



3rd annual European  
BIBFRAME workshop  
17 September 2019

# Linked Data in the LSP

\* FOLIO and Linked Open Data \*

## Reality, Speculation, Provocation

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# Why are we here?



## 25 years of working with library data...

- YAZ toolkit for Information Retrieval (Z39.50)
- Zebra search engine
- Metaproxy Z39.50/SRU switchboard
- Pazpar2 metasearch engine

# Why are we here?



## ...and linked data...

- Z39.50/SRU to SPARQL gateway (really!)
- MARC to BIBFRAME conversion (and back again)
- BIBFRAME Editor redesign

Why are we here?



Worked on architecture and high-level concepts for FOLIO and other duties as assigned

folio 

The word 'folio' is written in a large, bold, orange sans-serif font. To the right of the word is a stylized orange bee icon with white stripes on its abdomen and four wings.

# Spoiler alert



There is no linked data in FOLIO - yet!



UX Product / UXPROD-152

# Linked data. Pull data into FOLIO from external sources based on links

[Edit](#) [Comment](#) [Assign](#) [More ▾](#) [Draft](#) [In Review](#) [Workflow ▾](#) [Export](#) [Export ▾](#)

## Details

Type:	New Feature	Status:	<b>DRAFT</b> <a href="#">(View Workflow)</a>
Priority:	P3	Resolution:	Unresolved
Affects Version/s:	None	Fix Version/s:	None
Labels:	<a href="#">SRS</a> <a href="#">inventory</a> <a href="#">metadatamanagement</a> <a href="#">post-v1</a>		
Epic Link:	<a href="#">Inventory</a>		
Analysis Estimate:	Large < 10 days		
Front End Estimate:	Medium < 5 days		
Back End Estimate:	XL < 15 days		
Confidence factor:	Low		
Estimation Notes and Assumptions:	✓ A MM-SIG working group on Linked Data is planned to be established. But this work has not started yet. If it's just display in the UI based on links in the record, the backend work might be minimal or none (e.g., instead of a string for a contributor, a URL). But if this also covers sorted facets on contributor names that are derived from links then this is a bigger task.		
Development Team:	Core: Functional		

## People

- Assignee: Charlotte Whitt
- Reporter: Cate Boerema
- Analysis Estimator: Charlotte Whitt
- Front End Estimator: Wayne Schneider
- Back End Estimator: Wayne Schneider
- Votes: [0](#) [Vote for this issue](#)
- Watchers: [2](#) [Stop watching this issue](#)

