Reflecting on digital library technologies

Pavel Kats, CTO, Europeana
Data Flow

Acquisition  Processing  Storage  API  Presentation
Station 1: Acquisition

- **Technology**
  - OAI-PMH Client/Server (REPOX)
  - Visual Mapping Editor (MINT)
  - Ingestion Toolkit (UIM): OSGI-container
  - EDM / OAI-PMH, FTP, HTTP

- **Milestones**
  - Aggregation Innovation: radical vs. moderate
  - API Improvement
  - Media aggregation
Station 1: Acquisition

- Libraries (e.g. The European Library)
- Archives (e.g. APEX)
- Audiovisual collections (e.g. EUScreen, European Film Gateway)
- Thematic collections (e.g. Judaica Europeana, Europeana Fashion)
- National Aggregators (e.g. Culture Grid, Culture.fr)
- Regional Aggregators (e.g. Musées Lausannois)

Acquisition
Station 1: Acquisition

- **Technology**
  - OAI-PMH Client/Server (REPOX)
  - Visual Mapping Editor (MINT)
  - Ingestion Toolkit (UIM): OSGI-container
  - EDM / OAI-PMH, FTP, HTTP

- **Milestones**
  - Aggregation Innovation: radical vs. moderate
  - API Improvement
  - Media aggregation
Station 2: Processing

- **Technology**
  - Ingestion toolkit (UIM): OSGI-container
  - Metis: New-generation Ingestion / Apache Storm / Cassandra
  - AKKA.IO

- **Milestones**
  - Metis: Cloud Services for Cultural Heritage
  - Continuous publication of content
  - Media Services (CRF)
Station 2: Processing
Station 2: Processing

- **Technology**
  - Ingestion toolkit (UIM): OSGI-container
  - Metis: New-generation Ingestion / Apache Storm / Cassandra
  - AKKA.IO

- **Milestones**
  - Metis: Cloud Services for Cultural Heritage
  - Continuous publication of content
  - Media Services (CRF)
Station 3: Storage

- **Technology**
  - EDM / MongoDB
  - Apache Solr
  - Open-Source CRM
  - EDM Hierarchies / Neo4J

- **Milestones**
  - Single-Source-of-Truth
  - Graph database
  - Search strategy
Station 3: Storage - EDM

edm:ProvidedCHO
#CM:0161930

dc:title
"Clavecin"@fr

dc:creator
"Cristofori"

dc:description
"2 claviers : C / E à C'', 45 notes * 3 rangs de Cordes : 2 x 8" + 1 x 4" * Table en épicéa (?) * T * Collection Geneviève Thibault de Chambure"@fr

dc:type
skos:Concept
http://www.mimo-db.eu/InstrumentsKeywords/2251

skos:prefLabel
"Harpsichord"@en

skos:prefLabel
"Clavecin"@fr

skos:prefLabel
"Klavecimbel"@de
Station 3: Storage

- **Technology**
  - EDM / MongoDB
  - Apache Solr
  - Open-Source CRM
  - EDM Hierarchies / Neo4J

- **Milestones**
  - Single-Source-of-Truth
  - Graph database for
  - Search strategy
Station 4: API

- **Technology**
  - Morphia DB
  - RDF / XML
  - Serialised EDM / JSON
  - Serialised EDM / JSON-LD

- **Milestones**
  - Entity API
  - Annotations API
Station 4: API

API:WORLD

- AWARDED TO -

Europeana / REST API

Europeana

THE 2017 API AWARDS

DATA API
Station 4: API

- **Technology**
  - Morphia DB
  - RDF / XML
  - Serialised EDM / JSON
  - Serialised EDM / JSON-LD

- **Milestones**
  - Entity API
  - Annotations API
Station 5: Presentation

- **Technology**
  - Presentation middleware (Ruby)
  - Template-powered portal (Moustache)

- **Milestones**
  - API-powered portal
  - Presentation middleware
  - Media resources: proactively detect inaccuracies in resource descriptions
Station 5: Presentation
Station 5: Presentation

● **Technology**
  ○ Presentation middleware (Ruby)
  ○ Template-powered portal (Moustache)

● **Milestones**
  ○ API-powered portal
  ○ Presentation middleware
  ○ Media resources: proactively detect inaccuracies in resource descriptions
Reflection

- **Innovation**
  How do we take advantage of the rapid technological progress?

- **Legacy**
  How do we make sure that our sector is not left behind but comes with us?

- **Efficiency**
  How do we work in the most efficient way to make the best use of public money?