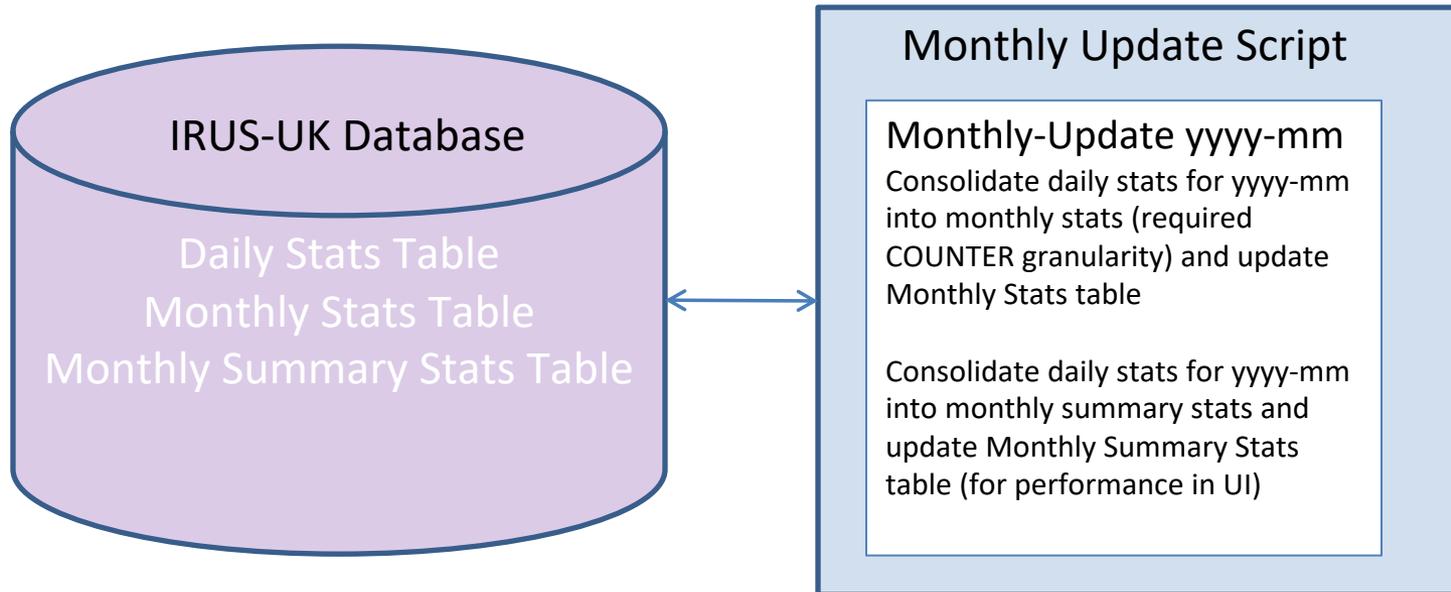- At the end of each month, daily statistics are consolidated into monthly statistics

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Robots & rogue usage – IRUS-UK current approach

- As stated, the COUNTER Robot Exclusion list is a minimum requirement for eliminating robots and rogue usage
  - It worked well for traditional scholarly publishers with resources behind a subscription barrier
  - As we move to an OA world and newer players – repositories – more needs to be done
- So in addition IRUS-UK:
  - excludes several IP ranges that are associated with some known robots and spiders, which don't identify themselves in their User Agent string
  - And based on several years of empirical evidence:
    - exclude downloads from IP addresses with 40+ downloads in a day
    - Exclude downloads from IP address/User Agent where a single item is downloaded 10+ times a day
    - Though we are aware that more can still be done
- More on robots later, but next a diagrammatic summary of the ingest . . .
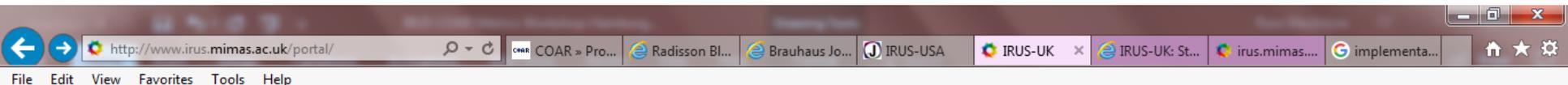
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IRUS-UK Daily Ingest

129 repositories

Raw download data

Daily log files

Daily Ingest Scripts

PreStep1
Check Repository details.
Generate exclude files.
List unknown hosts

Step1
Remove COUNTER & IRUS-UK exclusions & dbl-clicks
Consolidate raw data into stats