# So what *is* in FOLIO, then?



- Open platform
- Open processes
- Open community



# Open processes

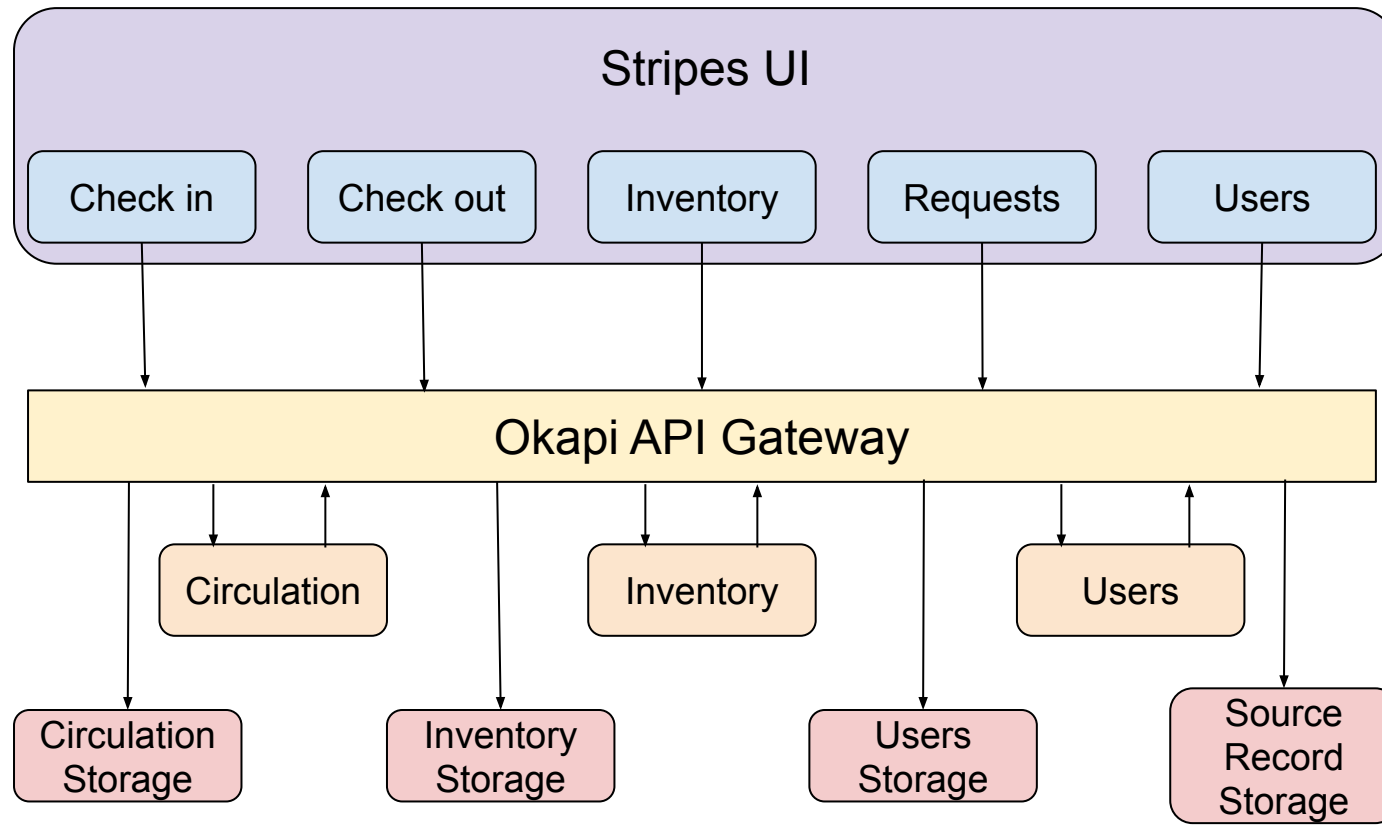






Photo by [Hosea Georgeson](#) on [Unsplash](#)


# Open platform





# Open community





## FOLIO

FOLIO is a new open source, cloud hostable, app-store based library platform, designed to facilitate collaboration between disparate development teams.

<https://dev.folio.org/> | [info@openlibraryfoundation.org](mailto:info@openlibraryfoundation.org)

**Repositories** 206 | Packages | People 125 | Teams 36 | Projects

### Pinned repositories

**okapi**  
Okapi core and modules  
Java ★ 68 🍴 50

**stripes**  
UI framework for building front-end FOLIO modules  
JavaScript ★ 2 🍴 5

**folio-ansible**  
Ansible playbook for FOLIO  
Shell ★ 17 🍴 7

**stripes-cli**  
Command line interface for creating, building, and testing Stripes UI modules.  
JavaScript ★ 3 🍴 7

Find a repository...

### #development

☆ | 👤 252 | 🗨️ 5 | Coding and such

just found your thread from July o. Thursday, August 22nd

Did you ever resolve it?

**Jason Root** 11:59 PM  
Partially, I had to update my hazelcast.xml file. But I am still getting some issues with clustering on one of my older versions of Okapi.

Friday, August 23rd

**Jason Root** 12:00 AM  
Here is an example of the hazelcast.xml file I'm using now for K8s: (edited)

```
hazelcast.xml
1 <?xml version="1.0" encoding="UTF-8"?>
2 <!--
3 ~ Copyright (c) 2008-2018, Hazelcast, Inc. All Rights Reserved.
4 ~
5 ~ Licensed under the Apache License, Version 2.0 (the "License");
```

**Craig McNally** 12:01 AM  
Thanks Jason... what part needed to change?

**Jason Root** 12:04 AM  
Towards the bottom, I think I needed to add:

```
<semaphore name="__vertx.*">
  <initial-permits>1</initial-permits>
  <backup-count>1</backup-count>
  <async-backup-count>1</async-backup-count>
</semaphore>
```

Message #development

## My Dash

### Activity Stream

#### Recent FOLIO Activity

Today

**Igor Gorchakov** commented on [MODDATAIMP-172 - Resource type](#)

Question for Ann-Marie Breaux:

- Instance does not have 'resource type' field at the Backend (mod-inventory). Instance just contains an ID that is associated with one row (name/code/source), which is in the *Settings->Inventory->Resource types*. At

Read more »

