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#### Beyond Migration: Understanding the Effects of Repository Migration on User Experiences and Repository Services

**David Scherer** Carnegie Mellon University

Ft al.

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## Beyond Migration

Understanding the Effects of Repository Migration on User Experiences and Repository Services

David Scherer, *Carnegie Mellon University* Katie Behrman, *Carnegie Mellon University* Chris Kellen, *Carnegie Mellon University* 



## Carnegie Mellon University

# **BACKGROUND**

#### Introduction

#### **Carnegie Mellon University**

Founded in 1900 by Andrew Carnegie 14,458 students from 109 countries 47%UG, 53% Grad

1,391 Faculty from 51 countries

#### **BIG IDEAS THAT SHAPE YOUR WORLD START HERE**



1,000+ companies greenlighted across the U.S. and internationally



Cognitive tutors, which improve the math skills of 500,000+ students each year



The first U.S. school to award a degree in drama in 1914



James Gosling (CS 1983) invented the Java computer programming language.



The first exclusive higher education partner of the Tony Awards®, co-creating the first, national recognition program honoring K-12 theatre educators



The first smile in an email, created in 1982 by professor Scott Fahlman



Kevlar Fiber, invented by alumna Stephanie Kwolek (MM 1946)



The Last Lecture, written by alumni Randy Pausch (CS 1988) and Jeffrey Zaslow (DC 1980)



In 1919, CMU's first Ph.D. was awarded to Mao Yisheng, father of Chinese bridge construction.



Duolingo, invented by professor Luis von Ahn (CS 2003, 2005), had 10 million downloads in 12 months and was named Apple's 2013 app of the year.



The leading university center for cybersecurity, providing support to more than 110 centers around the world



The world's first university robotics department, founded in 1979



Alumnus Andy Warhol (A 1949), pop artist pioneer and cultural icon



One of only 25 universities invited to be a member of the World Economic Forum's Global University Leaders Forum

#### My Heart is in the Work



Source: CMU Fact Sheet

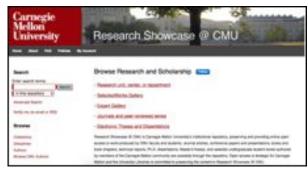


#### **Repository Landscape at CMU (Pre-2017)**

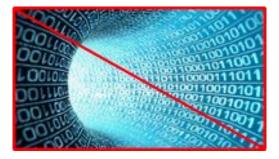
#### Traditional IR

#### **Archives**





#### **Data Repository**





#### **Research Showcase Repository**

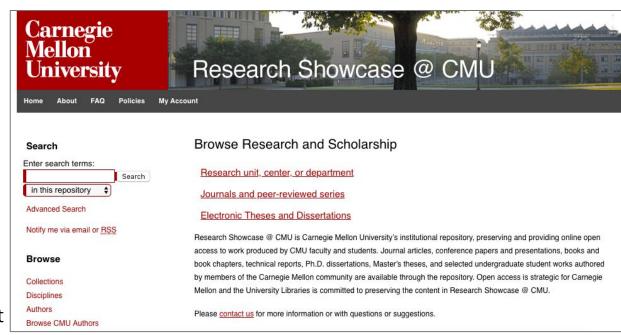
Est. 2008

Digital Commons platform

Traditional IR/ETD repository

No usage of DC Publishing Platform

Not designed to handle Research Data/Unique Content





#### **Evolution of Repository Services at CMU**

October 2008 – Creation of Research Showcase Repository (Digital Commons)

February 2015 – First dataset accepted by CMU Libraries, added to archival repository

February 2015 – CMU evaluates repository solutions for new data repository and other repository needs

October 2015 – Formation of the Digital Repository Task Force to evaluate repository solutions

October 2015 - May 2016 - CMU Evaluates RIM Systems and related platforms and services

February 2017 – CMU and Digital Science announce strategic development partnership

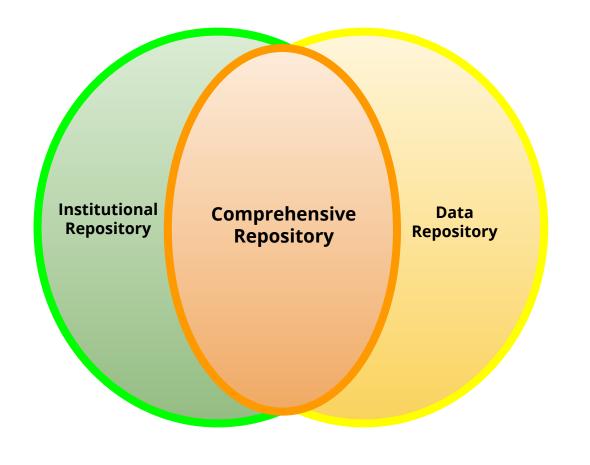
February – March 2017 – CMU Libraries conducts campus-wide naming contest for new repository