Step2
Insert new, unknown items into Item table.
Lookup irus-uk item ids via OAI identifiers and
Insert stats into Daily Stats table
Insert new manifest data

RecentDailyStats
Regenerate latest 30 days table (for performance in UI)

Step3
Harvest bibliographic metadata for unknown items

IP Excludes (textfile)
40+ downloads

IP/UA/ID Excludes (textfile)
10+ downloads of a single item

Intermediate stats (textfile)

Manifest (textfile)

IRUS-UK Database

Manifest Table
Item Table
Daily Stats Table
Recent Daily Stats Table

129 OAI-PMH interfaces

IRUS-UK Monthly Update

IRUS-UK Database

Daily Stats Table
Monthly Stats Table
Monthly Summary Stats Table

Monthly Update Script

Monthly-Update yyyy-mm
Consolidate daily stats for yyyy-mm into monthly stats (required COUNTER granularity) and update Monthly Stats table

Consolidate daily stats for yyyy-mm into monthly summary stats and update Monthly Summary Stats table (for performance in UI)

Viewing/retrieving IRUS-UK statistics

- Web User Interface - The IRUS-UK Portal
  - Access currently behind Shibboleth authentication/authorisation
  - Wide range of views, slicing and dicing stats from the IRUS-UK database
  - Reports available for download as TSV/CSV/Excel spreadsheet files
- SUSHI service
  - XML SOAP service
  - for more info see: http://www.niso.org/workrooms/sushi/
- SUSHI Lite API
  - Under development by the NISO SUSHI Lite Technical Report Working Group (http://www.niso.org/workrooms/sushi/sushi_lite/)
  - Allows retrieval of stats reports and snippets as JSON to be embedded into Repository (and other) web pages, or ingested into other services
  - Example client: http://www.irus.mimas.ac.uk/api/sushilite/v1_7/Client/

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IRUS-UK: Home

IRUS-UK: Repository Report 1
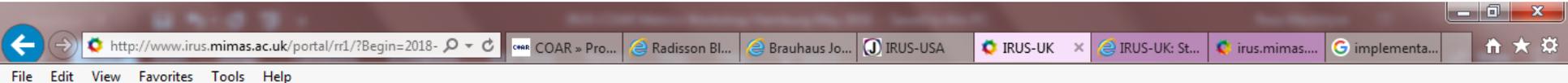
IRUS-UK: Item Report 1

Item Report 1 (IR1),Number of Successful Item Download Requests by Month and Repository Identifier

| Item Report 1 (IR1),Number of Successful Item Download Requests by Month and Repository Identifier	
Period covered by Report:	2018-01-01 to 2018-04-30
Filters	Repository:Apollo - University of Cambridge Repository;
Date Run	14/05/2018
Number of results	23,550

Previous page | 001 | 002 | 003 | 004 | 005 | 006 | 007 | 008 | 009 | 010 | ... | 471 | Next page

ItemURL	Title	Author	Itemtype	Total	Jan-2018	Feb-2018	Mar-2018	Apr-2018
Totals				803,159	154,136	141,750	296,311	210,962
https://www.repository.cam.ac.uk/handle/1810/251038	Properties of expanding universes	Hawking, Stephen	Thesis or Dissertation	224,617	35,441	18,526	137,756	32,894
http://www.repository.cam.ac.uk/handle/1810/246429	The Effect of Police Body-Worn Cameras on Use of Force and Citizens' Complaints Against the Police: A Randomized Controlled Trial	Ariel, Barak; Farrar, William; Sutherland, Alex	Article	7,643	1,736	1,745	1,976	2,186
http://www.repository.cam.ac.uk/handle/1810/247570	What Is Liberalism?	Bell, Duncan	Article	4,700	718	962	1,382	1,638
http://www.repository.cam.ac.uk/handle/1810/246157	Error of law and flawed administrative acts	Feldman, David	Article	3,633	1,042	728	972	891
http://www.dspace.cam.ac.uk/handle/1810/236978	'Kind of Blue' and the Economy of Modal Jazz	Barrett, Samuel	Article	3,605	806	848	969	982
http://www.dspace.cam.ac.uk/handle/1810/223992	Remains of battlefield at Verdun	Filippucci, Paola	Image	3,327	648	677	646	1,356

IRUS-UK: Item Statistics
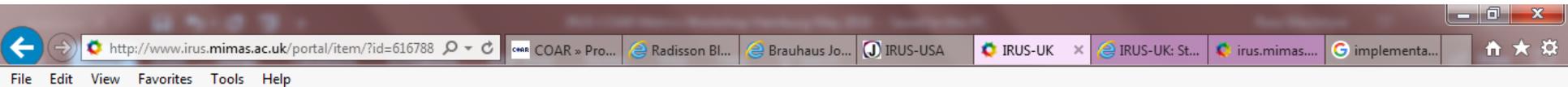
Item Statistics