25/Aug/19 7:46 AM Comment Watch

**Igor Gorchakov** updated the Parent Issue of [MODDATAIMP-172 - Resource type](#)

25/Aug/19 7:05 AM Comment Vote Watch

**Igor Gorchakov** changed the status to In Code Review on [MODDATAIMP-172 - Resource type](#)

25/Aug/19 7:04 AM Comment Vote Watch

**Victoria Rabykina** updated the Story Points of [MODNOTES-124 - Internal server error during creation of the note](#)

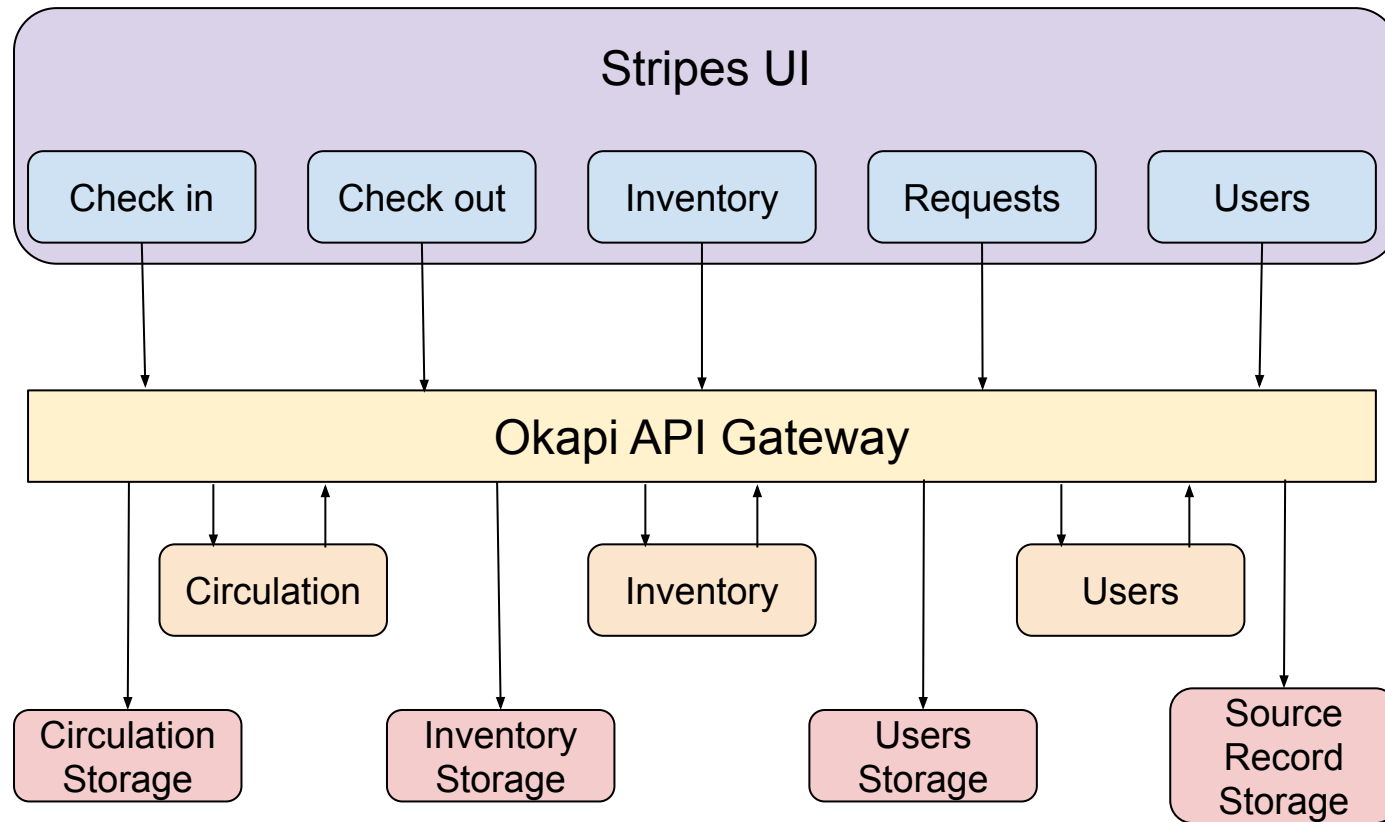
25/Aug/19 6:40 AM Comment Vote Watch

**Victoria Rabykina** updated the Sprint of [MODKBEKBJ-287 - Remove update of resource tags from resource endpoints](#)

25/Aug/19 6:39 AM Comment Vote Watch

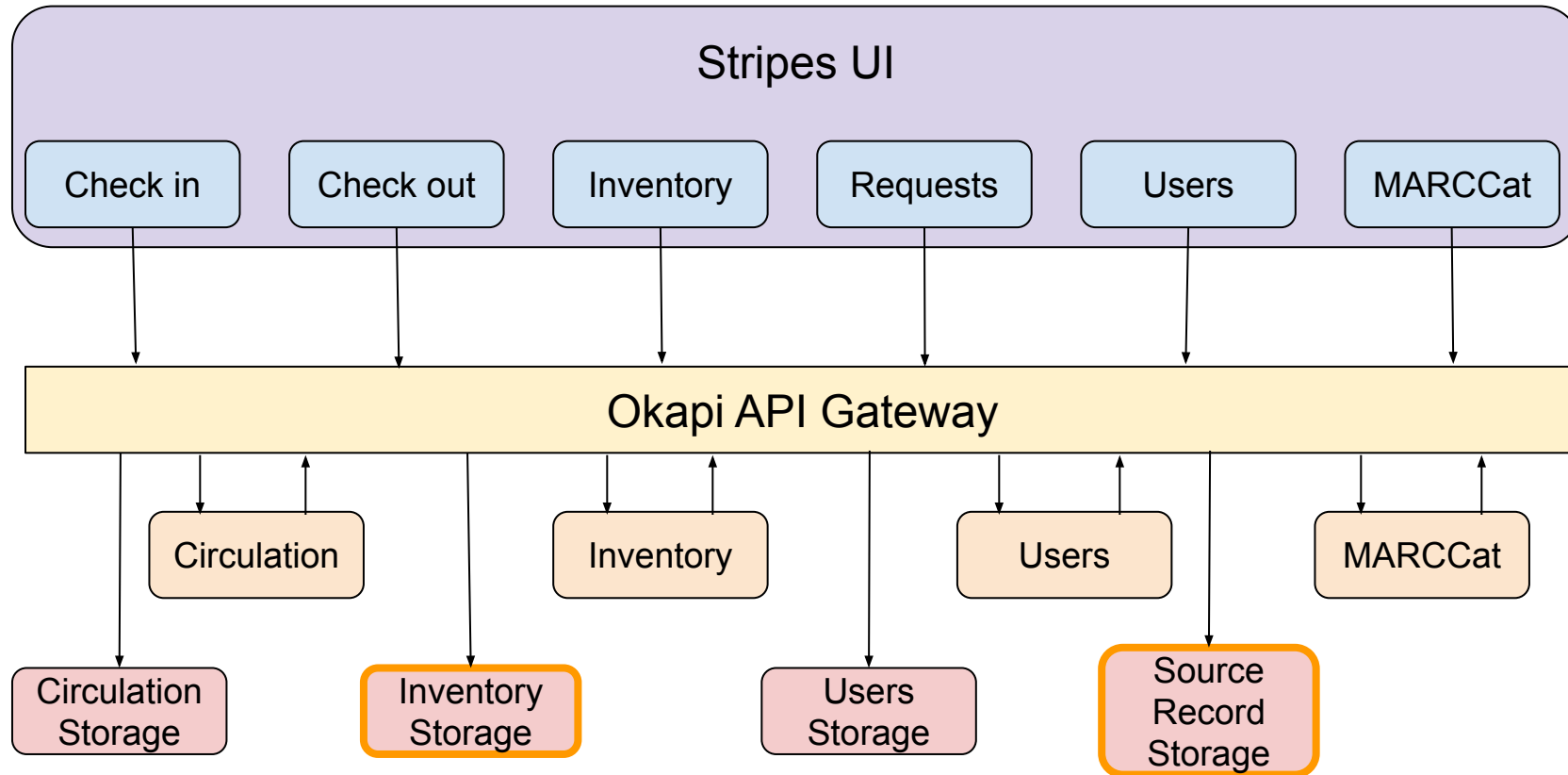
Show more...

# So...where's the metadata?





# What have we build since 2018





# Records stored ...as FOLIO and MARC



Instance record Semantic web. Tra ontologie e Open Data 0 ^

Instance record  text

**Semantic web. Tra ontologie e Open Data**

**Administrative data**

Record last updated: Unknown

Instance HRID	Metadata source	Cataloged date
in00000649	MARC	

Instance status term	Instance status code	Instance status source	Status updated date

**Mode of issuance**

**Title data**

**Resource title**  
Semantic web. Tra ontologie e Open Data

**Index title**  
Semantic web. Tra ontologie e Open Data

**Identifier**

Resource identifier type	Resource identifier
ISBN	9788838788710 pdf isbn
ISBN	9788838787027 paper isbn
Other standard identifier	150097853