April 2017 - KiltHub Repository becomes operational, deposits first dataset



## Carnegie Mellon University

# KiltHub Repository



Carnegie Mellon University

WEAVING THE FABRIC OF YOUR RESEARCH



## Weaving the Fabric of Research: The Warp and Weft

#### Research Data

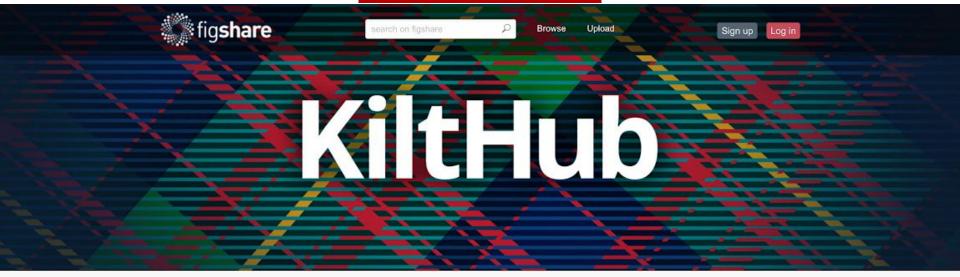
A dataset is typically a file or collection of files and its corresponding metadata. This metadata may include preservation and presentation information, as well as annotations and ancillary content that is associated with the data. KiltHub is limited in scope to the raw data, or data that supports the claims made in publications/presentations/figures.

#### **Scholarly Outputs**

When evaluating scholarly outputs for inclusion in KiltHub, *scholarly outputs* should be broadly understood to mean the published or otherwise publicly presented outputs, created by individuals or units within Carnegie Mellon University in the course of their scholarly or professional work that represents the intellectual life and academic endeavor of the university, and may have enduring value.



kilthub.cmu.edu



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POPULAR

CATEGORIES

SEARCH Q

19,025 posts

1,214,917 views

7,052,577 downloads

more stats...

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Face Recognition and Rocerosy moder Streetmanner Real World Ungsalations it Fermal Approach in Massary Across Optimization: Outs Layest, Managattaches, and Pean-Outs Proceeding

Income of Malaysia

#### kilthub.cmu.edu



Provided by the University Libraries, **KiltHub** (**kilthub.cmu.edu**) is the comprehensive institutional repository and research collaboration platform for research data and scholarly outputs produced by members of Carnegie Mellon University and their collaborators. KiltHub collects, preserves, and provides stable, long-term global open access to a wide range of research data and scholarly outputs created by faculty, staff, and student members of Carnegie Mellon University in the course of their research and teaching.

About KiltHub How to Deposit Preparing Your Data Deposit Support Deposit Agreement Terms of Use

Contact Us

KiltHub Repository
kilthub@andrew.cmu.edu ☑

412-268-2443 ┗
KiltHub Twitter ♥

What Kinds of Materials does KiltHub Accept?

What Are The Requirements For Depositing Materials in KiltHub?

## Carnegie Mellon University

## **MIGRATION**

## **Why Migrate?**







## **Why Migrate?**







# BRACE YOURSELF



SPREADSHEETS ARE COMING et

## **Bepress Spreadsheets**

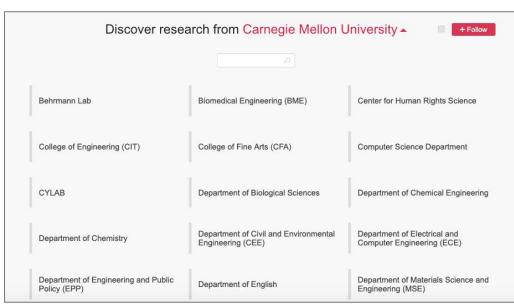
<u>Batch Revise Files</u>	<u>Download/View Files</u>	<u>GEO Download Files</u>
Record Metadata	Title of Record	By Series/Collection
Server Location URL	Public URL	Downloads by Country
Public URLs	Date first Published	

Download/Views (All Time)



#### **Collections to Groups**

#### Browse by Research Unit, Center, or Department Content posted here has been selected and deposited by the Carnegie Mellon University Libraries on behalf of campus groups. For more information, see About the Repository. **Expand All** Carnegie Mellon in Qatar College of Engineering College of Fine Arts ⊞ Conferences and Events ■ Dietrich College of Humanities and Social Sciences Heinz College Journals Mellon College of Science Research Centers and Institutes Research Data School of Computer Science Software Engineering Institute **Tepper School of Business** Theses and Dissertations University Libraries



