A SAP-UI5 application for students to upload the Master's thesis to SAP.

Dominique Vandenbussche & Inge Wullaert KU Leuven (Belgium)
Session I-3

HERUG April 12, 2016 – Durham
Agenda

• Why an application for master thesis?
• Phase 1
  o Deliverables
  o Project approach
  o Technical challenges
• Phase 2
  o Deliverables
  o Turnitin integration
Why an application for master thesis?

- Board of the University decides in 2010 that every master’s thesis should be submitted electronically to add to library catalog.
- Fast solution with minimal deployment of people and resources via blackboard assignments.
Disadvantages Blackboard Solution

- The procedure is **course/community-based instead of student based**
- **Not user friendly** (too many clicks)
- The transfer to the **Library** requires a lot of sending back-and-forth of large/huge files
- No good solution to send Meta data (double entry of data)
- There is no good way to communicate **embargoes** to the Library software
- No integration with exam system and individual work in SAP
- Not enforceable
TO BE OBJECTIVES

• Meta data
  o Faculty
  o Program
  o name student
  o name master thesis module
  o ....
  directly introduced and available in SAP system.

• No redundancy and possible mistakes
Phase 1
SAP project 2015 PHASE 1

- Webapplication student to upload master’s thesis and enter meta data
- Application for faculty members to report and download data
- Interface to library
# Overview Master’s Theses KU Leuven

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Amount of Master thesis course units</th>
<th>Amount of students taking a masterthesis course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculteit Theologie en Religiewetenschappen</td>
<td>10</td>
<td>176</td>
</tr>
<tr>
<td>Institute of Philosophy</td>
<td>3</td>
<td>189</td>
</tr>
<tr>
<td>Faculty of Canon Law</td>
<td>4</td>
<td>35</td>
</tr>
<tr>
<td>Faculty of Law</td>
<td>14</td>
<td>1018</td>
</tr>
<tr>
<td>Faculty of Economics and Business (FEB)</td>
<td>21</td>
<td>1008</td>
</tr>
<tr>
<td>Faculty of Social Sciences</td>
<td>15</td>
<td>793</td>
</tr>
<tr>
<td>Faculty of Arts</td>
<td>32</td>
<td>1226</td>
</tr>
<tr>
<td>Faculty of Psychology and Educational Sciences</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>Faculty of Science</td>
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<td>528</td>
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<td>Faculty of Engineering Science</td>
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<tr>
<td>Faculty of Bioscience Engineering</td>
<td>34</td>
<td>385</td>
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<tr>
<td>Faculty of Engineering Technology</td>
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<td>3131</td>
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<tr>
<td>Faculty of Architecture</td>
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<td>304</td>
</tr>
<tr>
<td>Faculty of Medicine</td>
<td>28</td>
<td>1109</td>
</tr>
<tr>
<td>Faculty of Kinesiology and Rehabilitation Sciences</td>
<td>6</td>
<td>420</td>
</tr>
<tr>
<td>Faculty of Pharmaceutical Sciences</td>
<td>7</td>
<td>195</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>344</strong></td>
<td><strong>12,557</strong></td>
</tr>
</tbody>
</table>
Master’s thesis datamodel in SAP

The category is assigned to a module in the infotype Module Data (1746)

Individual Work

Category 15 or 19

Thesis committee

Title, summary…
UI5 Webapplication Master’s thesis
UI5 application Masterthesis

Master's thesis

HN115A : Masterproof (Engels) (Master in de intellectuele rechten (Brussel))

Metadata

General information
Student: 0162694 Timea Balogh
Programme: Master in de intellectuele rechten (Brussel)
Title of master's thesis: English
Data protection in research - any risk for research participants? A comparison of the E.U, the Maghreb and the Far-East region.
Faculty: Faculty of Law
Course unit: HN115A : Masterproof (Engels)

Number of pages
52

Summary
Summary in the original language (English/Dutch, max. 3500 characters)
If your master's thesis was NOT written in English or Dutch, please consult your faculty's website regarding the summary language.