**Contributor**

**Descriptive data**

Publisher	Publisher role	Place of publication	Publication date
			01/04/2013

Resource type term	Resource type code	Resource type source	Nature of content
text	txt	rdacontent	

**Inventory**

Agreements Check in Check out Apps

Semantic web. Tra ontologie e Open Data

**MARC bibliographic record**

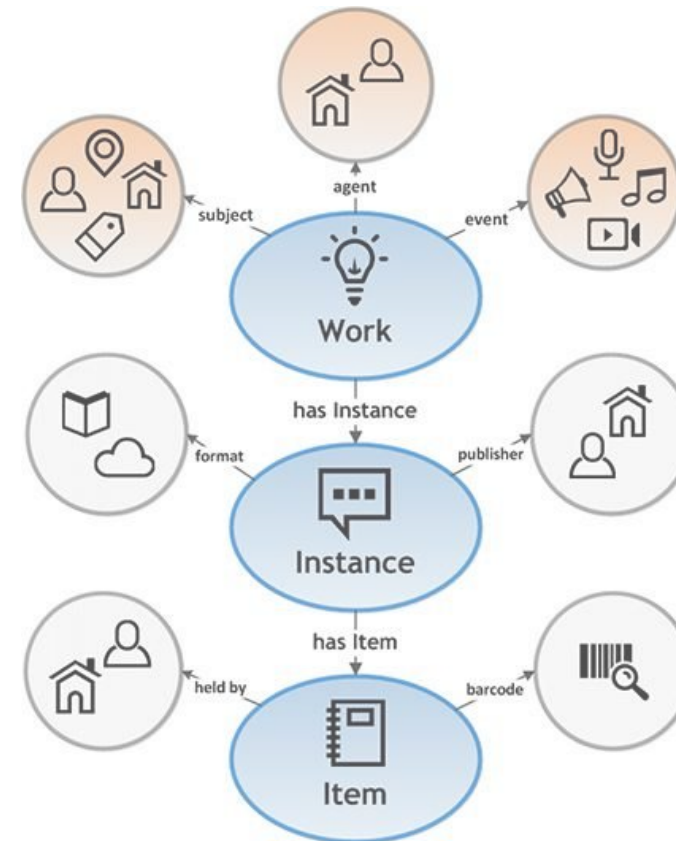
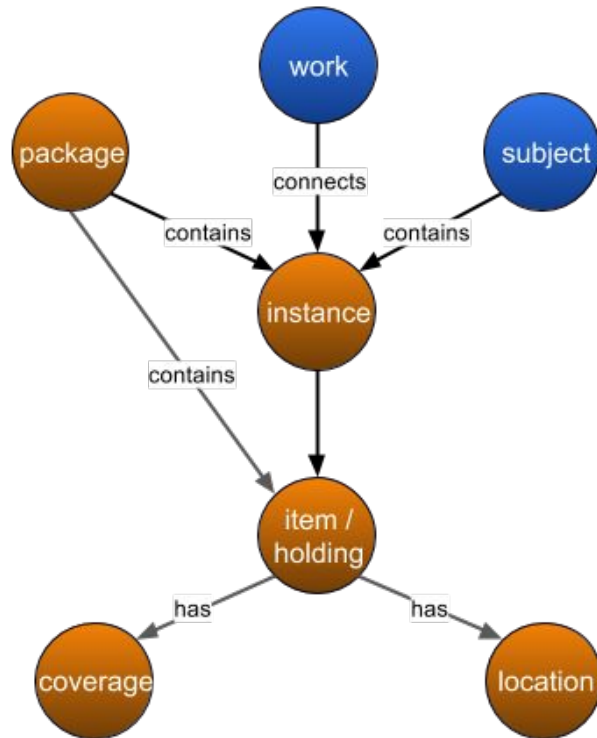
```

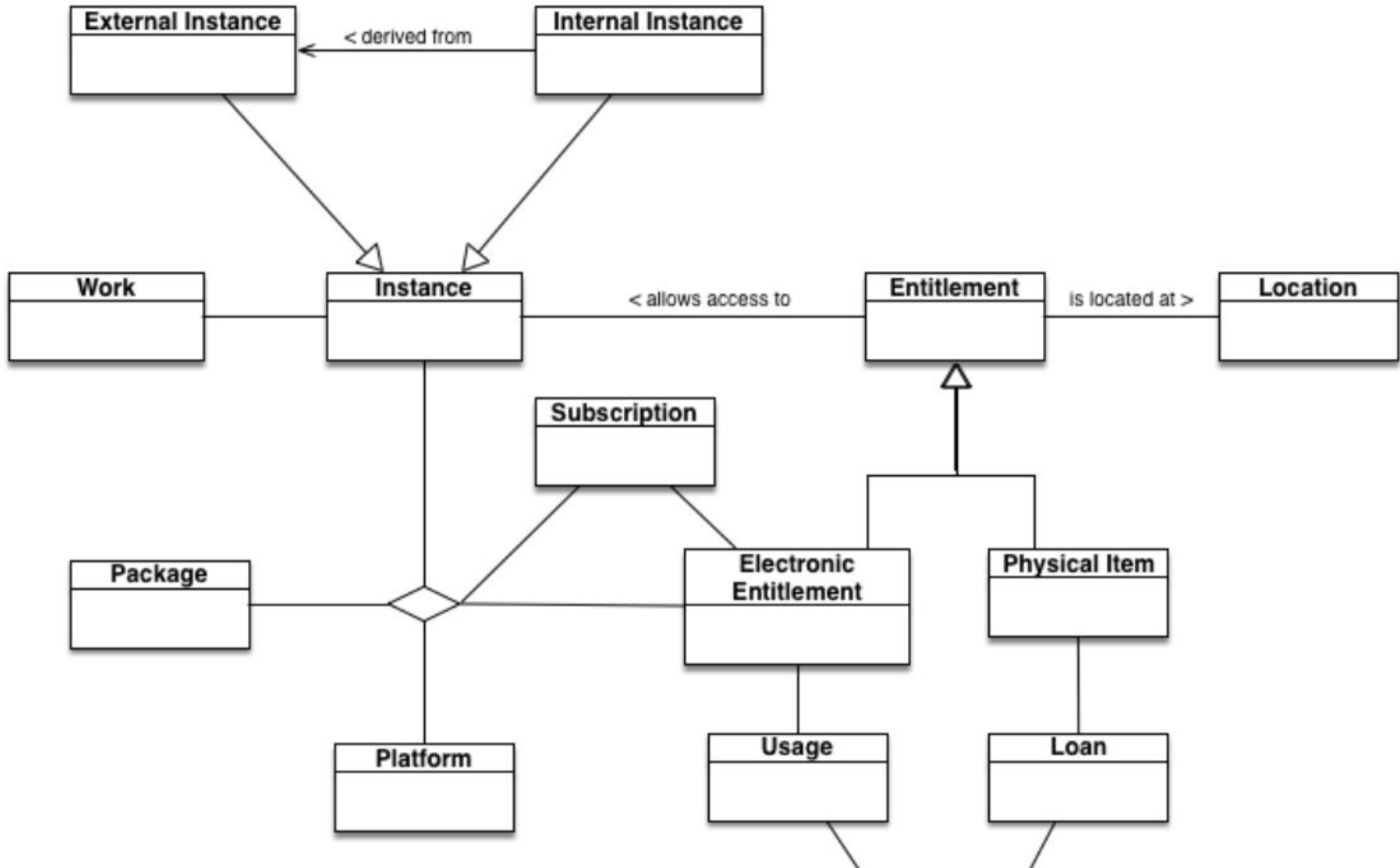
LEADER 02498nam0a2200289 450
001 150097853
008 151015s2015 it | s |||| 0|ita d
020 +a 9788838788710 +q pdf isbn
020 +a 9788838787027 +q paper isbn
024 8 +a 150097853
042 +a dc
245 0 0 +a Semantic web. Tra ontologie e Open Data
260 +c 01/04/2013
520 +a Tim Berners-Lee, l'inventore del World Wide Web, teorizzava nel 2001
la creazione di un "Web semantico", definito come una "estensione del
Web attuale in cui all'informazione è dato un ben determinato
significato, facilitando la cooperazione tra i computer e le persone".
In altre parole, un Web in cui l'enfasi si sposta dai documenti e dalla
relativa interpretazione da parte degli umani ai dati e al loro
significato, in modo da consentirne l'interpretazione da parte degli
elaboratori. Dopo più di dieci anni la visione futuribile di Berners-
Lee, pur essendo ancora ben lontana da una compiuta realizzazione,
pervade sempre di più, spesso in maniera trasparente agli utenti, il