## **Collections to Groups**

Department/Content	Research Showcase Series	Figshare Group	# of Records f
Engineering and Public Policy	ерр	ерр	168
Architecture	architecture	soa	115
Biological Sciences	biology	bio	539
Biomedical Engineering	bme	bme	150
Civil & Environmental Engineering	cee	cee	99
Chemical Engineering	cheme	cheme	366
Chemistry	chemistry	chem	6
CyLab	cylab	cylab	140
Electrical & Computer Engineering	ece	ece	455
Dissertations	dissertations		1134
Theses	theses		126
Dietrich Honors Theses	hsshonors		267
ETC Press	etcpress		81
ICUDL Conference	icudl		17
Society for Economic Management	sem_conf		254
Journal of Privacy and			
Confidentiality	jpc		97
JPC Forthcoming	jpc_forthcoming		5
No KH group			
Not publication series			
Problematic Metadata			

## **Schemas/Collections to Content Types**

#### **Research Showcase**

## KiltHub/Figshare

Publications (Green OA)

Publication

ETDs

Presentation

Journals

Thesis

**Events** 

Book

Books



## **Metadata Mapping**

Res	earch Showcase		Kilthub
field_name	display_label	dc_element	display label
title	Title	dc.title	Title
authors	Authors	dc.creator	Authors
bp_categories	Disciplines	dc.subject	Categories
document_type	Type	dc.type	Item Type
keywords	Keywords	dc.subject	Keywords
abstract	Abstract or Description	dc.description.abstract	Description
			References
			Funding
distribution_license	Creative Commons		Licence
rights	Rights Management	dc.rights	Publisher Statement
publication_date	<b>Date of Original Version</b>	dc.date.created	Date
20.00			Apply Embargo

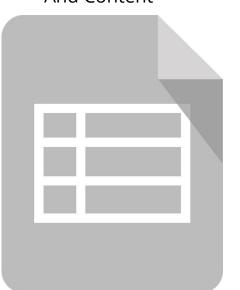


## **Metadata Mapping**

Resea	rch Showcase	L	Kilthub
field_name	display_label	dc_element	display label
title	Title	dc.title	Title
authors	Author	dc.creator	Authors
bp_categories	<b>Subject Categories</b>	dc.subject	Categories
			Item Type
keywords	Keywords	dc.subject	Keywords
abstract	Abstract	dc.description.abstract	Description
			References
			Funding
distribution_license	<b>Creative Commons License</b>		Licence
			<b>Publisher Statement</b>
publication_date	Date of Award	dc.date.created	Date
embargo_date	Embargo Period		Apply Embargo
document_type	Degree Type	thesis.degree.level	
degree_name	Degree Name	thesis.degree.name	
department	Department	thesis.degree.discipline	
comments	Comments	dc.description.note	
advisor1	Advisor(s)	dc.contributor	
advisor2	Second Advisor	dc.contributor	
advisor3	Third Advisor	dc.contributor	
advisor4	Fourth Advisor	dc.contributor	
advisor5	Fifth Advisor	dc.contributor	
attach_additional_files	Additional Files		
recommended_citation	Recommended Citation	dc.source	

#### **Migration Spreadsheets Step 1**

Item level Metadata And Content



Item level Downloads/View



GeoStats





## **Migration Spreadsheets Step 2**

Metadata, Views, Downloads, and Content



GeoStats





#### **URLS to DOIS**

Record	Server	Public	Figshare
Title	Location	URL	DOI



## **Figshare Spreadsheets**

Metadata, Views, Downloads, AND **DOIs** 



Carnegie Mellon University

## **Timeframe of Repository Migration**

December 2017 – First meetings with Figshare to scope migration and processes

January - February 2018 – Prepared Research Showcase for migration

February - March 2018 - Confirmed workflows and procedures for verification with Figshare

March - May 2018 - Migration of repository content to KiltHub

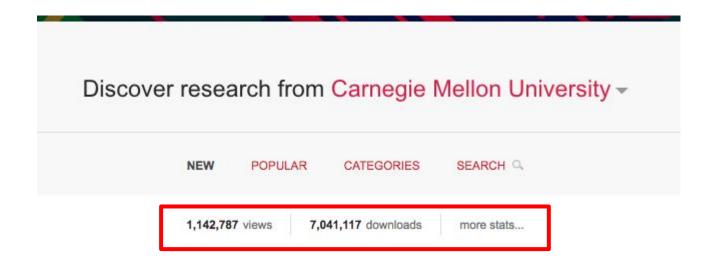
May - June 2018 - Content verification and confirmation