Translated summary (Dutch/English, max. 3500 characters)
(only if required by your faculty)

Files

File name | Size | Category | Date
--- | --- | --- | ---

KU LEUVEN
3 submission deadlines per year

- 3 deadlines per year. Before each exam period (January, June, September).
- 5 weeks before deadline Master’s thesis and Appendix can be uploaded.
Deadlines and embargo via YC266

- Possibility to enter submission **deadlines and embargo’s** for faculty members via a dedicated transaction YC266 (maintain individual work)
Enter submission date via YC266
Download files and metadata YC363

- Application to download in bulk (or individual) files and metadata (YC363)
The concept of Christ in the struggle for liberation and transformation is deeply rooted in the struggle for the liberation of women. The concept of Christ as the liberator and the one who came for the salvation of all people, especially marginalized groups, is central in this context. The concept of Christ, as a figure who brings hope and transformation, is crucial in the context of the struggle for liberation and transformation. The concept of Christ as the liberator and the one who came for the salvation of all people, especially marginalized groups, is central in this context. The concept of Christ, as a figure who brings hope and transformation, is crucial in the context of the struggle for liberation and transformation. The concept of Christ, as a figure who brings hope and transformation, is crucial in the context of the struggle for liberation and transformation.
Interface LIAS

1. Nightjob FTP /usr/app/ftp/lias/masterproef/out

2. /usr/app/ftp/lias/masterproef/in

Master Theses with Embargo
### Situation in March 2016 after January exam period

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Uploaded Masterthesises</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculteit Theologie en Religiewetenschappen</td>
<td>9</td>
</tr>
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<td>Faculty of Law</td>
<td>32</td>
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<tr>
<td>Faculty of Economics and Business (FEB)</td>
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<tr>
<td>Faculty of Social Sciences</td>
<td>47</td>
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<tr>
<td>Faculty of Arts</td>
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</tr>
<tr>
<td>Faculty of Medicine</td>
<td>13</td>
</tr>
<tr>
<td>Faculty of Kinesiology and Rehabilitation Sciences</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total on 2/3/2016</strong></td>
<td><strong>479</strong></td>
</tr>
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</table>
Project approach
Technical approach of the project

Timeline Phase 1 (1/3)

- **Jan 2015**: Kickoff meeting: defining the necessary people in the workgroup (ICTS, Library, General Process Coordination)
- **Feb 2015**: Project charter defines
  - “in” and “out” of scope: webapp, bulk download, LIAS
  - the budget: 50 mandays
  - project organisation: workgroup, adm dir+endusers
  - project progress reporting: reports in workgroup or via mail
  - risks: security, files
  - other products that will be used: LIAS, LIMO
Technical approach of the project

Timeline Phase 1 (2/3)

- **Mar 2015**: Presenting BPMN (=Business Process Model and Notation) to workgroup
- **Apr 2015**: Presenting screen mockup and Odata model to workgroup
- **June 2015**: Demo workgroup
- **Oct 2015**: Manuals for students, staff, LIAS interface
Technical approach of the project

Timeline Phase 1 (3/3)

- **Nov 2015**
  - Test Session 9/11/2015 (1 week) with selection of end users (student/staff)
  - Info session 25/11/2015 for all end users
  - 26/11/2015: Go Live
- **Dec 2015**: support
- **Jan 2016**: workgroup meeting closing phase 1, starting phase 2
Technical challenges
### KU Leuven UI strategy for SAP

#### FOR WEB APPLICATIONS:

<table>
<thead>
<tr>
<th>&quot;Uncontrolled&quot; environment</th>
<th>&quot;Controlled&quot; environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student, teacher, external persons, etc..</td>
<td>Central administration, faculty administration</td>
</tr>
<tr>
<td>Any device, any OS, any browser</td>
<td>Desktop, browser version can be enforced</td>
</tr>
<tr>
<td>Simple apps – user centric 1-1-3-principle</td>
<td>More complex applications, reporting, etc..</td>
</tr>
</tbody>
</table>