Web che conosciamo, e si propone come una delle più importanti linee di
sviluppo per il futuro, anche grazie alle iniziative Open Data. In
questo libro, dopo aver ricostruito l'evoluzione delle tecnologie che
progressivamente hanno cercato di "fornire significato al Web" gli
autori esaminano in dettaglio le singole parti costitutive del Web
semantico: dai metodi per la rappresentazione dei dati alle ontologie,
ai linguaggi di interrogazione, alle tecnologie per il ragionamento
automatico. L'esposizione è tecnicamente rigorosa ma accessibile; il
testo infatti, oltre che ai professionisti in ambito informatico, si
rivolge a tutti coloro che, nelle imprese e nelle pubbliche
amministrazioni, vogliono avere un quadro d'insieme su questa tendenza
emergente del Web.
546 +a italiano
653 +a Informatica e tecnologia dell'informazione
653 +a Informatica: argomenti d'interesse generale
653 +a Programmazione e sviluppo del software
653 +a Programmazione Web
655 7 +a E-Book Download #2 local
720 +a Di Noia, Tommaso +e author
720 +a De Virgilio, Roberto +e author
720 +a Di Sciascio, Eugenio +e author
720 +a Donini, Francesco M. +e author
856 4 0 +u http://unimib.medialibrary.it/media/scheda.aspx?id=150097853
887 +a url_cover
http://shop.medialibrary.it/media/images/edigita/cover/EDGT64852.jpg
999 f f $ 08a191ab-beed-430e-968a-0dbe2a73258b $i 234d32fe-84a5-4ca5-9c7c-
6bce0f5e9c7
    
```

