

ABSTRACT

BRACERS, the Bertrand Russell Archives Catalogue Entry and Research System, was a mainframe era system housing over 100,000 electronic records from a unique collection of Bertrand Russell's artifacts owned by- and housed in the McMaster University Library.

While bracing the Russell BRACERS for the modern era, we developed a virtual machine-based deployment environment as well as methods and procedures to put a growing diverse artifact collection online rapidly. The environment, methods and procedures can be used both to put such a collection online for the first time or to migrate such a collection from an antiquated system. We have braced the mainframe era BRACERS for the modern era with them.

LEGACY PROBLEMS

- Old machine (e.g. mainframe) decommissioned
- Limitations in system environment (e.g. COBOL & DB2 database)
 - 60 character limit per field
 - Data keyed in upper case only
 - Functionality scalability, not allowing for future growth
 - Unable to use certain characters (e.g. Cyrillic)
- Time-consuming, tedious procedures (e.g. data entry)

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H QMP 15 R 01 E V W E R 02 03 14/04/04 13:04
V 1001 006 PERIOD
T 1002 003 015
T 1010 007 006 1013 005 1014 006 1015 006 1016 006 1017 006 1012 008
R C 000001 000001 000001 000001 000001
R C 000002 000002 000002 000002 000001
R C 000009 000009 000011 000001
R C 000012 000012 000015 000001
R C 000016 000016 000018 000001
R C 000019 000019 000083 000001
R C 000084 000084 000084 000001
L 110 10000000
L 110 10000000
L 170 10000000 RECORD LINE TOPIC
L 170 10000000 C NO COL NO COLTEXT
L 170 10010000
L 180 11000000 [0000001] | 00001 | |LECTURE INVITATION
L 180 11000000 [0000002] | 00001 | |FILED: STROMG, C.A.
L 180 11000000 [0000002] | 00002 | |ELTON RECOMMENDS WRANGE MORLEY.
L 180 11000000 [0000003] | 00001 | |CORRAD
L 180 11000000 [0000004] | 00001 | |VISCOUNT SAMUEL CONGRATULATES BR ON HIS 80TH BIRTHDAY, SAYING
L 180 11000000 [0000004] | 00002 | |THAT THE BOS AREN'T TOO BAD, AND THAT BR'S OBITUARY COULD IN
L 180 11000000 [0000004] | 00003 | |TUE COURSE BE EXTENDED BEYOND 90. (SAMUEL REFERS TO THE
L 180 11000000 [0000004] | 00004 | |"OBITUARY" IN "UNPOPULAR ESSAYS.")
...
RA11 | 210 | |007052EV| | 3.29 | |RL 0644 LET | | | | |
RA11 | 210 | |007052EW| | 3.29 | |RL 0845 LET | | | | |
RA11 | 210 | |007052EX| | 3.29 | | | | |
RA11 | 210 | |007052EY| | 3.29 | |RL LET; NO. 2 | | | | |
RA11 | 210 | |007052EZ| | 3.29 | |RL LET | | | | |
RA11 | 210 | |007052FA| | 3.29 | |RL 0844 LET | | | | |
RA11 | 210 | |007052FB| | 3.29 | |RL LET | |RL LET; NO. 20 | | | | |
RA11 | 210 | |007052FC| | 3.29 | |RL LET | |RL LET; NO. 23 | | | | |
RA11 | 210 | |007052FD| | 3.29 | |RL LET | |RL LET; NO. 10 | | | | |
RA11 | 210 | |007052FE| | 3.29 | |RL 0824 LET | | | | |
RA11 | 210 | |007052FG| | 3.29 | |RL LET | |RL LET; NO. 11 | | | | |
RA11 | 210 | |007052FH| | 3.29 | |RL LET | |RL LET; NO. 24 | | | | |
RA11 | 210 | |007052FI| | 3.29 | | | | |
RA11 | 210 | |007052FJ| | 3.29 | |RL 44-M | | | | |
RA11 | 210 | |007052FK| | 3.29 | |RL 0973 | | | | |
RA11 | 210 | |007052FL| | 3.29 | |RL 0409 | | | | |
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MAKE USE OF OPEN SOURCE



Virtual Machine – e.g. CentOS Linux 7, KVM Virtualization

SQL Server – e.g. MariaDB

Scripting Language – e.g. PHP

Search Platform – e.g. Apache Solr

Content Management System (CMS) – e.g. Drupal 7

CMS FUNCTIONALITY

The required CMS functionality can be provided in the CMS core or in contributed modules/plugins. The examples below are for Drupal.