The Effect of Police Body-Worn Cameras on Use of Force and Citizens' Complaints Against the Police: A Randomized Controlled Trial

85	Total citations
79	Recent citations
56	Field Citation Ratio
n/a	Relative Citation Ratio

85

930

Picked up by **77** news outlets
Blogged by **10**
Referenced in **1** policy sources
Tweeted by **264**
Mentioned by **1** weibo users
On **28** Facebook pages
Referenced in **2** Wikipedia pages
Mentioned in **10** Google+ posts

See more details

1 readers on CiteULike   **194** readers on Mendeley

Repository	Apollo - University of Cambridge Repository
URL	http://www.repository.cam.ac.uk/handle/1810/246429
Author(s)	Ariel, Barak; Farrar, William; Sutherland, Alex
Item Type	Article
DOI	https://doi.org/10.1007/s10940-014-9236-3

| Monthly stats | Monthly stats by country | Daily stats | Daily stats by country | Consolidated monthly stats |

Usage Date Range

From date: May-2016 **To date:** Apr-2018 Update

Reporting

IRUS-UK: ORCID

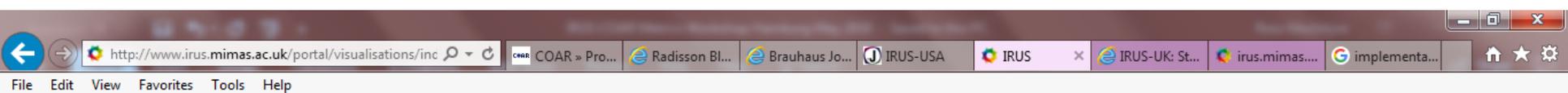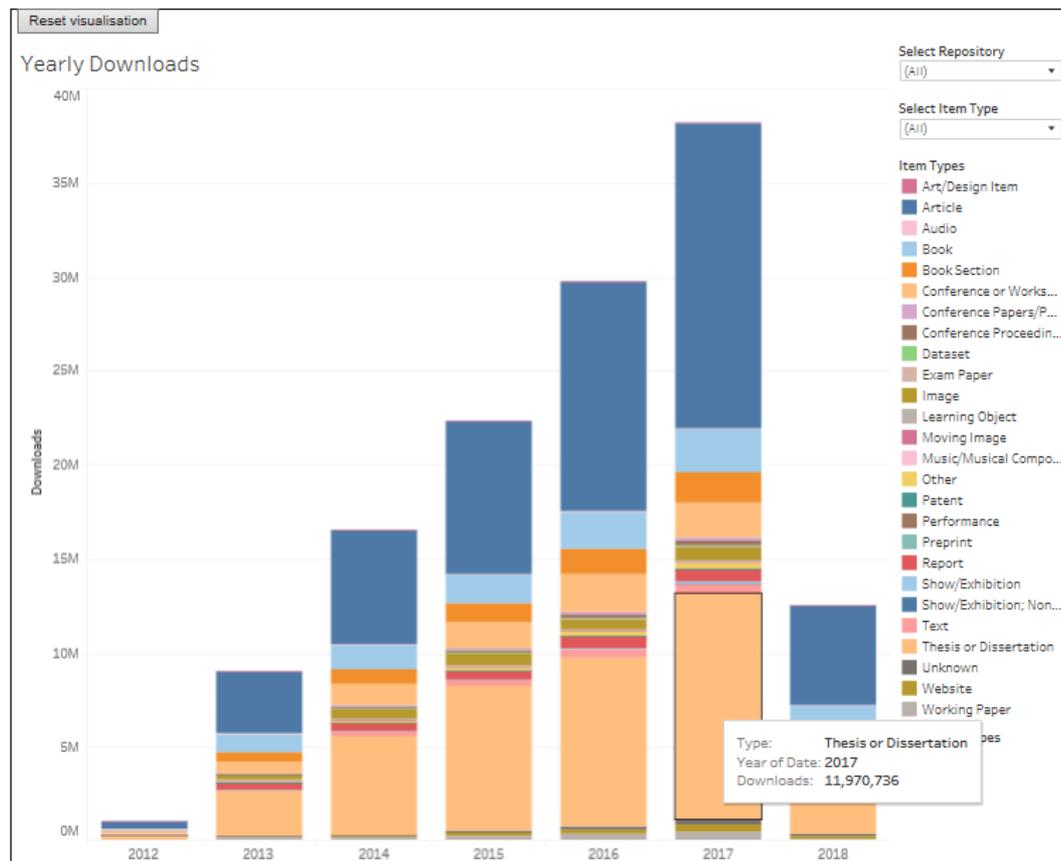# IRUS-UK: Visualisation - Ingest Statistics
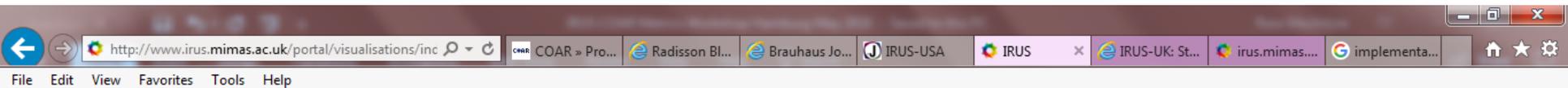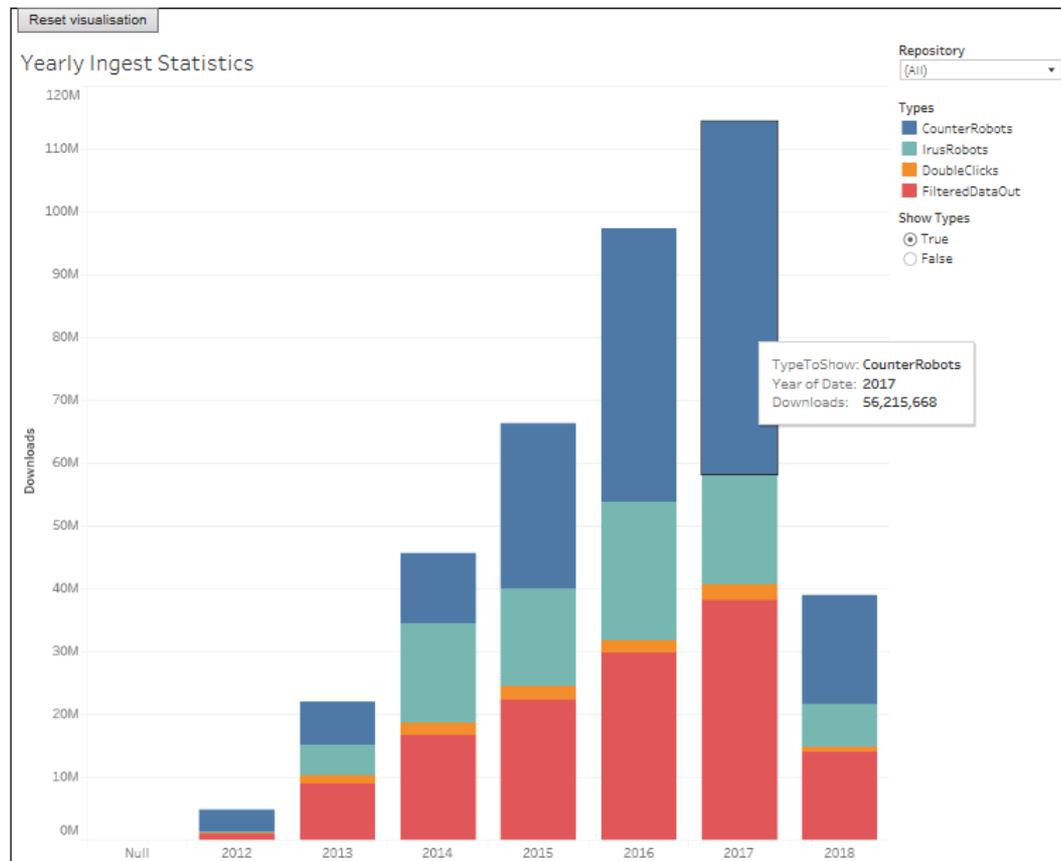
IRUS-UK: Visualisation – Yearly Downloads

What next?

- Standards development:
  - COUNTER Robots Working Group
  - COUNTER Release 5
- Other IRUS services:
  - Research Data: IRUSdata
  - IRUS-CORE
  - IRUS-OAPEN
- New user communities:
  - IRUS-USA
  - IRUS-ANZ

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Contacts & Information

IRUS-UK web site:

- http://irus.mimas.ac.uk/

Contact IRUS-UK:

- irus@mimas.ac.uk
- @IRUSNEWS

COUNTER web site:

- http://www.projectcounter.org/

Contact COUNTER:

- http://www.projectcounter.org/contact.html
- @projectCOUNTER

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