# FOLIO Inventory in format neutral - inspired by BIBFRAME

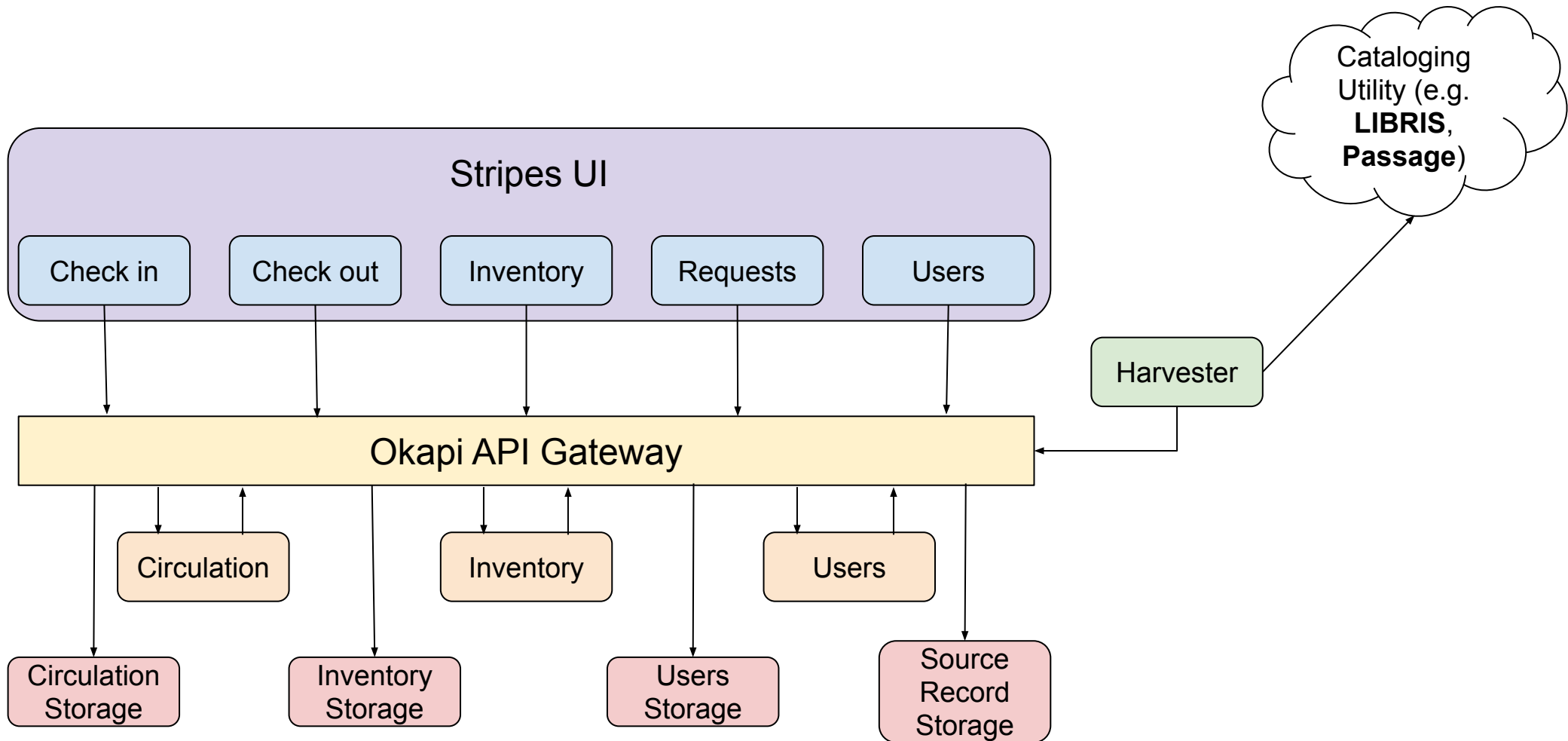
Inventory

BIBFRAME





# In the cloud...as linked data!

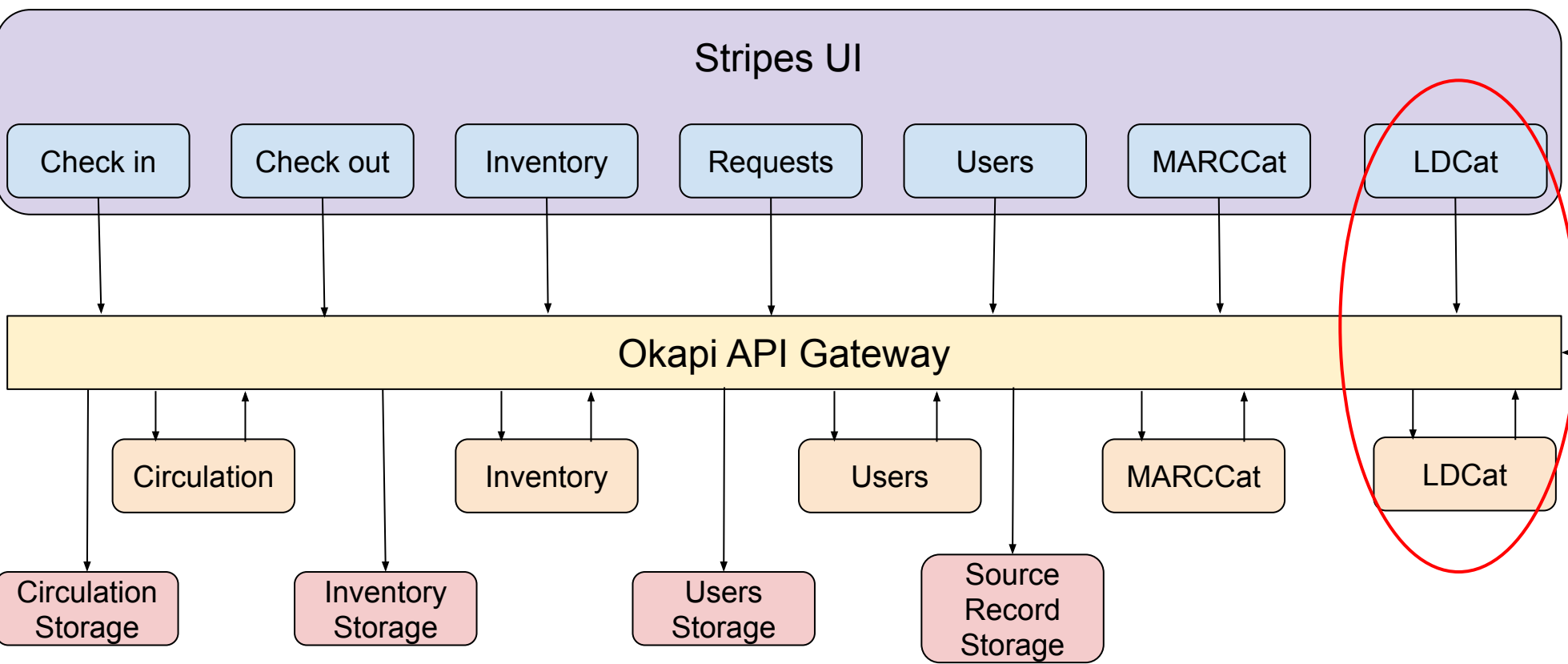


# OK, this part doesn't exist yet. Should it?



Cataloging Utility (e.g. **LIBRIS, Passage**)

Harvester







Lloyd Alter/ Inderhavnsbroen/[CC BY 2.0](#)



# Some concrete next steps



- Analysing user requirements and concept development
- Create a BIBFRAME to FOLIO Inventory crosswalk
- Addressing non-instance entities
- Build a prototype storage module and mapping to inventory
- Implement synchronization with entities on the web
- Build a BIBFRAME cataloging tool
- ...



# QUESTIONS

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