- Support for creating different field types (e.g. File, Image, List, Number, Options, Date, Serial)
- Support for (aggregate) data from text files (e.g. Feeds)
- Support for preprocessing of data (e.g. Feeds Tamper)
- Allow for advanced web editing (e.g. Node clone, CKEditor)
- Integration with other applications (e.g. RESTful web services)
- Indexing & searching of data (e.g. Search API, Solr search, Search API Multi Aggregate)
- Create reports & interfaces (e.g. Views)

Search BRACERS

ALL-IN-ONE SEARCH (excluding Record No.)

Record no. Recipient(s)/Sender(s) Date

(e.g. 1900/12/31)

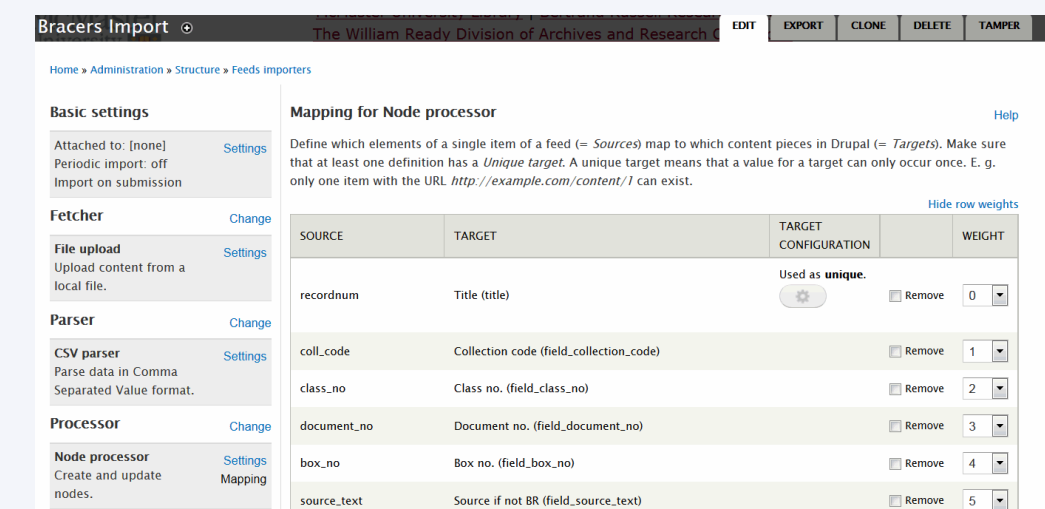
Notes, topics or text

Published Sort by Order

CONVERT & MIGRATE

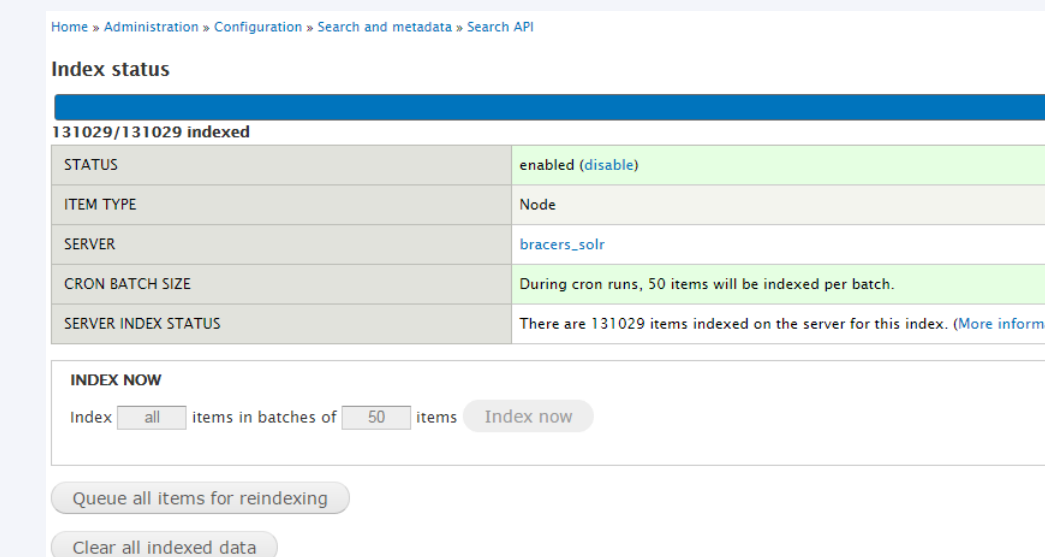
If migrating from a legacy system:

1. Pre-process data using a scripting language, if needed
2. Define & configure fields in CMS (e.g. create content type in Drupal)
3. Configure how to import data from text files (e.g. using Drupal Feeds & Feeds Tamper modules)
4. Import data (e.g. using Drupal Feeds)
5. Setup the Search Platform (e.g. Apache Solr, Drupal Search API for Server & Index)
6. Create public and admin web interfaces (e.g. Drupal Views to create search screens & reports)



If creating a new system:

1. Define & configure fields in CMS (e.g. create content type in Drupal)
2. Setup the Search Platform (e.g. Apache Solr, Drupal Search API for Server & Index)
3. Create public and admin web interfaces (e.g. Drupal Views to create search screens & reports)



MANAGE THE PROJECT

- Reassure sensitive content owners that all their data will be safe and accessible to them all the time
- Ensure access to legacy system documentation to all involved
- Retrieve tacit knowledge from content owners by scheduling regular face-to-face meetings and involving them in the decision-making process, thus building trust
- Manage expectations (legacy vs. modern capabilities)
- Reduce scope creep by defining early on the parameters of the project
- Agree and sign off on action items and deadlines

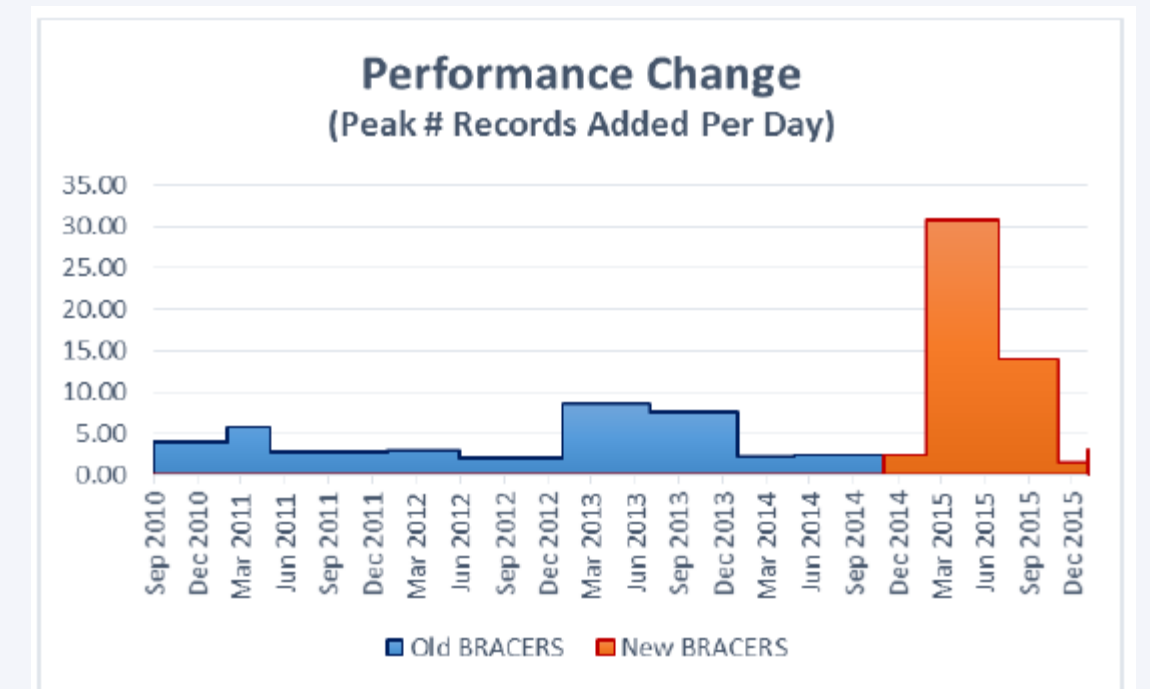
LAUNCH

- Launch unofficially with a limited audience, which includes content owner and content editors
- Solicit feedback from audience and perform only minor changes and urgent fixes (reduce scope creep)
- Launch officially with promotional emails to staff and stakeholders, involving stakeholders in the drafting of material
- To manage a steady stream of change and feature requests post official launch, implement a freeze on change requests



RESULTS

- *"It's so easy to add new records"* - Ken Blackwell
- Gave content editors more energy & encouragement to add/edit data
- More modern, professional look
- Allows for more diacritics
- Allows for HTML to be used in fields
- Robust, scalable, extendable for future plans



REFERENCES

Bertrand Russell Archives Catalogue Entry and Research System, <http://bracers.mcmaster.ca>
 Bertrand Russell (1872-1970), British philosopher, logician, essayist, and renowned peace advocate, <http://www.mcmaster.ca/russdocs/russell.htm>
 MariaDB, <https://mariadb.org/>
 Drupal, <https://www.drupal.org/>
 Apache Solr, <http://lucene.apache.org/solr/>

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