July 01, 2018 - Research Showcase officially shuttered

July - August, 2018 - Redirect is established for former links from Research Showcase to KiltHub DOIs



## **Repository Migration**



Migrated 33,000 plus records between January - May 2018



## Carnegie Mellon University

# BEYOND MIGRATION

#### **Should it all be Migrated?**

# **Privacy**Confidentiality

Volume 1-7

Published on Research Showcase

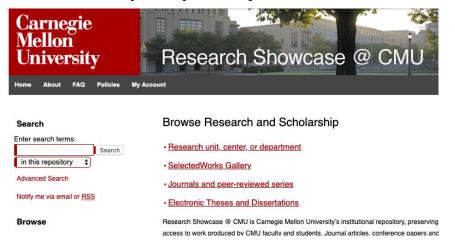
**Volume 8 - Forward** 

Published by the Labor Dynamics Institute at Cornell University



#### **Link Resolving**

#### http://repository.cmu.edu



#### https://kilthub.cmu.edu





## **Link Resolving**

#### http://repository.cmu.edu/psychology/1389



https://doi.org/10.1184/R1/6613094.v1





#### Migration Effects on the Repository

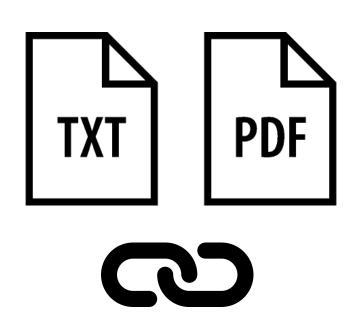
https://doi.org/10.1184/R1/8256968.v1







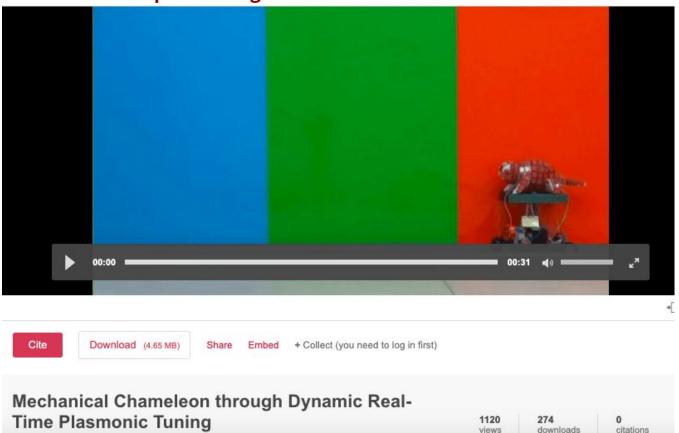
## **Migration Effects on Users**





#### **Migration Effects on Users**

https://doi.org/10.1021/acsnano.5b07472.s001

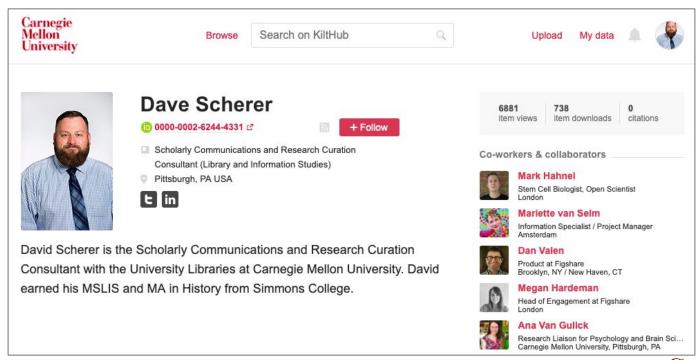


#### **Migration Effects on Users**

Google Scholar

Google Google

Google Dataset Search Beta





#### Dave Scherer's public data



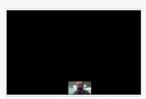
Collaborative Approaches to Integrate Repositories within the R... Dave Scherer v 11/06/2019



Charting the New Frontier in Library Publishing: Using Janeway as an ... Dave Scherer v 22/05/2018



Collection: Research data management engagement materials Megan Hardeman v 28/05/2019



The Evolution of Institutional Repository Technology and Schola... Stephen Cawley v 21/09/2017