SAP UI5 & Gateway-services

ABAP Webdynpro (via FPM)
BPMN (=Business Process Model and Notation)

STUDENT

Autorisation Roll Program:
Get all ST ids within KU Leuven MA of MMN and SM of category 15 (booked)

Night Job
Student enters metadata and/or uploads files
Collect all CI data that has not been send to LIAS and where ST is qualified: xml file with metadata + uploaded files
Inform the user that the info is stored
LIAS OK storing in SAP

Master's thesis webapp
ST has webapp in KU Loket
Get all info about CI
 ja

Examination process
ST is qualified

ST has webapp in KU Loket

Enter via yc266 info about CI in (embargo, title, supervisor,...)

Successful in Alma

LIS FTP Server
files
Archiving in Alma

KU LEUVEN
Screen mockup designed with Pencil
ODATA model (2/2)

Eclipse model exported to EDMX and importing in Gateway Service Builder (TRX SEGW).
XML generation: bulk download + LIAS

For the generation of the xml metadata file, XSLT is used.

```xml
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  <proof>
    <id> <tt:value ref="Sproof.ci_id"/></id>
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    <abstract2> <tt:abstract> <teks> <tt:value ref="Sproof.ci_abstract2_taal"/></teks> </abstract2>
  </proof>
</root>
```
Lessons learned

• Test Session 9/11/2015 with end users (student/staff) was very helpful
  - Using the manuals (student/staff)
  - Using prepared testscripts
  - Using own test data and random user tests

• SAPUI5 missing components (rich text editor)
We regularly coach groups that ask, “How can we calculate how many people we will need?” Our suggestion is, “Start with a small group of great people, and only grow when it really starts to hurt.” That rarely happens.

Bas Vodde and Craig Larman
Agile trainers and authors
Phase 2 of the project

• Student can enter Title and Committee in webapplication
• Web application for supervisors and other evaluators in which the full texts are available
• Turnitin integration
Phase 2: Student can enter metadata
Phase 2 : Webapplication committee

My Master Theses

<table>
<thead>
<tr>
<th>Name Student</th>
<th>Title thesis</th>
<th>Course</th>
<th>My rol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan Janssens</td>
<td>How the Complex Nature of Triple Patriarchal System Makes (Christian) Women Make Suffer in Africa and How The ‘Christ Sophia’ Concept Offers Relevance in Combating Patriarchy: A Case Study; North West Region of Cameroon</td>
<td>Master of Theology and Religious Studies</td>
<td>Promotor</td>
</tr>
<tr>
<td>Piet Peeters</td>
<td>Missionarissen in het bisdom Roermond. De bijdrage van het zelfverstaan van buitenlandse priesters aan de definitie van 'missie'.</td>
<td>Master of Theology and Religious Studies</td>
<td>Supervisor</td>
</tr>
</tbody>
</table>
Phase 2: Turnitin integration

• Turnitin is the industry leading online service that highlights potential plagiarism by presenting easy-to-use reports that show how much of a document is original, cited from other sources, or unoriginal.
Turnitin
Turnitin

How would we like to see it?

Mockup for a new webapplication for plagiarism staff
Turnitin

- Turnitin requires that custom webapps integrate via LTI (=IMS Learning Tools Interoperability) and are certified.
- Redirected to Turnitin pages

- Turnitin flow = Student ➔ Supervisor ➔ feedback student
Turnitin

Drawbacks:

• Student has uploaded the Master’s thesis into SAP, not in Turnitin (different versions?)
• Lack of webservice to upload master thesis to Turnitin and receive score and report document.
• LTI certification
• No bulk upload possible (simulating student?)

⇒ For now, we use Blackboard building block in semi automated way.
Turnitin

Semi automated way?

1°) Via yc363 download of the master’s theses.

2°) Execute createTurnitinZips.bat

This creates Turnitin directory that contains zip files according to Turnitin specifications:

- 1 master’s thesis is max 40 MB
- max 1000 files per zipfile
- 1 zipfile is max 200 MB

3°) Upload the zipfiles into corresponding BlackBoard assignments
Q & A