Mariette van Selm v 06/08/2018

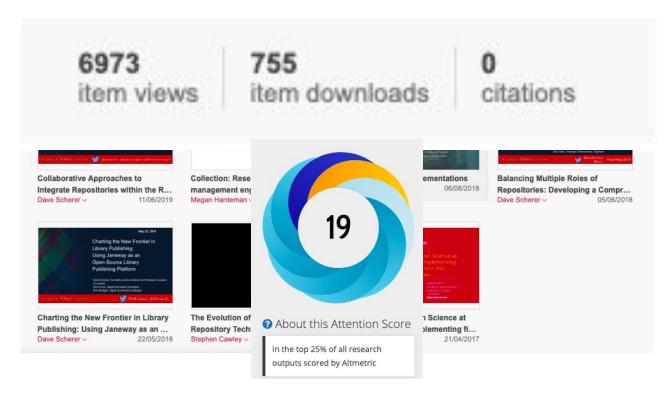


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**Balancing Multiple Roles of** Repositories: Developing a Compr... Dave Scherer v 05/06/2018







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Dear Author,

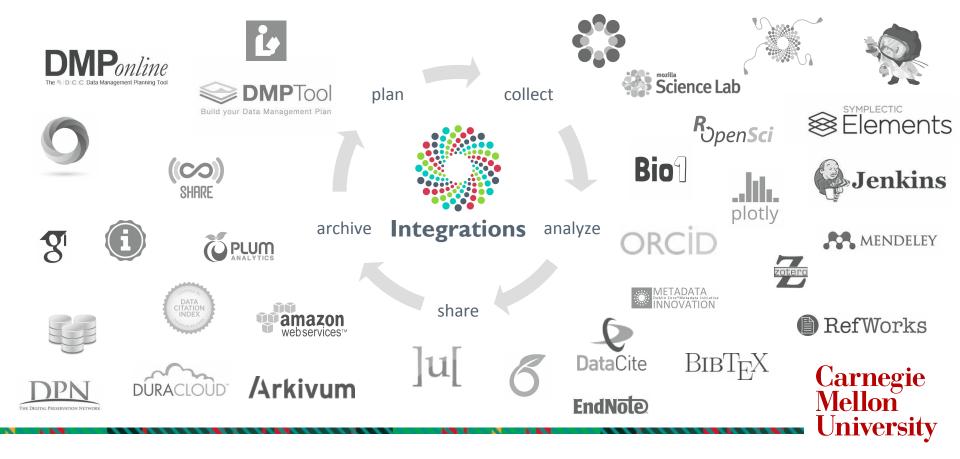
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2218 Total Downloads

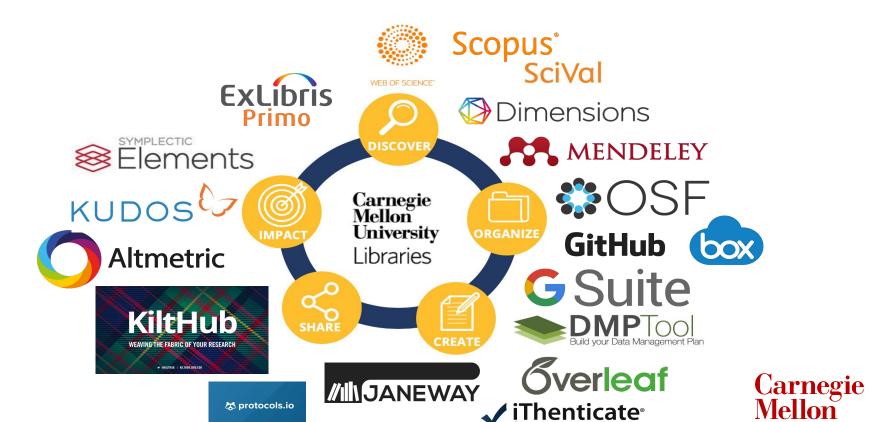




## Integrated in the landscape



#### THE SCE at CMU



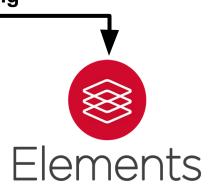
**University** 

#### **CMU's Integrated Repository**

**Metadata Harvesting & Content Matching** 



Monitoring OA Status and Engagement





#### **Content Verification, Submission, and Deposit**









## Carnegie Mellon University

# Final Thoughts

## **Final Thoughts**

Should it all be migrated?

Content, Metadata, AND USAGE

Greater Good vs. Loss of Functions/Services

The Next Migration is <u>ALWAYS</u> Coming



#### **Thank You**

David Scherer daschere@andrew.cmu.edu @davidascherer

Katie Behrman kbehrman@andrew.cmu.edu

Chris Kellen kellen@cmu.edu

KiltHub Repository <a href="https://kilthub.cmu.edu">https://kilthub.cmu.edu</a>

KiltHub About Pages <a href="http://library.cmu.edu/kilthub/about">http://library.cmu.edu/kilthub/about</a>

